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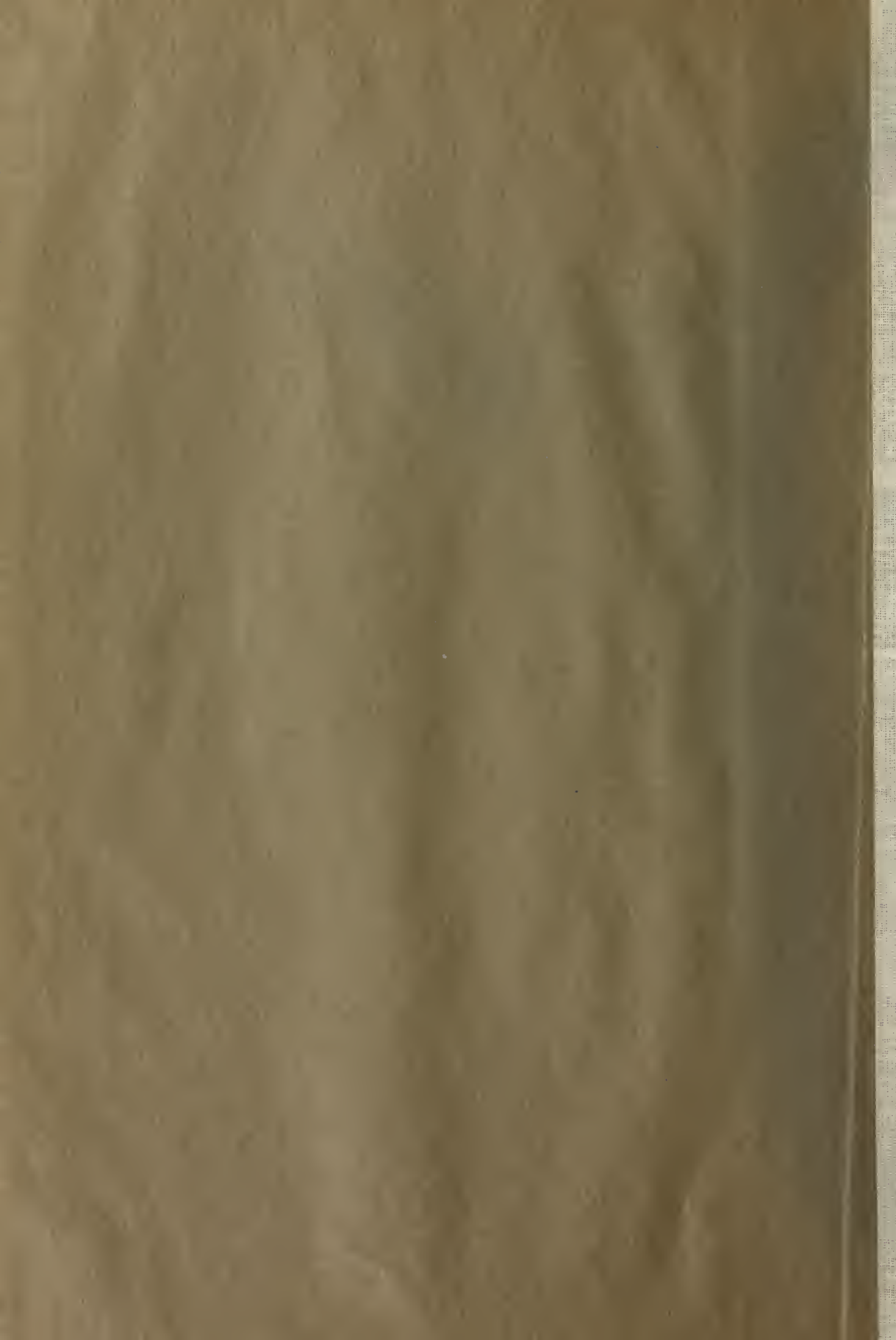
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OFFICIAL ORGAN OF THE AMERICAN APPLE CONGRESS

THE INTERMOUNTAIN FRUIT JOURNAL

AND INTENSIVE AGRICULTURIST

VOL. V.

APRIL, 1912

No. 3

ANNOUNCEMENT NUMBER

ANNOUNCING CONSOLIDATION OF INTERMOUNTAIN FRUIT JOURNAL AND WORLD WIDE FARMING MAGAZINE



IRRIGATING A YOUNG WESTERN ORCHARD

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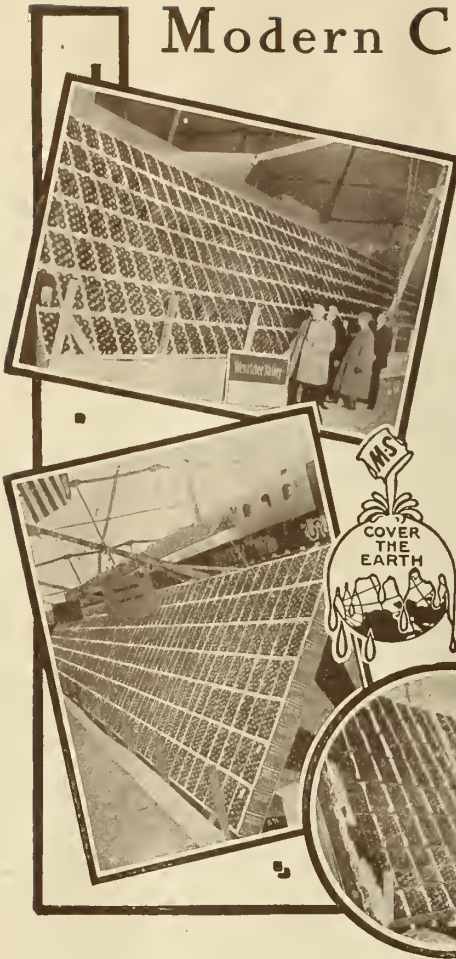
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Being a Combination of
The Intermountain Fruit Journal and World Wide Farming

Published Monthly in Behalf of Fruit Growing and Marketing, Intensive Agriculture, Irrigation and Allied Interests in Colorado, Utah, New Mexico, Idaho, Wyoming and the West

VOLUME V

APRIL, 1912

NUMBER 3

Modern Spraying Machinery-Its Use and Abuse

By GEORGE P. WELDON

Spraying is conceded to be one of the most important operations of orchard practice. The manner in which it is done, very often determines the quality of the crop of fruit that is produced. The very best results in spraying are hard to attain with the use of poor machinery.

In those sections which are best adapted to the growing of fruit, and where the industry has assumed a stage of great commercial importance, the gasoline power sprayer is much more generally used than any other type of spraying machine. To say that this machine has revolutionized the spraying business, is literally true. Had the orchardists in our fruit sections to depend today on the old fashioned barrel and tank pumps, manipulated by hand, the high degree of efficiency possible with a modern gasoline power outfit, could not be attained.

Herein does the gasoline power spray differ from the old type of hand pump, so that its use results in greater efficiency?

In the first place, and probably of more importance than anything else, it is capable of giving a pressure impossible with a hand machine. Any one who has worked the handle of an old barrel pump hour after hour, knows that with its use, a pressure of more than 100 pounds is almost

out of the question. Our modern gasoline outfits with from two to four leads of hose, will easily maintain a pressure of from 160 to 200 pounds.

It is probably true that such a high pressure is not necessary in all cases, but it is true that by means of it more thorough and, consequently, more effective work can be done in much shorter time and with much less effort.

Often the small orchard holder cannot afford to pay \$400 for a good power machine when he can buy a barrel outfit for \$20. The latter can be made to do the work well with a greater amount of time and labor expended.

There is a tendency in the fruit sections to try and get along with too few machines. There are certain times when spraying must be done immediately if good results are to follow. For example, the period when the first spray for codling-moth must be applied to be effective is never much more than ten days, or from the time when the petals drop until the calyces close. Often one machine will be expected to spray a hundred or more acres during that time. Can it be made to do it, and do it well? Let us see.

In Colorado, the average number of apple trees per acre is not less than sixty. Trees that are from fifteen to twenty-five years of age will require at least from ten to twenty gallons of

spray per tree if thorough spraying is done. For one acre of trees, putting the average at fifteen gallons per tree, it would take nine hundred gallons of spray, or 4½ tanks of the ordinary (200 gallon) size.

Unless water is very handy and other conveniences proportionately so, it is seldom that more than nine tanks can be applied in a day with two leads of hose, and medium coarse nozzles. In other words, only two acres of such orchard can be well sprayed in one day with one power sprayer. Allowing the maximum time of ten days for the calyces to remain open, only twenty acres of orchard can be treated with one machine. Yet I know dozens of machines that are expected to spray two and three times as much in a season, and owners of orchards so sprayed condemn the arsenate of lead used, the methods of spraying advocated by those "scientific men," and possibly everything else, except the real reason for failure, a desire to make one machine do more than it can possibly accomplish.

Besides the provision for maintenance of a high pressure, there are other things that the power sprayer should possess in order that the highest degree of efficiency in spraying may result.

The agitation of the liquid in the tank is an important matter. In the



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case of most of our sprays, the individual particles that make up the insecticide are suspended in the water. Unless a sprayer is equipped with a good agitator, these particles will settle to the bottom, thus rendering the mixture in the top of the tank weaker than it should be, and, that in the bottom stronger, possibly in some cases too strong for safe application. Most of the power sprayers are equipped with suitable agitators, and none should be purchased unless it is known that it is efficient in this respect.

It is needless to say that the care of spraying machinery should never be neglected. The man who pays

\$400 for an outfit cannot well afford to let it stand out over winter where metal parts will rust, where the tank will dry out and deteriorate, if it is a wooden one. Too often, gasoline engines are ruined because water is left in the cooling jacket until cold weather comes on. It freezes there and the engine is useless until another cylinder is purchased.

Much of the trouble with a gasoline power sprayer could be prevented if care were exercised in the fall, to clean the outfit thoroughly, to drain the engine, to care for the nozzles, leads of hose, etc. Then, in the spring, another careful overhauling ought to put it in such shape that

there should be little trouble during the spraying season.

Not only should all this be done, but always after a lime and sulphur or other caustic spray is used, the machine should be thoroughly cleaned by running clear water through it, including hose, rod and nozzles. The spray will not only injure different parts of the machine, but will also harden and small pieces will clog nozzles when again used.

The power sprayer is a high priced piece of machinery, but it is an effective piece of machinery, when properly handled. Its usefulness can be greatly decreased by improper care.

Fruit-The Hidden Fortune in Taos Valley-New Mexico

By CLARENCE PROBERT, President Chamber of Commerce

The Taos district is located in the extreme north central part of New Mexico and borders onto southern Colorado. It is one of the oldest fruit producing sections in the rapidly-growing, great southwest. Taos Valley in particular is very historic; principally on account of the two old Indian Pueblos and their irrigation system—some of the main water ditches being in constant use by the natives for nearly three hundred years.

While Taos Valley is in the middle of the five northern tier of counties and is almost surrounded by some of the highest of the Rocky Mountains in New Mexico, it has an ideal climate for fruit growing with plenty of sunshine during the day from which the fruit gets a rich color and fine flavor. The cool refreshing nights furnish the needed rest necessary for the strenuous work of the busy orchardist. Its altitude is almost seven thousand feet, with an average annual rain fall of fourteen inches, and had two hundred and ninety clear sunny days for 1911. The winters are usually mild; although, the preceding two winters have been like Iowa and Illinois excepting that the snow does not lay long and there is always a break in the severe cold weather making virtually two springs—the first a harbinger of the real, sunny, balmy, hope-inspiring spring.

The soil in this district is a red, sandy, thick loam and is extremely productive for all kinds of fruits, grains and vegetables. It is very deep in some places averaging fourteen feet; rich in fertility and needs but very little fertilizing to bring excellent returns on the investment of seed and labor.

Irrigation is successfully carried on by the use of ditches at an average cost of about twenty-five cents to the acre for the whole annual season. The only reason for this very cheap irrigation assessment is: that Taos Valley is one of the best watered districts in all New Mexico, having the never ceasing streams rising from springs in the mountain regions. They are the Rio Pueblo, Rio Lucero, Arroyo

Hondo, Arroyo Seco, El Rio Chiquito, El Rito de Gallina, El Rio del Lobo, El Rito de San Carlo, El Rio de San San Fernando de Taos and El Rio Grande de San Francisco. These mountain streams are not only extremely valuable for irrigation purposes but have excellent water-power sites and afford a paradise for those who understand the tricks and art of catching the brook trout, as they are kept well stocked with this fish by our efficient fish and game wardens.

Good land with an excellent water

right sells in the famous Taos Valley from ten to fifty dollars per acre. The one reason for this cheap land is: that we are hampered and handicapped by only having one railroad in the Taos county—and that only a narrow-gauge one—the Denver & Rio Grande railroad. This means about a thirty mile haul from Taos Valley, with a toll bridge charge to pay in crossing the Rio Grande river. Two railroads are now heading towards Taos Valley—the St. Louis, Rocky Mountain and Pacific railway from Ute Park, which



A. GUSDORF IN HIS ORCHARD AT TAOS

is almost sure to commence construction work and building this spring. The San Luis Southern Railroad company which is now operating south of Blanco, Colorado, through San Acacia and intends to run its lines north and south through Taos valley to get the immense tonnage which is now hauled in wagons to and from the distant railroad stations of Servilleta and Ute Park. With these two prospective railroads in view, land values will double and triple its present price and this region will become one of the best known fruit producing valleys in New Mexico.

At the present time, Taos Valley can truthfully boast of some excellent fruit orchards. Alexander Gusdorf, who is vice-president of the American Apple Congress for New Mexico—is the leading and pioneer fruit grower of Taos Valley. He owns an orchard of twenty-two acres all in full bearing. Part of it is thirty-eight years old and has been in constant bearing for thirty-four years. The balance of it is eighteen years old and been in bearing fourteen years and during all these years has never had a fruit failure, which is a remarkable record for

an orchard. Last year he shipped 1,200 boxes of fancy pears, principally Bartletts, Flemish Beauties and Anjou, which netted him \$1.75 per box. Two thousand boxes of fall apples and 7,000 boxes of winter apples, which netted him about \$1 per box. He packed two grades—Fancy and Choice. He was very much handicapped by paying twenty cents per box to get these shipments to the railroad. Mr. Gusdorf says that the only insect now in Taos Valley is the codling moth and they are well held down by spraying twice a season. He did not have one per cent of wormy apples last year and uses arsenate of lead in spraying. Mr. Gusdorf set out a new twenty acre orchard last spring, consisting of one thousand trees; five hundred Jonathans; four hundred Delicious and one hundred Stayman Winesaps, and intends to set out 250 more young trees this coming spring.

State Senator Esquire Hartt produced over three thousand boxes of apples last year from his orchard at Ranchos of Taos.

Rigino Romero shipped about 1,500 boxes of apples from his promising young orchard of about twenty acres

on the El Rio Grande de San Francisco river.

Charles A. Watson—the wholesale commission merchant of Chicago—has a fine orchard of about thirty acres, nearly all in apples, with a few apricots, cherry, pear and plum trees. His intention is to put more land into orchards in the near future.

Benjamin G. Randall, chairman of the Taos county board of commissioners, has set out forty-five acres of apple orchards three years ago this spring, of the red winter varieties of Jonathans, Winesaps, etc.

Over one hundred dollars worth of strawberries were sold last year from less than a quarter acre of ground from the Henry G. Newby ranch. This ranch produced among its other fine crops some delicious Elberta and Golden Drop peaches, which were large in size and of fine flavor.

Alexander Anderson raises a good crop each year of the Wonderberries, or the improved Sunberries and has had remarkable success with them, as well as with his strawberry patch and his blushing tomatoes.

William L. McClure—who is a retiree
(Continued on Page 22.)

“The Apple Class” - Latest Thing in Horticulture

By R. S. HERRICK, Field Horticulturist

In the latter part of January, 1912, there were five horticultural classes organized in Mesa county for the purpose of holding sessions once a week to study and discuss the best and latest methods of orchard management. Each course consisted of ten lessons and Prof. Paddock and Whipple's book, entitled Fruit Growing in the Arid Regions, for the most part was the text book used. The classes were held at the following places, two at Grand Junction, one at Clifton, one at Fruita and one at Loma. The Loma class had an average attendance of about twenty-five, the others of about fifteen.

The first subject treated was preparation of land for trees. This was followed by Varieties to Plant and inspection of Nursery stock, then followed in their order, Pruning, Spraying, Thinning, Picking and Packing. The physiology of the orchard tree was then studied, and a study of fruit buds was made. The relation of the formation of the fruit buds with that of irrigation and cultivation was shown in order that a better practice might be adhered to in the handling of water. The study of apple pack was given in order to show the necessity of a better uniform and honest pack for our fruit. Diversified, intensified orchard farming was studied to show the desirability of increasing the unused resources which the soil is capable of producing. Another important subject, which as a rule, is not given much attention to by the orchardist, was that of beautifying the orchard home.

Following is a portion of the notice that was sent to all fruit growers in

the Clifton district by a local committee. The same system was followed in each locality:

CLIFTON APPLE CLASS.

Jan. 30—Preparation of Land for Trees.

Jan. 31—Pruning Young and Old Trees.

Feb. 6—Orchard Diseases and Pests.

Feb. 13—Varieties to Plant and Care of Nursery Stock.

Feb. 20—Sprays and Spraying.

each member to defray the expenses of the class. This will be payable at the first session of the class.

It is hoped by another year several such classes can be started in Delta and Montrose counties. We believe that from the interest shown in the classes which have been held, that it would be a valuable asset to every farming district in the state if the farmers in their respective localities would meet once a week for ten weeks or so during the winter and organize



THE CLIFTON APPLE CLASS

Feb. 27—Tree Physiology and Top Working.

Mar. 6—Orchard Shade Crops and Fruit Buds.

Mar. 13—Study of Apple Packs.

Mar. 20—Thinning Fruit and Vegetable Culture.

Mar. 27—Beautifying the Orchard Home.

A tuition fee of \$1 will be charged

a class appointing some capable man for leader, that much good could be accomplished in studying and discussing the different methods and problems which confront them. The classes held in Mesa county were started under the auspices of the Mesa County Y. M. C. A. and we believe, were the first of the kind to be started in this state.

Export Trade For Our American Apples In Scotland

By CONSUL RUFUS FLEMING, Edinburgh

Scotland is not an apple-growing country, owing to adverse climatic conditions. Neither in quantity nor quality is the domestic production a factor in the market, the long-established houses that dominate the trade drawing practically the whole of their supplies from abroad, principally from the United States and Canada. The apples handled by wholesale firms here are largely bought at the auction marts in Liverpool and Glasgow, but considerable quantities are purchased from foreign shippers through London brokers, including the American cased apples, such as California and Oregon Newtowns and Wenatchee valley varieties. The total sales of apples in Edinburgh and vicinity are roughly estimated by brokers and wholesale dealers at 60,000 barrels in an average year.

Generally speaking, better grading of Canadian apples has benefited Canadian shippers; but the United States has two distinct advantages in this trade: (1) Fresh apples are exported practically at all seasons, from one part of the country or another; (2) in quality and appearance some American varieties grown in Michigan, California, Washington, Maine, New York, and other States of the East and West are superior to the best commercial grades produced elsewhere.

Probably the most successful method of building up the trade in high-grade cased apples in this part of Scotland would be to deal directly with the principal local wholesale firms whose names appear in the World Trade Directory, published by the Bureau of Manufactures. Each of these firms are in a position to han-

dle effectively any special line of fresh fruit.

I give below the wholesale prices—which average about 15 per cent more

than auction or brokers' prices—of all varieties of imported apples in the Edinburgh market on December 6, 1911:

Apples	Net weight. Pounds	Market Price
AMERICAN (IN BARRELS)		
Ben Davis	112 to 130	\$2.55 to \$3.16
Newtowns	120 to 126	3.16 to 4.87
Baldwins	112 to 133	2.92 to 4.38
Cranberry Pippins	112 to 126	3.16 to 3.65
Rox Russets	120 to 126	2.43 to 3.04
Golden Russets	112 to 126	2.92 to 3.65
Seek-no-Further	120 to 133	2.92 to 3.40
Spitzenburg	120 to 126	3.40 to 3.89
Pride of Hudson	126	3.65 to 4.13
York Imperials	126 to 140	3.89 to 5.35
Greenings	126 to 133	3.40 to 4.13
Northern Spies	126	3.16 to 4.13
Vandavers	112 to 126	2.92 to 3.40
Wagners	120 to 126	3.16 to 4.38
Phoenix	126	2.92 to 3.65

AMERICAN (CASED)	Net weight. Pounds	Market Price
California Newtowns, 4 tier	40	2.06 to 2.19
California Newtowns, 4½ tier	37	1.82
Oregon Newtowns, 4 tier	40	3.65 to 3.89
Oregon Newtowns, 3½ tier	37	3.89 to 4.01

Wenatchee Valley Apples:	Net weight. Pounds	Market Price
Winter Bananas	28	3.40
Rome Beauties	40	2.06 to 2.19
Jonathans	36	2.19
Black Twigs	38	1.82 to 1.94
Willow Twigs	40	1.82 to 1.94

Note—Weights of American apples vary greatly, and little or no effort is made to select ones and twos. Each parcel or mark is bought and sold on its merits.

Apples	No. 1.		No. 2.	
	Net weight. Pounds.	Market price.	Net weight. Pounds.	Market price.
CANADIAN (IN BARRELS)				
Baldwins	144	\$4.62 to \$5.11	154	\$3.65 to \$3.89
Seek-no-Further	140	4.26 to 4.50	147	3.65
Ben Davis	140	3.28 to 3.52	147	2.80
Spies	144	4.13 to 4.87	154	3.65 to 4.38
Phoenix	144	4.38 to 4.87	154	3.89
Talman Sweets	140	2.80 to 3.04	147	2.55 to 2.67
Golden Russets	144	3.89 to 4.87	154	3.40 to 3.89
Rhode Island Greenings	144	4.38 to 4.87	154	3.65 to 4.13
Starks	147	4.13 to 4.33	154	3.65 to 3.89
Stone Pippins	140	3.89 to 4.13	147	3.40 to 3.65
Ganos	140	4.13 to 4.38	147	3.89
Canada Reds	144	4.38	154	3.65
NOVA SCOTIAN (IN BARRELS)				
Kings	120	3.65 to 3.89	126	2.67 to 2.92
Starks	126	3.16 to 3.40	133	2.47 to 2.92
Baldwins	126	3.28 to 3.65	133	2.67 to 2.92
Greenings	126	3.16 to 3.40	133	2.07 to 2.92
Ribstons	120	2.92 to 3.16	126	2.43 to 2.67

Dynamite Sub-Soiling Aids Commercial Fertilizers

Commercial fertilizers are ordinarily added to the soil in a very fine and readily soluble condition, and are usually incorporated with the first few inches of soil at or just before the time of seeding. This keeps them from being carried further into the soil mass through cultivation. During heavy rains when there is a considerable amount of surface run-off of the excess of water, large parts of the fertilizers thus added are at once brought into solution and lost by being carried away by the surface drainage. The fertilizing elements can, however, be carried into the deeper soils by transfusion through the soil moisture or they can be carried down with percolating water, provided the sub-soil has been made sufficiently porous to permit of such percolation. Where soils are at all packed both of these processes are materially hindered, but can be relieved by a thorough breaking to a sufficient depth. Except in very rare instances these troubles occur beyond the reach of the plow and

the use of dynamite becomes necessary.

This movement of readily available fertilizers will result in an enormous decrease in the loss of fertilizers by drainage and also in inducing a deeper development of roots, in search of food, the importance of which is already so thoroughly understood by those now interested in promotion of deep sub-soiling.

The use of large amount of fertilizers is largely handicapped by even a short season of drought. During the spring when the soils contain large amounts of moisture, heavy applications of fertilizers result at once in a very luxuriant growth of very succulent vegetation. A plant thus developed is poorly able to combat dry soil conditions.

Deep sub-soiling brought in connection with such heavy applications of fertilizers naturally brings about a much better soil moisture condition. This, of course, permits of the very vigorous and rapid growth during the

spring. It also safe-guards the plants against the dry summer by affording the additional reservoir for water.

For the proper development of a plant certain foods and conditions are necessary. If one of the foods is lacking or deficient in amount, the growth of the plant will correspond with the amount of this food available and will not be influenced beyond this extent by excesses of the other foods present. Water is, of course, one of the essential foods, so when additional foods are added in the form of chemical fertilizers it becomes necessary to furnish the plant with an increased supply of water in order that no check is placed on the growth of the plants.

Arthur L. Craig, who has been manager of The North Fork Fruit Growers Assn. at Paonia, Colorado, has purchased a newspaper at Paonia from Clinton L. Oliver, secretary of the American Apple Congress. Craig will no doubt give the Paonians a good live paper.

Heating Committee Makes Report on Fruit Temperatures

Of great interest to all fruit growing sections are the advanced methods in practice in the commercial orchard districts of the Western Slope of Colorado. Recently a committee representing the Fruit Growers Association, the Chamber of Commerce and the weather bureau, comprising seven of the leading growers and horticulturists in the Grand Valley, was chosen to determine just what temperatures the fruit buds of peaches, apple and pear would safely stand without damage at their various stages. The report of the committee made to the Grand Junction Fruit Growers Association, the Grand Junction Chamber of Commerce and the Weather Bureau, U. S. Dept. of

and peaches under Grand Valley conditions. Please note that dormant pear buds of most varieties will stand a lower degree of frost in mid-winter than will many varieties of apples, but conditions surrounding the possible frost damage to the bloom in the spring will apply equally to pears and apples.

These tables are compiled by the growers whose names appear and are the result of their experiences and observations in the operation of orchard heating. It is not presumed to be final or absolute as many factors may enter in any night to change conditions and which may result in from one to four degrees difference. Each grower must use his own judgment

hood heating and amount of foliage on trees.

We recommend that the grower supply himself with sufficient equipment to cope with such conditions as have been realized and sufficient to facilitate all night work so far as possible. He should supply plenty of heaters, one to the tree, if the average orchard setting is from seventy-five to ninety per acre. If small heaters, double or treble the number per acre, and all moisture must positively be eliminated from all kinds of fuel used.

With reference to the time to light pots. Each grower must take into consideration the kind of fuel as well as the kind of heaters he is using and not permit the temperature at any time to

Peaches

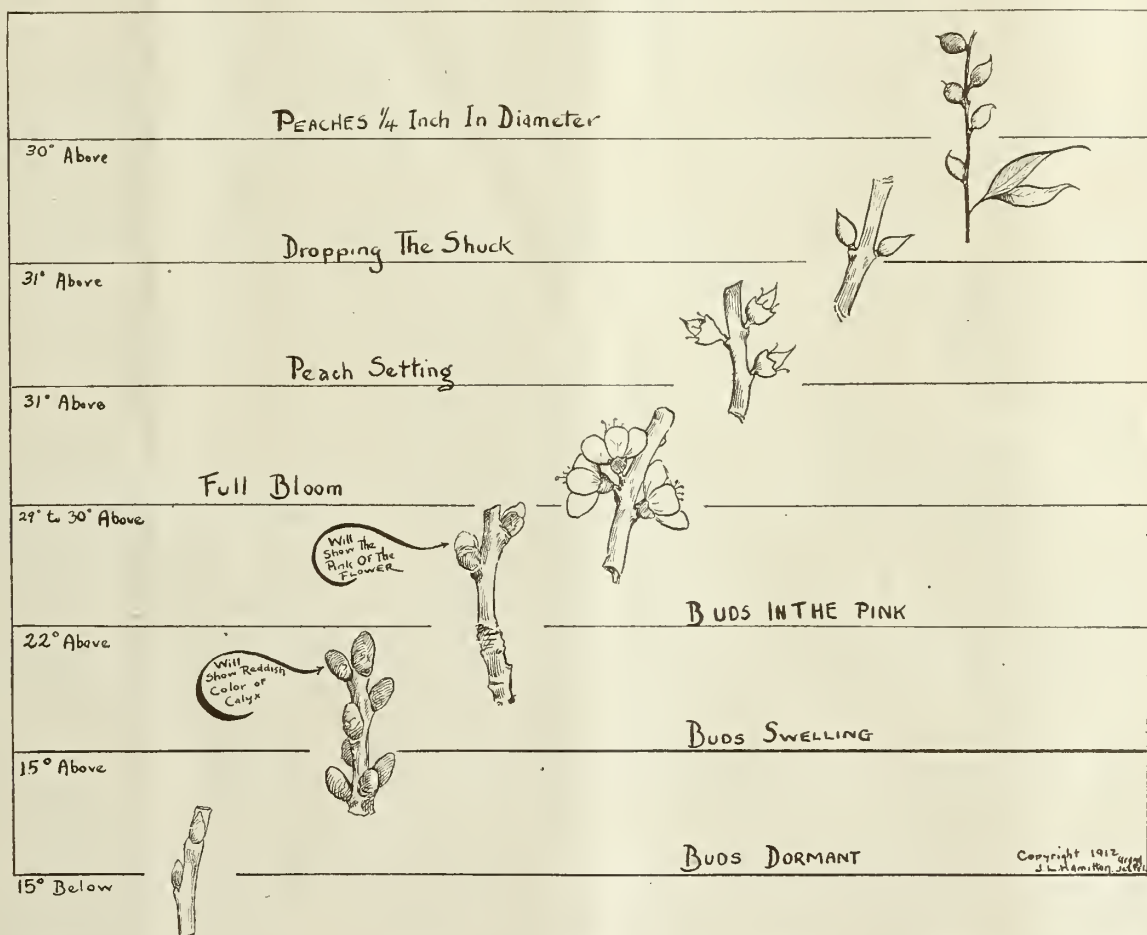


Illustration Showing at What Temperature Smudging Is Necessary in the Various Stages of Development of Peach Buds.

Agriculture through its chairman, James L. Hamilton, is printed in full herewith. Mr. Hamilton, however, remarked in connection that "There are many factors that should be taken into consideration which we have attempted to give due weight in our deliberations, but, because of the variety of these factors and their possible effect on the atmospheric conditions, it is quite necessary that each grower should use his good judgment in determining whether he will be safe in departing from any of the figures we give you. The report follows:

REPORT.

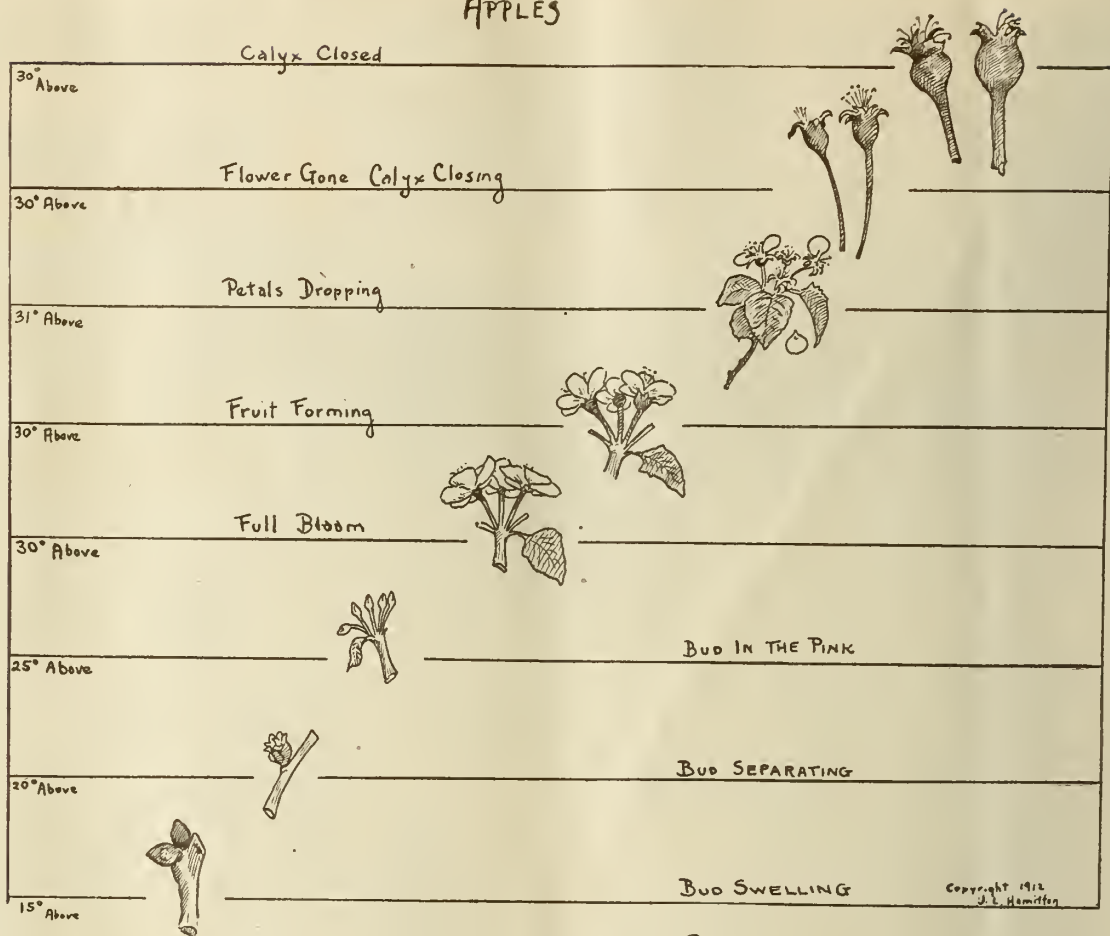
These tables apply to apples, pears

when using these tables as a guide. The grower should make a careful study of his trees to determine the following points: Vitality of tree, amount of bloom, stage of advancement of bloom as compared with these tables—stage of advancement of bloom at the time of heating operations. He should also understand the soil conditions with reference to moisture and temperature. This is true in orchards employing either clean cultivation or cover crops—humidity of the atmosphere—general location of orchard as regards air drainage—whether his operations are reinforced by neighbor-

go lower than the figures in these tables, either at the lighting time or during the heating operations. Undoubtedly the greatest heat effort will be required from daybreak up to the time the temperature is normally safe, and there is no doubt but that the maximum amount of smoke possible to secure at sun-up will save many frosted buds. Fires should not be extinguished until the normal temperature has reached at least thirty-two degrees.

The committee recommends that for severe frosts or freezes special thoroughness in preparation and operation is absolutely necessary to secure de-

APPLES



SAME TABLE FOR APPLES AND PEARS

Table Showing at What Temperature Smudging Is Necessary For Every Stage of Development of Apples and Pear Buds.

sired results. We believe that trees of good vitality will stand more frost than those not so strong, and recommend that the grower do not give up his heating operations because after a frost much of the blossom is brown and apparently killed. We believe that much of the bloom that appears brown may possibly develop fruit and, unless the bloom is black and beyond possible redemption, a grower is well justified in continuing his heating operations after damage may have occurred in his orchard. The question of how brown a blossom must be to preclude any possibility of developing fruit is as uncertain a problem at the present time as any other one in connection with orchard heating. One man's judgment on this point is fully as good as another's, and we, therefore, recommend that the grower, after having heated his orchard for one or more nights and is still in doubt as to the condition of his crop, should continue his heating operations until he is convinced that he has no crop.

We also recommend that the growers exercise the greatest care in selecting and testing their thermometers and in properly placing them in the orchards, and exercise great care in their use during the heating operations. Thermometers should be placed at least one on each five-acre tract and at a point level with the lowest fruit on the trees taking the average of the tract. Also one good instru-

ment outside the orchard and entirely away from any artificial heat.

We believe that on the average during the past seasons many orchardists have not lit their heaters as early or as quickly as they should. Likewise we believe many growers extinguish their fires in the early morning before the period of danger has passed, as a result of not carefully watching their thermometers.

We believe many growers have suffered great damage to their crops even though they have attempted to heat, this damage the result of a large amount of indifference and skepticism. We would recommend that unless the grower supplies himself with ample equipment, making careful preparation with reference to every detail and supplying a surplus quantity of fuel, after which most painstaking and careful attention be given to the heating operation, that it is a useless expense on his part excepting in the event of mild degrees of frost.

The committee suggests to each individual grower that this committee is appointed for the purpose of assisting the growers in every manner possible in the way of supplying volunteer help either day or night, also to give any advice with reference to any feature of the operation and will deem it a pleasure if he submits any of his problems at an early date. Address all inquiries to the Smudge Committee, care of Y. M. C. A., or care of Chamber of

Commerce. The extent to which this committee can be of assistance to you will be determined entirely by yourself, and we will be glad if you will get in touch with us at once.

Signed:

A. E. JOHNSON, Fruit Grower and President Grand Jct. Fruit Growers' Association.

JOHN J. BRIDGES, Fruit Grower and V. P. Grand Jct. Fruit Growers' Association.

PROF. HERRICK, Horticulturist Colorado Agricultural College.

CHARLES LAMB, Fruit Grower.

R. E. TURPIN, Fruit Grower.

JAMES L. HAMILTON, Fruit Grower.

Valuable Load of Timothy.

A wagonload of timothy seed from the C. H. Cooper place was the most valuable load ever brought to this market. The net weight of the load was 4,370 pounds, and at the market price of timothy seed was worth \$1,092.50. It was threshed from the hay of about ten acres.

Cooper figures that enough seed was lost in harvesting to reseed the ground from which it came. Mr. Cooper is an invalid and is unable to leave his chair and his field work must of necessity be left to others. The seed represented only a small part of the returns from the farm.—Sandstone Correspondence Minneapolis Journal.

Fruit Jobbers Urge Co-operation.

Under the above head the Western Fruit Jobbers Association of America have sent out the following communication to their members. It is pertinent and to the point and worthy of the consideration of every shipper and grower. The communication follows: To Members:

The subject of greatest importance today is co-operation, and unless the shippers give the railroads just and reasonable claims and inspections, how can you expect prompt settlement of your grievances?

Being only a few weeks until all perishable freight will be moving under refrigeration, too much attention cannot be given this subject. Before starting to unload a car, make a thorough inspection. Examine the ice in the bunkers, the contents, especially the top tiers, temperature, etc. Do not take the railroad representative's word for condition, as they frequently have so many cars to inspect, the force being limited, it is impossible for them to give each car the careful inspection that you can. In case you find contents in poor condition, call the representative and point out the conditions, and give your reasons why contents show damage. Then the railroad can trace shipment through from point of origin to ascertain whether car was delayed, or ice was allowed to run low, etc.

Always give the Carrier's agent an opportunity to inspect and make report. Give a written statement to the carrier's agent, keeping a carbon copy for your file to be included with your claim papers. Bear in mind that a telephone communication with your local agent has no standing in law.

If a claim is to be filed, do so as soon as possible, attaching original paid freight bill, bill of lading, invoice, copy of complaint originally filed with the carrier's agent, the agent's report, affidavit from the shipper showing condition of contents when loaded, and any other detailed information you may have on file.

The payment of loss and damage claims amounts to approximately thirty million dollars a year, and in order to be just and reasonable with the transportation companies, see that your claims are just, and that the carriers are at fault for the condition of your goods before filing same.

The majority of the railroads today are endeavoring to make a prompt settlement of claims, and special attention is called to the new system installed by the Frisco Railway. Copy of their instructions can be secured upon application to their agent in your territory, or Mr. W. B. Biddie, vice president, St. Louis, Mo.

In conclusion will say that the policy of the Traffic Department of your association is co-operation, and rule followed is, "Be sure you are right, then go ahead." If you will follow this policy with the transportation companies, your differences will be adjusted more satisfactorily. Let us remind you that if you do not receive attention, and if your claims are not adjusted promptly, call for advice and

assistance from the Traffic Department, as we are ready at all times to assist our members.

Very truly yours,
THE WESTERN FRUIT JOBBERS
ASSOCIATION OF AMERICA,
Approved March 25, 1912.

ADVISORY COMMITTEE,
On Transportation Subjects.

250 POUND PUMPKIN AND DROUTH RESISTING SQUASH.

Ciudad Juarez, Chlh., Mex.—Let me tell you something about my work and how we botanists and plant breeders work to bring about so many new and valuable fruits and plants.

To begin with, we have different Botanical Books that give us descriptions of practically all the plants of the world, giving the curious characteristics of each, and also we get to know what are the conditions necessary for their growth.

Now I had read and began to interest myself in the Cucurbitaceae family, which is the Pumpkins, Melons, Cucumbers, Gourds, etc., as this is a large and interesting family. I began many years ago to get seeds of all kinds from all parts of the world. I got from the interior of Turkey the seeds of the gourd the Turks use to make the tobacco they call "Turkish Delight," this gourd being a sweet scented one. I got cucumbers a yard long, some 100 different kinds of melon, cucumber and pumpkin seeds from Afghanistan and Turkestan, about the same from Central Asia, another 100 from India, Australia and South America.

Now in getting these different kinds we find that each one has its peculiar characteristic; for example, one is extra early, another extra large, and the third extra sweet and delicious; then our work begins with an effort to cross all these so that we will get the sweetness into the others, combining the sweetness and largeness, if possible, into the early one, thus creating an entirely new and distinct fruit.

Now just listen and let me tell you what my friend Burbank did.

He heard that in central Europe there was a certain small, extremely bitter plum; that the greater part of the fruit had no pit, only the kernel, so there originated immediately the idea of crossing this little plum with the choicest French prune with a view of adding the largeness, sweetness and drying qualities to this little prune. The method of doing this was to bring from Europe either a number of little trees; then when these trees began to blossom, he would cut off all the pollen producing organs in the flowers and then when they opened (having first covered them with paper sacks so insects could not bring other pollen) he brought the pollen of the French prune and fertilized these blossoms, then carefully covered and watched the fruits till they matured. It was necessary to fertilize in this manner thousands of blossoms, for you know it takes a lot of crossing to establish a perfect union and type. Then when he got a cross he would plant these seeds and when they got high enough to have buds he would take a few buds from the little tree and bud into a full grown plum or prune tree, for by this manner it will fruit in two years, while if you wait for the little trees to grow you would wait several years.

Now, in planting say 5,000 of these crossed pits, there may result only one or two trees that showed the effect of the crossing, by producing a larger and more vigorous tree, then from these trees the budding is done.

The result after many years of patient work was a prune with no pit and only a sweet kernel where there happens to be one.

Now it is possible that our grand-

(Continued on Page 26.)

HAMILTON MADE



Spraying HOSE

is strong enough to stand any pressure of power or hand pumps and lasts indefinitely. Is much cheaper (because of long service) than the cheapest priced hose, much better than any other's best.

Every length will stand 600 lbs., guaranteed for 300 lbs. working pressure.

½-Inch 15c per ft.

¾-Inch 14c per ft.

In 50-foot lengths; coupled complete; freight paid.

Vulcan Spraying Hose

Stands 350 lbs., guaranteed for 150 lbs. working pressure.

½-Inch 12c per ft.

¾-Inch 11c per ft.

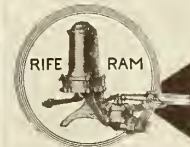
500-ft. lengths, coupled complete.

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Hamilton Rubber Mfg. Co.
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Increase Value of Your Orchard

Lying above irrigation ditches. Pump a big supply of water to any height with Rife Rams without expense or bother. Cost little to install—nothing to operate.



RIFE RAMS

Pump water automatically day and night

Raise water 30 feet for every foot of fall. Pump automatically—winter and summer. Fully guaranteed.

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Our goods always please. Ask for our 1912 Catalogue. 64 pages of valuable information.

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Desk 1, 1445 Larimer St., DENVER, COLO

Western Irrigation Notes

Announcement has been made by the Interior Department that the third unit of the Tieton irrigation project, Washington, will be opened by a unique form of drawing. This unit contains about forty farms upon which homestead entry may be made. They are among the finest fruit lands in the United States, and with the ample supply of water which the government irrigation system assures, are extremely valuable. Irrigated lands under other portions of this project are selling at prices ranging from \$50 to \$1,200 per acre, exclusive of water right, depending upon location and improvements.

During the latter part of December an eager line of land seekers, anticipating an approaching opening, took up their position just outside the land office doors in the corridor of the federal building in North Yakima and refused to leave even upon the warning of government officials that they would acquire no special privileges by remaining.

Apprehensive lest bona fide homeseekers suffer unnecessary expense and inconvenience the department wired a representative of the line-up that the lands would be disposed of by drawing, and press notices to that effect were also issued by the Reclamation Service.

In order that all land seekers may have an equal opportunity to obtain farms, it has been decided to allow which farm unit he desires. The names of all those who wish to file on unit A will then be placed in a box from which a disinterested party will draw one slip. The winner will then be allowed to make his filing, and the next farm unit will be taken up, etc.

Word has just been received that the Federal Court for the eastern district of the state of Washington has decided a case of considerable importance to the Reclamation Service. Mr. D. P. Baker undertook to contest the right of the United States to collect charges for operation and maintenance under the usual water right application filed in connection with the reclamation projects. He claimed that for many reasons the United States had no right to make such collections.

The court held otherwise and decided that the United States could properly collect operation and maintenance charges under the provisions of the Reclamation act.

The liveliest place in Arizona just now is Yuma, where 184 men and 2197 work animals are employed in the completion of a number of the important structures on the Yuma irrigation project.

Of the nine miles of main canal in the Indian reservation, 8 miles have been excavated and the balance will be finished by April 1. In Yuma proper, five large camps are engaged in canal construction and 36 miles have been excavated since November. On the huge siphon under the Colorado river the progress has been steady and uninterrupted and more than 63 per cent of the work is completed. On the reservation there are now 172 families. They have cleared 3,855 acres and have 2,525 acres ready

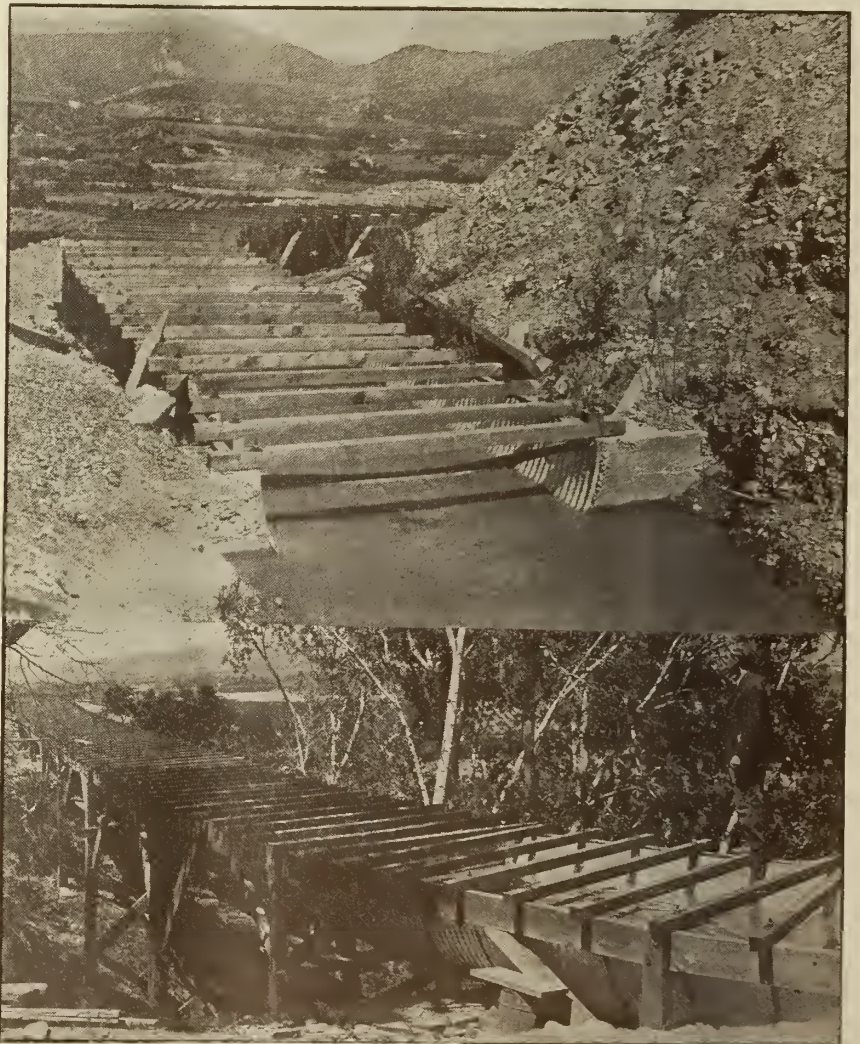
for irrigation. About 2,225 acres are now planted in alfalfa and barley and 125 acres in truck and orchards.

The February report from the Umatilla irrigation project in Oregon contains the important information that ample water for next season's irrigation is assured. The government reservoir on March 1 contained more than 35,000 acre feet of water, and the heavy spring floods are yet to occur. On March 1 applications for water to irrigate more than 14,000 acres have been received. The prospect of the early beginning on the construction of the western Umatilla extension has given a great impetus to business in the valley. The ground is in excellent condition for planting, owing to plenti-

rental basis for the irrigable lands of the South Side Pumping unit in the irrigation season of 1911.

In pursuance of the said order of March 24, 1911, it is hereby announced that the rental charges for operation and maintenance for the period from April 1, 1911, to December 31, 1911, shall be \$1.10 per acre for each acre of irrigable land within the project (whether or not water was used thereon), as shown on the farm unit plats approved March 1, 1911, and amendments thereof dated April 19, 1911. These charges will become due April 1, 1912, and no water will hereafter be furnished to any farm unit until payment of the amount due against such unit has been made to the proper agent of the United States Reclamation Service at Burley, Idaho.

In order to afford further opportunity for the irrigation of the lands



A MODERN METAL FLUME—PAONIA, COLO.

ful rains, and settlers are looking forward to first class crops.

The secretary of the interior has issued the following public notice in connection with the Minidoka irrigation project, Idaho:

Under order of March 24, 1911, and to afford an opportunity for the irrigation of the lands above the gravity supply in the Minidoka project, Idaho, on the south side of Snake river, and as preliminary to the regular opening of that portion of the project, water was furnished as applied for on a

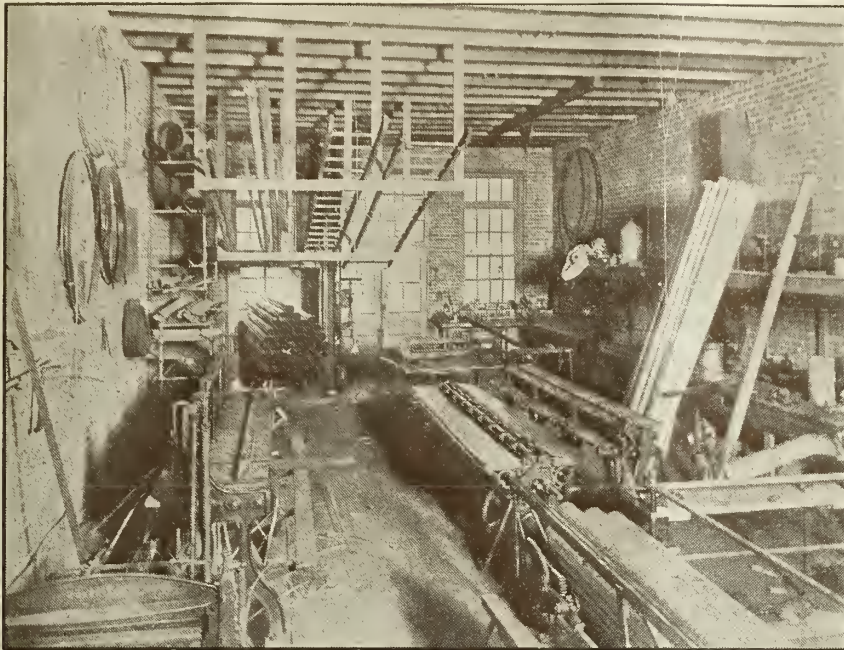
in the South Side Pumping unit, water will again be furnished as applied for on a rental basis for these lands during the season of 1912.

It is hereby announced that a minimum rental charge of \$1.25 for operation and maintenance for the year 1912 will be made for each acre of irrigable land, as shown on the plats described in paragraph 2, whether or not water is used thereon.

For that portion of the season beginning June 1 and ending August 31, the maximum amount of water which

will be furnished for the minimum charge named in paragraph 4 is 1.75 acre feet of water per acre of land actually in cultivation, approximately

after issued for said project pursuant to the provisions of section four (4) of the Reclamation Act of June 17, 1902 (32 Stat. 388).



LANE'S PIPE FACTORY—GRAND JUNCTION, COLO.

equal portions of said amount to be delivered during each month of said period at approximately a uniform rate so far as practical and not in excess of the applicant's proportionate share of the available water supply and capacity of the works; provided, however, that a rotation system of delivery may be installed to encourage an economical use of water, and in no case shall more water be delivered than is reasonably required for beneficial use.

All water used on any farm unit during June, July and August, in excess of 1.75 acre feet per acre of land actually in cultivation thereon shall be charged for at the rate of twenty cents per acre foot, as measured by the engineers of the Reclamation Service.

All rental charges for operation and maintenance for 1912, including both the minimum rate and the acre-foot charge shall be due on December 1, 1912, and payable to the proper agent of the United States Reclamation Service at Burley, Idaho. No water will be furnished to any farm unit in 1913, or subsequent seasons until all charges due against such unit shall have been paid.

This is a preliminary order made prior to completion of the project to provide for the rental of water during the season of 1912 only, and is not to be construed as the public notice for said project or any part thereof; nor shall the rental charge herein provided for maintenance and operation of said project for the season of 1912 be considered any part of the cost of construction, or charge for said project, but said cost of construction and charge will be hereafter announced by the secretary of the interior in the public notice to be here-

Ladies, do you want a nice set of serviceable Silver Plated teaspoons, as a present from THE FRUIT JOURNAL? See our advertisement on another page.

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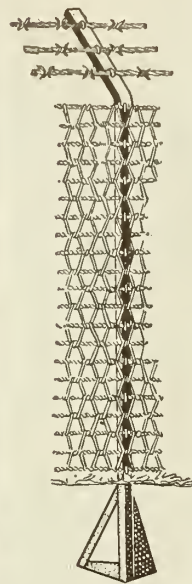
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The Right Way to Spray is to get



The World's BEST POWER SPRAYER

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And Go at it in a Business Way—Do a Thorough Job of It.

There never was a time in history when there was a greater opportunity to get rich in fruit growing—provided you use brains. No matter how hard you work, you will positively fail unless you thoroughly spray your fruit. CUSHMAN SUPERIORITY as a sprayer for making money out of fruit growing is conceded by all experts and big orchardists who have used it, either alone or with other makes. No orchardist who used a Cushman would ever use any other at any price. We have won every Gold Medal and every First Prize in every National, State and Country contest.

Winner-Wonder

WINNER WONDER

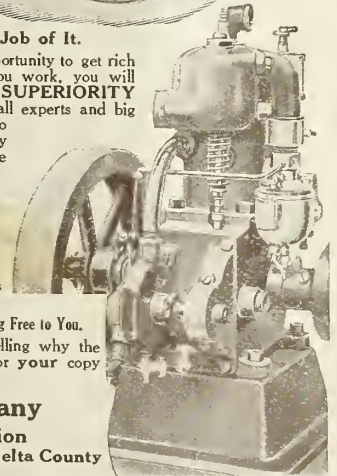
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Spraying Guide and Beautiful Illustrated Catalog Free to You.

Every fruit grower should read this book on spraying, and telling why the Cushman is "The World's Best Power Sprayer." Write for your copy today.

Cushman Manufacturing Company

Branch Surface Creek Fruit Growers Association
AUSTIN, COLO. Agents for Delta County



Advantages of Selling Fruit Through Central Agency

By B. F. COOMBS, Denver, Colorado

The tendency of modern business is to centralize both buying and selling. Great combinations have been brought about through the study of economy in business procedure. The buyer and seller have both learned that controlling a great demand or a great output operates to the benefit of the parties in whose hands the control lies.

During the past years the growers of fruit have failed utterly to cope with conditions and receive for their products what they were entitled to, because there was no union of action either in buying supplies or selling their products. Each fruit grower has operated for himself. He shipped to anyone—on consignment—who solicited him for his business and made him a rosy promise.

After long years of experience in growing apples in my own orchard, which by the way was the largest in the world, and marketing them through my own fruit house in Kansas City, I am in a position to say that I know the growers do not receive what is justly due them for their product. I have learned that it pays to store apples in the fall and by keeping in close touch with the markets be in shape to get the advantage that those markets offer late in the season.

It is reasonable to suppose that the grower who is busy growing a crop all season cannot be ready to market it in

the fall, due to the fact that he is not possessed of the information necessary to tell him where and how to place his fruit.

There was a time when it was thought that the association was the last word in successful marketing, but as the country has developed and the crops become larger it has been demonstrated that while the association is one of the best assets of the fruit growing community it is nevertheless limited in its power over conditions. As a buying combination for the growers' supplies it is excellent. As a packing and shipping institution it is efficient, but as a marketing organization it is limited in value and a number of associations are like a number of individuals—competitors of each other.

When we admit that combinations for mutual benefit are worth while for the individuals we must also admit that combinations of associations would be good for the associations.

In Colorado and the west there are so many associations in communities where conditions are very much like those in other communities it stands to reason that these associations will be competitors on the markets unless some agreement can be reached that will obviate this and cause harmonious action during the marketing season.

The fruit growers unions and the associations of the Northwest about

which we have heard so much and whose success at marketing was heralded as most wonderful from the growers' standpoint, have come to know that individually they are unable to grow with the increased production and that they must come together and co-operate with each other in order that they may obtain the results for their growers that they desire. The California growers learned this long ago and now the several fruit growers' exchanges and unions and associations are linked together in organizations that draw the whole marketing operation under a central head.

The California Fruit Growers' Exchange, The Northwestern Fruit Exchange and The North American Fruit Exchange are all organized for the purpose of getting the best results from marketing fruit. These organizations are very good in their way and for the territory that they serve and if properly officered there is no question of the future.

Colorado and the states immediately contiguous are not as yet served by a general exchange and the agitation in favor of one means that some action must be taken in the near future. The central and executive officers of an exchange should be in Denver, as no other city of the West is so located and possessed of facilities such as railroads and storage houses. The large

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Fruit Boxes

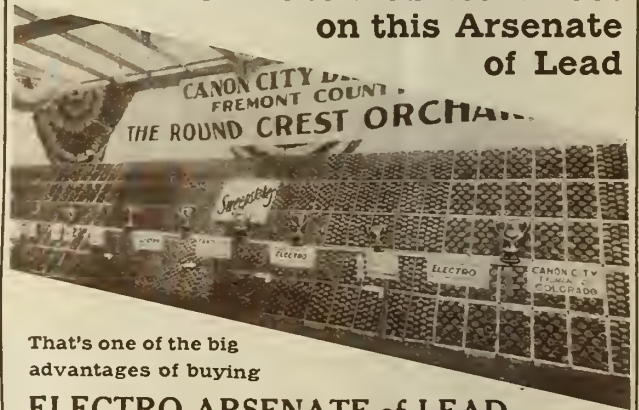
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ELECTRO ARSENATE of LEAD

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It has no water to pay freight on—and they have dry up. It does not deteriorate with age. Always mixes instantly with water. It is 100% stronger than other brands (contains over 33% arsenic oxide properly combined with the lead) but less than 1/2 of 1% water-soluble arsenic. This is the only dry lead arsenic in amorphous (non-crystalline) form. This means greater suspension, adhesion and distribution than any other.

We can supply Electro in paste form if desired.

Send for analysis of Electro Arsenate of Lead by Agric. Exper. Stations which prove our claims. Ask also for a copy of our free book, "Spraying Simplified" Send for Free Box.

it contains much of interest to the expert grower.

You can obtain an Electro Spray for each class of insect and fungus:

Bordo-Lead Mixture, Insecticide Soap, Kerosene Emulsion, Pine Tar Creosote, Tree Limb, Bordo-Pulp.

For information and prices on Electro Spray Materials write us or the agencies below.

THE VREELAND CHEMICAL CO.

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The North Fork Fruit Growers' Association, Paonia, Colo.
Paonia Fruit Exchange, Paonia, Colo.
The Round Crest Orchard Co., Canon City, Colo.
Loveland Fruit Growers' Association, Loveland, Colo.

storage house that is projected for Denver will give the storage facilities that are absolutely necessary for a storage and distribution point. Transportation facilities are good and a uniform storage-in-transit rate is in effect.

All of the fruit growers of Colorado, New Mexico, Utah, Idaho and Wyoming and even the farther northwestern states could operate through an exchange with executive offices in Denver. In this way an immense volume of fruit could be distributed through properly regulated and controlled methods with the result that the fruit could be handed out when and where it was wanted and where it would get the best results.

My years of experience have taught me that there are scores of markets that are neglected while others are over flooded simply by the scramble of competing shippers to get into what is reported as the best markets. A shipper is a fool who ships to other than the reported "good" markets and when the report is the same to a large number of shippers it is reasonable to suppose that a large number will consign to that market. The problem of the fruit grower of today is not so much "how to find new markets" but how to keep the markets that we have from becoming flooded and prices lowered. "Distribution" is everything and unless distribution is good the whole fabric will go to pieces. Distribution can only be accomplished with a central co-operative organization strong enough to control the output.

Of the advantages of selling fruit through a central agency there can be no doubt. Pages could be written in favor of it and few words against it from the fruit growers' standpoint although it is not to be expected that the middlemen will greet it with cheers and yet if they only realized it there is benefits for all in such an arrangement as there will still be a place for the broker and the jobber—a cleaner, more respected and more satisfactory position than that occupied by the middleman of today. Growers will never sell direct to the consumer, but the day is fast approaching when the road to him will be shortened and less toll paid for the privilege of using the road.

Ashes for the Garden.

The true worth of coal ashes does not seem to be realized even by professional gardeners. The saving of the lives of many precious plants can be effected by the placing of a few handfuls of ashes in and around their crowns. They will be saved from two possible evils by so doing, from rotting away and from being eaten by slugs.

The most precious plants can have their crowns well covered while those with delicate stems which are liable to decay can be well surrounded with the ashes. We have found them invaluable for keeping expensive delphiniums, choice and carnation plants, phloxes, crims lupins, hollyhocks and outdoor fuchsias. Of course they are many others, is fact any plant you think may be a prey to the slug or the wet weather.—The Garden.



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HONORBIT SHOES

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Look for the Trade Mark on the sole

Buy Mayer Honorbilt Shoes and get the greatest shoe values obtainable.

WARNING—Look for the Mayer name and Trade Mark on the sole—if your dealer cannot supply you, write to us.

We make Mayer Honorbilt Shoes for men, women and children, including "Leading Lady" and "Special Merit" brands; also Mayer "Yerma Cushion" and Mayer "Martha Washington Comfort Shoes."

FREE OFFER—Send the name of a dealer who does not handle Mayer Honorbilt Shoes—we will send free a handsome picture of George Washington—size 15x20.

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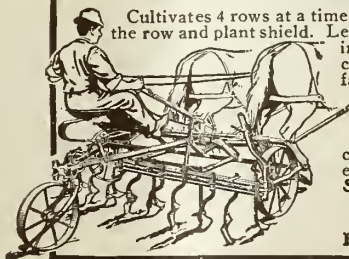
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THE INTERMOUNTAIN FRUIT JOURNAL

And INTENSIVE AGRICULTURIST

An Illustrated Monthly Western Country Life Magazine of the Highest Class.
Only Periodical Devoted Exclusively to Fruit Growing, Irrigation and the Higher
Branches of Agriculture in Colorado, Utah, Idaho, New Mexico,
Wyoming, Arizona and the Irrigated West.

Being a consolidation of the World Wide Farming Magazine of Denver, Colorado, with the Intermountain Fruit Journal, of the same Volume and Number as given below.

Published by THE PRESS PUBLISHING AND PRINTING CO.

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CLINTON LAWRENCE OLIVER Editor

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CLINTON L. OLIVER, Secretary..... Denver, Colorado

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Subscription Rates—\$1.00 Per Year, in Advance, in United States and Canada.
Foreign Subscriptions, Including Postage, \$1.50.

ADVERTISING RATES MADE KNOWN ON APPLICATION.

VOL. V.

APRIL, 1912.

No. 3.



Important Announcement

THIS issue marks a new era which is of the greatest importance to our readers and advertisers and the publishers themselves. **WORLD WIDE FARMING**, one of the most progressive and important publications in the West has been consolidated with **THE FRUIT JOURNAL** under the title **INTERMOUNTAIN FRUIT JOURNAL** and **INTENSIVE AGRICULTURIST**—The Spectator Publishing Co. having sold. World Wide Farming to The Press Publishing and Printing Co., owners of **THE FRUIT JOURNAL**. Alfred Patek, former Immigration Commissioner for the State of Colorado and now managing editor of The Denver Times becomes the president of The Press Publishing and Printing Co. This consolidation is of the utmost importance for several reasons. These two publications have been the most aggressive and have enjoyed the greatest development of any two publications of a similar nature in this field. To the subscriber it is important in that they will now get a larger, better paper. Where there is duplication of subscriptions to either paper the full term will be carried out and each subscriber will get the combined paper to the full extent of his subscription. To advertisers an even greater im-

portance is attached to the change. By the consolidation of two such aggressive papers every advertiser will be given the benefit of the consolidated circulation and at no increase in his rates. All advertising contracts of World Wide Farming have been taken over by this magazine and will be carried out at the rates made by that publication. It will be our aim to encourage intensive culture of every acre and the planting and care of diversified crops. This consolidation is a step in the development of the greatest monthly periodical devoted to fruit growing and marketing. Intensive agriculture, irrigation and allied interests in the West.

Fruit Crop Prospects

IN the history of Western Fruit Growing there never has been a promise of greater crops than the promise that every tree is now making. Especially is this true in the states of Utah, Idaho, New Mexico and Colorado where representatives of this paper have been this spring. When one considers the new orchards that are now of bearing age and the growth that has been made by all orchards during the last couple of years of short crops it is beyond the possibility of computation to arrive at

a fair guess at what the production will be. Should the present promise be fulfilled every orchardist, every marketman, every carrier will be operating to the limit of physical ability. Facilities for caring for such a crop are sure to prove inadequate. Packing houses and packers to operate them will not be available. The railroads say themselves that they cannot cope with the conditions that will surround a full crop of fruit in the West. Those who grasp the situation and begin making preparation now will understand and appreciate the wisdom of a warning to use the greatest care and forethought at this early date.

Fruit-Shade Trees

GERMANY has a system of planting fruit trees along the government highways. The varieties used are mostly pears, plums, cherries and apples depending upon the character of the soil and the location of the soil. The fruit is sold at auction on the trees to the highest bidder when the green fruit indicates what the probable crop will be. The proceeds from this fruit is used by the authorities for the maintenance and construction of the roads. Guarding against theft and gathering the fruit is left to the purchaser. In the Province of Hanover although the climate and soil is not especially adapted to fruit growing the average amount realized from the sale of roadside fruit was an average of \$22,492 per year for 26 years. Not all experiments have been successful. The chances are that American orchards would see that all the fruit was gathered before it becomes too ripe with the consequent result that the plan would not be profitable in this country.

Dynamite

MANUFACTURERS of dynamite are finding as many uses for their product as Standard Oil finds for petroleum and the many manufactured articles and by-products from it. Next thing we know the most popular and efficient "baby food" will be made from Dynamite." But seriously it is remarkable the many ways in which this wonderful explosive can be made to assist with the work in the orchard and on the farm. We are not going into details but feel the large work being done by the manufacturers of "Du Pont" powder is worthy of serious consideration by all orchardists and farmers.

Centralized Selling

PERHAPS something will grow out of the agitation that has been indulged in the western fruit growers during the past few months regarding the organization of a Central Selling and Distributing Agency for the fruit growers. At least one large meeting was held in Western Colorado and that at Paonia. Resolutions were submitted and acted upon and submitted to the growers of

other sections for their approval. This will be the end of the whole affair unless some person is willing to devote a couple of years to the sole work of organization with the knowledge beforehand that he will get no thanks and no credit for any improvement he may be responsible for or any reforms he may bring about. As for financial remuneration he must also forget that. The necessities of the business have gradually built up a system of marketing wherein the middleman is an absolute necessity and there is nothing yet to take his place. It is foolish to talk of doing away with all middlemen until the growers themselves can arrange to organize so thoroughly that they can put their own men where the middlemen are today and keep them there to handle their business. Many a sad experience will result in this attempt as many growers would be no better marketmen than they are fruit growers. Let the agitation go on—it will make the middlemen more careful at least and may improve the growers themselves. By the time the growers of one section of the west get a central selling agency organized factions will begin to draw away and form another agency just as they do with the associations. Some localities require a new association every year to take the care of the people who got "sore" the year before. The same fate awaits the central agency unless we mistake the average grower.

More Cranberry Bogs.

Half a century ago the "cranberry industry" of Cape Cod consisted of the casual harvesting of an unimportant, unimproved native berry of very little importance either to the food supply or as an industry. Today the annual valuation of this crop, now consisting of over 300,000 barrels of superb improved berries, is estimated at more than \$2,000,000.

Massachusetts lays claim to some 6,000 acres of cranberry bog. New Jersey has 8,000 and Wisconsin 6,000. In point of area these states are followed in turn by Rhode Island, Connecticut and New York.—Connecticut Farmer.

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Stops First Year Losses. Speeds Up Development One to Two Years. Improves Quantity, Color and Quality of Fruit.

Planted in Dynamited hole
Photographed from life



Planted in Spade-dug hole
Photographed from life



The illustrations herewith are correct reproductions of photos of two-year old Bing Cherry trees planted same day out of same shipment. Similar results have been obtained all over the country. The root diagrams show the reason. You can't afford to plant trees in spaded holes.

Write for Free Booklet

To learn how progressive farmers are using dynamite for removing stumps and boulders, planting and cultivating fruit trees, regenerating barren soil, ditching, draining, excavating and road-making, ask for "Tree Planting Booklet, No. 196"

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How to Keep Roses Fresh.

Proper care of cut flowers will double their lease of life. Even hot-house roses, usually the shortest lived of blossoms, can be made to retain their beauty and fragrance for two weeks if one will take the trouble to boil the stems.

To do this set a pan of hot water on the stove and when the water begins to boil place the stems of the flowers in the water to the depth of one inch. Hold the flowers carefully to prevent their touching the sides or bottom of the pan. Allow them to boil fifteen or twenty minutes. Remove the flowers and clip off the portions of the stem that were in the water. They are then ready to be arranged in the vase or bowl.

Many persons have poor success in keeping cut flowers because they do not put fresh water into flower vases

every day. The stems of the flowers should be clipped every day to enable them to take up more water. Never leave cut flowers in a warm room over night. Set them in a cool place

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Moxley's Butterine is the most delicious food product that has ever been offered a critical public.

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1427 16th St.

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THE FLANET JR. TWELVE-TOOTH HARROW.

FRUIT—THE HIDDEN FORTUNE IN TAOS VALLEY—NEW MEXICO.
(Continued from Page 11.)

ed Taos merchant—produced some choice Concord grapes of fine flavor; last year and is so well pleased with his efforts that he is going to set out more grape vines this spring.

During the spring season of 1910 there were over ten thousand fruit trees set out in Taos valley, mostly by the stockholders of the Ranchos Orchard and Land company. In the spring of 1911 over 3,500 trees were set out and there will be over 4,000 planted this spring. Most of these young trees now come from the state of Washington, as our climate is cooler here than most outsiders have any idea of due to our great elevation.

Improved orchard-producing lands sell from \$125 to \$500 per acre and bring in each year handsome returns from this investment. One orchard brought in the neighborhood of nine thousand dollars, profits to its fortunate owner. These profits are to be won by hard work, by applying well established principles the expenditure of capital and the use of common sense. The location of an orchard is of prime importance, but there are varieties suitable for every locality. Where growers are alert, systematic, well organized and good advertisers they are sure to win the attention of the public. All hail the big red apple—the luscious pear—the juicy plum—the inspiring grape and the velvet peach !!!

WHERE DO THE HIDES GO?

Did you ever stop to think what becomes of all the hides of the steers, cows, sheep, etc., and what final disposition is made of them. We know that most of them are made up into shoes, and you may at the present moment be wearing a pair of shoes made up from the hide of your prize steer, but few of us have any idea in what quantity these hides are consumed by just one single institution.

The following interesting figures showing the consumption of hides in only one large shoe factory were submitted by the F. Mayer Boot & Shoe Co., manufacturers of the well known Maver Honorbilt Shoes. These figures cover one year's operation in the big Maver shoe factory at Milwaukee.

Total number of hides consumed last year. 382,573.

These are divided as follows:

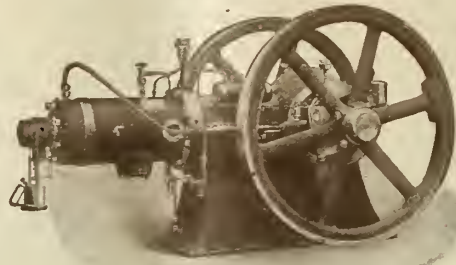
- 55,447 steers,
- 28,676 cows,
- 51,602 calves,
- 62,160 sheep,
- 2,320 horses,
- 1,360 kangaroo,
- 181,008 goats.

All these animals placed in a single file would make an unbroken line reaching from Chicago to Detroit. The requirements for one day's operation make a line over a mile long. To work this quantity of hides into shoes requires over a thousand people, who draw enough wages to keep a city of 5,000 people well fed and happy.

Milwaukee, Wis. where the factories of the F. Mayer Boot & Shoe Co. are located, is the greatest leather market in the world, affording this company advantages in the selection of hides, one reason for the superiority of their product.

Many of our readers are acquainted with the F. Mayer Boot & Shoe Co. and the excellent quality of their shoes. They have been advertising extensively in this publication for years and many of us have discovered the economy of buying Mayer Shoes for the whole family.

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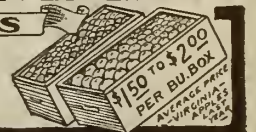
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COLO.

Irrigation Statistics for the Arid States

Director Durand, of the Bureau of the Census Department of Commerce and labor, has issued the first official statement relative to the statistics of irrigation in the United States, collected as a part of the Thirteenth Census. The statement is based on a preliminary comparative summary submitted by Dr. Le Grand Powers, chief statistician in the division of agriculture in the bureau of the Census, under whose supervision it was prepared by R. P. Teele, special agent in charge of irrigation. The figures are subject to revision after more complete tabulation, but it is not expected that there will be any material modification of the totals or percentages reported.

Acreage, Equipment and Cost.

The total number of farms irrigated in 1909 in the arid and semiarid states, comprising all or parts of Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, Wyoming, and part of Texas, was 157,862, against 107,716 in 1899, an increase of 50,146, or 46.6 per cent. Between 1899 and 1909 the whole number of farms in the states mentioned increased 31.3 per cent. Additional irrigated farms, totaling 4,320, in the rice belt of Arkansas, Louisiana and Texas, and 2,228 others in the humid states, most of which

were truck gardens, were also reported. The total number of farms on which irrigation was practiced in continental United States was 164,410 in 1909 against 108,218 in 1899, an increase of 56,192, or 51.9 per cent.

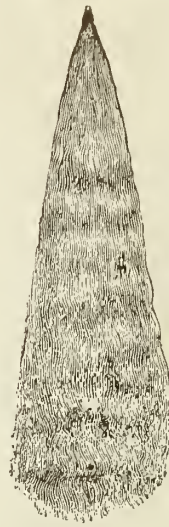
The total acreage irrigated in the arid and semiarid states was 13,739,499 acres in 1909, against 7,527,690 acres in 1899, an increase of 6,211,800 acres, or 82.5 per cent. In the rice states 694,730 acres and in the humid states 28,919 acres were irrigated in 1909, making the total acreage irrigated 14,463,148 acres in 1909 against 7,539,545 acres in 1899, an increase of 6,923,603 acres, or 91.8 per cent. In the arid and semi-arid states alone the acreage which all enterprises were capable of irrigating in 1910 was 19,335,711 acres, an excess of 5,596,212 acres over the acreage irrigated in 1909. The area included in projects either completed, or under construction, was, in the arid and semi-arid states, 31,112,110 acres in 1910, an excess of 17,372,611 acres over the acreage irrigated in 1909. These figures indicate in a general way the area which will be available within the next few years for the extension of irrigation, and show that the area irrigated in 1909 can be more than doubled without undertaking new enterprises.

The number of independent enterprises reported in 1910 in the arid and

DETAILED SUMMARY

	1909	1899	INCREASE.	
			Number and amount.	Per Cent.
Number of farms in arid and semiarid region...	a 1,439,023	b 1,095,675	343,348	31.3
Approximate land area of arid and semiarid region (acres)	1,161,385,600	1,161,385,600	.....	.....
Improved land in farms (acres)	a 173,433,209	b 119,709,592	53,723,617	44.9
Total value of farm land.	a \$10,488,460,215	b \$3,249,259,472	\$7,239,200,743	222.8
Average value per acre of farm land	a \$26.99	b \$9.42	\$17.57	186.5
Number of farms irrigated	157,862	107,716	50,146	46.6
Acreage irrigated	13,739,499	7,527,690	6,211,809	82.5
Area enterprises were capable of supplying in 1910	19,335,711	(c)	.....	.....
Area included in projects	31,112,110	(c)	.....	.....
Per cent of number of farms irrigated	11.0	9.8	1.2	....
Per cent of total land area irrigated	1.2	0.6	0.6	....
Per cent of improved land land in farms irrigated	7.9	6.3	1.6	....
Number of independent enterprises	a 54,669	(c)	.....	.....
Total length of ditches (miles)	a 125,615	(c)	.....	.....
Lth. main ditches (mi.)	a 87,335	(c)	.....	.....
Lth. lat. ditches (mi.)	a 38,279	(c)	.....	.....
No. of reservoirs	a 6,933	(c)	.....	.....
Capac. res (acre ft.)	a 12,872,256	(c)	.....	.....
No. of flowing wells	a 5,070	(c)	.....	.....
No. of pumped wells	a 14,544	(c)	.....	.....
No. of pumping plants	a 13,951	(c)	.....	.....
Engine capacity of pumping plants (h. p.)	a 207,241	(c)	.....	.....
Acreage irrigated with pumped water	a 478,288	(c)	.....	.....
Acreage irrigated from flowing wells	a 125,590	(c)	.....	.....
Total cost of irr. systems	a \$304,699,450	\$67,482,261	\$237,217,189	351.5
Av. cost per acre	d \$15.76	\$8.89	\$6.87	77.3
Av. annual cost of operation and maintenance	\$1.07	\$0.38	\$0.69	181.6
a—1910.				
b—1900.				
c—Not reported.				
d—Based on cost of construction to July 1, 1910, and acreage enterprises were capable of supplying in 1910.				

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semiarid states was 54,669. The total length of all ditches was 125,615 miles, of which 87,335 miles were in main canals and 38,279 miles in laterals. The number of reservoirs reported was 6,933, having a combined capacity of 12,872,256 acre-feet. The number of wells pumped for irrigation was 14,544, and the number of all pumping plants 13,951. The engine capacity of pumping plants was 207,241 horsepower. The acreage irrigated with pumped water was 478,288 acres. Flowing wells supplied water to 125,590 acres.

The total cost of irrigation systems reported in the arid and semiarid states was \$304,699,450 in 1910, against \$67,482,261 in 1899, an increase of \$237,217,189, or 351.5 per cent. The average cost per acre was \$15.76 in 1910, against \$8.89 in 1899, an increase of \$6.87, or 77.3 per cent. The average cost of operation and maintenance per acre was \$1.07 in 1909. The cost of all plants in the rice states was \$12,877,352, making \$317,576,802 the total cost of all enterprises reporting in 1910, except those in the humid states. No report was secured on cost of enterprises in the humid states, for the reason that water for irrigation in those states is usually obtained from city waterworks or other plants not-constructed primarily for irrigation purposes.

Distribution by Type of Enterprise and by Source of Supply.

The acreage irrigated in 1909 in the arid and semiarid states has been classified according to the state and Federal laws under which the works were built or are operated, as follows: United States Reclamation Service (act of Congress, June 17, 1902), 3955,646 acres, or 2.9 per cent of the total; United States Indian Service (various acts of Congress), 172,9912 acres, or 1.2 per cent of the total; Carey Act (act of Congress, Aug. 18, 1894), 288,553 acres, or 2.1 per cent; irrigation district, 5533,142 acres, or 3.9 per cent; co-operative enterprises, 4,646,039 acres, or 33.8 per cent; commercial enterprises, 1,444,806 acres, or 10.6 per cent; and individual and partnership enterprises, 6,258,401 acres, or 45.5 per cent.

The most striking fact brought out by these figures is the very large percentage of the irrigated acreage operated by co-operative, individual, and partnership enterprises. Of the acreage irrigated in 1909 about 84 per cent was controlled by such enterprises, inclusive of irrigation districts. Of the remaining 16 per cent about 10 per cent is included in what have been classified as commercial enterprises—those supplying water to parties who have no interest in the works. The 6 per cent left is divided as follows: Reclamation Service, 3 per cent; Carey Act enterprises, 2 per cent; and Indian Service, 4 per cent. As there are large enterprises in course of development the figures for 1909 do not fully represent the situation. The figures showing the acreage the plants were capable of irrigating in 1910 give the Reclamation Service about 4 per cent of the total, the Carey Act about 6 per cent of the total, and the Indian Service about 2 per cent. Of the acreage included in projects, the Reclamation Service shows about 6 per cent, the

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Carey Act about 8 per cent, and the Indian Service about 3 per cent.

All reclamation and Carey Act enterprises and many of the commercial enterprises are eventually to become co-operative. Classing these with the others already under the control of the water users there is less than 10 per cent of the acreage irrigated in 1909 served by enterprises which are not now or will not soon be controlled by those who use the water.

The acreage irrigated in 1909 in the arid and semi-arid states has been classified by source of supply, as follows: Streams supplied 12,940,849 acres, or 94.2 per cent of the total; wells supplied 433,633 acres, or 3.2 per cent; reservoirs supplied 98,193 acres, or 0.7 per cent; lakes supplied 70,633 acres, or 0.5 per cent; and springs supplied 196,186 acres, or 1.4 per cent.

CENTRAL SELLING AGENCY.

There is a great deal being said in Colorado about organizing a central selling agency. On March 9, there was a big meeting held at Paonia and the subject was gone into very fully by the fruit growers of that section. The general consensus of opinion was that the idea was a good one and should be worked out within the next year although it was felt that it was too late to do much except begin organizing this season. Reports have it that the several associations and those handling fruit in western Colorado are favorable to this idea. Properly handled there is no question, but that it is a good thing. First of all,

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than by others because the impeller is accurately machined to the casing, preventing any sudden change in direction of the water. *Not an ounce of power is wasted. Every "American" Centrifugal absolutely guaranteed.*

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however, the growers must realize that even a central selling agency will not solve all the problems or bring high prices in times of excessive crops. If it creates a more direct route to the consumer, prevents unnecessary competition and makes possible scientific distribution it has done enough. No fruit is a necessity when it gets so expensive that it is a luxury.

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"A GOOD GARDEN MAKES A GOOD TABLE"



Certainly no class of people should enjoy a more bountifully supplied table than the farmer. If his garden is good, he "sets a good table." Otherwise, his stomach pays the bill, and we fear too many stomachs are settling unjust accounts!

The possibilities of the garden are unlimited—except by ourselves; that is, by how we direct our energy. Too frequently our gardens receive no particular attention. Work in many instances is never definitely planned. It is put off from day to day, waiting, as an odd job, to be cared for when there is nothing to do; and those times are seldom found on farms today.

We hope our readers will come to realize more fully the value of the home garden, as a source of profit, saving, and a means of better living.

Perhaps, if every farmer made a more careful study of garden implements and had modern, easy working tools, he would take more interest in his garden. This question of the tools—the planter, the rake, the hoe, the cultivator, the sprayer, etc., needs more thorough study. Too many gardeners, farm gardeners, do not realize what the proper tools can do for them toward making the garden more profitable, more pleasant and produce better quality. Make your gardening easier and you will like it better. And you can only make it easier by using the best tools. Maybe you don't know what there really is for you in the way of garden tools. You should investigate modern gardening implements. Their cost need not prevent you from owning them, for most of them will pay for themselves each year.

We can not urge our readers too strongly, no matter what kind of garden they have, to get familiar with modern tools. Bateman Mfg. Co., Box 240-H, Grenloch, N. J., will gladly send you their garden tool booklets. Write them. They have tools for many purposes, big and small; also sprayers. They can "fit you."

The Biggest Sassafras Trees.

The controversy regarding the largest sassafras tree which was taken up by former Lieut.-Gov. Hindman of Kentucky has finally reverted to Simpson county for settlement. The Atlanta tree measured 7 feet in circumference, while the one in Gov. Hindman's yard measured 12 feet and 5 inches.

In the yard of Esq. George Tisdale in the northwest section of Simpson county are three sassafras trees, one measuring 12 feet and 8 inches, one 12 feet and 3 inches and the other 11 feet and 8 inches. The measurements were taken by Esq. Tisdale and are accurate. The largest of the trio is three inches larger than the Adair county tree and gives to Simpson county the distinction of having produced the largest sassafras tree in the world.

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BAMBOO EXTENSION
FIG 1066 FIG 1427 FIG 1065 FIG 1428
FIG 1022 FIG 1073 FIG 550 FIG 1070 FIG 1470 FIG 1378 FIG 1012
FIG 559 FIG 551 FIG 1016 FIG 1017 FIG 1024 FIG 1042 FIG 1018
MYERS SPRAY NOZZLES AND FITTINGS
FIG 924 FIG 1284 FIG 1345 FIG 1080 FIG 41 FIG 1076
FIG 1295 FIG 548 FIG 1470 FIG 1013 FIG 1081
FIG 1001 FIG 1018 FIG 1019 FIG 1304 FIG 1087 FIG 1020 FIG 1283
FIG 1433 FIG 1072 FIG 1074 FIG 1075
FIG 540 FIG 1470 FIG 1347 FIG 1382 FIG 1356 FIG 1380

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250 POUND PUMPKIN AND DROUTH RESISTING SQUASH
(Continued from Page 15.)

prune, for it will be unprofitable to children will only know the pitless grow the others which are so much more strain on the trees.

Now do you know that these new fruits seldom make the plant breeder any money, for we have no laws to protect them, while every machine, device, etc., used in producing them may be highly protected by patents.

Now have you ever noticed how fast the old styles of fruits, etc., are going out of date and these new ones taking their places?

The Burbank potato is the most produced of any potato, the Burbank plum is the most planted, eaten and produced of any plum in the world.

Now in my work with the pumpkins, etc., I found some very curious ones. I have found in one of my botanical trips a perennial member of the melon family, and now I am working to cross this with Rockyfords, cucumbers, water melons, pumpkins, etc., in hopes that I may be able to breed size and quality into this immense rooted perennial plant. I have seen roots weighing fifteen pounds. Another member of this same genera I have located and am now waiting to seed, will grow and produce three year crops with just the water stored in its immense roots.

Now I want to tell you of two very valuable pumpkins or rather squashes that I have secured during my collecting and crossing, and I know they will interest you.

The first and one that I believe will prove of great interest to all readers of the Fruit Journal is my "Drouth Resisting Squash." This has grown and produced abundant crops on drier land than the Citron melon, being equal or possibly superior to this, and at the same time is a wonderfully heavy cropper, and a squash that you can keep equally well with the citron. If you store it in a dry, cool room, it will last from one crop to the next, and I believe that it will prove a most

important dry farming crop in the intermountain regions, will make an abundant forage crop and at the same time it is a squash good for cooking.

The other is my 250-pound pumpkin. This has produced at the rate of 20 tons per acre of excellent stock food.

These seeds have been of considerable expense to me, but I am going to make a special offer to the readers of the Fruit Journal so that they will all have a chance to get some seeds of both.

If you are not a subscriber to this valuable journal, then send in your own subscription, and if you are, then just get some friend to give you a dollar and send it in for his subscription and I will send you a few seeds of each kind, enough so that if you give them care, you will have enough next year to plant by the acre.

Now, in getting the friend to take the Journal I know he will thank you for the Journal is a mighty fine paper and I wish to state that as botanist at the Mexican college I have to read all the fruit journals of the United States many of Europe and practically all of South America, and I can say that the Fruit Journal has only one real rival, and that is Better Fruit of Oregon, but Fruit Journal is to Colorado and the Intermountain what Better Fruit is to the Northwest, so you see you are getting the best going and your friend will thank you exceedingly for it.

Just send the \$1.00 in to the Journal and say that you want the two kinds of seeds, and I will send them to you, and should there be any way that I can be of use to you in horticulture, etc., drop a line to me, care of the Fruit Journal, and I will give you the benefit of my 20 years' practical experience in California, Oregon and Washington and down here.

In the next number there will be another article about the way the Mexican cook pumpkins, and there are sure some good ways of fixing them up so that the children will like them.

As I have been several times in practically every valley and town in Colorado, Utah, New Mexico and Ari-

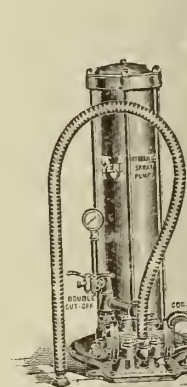
zona, as well as all the Pacific coast, I believe that there will be an excellent opportunity to be of help to all of you.

As the quantity of seed is somewhat limited, get busy and make sure of getting your start with these two pumpkins.

ELMER STEARNS, Botanist.

MYERS' SPRAY PUMPS
ALL KINDS
NOZZLES, FITTINGS, Etc.

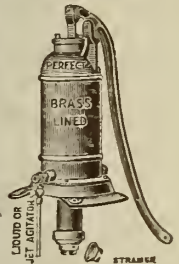
Fig. 1229



Take off your hat to the Myers' BEST PUMP ON EARTH!



Fig. 653



We manufacture Spray Pumps for every need from the small hand and bucket pumps to the large power outfits.

Send for catalog and prices of PUMPS, HAY TOOLS AND BARN DOOR HANGERS
F. E. Myers & Bros. 140 Orange St. Ashland, Ohio

The Wm. M. Roylance Company

Pleasant Grove, Utah
Provo, Utah

Utah's Largest
Handlers

Fruits and Produce, We
Honey, Alfalfa Seed, Pay
Honey, Box Materials, Cash
Spray Materials, Rex
Lime & Sulphur, Swift's
Arsenate of Lead, We
Bean Spray Pumps. Sell
For
Cash

We are always in the market to buy or sell goods in our line.

WRITE OR WIRE US



Men's
\$3.50 to
\$4.00
SHOES & OXFORDS
\$1.98

No. IMFJ-1—Men's finest custom made shoes and oxfords made of tan willow calf, patent kid skin and gun metal calf leathers, all new and up-to-date 1912 styles and lasts, come in button and lace, high and low heels, all custom welted soles, all sizes and widths, regular \$3.50 and \$4.00 values, special \$1.98 a pair



No. IMFJ-2—Women's oxfords, one and two strap and plain pumps, in all the new and up-to-date styles; made of patent, kid skin, tan calf and gun metal calf leathers; hand turn and welted soles; high and medium Cuban heels; all sizes and widths; shoes that are values up to \$3.50; special mail order price, \$1.98 pair

No. IMFJ-2



DENVER, COLORADO

Post Office Box 1528

Send For Our
Spring Bargain Bulletin

Grand Junction The Fruit District Metropolis

By J. R. PARRY, Jr.

It is always interesting to observe the "lay" of the country surrounding a town or city. Many times it causes one to wonder why a certain town was ever founded there. Though this may even be the common thought regarding thousands of "self made" towns, one is sure to arrive at a different feeling after sliding down off the range into the Grand Valley and studying the surroundings of Grand Junction.

The city derives its name from the junction of the Grand river and the Gunnison river at which point the founders of the city must have been impressed with the geographical ad-

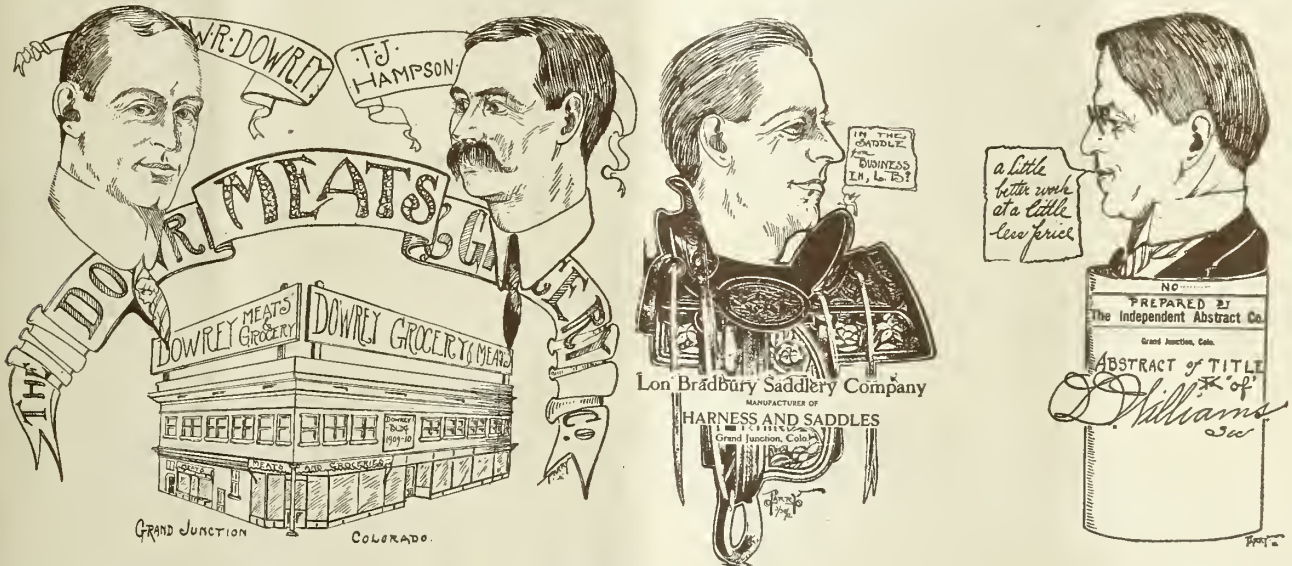
two. The railroad service is excellent and numerous trans-continental trains pass through every day.

The city boasts a population this year of 10,500, which indicates an increase in eleven years of more than 200 per cent. The optimistic citizenship believes that the growth will be very rapid during the coming years and the 50,000 club recently organized hopes to see the population that size in 1920. The dream is not altogether a wild one, as the opportunities of the territory would justify and support a population of that size.

Surrounding Grand Junction is one

out of Mesa county for the year 1911:

Product.	No.	Cars.	Value.	Total.
Apples	1,524	\$ 500		\$762,000.00
Peaches	209	775		161,975.00
Pears	308	500		154,000.00
Cants.	297	300		89,000.00
Potatoes	80	400		48,000.00
Live Stock..	159	1,000		459,000.00
		Tons.	Per ton.	
Sugar Beets	9,600	5.00		48,000.00
		Bushels.	Per bu.	
Corn	53,479	.50		29,739.50
Oats	132,570	.50		66,285.00
Wheat	58,859	.95		55,916.15
Manufactured products—from can-				



vantages. The development of recent years shows the wisdom of their choice as it is not only the junction of Colorado's two greatest rivers, but it has come to be the junction point for all commercial life in Western Colorado.

Grand Junction is the terminus for the Colorado Midland railroad, the D. & R. G. main line via Leadville and Glenwood Springs from the east; the D. & R. G. via Gunnison and Montrose from the east and south and the Rio Grand Western from Ogden and Salt Lake. It is the largest town between Pueblo, Colo., and Salt Lake City, Utah, and about midway between the

of the richest farming sections in the West. Most of the land is devoted to fruit raising but there is diversified agriculture sufficient to prove the entire value of the locality for all kinds of farming. The mountains to the north contain much coal, which is brought into the city cheaply and with much convenience. Water for irrigation is plentiful and the Grand river and its tributaries promise to supply abundance of the necessary for all time, no matter how much land is put under water.

Following is a partial list of the shipments of the products of the soil

ning factory, creamery, etc., \$100,000. Poultry, butter and eggs, \$75,000.00. Coal, 160,000 tons at \$3.00, \$480,000.00.

The above figures have been compiled from the books of the Denver & Rio Grand and Colorado Mirmland and taken with the smaller and unnamed products bring the total up to \$3,612,171.00 for the production of 1911. This is a ten per cent increase over the preceding year.

A new water system is just being completed which will give the city the very best mountain water at a cost of \$450,000.

Few towns in the West can boast of

GRAND RIVER VALLEY LAND WITH DEVELOPED WATER RIGHTS

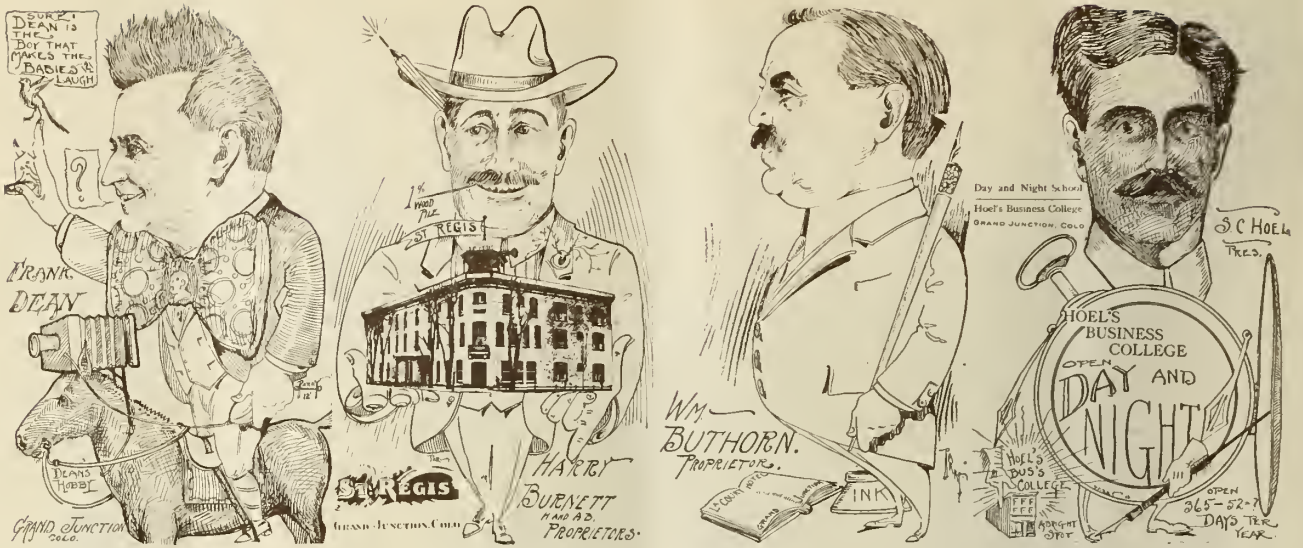
\$1.00 PER ACRE DOWN—\$1.00 PER ACRE PER MONTH

NO INTEREST No land over 3½ Miles from D. & R. G. R. R.

THE GRAND VALLEY FRUIT & WATER COMPANY

Ask for Folder. Write for Price List

EQUITABLE BUILDING DENVER, COLORADO



ner lot of residences and people to occupy them than does Grand Junction. The business houses are far above the average; the schools are most excellent; the churches numerous and prosperous, while few cities of five times the size can boast of a finer Y. M. C. A. building. There is a first class street car service with good equipment and a suburban electric "Fruit Belt" line to Fruita and to be built to Palisade soon.

The city has commission form of government and is the model for all other cities of the West where there is a desire to adopt this form of city administration. There is a park system which totals 70 acres; 22 miles of sewer; cement sidewalks almost cover the entire city.

The banking institutions reflect the financial condition of the country and three banks show deposits over \$1,600,000.

Congress has recently made an appropriation for a federal building that will cost in the neighborhood of \$200,000.

The Postal Savings bank receipts for 1911—first year—were some \$32,052.68. There are immense beds of gilsonite, cement, brick clay, within easy reach of the city and the Chamber of Commerce wants to correspond with wholesalers, jobbers and manufacturers who are looking for a factory location.

With all these things to hold up to the world Grand Junction still holds up her fruit business as the great industry of the many industries of which

she is proud. All kinds of fruit do well and especial attention is given to apples, peaches and pears. When one thinks or speaks "Grand Junction"

that past productions were merely a promise of the future and not to be counted as achievements at all.

Mesa county has a per capita assessed valuation of \$1,400, which is far above the ordinary. With such a showing; with such resources; with such promises as are before her Grand Junction cannot but prosper and grow to magnificent proportions in population; in wealth and industry.

The prospects for an apple show being held in Denver this fall are not very good. Denver merchants do not feel that they reap sufficient benefit to warrant the cost to them and in this they are correct. On the other hand the apple growers do not seem to be willing to do anything to help the show financially regardless of the good it does them.

DEEP WELLS A NECESSITY.

If the world is to make the sanitary progress in the next decade that is due mankind, care must be given in providing pure water. The health of both men and the domestic animals calls for deep wells to penetrate hundreds of feet into the earth and bring from beneath the solid rock the pure liquid, unadulterated by surface drainage. Such wells are not to be thought a luxury, for only a few. Every farm needs one. The mammoth catalogue of the American Well Works, Aurora, Ill., gives such valuable advice on this subject. It is free to those who write for it, and mention the name of this paper.



they must of necessity connect it with fruit. The many young orchards coming into bearing and the thousands of acres that the government will reclaim with the "High Line Canal" means



How To Care For Weak Crotches of Trees

By W. W. ROBBINS.

Many trees have weak limbs and develop bad crotches. In some cases these result from injudicious pruning, while often they are the expression of the natural habit of the variety. A familiar sight on our streets is the leaking of the large crotches of cottonwoods. There is a strain at the point where the two large limbs meet, hence a partial splitting, making an opening from which the sap exudes. This leakage is unsightly, furthermore, weak crotches of trees are dangerous to life and property. Especially is this true in our climate with its high winds and heavy, wet snows.

In most cases weak crotches may be easily braced. There is a right and a wrong way to do this. It is not uncommon to see the two parts held together by a chain band. These will serve the purpose for a while, but subsequent growth and increase in the thickness of the tree will cause injury. The portions of the tree bound will gradually become choked to death. The food which is made by the leaf is obstructed in its course down the stem. As a result, more wood is formed above the band than below, causing a bulge and ultimately the death of the part affected.

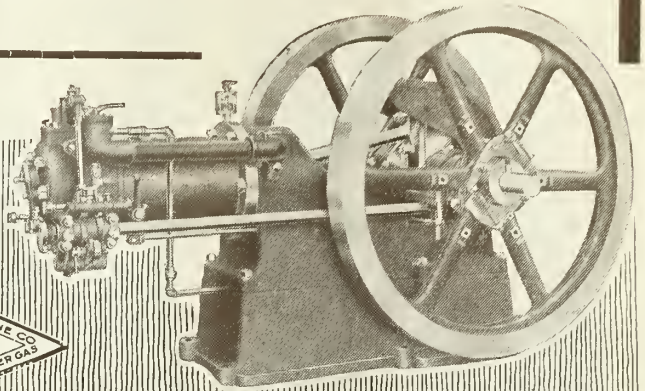
A better method of strengthening a weak crotch is to run an iron rod through the two limbs which form the undesirable crotch. A hole is bored through the two limbs a short distance above the crotch. This hole should be made to fit the rod as nearly as possible; this hole will not injure the tree. The rod should have a large head at one end and be threaded for a large nut at the other. The rod is inserted and the nut screwed up tightly. A one-inch rod will support a tremendous strain, but the size will depend, of course, upon the size of the limbs to be braced.

HIGH SCHOOL ASKED TO TEACH FARM SUBJECTS.

At a largely attended farmers' institute at Montrose, recently, a resolution was introduced and after much high grade discussion was passed, which called upon the board of the county high school to employ in place of other regular teachers, two young men, graduates of the Agricultural College and equipped to teach the usual sciences and mathematics; but particularly to teach agriculture, horticulture, dairying, animal breeding, and feeding. The president of the county school board, Mr. Lew Ross of Montrose, was present and favored the idea. As the board has a majority of farmers, it is pretty likely to carry out the resolution. It was at first proposed to have these two men act as field advisers in the county, but it was the final sense of the meeting that men of more experience would be required for the latter work.

THE FRUIT JOURNAL. See our advertisement on another page.

Power at Lower Cost—



For pumping, hoisting, or for power of any kind, the Ingeco line includes the right size and type of engine for reliable, lasting service at low operating cost. Ingeco Engines have all the features which the test of years has established as best. Every part is built by automatic machinery. Every part fits accurately—replacements are easily made. The construction is substantial—bearings are extra large. Material high grade which insures lasting service.

“INGECO” Internal Combustion ENGINES

Horizontals from 1½ H. P. up to 60 H. P. air cooled up to 15 H. P.
Verticals 2, 4, 6 H. P.

Sales offices in all principal cities carry full line of engines and parts. Competent engineers in charge give expert advice on the question of power plants and their economical operation without charge. Complete pumping plants furnished in any size or type. Write for free book describing Ingeco line, and name of our branch nearest you.

INTERNATIONAL GAS ENGINE CO.

110 Holthoff Place CUDAHY, WIS. (Suburb of Milwaukee)

Why Don't You Buy Second Hand Pipe?

Its as good as new, in full lengths, good threads and couplings on each length, and the price is less. Send us your orders. We have any amount of it you want

S. H. SUPPLY & MACHINERY CO.
1750 Wazee St., Denver

—ARE YOU INTERESTED IN—

Seeds that Will Grow? Established in 1882 our experience as seed growers and dealers enables us to fill your orders accurately and intelligently. Buy seeds from the seed store. Successful market gardeners deal with us. Send for 1912 Catalogue free.

PIERCE SEED CO., 216 West Fourth St.,

PUEBLO, COLO.

The Latimer Chemical Company

The Latimer Chemical Co. was incorporated under the laws of the state of Colorado in 1908, and construction work was started on the factory building in the fall. The only product manufactured in 1909 was arsenate of lead under the name of the "Latimer" brand.

When one stops to consider that in



MR. LATIMER

commercial orcharding a year's success or failure may hinge upon the spraying factor it is readily seen that a new insecticide coming into a fruit growing district like the Western Slope must be one of superior merits or its life will be brief. The field re-



MR. GOODWIN

sults with this insecticide showed from the very first that it was an arsenate of lead which could be relied upon to give the very best results.

Numerous analyses made by both

the state and national government have confirmed the field work.

The most recent analysis made by the state of Colorado showed: Total arsenic oxide (As 2O5) on dry basis, 30.89 per cent; soluble arsenic oxide (As 2O5) on dry basis, 0.00 per cent. Eight other well known brands of arsenate of lead which were used in the state were analyzed at the same time and the "Latimer" brand was the lowest in soluble arsenic.

The arsenate of lead plant is now turning out four tons of lead paste a day in preparation for the big apple crop which the season promises.

To C. A. Latimer, General Manager and Treasurer, is due the credit of organization and of the building up of the business to its present status. Being a graduate chemist with many years experience as department superintendent with one of the largest chemical manufacturing houses in the country, Mr. Latimer has met all of the many problems with intelligence and foresight which have arisen.

With tree scale and other sap suck-

Union Trust and Banking Company

GRAND JUNCTION, COLORADO

Capital.....	\$50,000.00
Surplus.....	5,000.00

OFFICERS

WM. F. DUDLEY, President	C. D. SMITH, Vice-President
	D. T. STONE, Cashier
	E. W. DINWIDDIE, Assn't Cashier

General Banking
Savings Department

Trust Business
Safety Deposit Boxes

Four Per Cent Interest Paid on Saving Deposits

MADE TO LAST

HARNESS, SADDLES

THE kind that fits your horse and lasts forever. Makers of the Famous Sheck Tree Stock Saddle. Light and heavy harness, chaps, hand made bits, etc. Prices right, quality and workmanship guaranteed.

C. R. WELLS Successor to **GEO. W. SHECK**
Phone Main 2509. 1535 Larimer St., Denver, Colo.

WRITE FOR PRICE LIST

120 Die Every Hour from

TUBERCULOSIS

Housewives head the list.
Dust carries the germs.

NO HOME IS COMPLETE WITHOUT THE

Automatic Vacuum Cleaner

WHICH STOPS THE HOUSEWIFE BREATHING THE GERM LADEN DUST.

MACHINES FROM \$15.00 UP.

Write today for full particulars

AUTOMATIC VACUUM CLEANER CO. 427 Sixteenth Street
DENVER, COLO.

THE O. P. BAUR CONFECTIONERY COMPANY

The Best Candies, Ice Cream, Ices and Sodas in the West

1512 CURTIS ST., DENVER

ing insects on the increase it was early realized that a region of Grand Junction's importance should have an unfailing source of lime-sulphur to combat these enemies. Consequently in 1910 an up-to-date and highly efficient lime-sulphur plant was erected capable of turning out a car of concentrated lime-sulphur solution per day.

It is the object of the company to build up, in addition to the manufacture of insecticides, a well rounded industry that will utilize some of the by-products of the valley.

With this in mind the manufacture of cider and vinegar was begun in 1910 and in order to place this business on a firm foundation from the



MR. MOTT

start one of the most competent vinegar men in the country, S. R. Mott, Jr., was engaged to oversee this department.

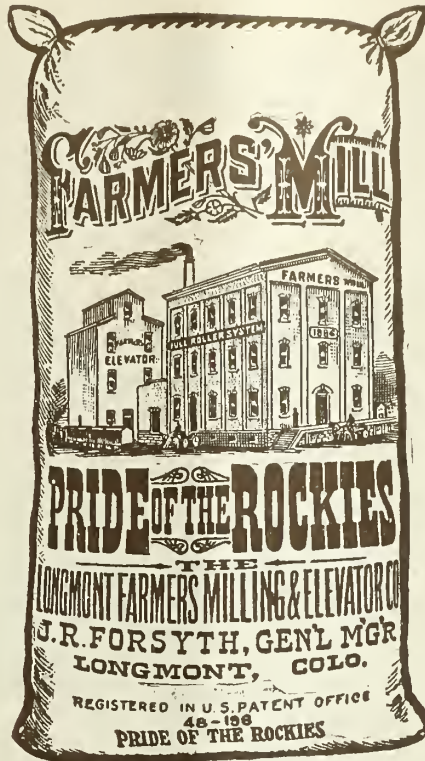
Mr. Mott at one time was general manager of the numerous factories of Mott Bros. & Duffy, who were considered the largest cider and vinegar manufacturers in the United States before they sold out to the trust.

Under his management the Mott brand of vinegar became known in every household and in his present position he is striving to acquire for the Latimer brands of cider and cider vinegar the same enviable reputation for quality.

Although the company has a large storage capacity for cider and vinegar the business is growing so rapidly that the indications are that a number of additional storage tanks will be added in the near future.

A recent addition to the technical and business force of the company is H. B. Goodwin, vice-president and secretary. Mr. Goodwin is a graduate chemist and has had a wide experience during the past twelve years in applied chemical work.

With a staff of experts such as many larger companies cannot boast, we can confidently predict that the Latimer Chemical company will have a prosperous future.



Colorado's
Famous

“Pride
of the
Rockies
Flour”

Manufactured by

THE LONGMONT FARMER'S
MILLING AND ELEVATOR CO.

Longmont and Denver.

Sold by all reliable grocers.

LIQUOR WEAKENS NERVOUS SYSTEM

Nerves Demanding the So-Called Sedative
Effects of Alcohol Are “Alcoholic Nerves.”

The Gatlin Treatment, in Three Days, Cures
Appetite for Liquor and Restores Nerves

WHEN a man's nerves are in a condition which demands alcohol as a sedative—in other words, when he must take a drink to overcome nervousness, the more quickly he comes to the Gatlin Institute, or sends for the Gatlin home treatment, the better. Mental decay soon sets in where the nerve forces are impaired. No poison is as destructive to the nervous system as the slowly-acting poison of alcohol.

An appetite—the physical necessity for liquor—is the greatest health liability one can possess.

In three days, without hypodermic in-

jections or any other disagreeable features, the Gatlin treatment drives all accumulated alcoholic poison from the system, does away with liquor craving, strengthens the nervous system to normal, restores appetite for food, and brings back healthy digestion. In short, the Gatlin treatment cures the liquor habit in three days.

Gatlin Institutes are now established all over the United States, Canada and Europe. The treatment is no experiment—there is twelve years of success back of it. Positively no dangerous, cumulative or poisonous drugs used.

Call or write for books of particulars.

THE GATLIN INSTITUTE

1425 Cleveland Place, opposite Carnegie Library. Denver

TELEPHONE MAIN 4099.

POULTRY

DEVOTED TO HIGH CLASS, PROFITABLE POULTRY GROWING

Contributions to this department are always welcome and signed articles are solicited. Send the editor little expressions of your own experience. They are valuable to other Poultry Growers.

Address Communications to Editor—Intermountain Fruit Journal and Intensive Agriculturist

HANDLING THE BROODY HEN.

It is really surprising how few people understand the broody hen. In a great many instances the poultry raiser seems to think the hen has simply gone on a strike and refused to lay any more eggs, while poor old biddy is only following her natural instincts.

While broodiness is nature, it can be regulated to an extent by the breeding, and being brought about by feed. It must be broken up by feed as well as a change of habitation.

The writer happened to be calling at one of our poultry plants here a few days ago and was very much surprised to see the owner take a setting hen from the nest and slam her out into the yard, none too gently, with the remark: "Get out and stay out," and this man, just as a great many other breeders uses an incubator, and wants eggs, not setting hens.

We will admit the situation is a trying one, when a breeder is getting from \$3.00 to \$10.00 per setting for his eggs, but we will also say that he is not only injuring his stock, but delaying the time when the hen would naturally begin to lay again.

Broodiness is nature demanding a rest and if you are running an incubator, give the hen some eggs for 12 to 14 days, let her start them for you and then finish them in the machine in this way your hens get the needed rest and you will hatch more chicks from the eggs in the machine. If you do this be sure the eggs are thoroughly examined before putting them into the incubator.

If you do not wish to give the hens a rest, taken an oat meal box, nail slats over the top about one-half inch apart, make a door at one end of the box, turn up side down and fasten about two feet from the ground so that the air can circulate underneath the box, and when Biddy sits down and feels the cool air she will immediately stand up, for a hen must be in a warm place and the temperature under her must be about 103 degrees.

Do not handle her roughly, or abuse her for following her natural instincts. Fix up a box as described and give her plenty of green food and fresh water, not so much grain and it will not take over a couple of days for her to change her mind, and go to laying again.

BUYING—SELLING.

The above two subjects are ones for study and consideration. If you are thinking of buying stock or eggs,

of course you want the best you can get for your money so you immediately get busy with the advertisements of the men handling the desired breed and you read them over a few times and then place your order with the breeder whose ad appeals to you the most, and in a great many cases he will be the one offering you what you think you want at the cheapest price; and the consequence is that you are disappointed and think the breeder has robbed you, when in reality he has given you value received and should not be blamed. We do not say that the seller is always right, but as a rule, the person buying the cheapest expects the best.

We know of a number of cases where fancy prices have been paid for inferior birds and in such cases we believe the advertiser should be dealt with through the medium publishing his ad.

When a man places his advertisement in a paper he knows it will be read by a great many people who will order from him and leave it to his judgment to give them the best he can for the price and in this case the

seller should always stretch a point and send birds that will more than please his customer and not try to see just how much he can do him for.

Make your ad read just the way you intend to deliver the goods and business will be on the increase all the time. Do not tell a customer you can send a winner just to make a sale when you know it would be impossible for the bird to win in any show room, and in a good many cases a disqualified specimen.

As an example of magnificent advertising, the writer raises Black Langshans and upon seeing an ad in one of the local papers to the effect that this party had for sale this particular strain of Black Langshans, went out to see them incognito, and was told that they were the pure strain, in fact, the seller continued, this hen here is a direct specimen from those yards, and I wish you could have seen the hen he called a Langshan. It must have been a cross between a Brown Leghorn and a Minorca. Of course I was mad and told him to dis-

"BINGO EGG STAMP"

Specimen
Impression



Poultry raisers can create a demand for first class eggs at a price that will net them a greater profit by the use of this stamp. It is also a splendid advertising medium.

Price any wording, \$1.50 each
Geo. P. Kauffman
913 15th Street Denver, Colo.

Z. M. McINTOSH

BREEDER OF

SOVEREIGN STRAIN BLACK LANGSHANS

Undisputed Winter Layers

Exhibition Birds, they win (\$5 to \$50.) Fine Breeders, they produce (\$3. to \$10.) Hatching Eggs, they hatch (\$3. to \$5 per 13) Baby Chix, they live (35c and 50c each in lots of 25 or more)

BLACK LANGSHAN POULTRY YARDS

2843 Race Street

DENVER, COLORADO

RADIUM SPRAY

Now a celebrated commercial necessity. Over 20,000 cans sold in Denver in 8 months.

Kills by suffocation, all insects, vermin and germs that breathe through the pores of the skin. Non-poison, non-combustible, non-inflammable.

WRITE FOR OUR SPECIAL CIRCULAR. How we cured all cases of roup and sore throat at the big chicken show. Does not soil white plumage.

Factory, Laboratory, Salesroom and Office
628 14th St., Denver, Colo.

Phone, Main 7509

Here Is Your Opportunity !

In tracts to suit purchaser:—3000 acres of Potato and Alfalfa Land in the famous Carbondale District, with Reservoir Water Rights, insuring positive crops where Potatoes bring from \$100.00 to \$150.00 per acre; located on The Colorado Midland and The Denver & Rio Grande Railroads. Price \$60.00 to \$90.00 per acre. Terms \$10.00 cash, balance in ten equal annual payments. For full particulars address

B. ENGLANDER,

801 Continental Bldg.

DENVER, COLO.

**SINGLE COMB
WHITE ORPINGTONS**

ONE HUNDRED BREEDERS FOR SALE
EGGS \$5.00 PER 15

PATRICK & AIRGOOD
2428 N. Tejon St. Colorado Springs, Colo.

S. C. WHITE LEGHORNS

FOR SALE, at a bargain, to make room for young stock.

J. O. BARTHOLOMEW
Rocky Ford :: Colorado



CATALOG FREE.
**ARNDT'S
Black Leghorns**

(Premier Layers)
Exhibition and Utility
Won 1912-6-1st.-3-2nd
and 2-3rd prizes. Eggs \$3. \$2
and \$1. per 15.—\$4.50 per 100.
Chix 15c and up. Order now.

J. S. ARNDT
2821 Umatilla Denver, Colo.



PFILE'S 65 Varieties

LAND and Water Fowls. Farm-
raised stock, with eggs in season.
Send 2c for my valuable illustrated de-
scriptive Poultry Book for 1912 Write
Henry Pfile, Box 648 Freeport, Ill.

BUFF ORPINGTONS

"The Big Winter Layers"

Foundation Stock from the Best Strains in America
Winners at Boulder---1st Cockerel, 1st Pen, 1st, 2nd, 3rd
Pullet, also winning at Denver and Colorado Springs.

EGGS \$1.50, \$2.00 AND \$3.00

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"The hens that LAY are the hens that PAY"
You will admit this to be an absolute fact

My "BRED-TO-LAY" Poultry will pay You

Let me convince you. Send 2c for my BIG catalog
giving full information and prices on 34 varieties of "Bred-
to-Lay" Stock, Eggs for hatching and Baby Chicks.

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Fine Rufus
Red. Fine
breeders and
young stock
for sale at all
time, nothing
better.

We have
never been
beaten in the show room. There is nothing
to equal them as a meat proposition.
Correspondence solicited. Write for book-
let. Stamp for reply.

JESSIE COLLINS
3140 W. 23rd Ave. Denver, Colo.

continue his ad, and not to call those birds Langshans, and I afterwards found out that this party has been in the habit of advertising scrub stock as thoroughbreds; and in a great many cases sold to ignorant breeders at high prices. The rule works both ways. If we want to buy right we must sell right.

RAISE BETTER QUALITY.

Why not better the quality of the flock this season by more careful selection. Don't use eggs from the entire flock for hatching, but make up a breeding pen of your best hens and use only their eggs. Twenty hens in a colony house about 7x9 out in the orchard, with a yard about fifty feet square, will furnish a settling of eggs per day during the season, which is about all the average farmer will care to use. Keep two males for this pen, changing every few days. The right kind of a cock bird is too unselfish for his own good and will call the hens to eat all the good things while he goes hungry; shutting him up a few days and feeding him will keep him in better condition.

This plan also prevents fighting and will mean more fertile eggs. Weight, vigor, appearance of the flock, laying qualities all will be greatly improved and the infertile eggs produced by the balance of the flock will keep better during warm weather, and will be much better for putting away for next winter.

W. E. VAPLON,
Colorado Agricultural College, Fort Collins.

COLONY HOUSES FOR POULTRY

Prof. James Dryden of the Poultry husbandry department at the Oregon Agricultural College has stated it as his opinion that poultry keeping is most successful where the colony system prevails. Small houses, preferable ones, where the fowls may have free range, keep the birds more active and busy than they would be if confined in yards. There is also less danger of disease epidemics, and it is easier to keep the house on clean ground by moving it occasionally. The poultry will also require less feed and care, as they will pick up a considerable amount of food on the range. The fact that they will also rid the farm of many injurious insects must also be considered, as well as the important fact that they may be fattened in the fall on the stable fields, if the colony system is used. A good size to build a colony is 7x12 feet, Prof. Dryden says. A team of horses will pull a house of this size, and it will accommodate 30 or 40 fowls.

OREGON'S RECORD HENS.

Two hens at the experiment station of the Oregon Agricultural college now hold the United States championship for the highest number of eggs laid in a year. Each produced 259 eggs, tying for championship. No other experiment station in the country has ever been able to raise a hen with a record to equal this. Heretofore the best that could be done was the rec-

Eggs! Baby Chix! Eggs!



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For You In**

**Miller's S. C. W.
LEGHORNS**

Write for catalogue and
Special Combination Offer
of the best incubator in Colo-
rado filled with the best eggs
in Colorado.

Address **G. I. Miller, Rocky Ford, Colo.**

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E. R. LYNCH, Prop.

BREEDER OF

Rose Lawn and S. C. R. 1. Reds

S. C. Brown Leghorns.

and Barred Rocks

20 premiums on 21 birds at Colorado Springs
Show and 12 premiums at National
Western Poultry Show

Eggs \$2 per 15; \$3 per 30; \$5 per 50; \$7 per 100
Fine Cockerels and Breeders Cheap

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LEGHORN RANCHE**

I have the NEVER QUIT LAYING LEGHORNS,
With a record second to none for summer and
winter laying. Any person desirous of obtain-
ing baby chicks or eggs from this remarkable
strain, can be accommodated by placing your
order now for early delivery. Write **G. W. HIG-
GINS, 508 North 12th St., Rocky Ford, Colo.**

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Chloroleum

Kills Lice and Mites, diluted 1 to 50.
Most economical preparation on the
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All dealers or

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Bohmann's Incubators are the best hatchers and I can
prove it. I make hot water and hot air machines and
they are guaranteed to you to do the work. Send for
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ulars and arrange to get on the free list for some of this
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Kansas City Weekly Journal, 837 Journal Building, Kansas City, Mo.

ord of 251 eggs. An unofficial record from a private breeder shows 256 eggs some years since, but even this is beaten by the Oregon hens.

One of the birds is a Plymouth Rock, and the other a cross between a Plymouth Rock and a Leghorn. The Plymouth Rock laid 27 eggs in the month of October. The cross did not run so high in individual months but she was more consistent, laying over 20 eggs every month except March.

"This is a matter of breeding, feeding and care," said Prof. James Dryden, poultry expert for the experiment station tonight. "In the same pen with the record Plymouth Rock hen we had one which laid but 6 eggs, although she was of the same breed, and received the same care and feed. The trouble was in her heredity. She was a poor individual. When we have finished figuring up the records of all the hens in this test we will have some very interesting data for publication in a new bulletin of the experiment station."

Preserving Eggs.

Every normal hen is now busy shelling out eggs. Of course, as a consequence, the market has lost its bottom and prices are way down and going down lower. The question that every poultryman is trying to solve is not how to get eggs now, but rather in the fall and winter when eggs are high. Some claim to do it, but I believe an investigation would show that most of those who claim to get eggs in the "high months" really are selling last summer's preserved eggs.

It is difficult for the uninformed to tell an egg that has been properly preserved from one that is perfectly fresh. There are many ways of preserving eggs. One is the water glass method. It consists of placing eggs in a solution of water glass, but as it is not as satisfactory nor as economical as the bran method, I will not dwell on it. Water glass can be obtained at any drug store together with complete directions for making the solution.

In the bran method sterile eggs are placed in a keg or box on a layer of dry bran and covered with another thick layer of bran. Layers of eggs and bran are thus alternated until the container is full which is then placed in a dark, dry, cool place.

It is of the utmost importance that the eggs be absolutely sterile. Otherwise they will not keep any length of time. To be sure of this sterility, separate all females not used for breeding purposes from the males and do not use their eggs for preserving for at least two weeks after the sexes are separated.

Eggs thus preserved will keep nice and fresh for months and can be sold when they bring high prices. They should be put in the bran as soon as possible after they are laid and need not be turned.

Ladies, do you want a nice set of serviceable Silver Plated teaspoons, as a present from THE FRUIT JOURNAL? See our advertisement on another page.

Harvest Your Crop Every Day



One flock of 200 Paid us \$1124.00 Profit. Our Bred-to-Lay-in Winter Leghorns did it. **THEY WILL DO IT FOR YOU.**

How would you like to have \$8.00 per day, \$56.00 per week, \$240.00 per month from winter eggs, while other farmers are realizing practically nothing. Listen. \$30.00 will buy you 100 or more pullets to lay this winter, **ORDER TO DAY.** Babychicks 20000. Guaranteed Fertile Hatching eggs at Let-Live Prices. Illustrated Catalog Free. Address

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By using Animal Fertilizers you can increase your crop at least 50 to 100 per cent. Try it and be convinced.

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Keep your fowls healthy and get more eggs by the systematic use of our poultry foods.

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If your dealer cannot supply you, write for information and price lists
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DENVER, COLO

S. C. WHITE LEGHORNS

Some fine laying pullets at the ridiculously low price of **\$1.25 Each**
Eggs and Baby Chicks at reduced prices for balance of season.

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POULTRY

ROSE COMB R. I. REDS—My entire flock of 400 reds for sale; last year's hens at 70c and \$1 each; a lot of fine young pullets and cockerels; pullets \$8 per 12 and cockerels \$1 each. Nine years a breeder of Reds. Mrs. B. F. Weigle, Winfield Kan., Route 1. 7-12

R. C. R. I. REDS—Eggs from pure bred range flock; 100, \$4.00; from prize winning pens, \$2.00 per 15 and \$6.00 per 50. Mrs. B. F. Weigle, Winfield, Kansas. 7-12-s

MINNESOTA

21 VARIETIES—Rocks, Wyandottes, Langshans, Darkings, Cornish, Reds, Orpingtons, Leghorns, Lakenvelders, Hamburgs, Houdans, Spanish, Guineas, Runner Ducks, African geese, Bourbon Red Turkeys, Peafowls. Catalog for stamp. Theodore Fran, Good Thunder, Minn. Box 91. 5-12

48 VARIETIES—Pure bred prize winning chickens, ducks, geese, turkeys, guineas, and pea-fowls; 600 prizes to their credit, including Chicago, Minneapolis. Choice exhibition and breeding fowls at reasonable price. Circular free: 100-page catalog, 4c stamp. **ZIEMERS POULTRY FARM**, Austin, Minn. Dept. 18. 11-12

EGGS! BUFF ORPINGTON EGGS—From birds, direct from winners of firsts and specials at Topeka, American Royal and Missouri State shows and themselves winners at the "El Dorado Show," of six ribbons out of a possible nine. I am selling about half of these eggs at \$3.00 per 15 eggs; I also have choice Cockerels for sale. Satisfaction assured. **DANE HUFFINGTON**, Latham, Kansas. 1-13

MISSOURI

S. C. BUFF ORPINGTON—No other bird has met with such favor in the same length of time, why? Because they produce more meat and eggs than any other known fowl. If you want a clean pure-bred trapnested strain, let me supply you with stock or eggs. **J. W. Bear**, Warrensburg, Mo. 9-12

MAMMOTH BRONZE TURKEYS—That are Mammoth, Chrystal White Orpingtons that are white. S. C. Brown Leghorns and B. P. Rocks, all from prize winners. My entire flock of B. P. Rocks for sale cheap. Also prize winning young turkeys and Poland China Hogs. **MRS. ALICE CURNUTT**, Rt. 9, Box C, Montserrat, Mo. 11-12

ROSE'S ANCONAS—Prize winners and great layers. Eggs \$1, 2, and \$3 per 15. Write for circular. Mrs. Daisy Rose, Bois D'Are, Mo. Life member of A. P. A. and member American Ancona Club. 5-12

And when the flies begin to swarm, Use Radium Spray and they do no harm.

MAMMOTH BRONZE TURKEYS—Hadley strain. Tom weighs 50 lbs., hens 23 to 30 lbs. Eggs \$10.00 for 12 from great Missouri State prize winners. **INDIAN RUNNER DUCKS**, Blue Ribbon Winners in 1909, 1910, 1911, 1912, fawn and white 260 egg strain. Price of eggs, \$2 for 15; \$3 for 30; \$8 for 100. S. C. Brown Leghorns, pure bred stock, eggs \$1 for 15; \$5 for 100. **M. H. Schlotzhamer**, Pilos Grove, Mo. 11-12

SARVER'S POULTRY FARM, Mt. Moriah, Mo., Breeders of Buff Wyandottes and Narragansett Turkeys. If you wish to know about Eggs for hatching, write us for our mating list. Satisfaction guaranteed. 9-12-s

FOR SALE—Stock from a \$250 pen of Crystal White Orpingtons direct from Kellerstrass, at reasonable prices. Cocks, cockerels, and pullets. Mrs. W. H. Vreeland, Pattonsburg, Mo. 9-12

WHITE ORPINGTON PULLETS FOR SALE—Also choice Cockerels, eggs low. Have some good long green tobacco for sale cheap, write your wants. **A. G. DAVISON**, Box 333, Downing Mo. 5-12-s

POULTRY

SUNNY CREST FARM—Offers eggs from their high scoring prize winning pens. S. C. Buff Orpingtons, White Wyandottes, S. S. Hamburgs, White Leghorns, also pure fawn and white India Runner Ducks, \$1.50 per setting. **E. D. NEWKIRK**, Edina, Mo., R. R. No. 4. 9-12-s

MAMMOTH BRONZE TURKEYS—Old toms weigh 50; hens 25 to 30 lbs. Young stock. 6 months old stock 25. Pullets 16 to 18. Send for prices and show record. **I. R. Ducks** 240 white egg strain. Fawn and white show stock. Also good breeders for sale. Pure bred S. C. Brown Leghorns for sale. **M. H. SCHLOTZHAUER**, Pilot Grove, Mo. 11-12

S. C. BUFF ORPINGTON—My pens have been mated since the 1st of January, with about as fine a lot of pullets and yearling hens as you could get together. Write for mating list; it is free. **J. W. BEAR**, Warrensburg, Mo. 9-12-s

NARRAGANSETT TURKEYS—The Farmer's favorite, 3 farms stock on each not related to the other. Pens, trio or single birds at reasonable prices. Satisfaction guaranteed. **George Carver**, Mt. Moriah, Mo. 9-12

THE AMERICAN BIRD—Not the eagle, the Barred Plymouth Rock, the staple of the world. Three strains Ostrich Plumes, Ringlets and Blue Bells. The best blood lines in the world. Catalog free. A sweeping show record. **J. A. Ayers**, La Plata, Mo. 9-12

NEBRASKA

THE ROSELAWN FARM BREEDER OF S. C. BUFF ORPINGTONS POULTRY AND DUROC JERSEY SWINE—I am offering stock for sale that are first class in every way. I have the show birds this year that I have never had before. I have them Buff from one to the other great size and fine make-up, and I will sell them for the money they are worth. You don't have to go east to buy your show birds. I have them and you won't have to pay from \$50.00 to \$100.00 for them either. Give me a trial and see if I don't treat you right. I have birds from \$2 up, and by inquiring please state just what you want, then I can tell you the price in first letter. **JOHN T. STADLER**, Box 257Q, Minden, Nebr. 11-12

EGGS, EGGS, EGGS, EGGS, EGGS—At cut prices. Free mating list on scored pens. Twenty different breeds of poultry, ducks and geese. H. P. Stone & Co., Dealers and Breeders, Box H. 15, Platte Center, Nebraska. 4-12

S. C. BUFF ORPINGTONS—Won 1st, 2nd and silver medal, Nebraska State Show, 1911. Get hard times prices and money back proposition. Sale now on. **Alfalfadell**, Box W, Farnam, Neb. 7-12

EGGS—From Toulouse and Emden geese, turkeys, Houdans, Leghorns, Rhode Island Reds, Wyandottes, Hamburgs, Orpingtons, games, Plymouth Rocks, Langshans, Cochins, pearl and white Guineas, Bantams, Pekin, Ronen, Muscovys and runner ducks. Hen eggs 15 for \$1; by the hundred, reasonable. Also dogs, rabbits and all kinds of fancy pigeons. Write for free circular. **D. L. Bruen**, Platte Center, Neb. 2-13

EGGS—S. C. BUFF ORPINGTON—Best of quality, prices and guarantee. Free circular will convince. \$5 per 100 up. **Box W, Alfalfadell**, Farnum, Neb. 7-12s

THE S. C. BUFF ORPINGTON FARM has for sale 50 Cock and Cockerels; 50 Hens; 50 Pullets that are good shape, also color. Taken 1st, 2nd, 3rd and 4th prizes at Nebraska show, also 1st at Denver. **John T. Stadler**, Minden, Neb. 11-12

BARRED PLYMOUTH ROCK EGGS that will hatch large wedge-shaped well barred chickens, 75c for 15; \$1.50 for 50. **Miss Voorhees**, Sweetwater, Neb. 54

POULTRY

BARNARD'S WINNING BARRED ROCKS—They lay, they weigh, they pay. If in need of stock or eggs of high quality send for my mating list, giving list of winnings and fully describes my stock and prices of eggs. **Jno. Barnard**, Box 3, Portland, Neb. 10-12-s

EGGS—Buff Cochins, Muscovy and Rouen ducks; Toulouse Geese. **Gartner Bros.**, Coleridge, Nebraska, 54.

OHIO

BUFF AND BARRED ROCKS EGGS for hatching, \$1 for 15 or \$1.50 for 30. good size, shape and color. Farm raised and healthy; 11 years experience. Grand View Farm, W. C. M. & Co., New Concord, Ohio, R. F. D. No. 1. 7-12

ANCONAS—The best winter layers on the whole poultry list. Eggs in any quantity. Fertility guaranteed. Write today for free catalog. **Evans & Timmins**, Box F, Malta, Ohio. 5-12-T

OREGON

FOR SALE—Single Comb Ancona Cockerels, Winners of First Prizes at Salem State Fair, 1910; at Portland, 1910; at Salem State Fair, 1911, and at Marion county poultry show, 1911. Eggs and D. O. Chicks in season. **R. Wooley**, 1709 Ferry street, Salem, Oregon. 11-12-s

PENNSYLVANIA

SICILIAN BUTTERCUPS—One customer got five times as many chicks from 15 of my eggs than from 170 of another breeder. Circular. Stock in season. **JOHN R. KEMERY**, Downingtown, Pa. 5-12-s

BUTTERCUPS (SICILIAN)—Great layers; large white eggs. September chicks make breeders for next season. Also prize Houdans. Fertility guaranteed; 15 eggs \$2.50. **J. R. Kemery**, Downingtown, Pa. 5-12

DIAMOND JUBILEE ORPINGTON EGGS—\$2.50 per 13. Sicilian Buttercups, \$1.50 per 13. Stock for sale Oct. 1st. **Silver Champion**, Single Comb Red and Col. Wyandottes, Buff Cochins Bantams. Write for prices. **E. H. Adams**, Outwood, Pa. 5-12

UTAH

CRYSTAL WHITE ORPINGTONS—Kellerstrass Strain. Our birds are winners at the three leading fall fairs. Stock and eggs for sale at all times. **Charles McClure**, Tremonton, Utah. 9-12

WASHINGTON

CRYSTAL WHITE ORPINGTONS—Kellerstrass strain; single and rose comb mottled Anconas, Sykis and Sheppard strains. I am booking orders for eggs and baby chicks. Send for catalog and note my winnings. 11-12 **IRA N. DeLINE**, Olympia, Wash.

BLACK LANGSHANS, Pacific Coast Champions. Won 53 ribbons, 3 silver cups. Portland, Pendleton, Spokane, Walla Walla and Colfax shows acknowledged best winter layers bred. To weigh, lay and pay. Eggs \$2.50 per 15. **M. E. Taylor**, Winona, Wash. 1-13

WISCONSIN

THE HENS PROPER BUSINESS IS TO FILL THE EGG BASKET—Average laying record of my S. C. White Orpingtons in the winter month: 23 eggs per hen and month. Bred to standard requirements. Pay only for quality not for breeders name. 15 eggs \$4.00, \$2.50, \$1.50; strictly fresh and packed with care. 11-12 **REV. G. DETTMAN**, R. R. 6 Appleton, Wis.

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ALFALFA SEED, best Northwestern Nebraska Seed. Graded. Prices and samples free. Schwabe Bros, Chardon, Neb. 61.

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WONDERFUL BARGAIN—160-acre partly improved irrigated ranch in famous Big Horn basin, with fully paid perpetual water right; no shortage of water guaranteed. Two miles from railroad station. Price only \$30 per acre, small payment down, long time on remainder. Edward E. Stowe, Worland, Wyo. 52.

19 ACRES AT PAONIA—1500 apple trees 12 years old. Best varieties, including Gano, Rome Beauty, Mo. Pippin, Winesap, Jonathan, Grimes, W. W. Pearmain, Ben Davis. Domestic water brought to the place from the mountains in pipes. Ample irrigation water. Price very low for a short time. Plenty of time to pay for it. Write Box 142, Paonia, Colorado.

20 ACRES—Mostly planted to peaches and apples. Some alfalfa and some apricots and other small fruits. Excellent water right. Crop prospects for 1912 A-1. Will make price and terms right. Write E. R. Morgan, Paonia, Colo.

FOR SALE—MISCELLANEOUS.

I HAVE a large number of the finest 1910 census maps yet published. The United States on one side and the World on the other. List of every city of 5,000 population or over. Railroads, rivers, mountains, etc. They are sent prepaid for \$2.50; regular price \$7.00. C. E. Russell, Y. M. C. A. Building, Denver, Colo.

THE ORCHARDIST who wants to make his wife a nice, yet inexpensive present, should send \$1.10 to Clyde Henry, 1714 Humboldt St., Denver, Colo. and get postpaid a set of Garland pattern Oxford silver tea spoons and one of the best farmer's publications in the West.

GRAPE FRUIT GROWING IN PORTO RICO.

Open article apropos the great number of intelligent business men who have recently turned their attention to Porto Rico and ended by investing there. Most of them started by learning of great strides and profits made on oranges and grape fruit in California and Florida. They found in Florida good profits in oranges, and even greater in grape fruit, so much so, that Florida planters now plant largely grape fruit, and oranges to only a small extent. Grape fruit grows more prolifically, costs less to pick and pack, and brings greater returns per box. The demand increases much faster than the supply, and will for years.

FROST—But the grape fruit is even more sensitive to frost than is the orange, and the loss by frost in Florida is extremely heavy. The California grape fruit is very poor quality and the few grown are not marketable. Texas, Arizona and Louisiana all produce a few oranges, but not one can produce grape fruit. In fact, there is not a place in continental United States where grape fruit is not greatly injured by frost. Even in southernmost Florida, at Tampa, the U. S. weather

report shows killing frosts nearly every year for 20 consecutive years. Is it any wonder the supply of grape fruit is limited and does not keep up with the demand. And that this season grape fruit has brought as much as \$10 per box at the grove, while oranges (which cost more to grow) often bring only \$1.00 or less. It is on account of these conditions that those men who know the facts are turning to the tropical countries to supply the rapidly increasing demand. The shipments from Porto Rico have increased fifty fold in five years, and that increase bids fair to go to one hundred fold in five more years.

DUTY—Cuba, Jamaica, Porto Rico and parts of Mexico, can all grow grape fruit without loss by frost. In addition, any of these can ship by water to the great Eastern markets in competition with Florida. Imported grape fruit, however, must pay a duty of 80c per box, which, figuring 70 trees per acre and 10 to 12 boxes per tree (a very reasonable estimate for mature trees) amounts to \$500 to \$600 per year for each acre of production.

Of course, Porto Rico, being a possession of the United States, pays no duty. (All the others do.) Thus, Porto Rico growers can be sure of a profit of at least \$500 per acre, even when its tropical neighbors sell at the bare cost of production—if they ever should.

In addition to the very important tariff protection and absence of losses by frost, Porto Rico has other very marked advantages, among which may be mentioned the following:

MARKET SEASON 12 MONTHS—Fruit matures over a very long season. In fact, ripe grape fruit is shipped to market every week in the year. Florida ships for only a few months, at which time the markets are well supplied and prices relatively low. Porto Rico ships both before and again after the low prices.

TRANSPORTATION conditions the best; several steamship lines operate between New York and Porto Rico. The freight from Porto Rico to New York is but 30c per box, while southern Florida must pay about 75c, a difference of 40c per box, or \$140 per acre per year in favor of Porto Rico.

NO FERTILIZER—The Florida soils are very sandy and poor and require 2 or 3 times as much fertilizer as do Porto Rico soils.

NO SPRAYING—Florida trees are not only damaged by frost, but also by innumerable pests and insects, and must be sprayed and fumigated and at great expense. Porto Rico trees are covered with a fungus growth that destroys all such pests and relieves the owner of all such expense.

U. S. GOVERNMENT EXPERTS—Uncle Sam has a grape fruit expert in Mr. C. B. Kinman, the Horticulturist of the U. S. Experiment Station in Porto Rico, whose great scientific and practical knowledge of grape fruit growing is always subject to the call of the local grower, and a great factor of safety to him. His advice has revolutionized the industry there and made it as safe a place for investment in fruit growing as can be found.

LABOR AT LOW COST—Furthermore, in Porto Rico, labor is cheap (50c per day). Land is very reasonable in price, (although rapidly soaring), and a dollar invested there will bring probably twice or thrice the returns of

one invested in any other part of the U. S. A.

GARDEN OF EDEN—Finally, Porto Rico is the beauty spot of Uncle Sam's possessions and of the West Indies, with an ideal climate; the monthly average temperature ranging from 75° to 81°. No extremes of heat or cold; "never a sultry day in June, July or August. The salubrious trade wind always blowing." No poisonous reptiles; flies and insects scarce; yellow fever and kindred tropical fevers unknown; perfect conditions for health and comfort. A delightful winter resort, combining pleasure and great profit.

The government publishes the annual report of the Secretary of Porto Rico, an illustrated and valuable book, from which this article was largely compiled. Copies can be obtained, gratis, by addressing him at San Juan, Porto Rico.

PALISADE FRUIT FARM

6 $\frac{2}{3}$ acres, 999 trees full bearing. \$2,500 crop expected this year. Finest location in valley 1 $\frac{1}{4}$ miles from town. Immediately opposite Lincoln school house. I don't know anything about farming and need money in my business so will sell cheap. Worth \$10,000, take \$8,000. Easy terms. S. Z. Silverspare, 1614 Broadway, Denver, Colo.

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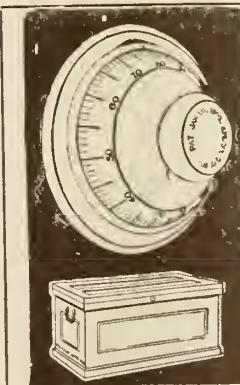


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through which to open the door of success is a thorough business education. Young men and women who have had our training are holding responsible positions in the State Capitol and in the best business houses in Denver and elsewhere throughout the West.

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THE INTER MOUNTAIN FRUIT JOURNAL

AND INTENSIVE AGRICULTURIST

VOL. V.

MAY, 1912

No. 4



1912

Prosperity Edition

Western Fruit and
Farm Districts



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Grace Weller.

Beware of Soluble Arsenate

NINE prominent makes of arsenates of lead used in Colorado in 1911 were analyzed by the State. The Latimer Brand was the lowest in soluble arsenic. The tests made showed that these different leads varied from 0.00 to 0.76 of a percent. Soluble arsenic is dangerous to fruit, foliage and trees. We guarantee every pound to be fresh arsenate of lead made this year.

To contain over 15% of arsenic oxide.

“ “ less than one-half of 1% of soluble arsenic oxide.

“ “ “ “ 50% of moisture.

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AGENTS IN COLORADO

GRAND JUNCTION: The Grand Junction Fruit Growers' Assn.

MONTROSE: The Montrose Fruit & Produce Assn.
The Montrose Warehouse.

DELTA: The Colorado Fruit Growers' Assn.

PAONIA: The Forth Fork Fruit Growers' Assn.
Nelson Bros. Fruit Co.
The Paonia Fruit Exchange.

AUSTIN: The Surface Fruit Growers' Assn.

LAZEAR: The Rogers Mesa Fruit Growers' Assn.

CANON CITY: Wm. J. Lindenberger.
F. P. Smith.

PALISADE: The Palisade Fruit Growers' Assn.
The Grand Junction Fruit Growers' Assn.

RIFLE: The Rifle Fruit & Produce Assn.

DE BEQUE: The Producers' Assn.

DURANGO: The Gibson Fruit & Produce Company.

AGENTS IN UTAH

PROVO: The Carpenter Seed Company.

PROVO BENCH: The Utah County Fruit & Produce Co.

SPRINGVILLE: Springville-Mapleton Fruit Growers' Assn.

ELBERTA: The Elberta Fruit Growers' Assn.

OGDEN: John R. Brown Commission Co.

CLEARFIELD: James G. Duffin.

ROY: Ezra V. Steed.

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Published Monthly in Behalf of Fruit Growing and Marketing, Intensive Agriculture, Irrigation and Allied Interests in Colorado, Utah, New Mexico, Idaho, Wyoming and the West

VOLUME V

MAY, 1912

NUMBER 4

The Campbell System Applied to Irrigation

By PROF. R. A. HASTE of the Campbell School

During the last decade discoveries have been made in scientific agriculture which will double the arable area of the earth and increase the available water duty three-fold. I refer to the discovery that water can be stored in the soil for an indefinite period and that the longer it is so stored the richer will be the soil solution, and consequently less moisture required by the plant.

To bring these facts clearly before the mind, let it be remembered that the first difference between plants and animals is that of locomotion. In every other respect they are practically alike. Animals eat and drink and sweat; so do plants.

The investigations in scientific agriculture have until very recently been mainly along the lines of eating and drinking. Recently, however, careful attention has been given to the other function, the sweating of plants—it is called transpiration.

The discovery by Professor Campbell of the art of conserving moisture by summer tillage and by maintaining a surface mulch has, without doubt,

doubled the arable acreage of the world by adding to it the so-called semi-arid regions. It is now no longer a question that average field crops can be grown successfully with an average yearly precipitation of twelve inches, providing the Campbell method of scientific soil culture is followed strictly. But, people are just awakening to the fact that the same principles applied to irrigation will triple the water duty and increase the irrigable acreage of the world three-fold. This is simply a matter of mathematics. If a crop can be grown in semi-arid regions on an average of fifteen inches rainfall, the same amount of water placed on the fields artificially will produce the same result.

Plant Food Must be in Solution.

As the roots can take up plant food only in solution, water becomes the vital element of plant growth. The moisture is needed not only to dissolve the plant food in the soil, but it is needed to carry this crude food up through the stems and branches to the leaves, where it is transformed by sunlight into starch. The leaves are

the food factories of the plant. Here the solution that is brought up from the roots is made over into something that the plant needs in its growth. In this process, the surplus water is given off into the air. This is transpiration.

Strength of the Solution.

The water that the plant takes up from the soil is both food and drink. If there is a lack of plant food in the soil for the water to dissolve, there will be little growth. But in trying to get enough food from the weak solution, the plant will use a great amount of water; just as a man who is kept on a diet of soup—we find the richer the soup, the less he will require to keep up the bodily functions.

It is clear then, that if we have too much water in the soil the solution will be weak and the plant will have to evaporate a great amount to get the required food. Again, it is plain that if the inorganic elements in the soil, that make up the greater part of the plant food, dissolve very slowly, the longer the moisture is kept in the soil in contact with the soil grains, the stronger will become the soil solution to a certain point, and the less of it will the plant require. This is the theory—now what are the facts?

Experiments in Transpiration.

It has been known for many years that fertile soil requires less water to produce a crop than poor soil, but not until recently was the scientific basis for this fact worked out.

The amount of water transpired or evaporated through the leaves ranges from 265 to 753 pounds for every pound of dry matter produced. Why this difference? Right here, comes in the importance of the discovery—this difference depends upon the available fertility of the soil. The plant uses water in proportion to the strength of the solution.

Widtsoe, in his recent book on dry farming, discussing this subject, says: "it was discovered a half century ago, that similar plants, growing on different soils, evaporate different amounts of water from their leaves. This difference is due, doubtless, to the condition in the fertility of the soil, for the more fertile a soil is, the richer the soil water will be in the necessary plant foods."



SAMPLE OF ROAD CONSTRUCTION IN A PICTURESQUE COLORADO CANON

ROLLING
THE
ALFALFA
INTO
MONEY
ON A
WESTERN
RANCH



Courtesy of
The Plattner
Implement Co.

The principle that transpiration depends upon the nature and concentration of the soil solution is of far-reaching importance in the development of the rational practice of farming.

Summer Tillage Saves Water.

Experiments conducted from 1878 to 1882 determined that less water was required to produce a pound of dry matter when the soil was well fertilized, than when it was not, and that the greatest amount of dry matter was produced when transpiration was least. It was further found that when the soil was properly tilled so as to release the natural plant foods less water was required to do the work. This is in perfect accord with the experience of Professor Campbell, who for twenty years maintained that cultivation so as to store and keep constantly in the soil a high percentage of capillary water increased the available plant foods and produced bumper crops.

This process known as "Summer Tillage" accomplished two ends; liberated plant food and, by so doing, reduced the amount of water necessary to produce a pound of dry matter, a very essential element in the semi-arid as well as in the irrigated sections.

Methods of Controlling Transpiration.

If you wish to reduce the amount of water needed to produce a crop to the minimum, it is evident that you must increase the available fertility of the soil. This can be done in two ways: by the application of artificial fertilizers, or by adopting a system of cultivation that will hold the water in the soil and release the dormant plant foods.

Can "is be done? I answer "IT CAN". And today there is no question about the results. Again quoting from Professor Widtsoe, he says "One of the chief values of summer tilling lies in the liberation of the plant food during the fallow year, which reduces the quantity of water required in the next year for the full growth of the crops."

It is not yet clearly understood what changes occur in fallowing (summer

tilling) to give the soil the fertility that reduces the water needs of the plant. There may be a number of agencies at work, but the one which seems to be dominant is that the continuous presence of capillary water together with air in the soil tends to dissolve the inorganic matter, which in its turn is prepared by the soil bacteria for the use of the plant.

Soil as a Reservoir.

We must keep clearly in mind the fact that capillary water can be held in the soil for a full season, providing a proper mulch is maintained on the surface, and also, providing that the soil is not underlaid with coarse sand or gravel, which would allow the moisture to escape by percolation.

Professor Alway demonstrated that the soils of Nebraska when saturated would mature a wheat crop without any additional moisture. To demonstrate this theory, he filled six galvanized cylinders with soil—three from the western part of the state, and three from the eastern part. The soil in the cylinders was thoroughly saturated and when seepage ceased from the bottom, the cylinders were sealed, wheat planted in the upper surface, and covered with an inch or so of loose, dry soil.

This wheat grew normally and matured in due time without the addition of any more moisture. The yield was above the average.

Now starting with this demonstrated fact, that the average soil can be used as a reservoir with less waste of water in its application, the forming of an artificial reservoir, we can add the secondary fact that the longer this water remains in the soil, the richer will become the solution (to a certain point), and the less of it will be required by the plant.

In practice, these principles have proved out the theory, and they are especially effective in deep-feeding plants; and the results have been phenomenal in the fruit districts of the West.

The United States government has been testing the effect on the growth of orchards of clean cultivation and growing inter-space crops with the

result that, under clean cultivation, the fruit trees make a much more rapid growth, with early maturity.

The next step to be taken is to abandon the numerous irrigations. Saturate the soil once a year and hold it there for the use of the plant. This is now being done in many localities with astonishing results.

Mr. E. F. Stephens, a horticulturist of some forty years' experience in Nebraska, now operating near Nampa, Idaho, in a talk before the Annual Convention of the Idaho Association of Nurserymen, in August, 1911, said: "At this season of the year, for example, when our energies are centered on cultivation and irrigation, how many orchard planters know the precise amount of water to use and the relation between the amount of water and the number of cultivations? Shall he irrigate once a week and cultivate two or three times during the season; or shall he irrigate once or twice and cultivate fifteen times?"

When I began planting orchards in Idaho the natural query was as to whether methods of cultivation which conserved moisture in California, Colorado and Nebraska would conserve the winter moisture here.

We have planted at Nampa three hundred and seventy acres of orchard. This is one, two and three years old. Each season we have cultivated fourteen to sixteen times, keeping the orchard perfectly clean and in good condition with a mellow dust mulch. One three-horse team cultivates one hundred acres and keeps it in this condition. We begin our cultivation early in April and end it with September first. Under this treatment, trees planted in the spring a year ago have already made a growth this season of branches two to three feet, and before the end of the growing season these branches will apparently be three to four feet long. This growth has so far been made without a single irrigation, simply by conserving the winter moisture.

The aeration of the soil secured by frequent cultivation sets free an abundant store of plant food and maintains the best possible condition for growth.

That part of the orchard that has been planted for three years and has been watered three seasons, including the space between the rows, appears to us to need no irrigation this season. This moisture was stored in the subsoil during the three seasons past, and we have held it until the present time.

It has been of extreme interest to us to learn that the natural rainfall and the irrigation moisture can be carried over from year to year by proper cultivation. Our conclusion, therefore, is that conservation of the natural rainfall and winter moisture by frequent cultivation can be made largely to supplant the usual copious irrigation."

Mr. B. F. Hurst, manager of the Manville-Hurst orchards near Boise, speaking of the Stephens orchards, said: "This land was irrigated only once during the season of 1910, but

was cultivated sixteen times, keeping a dust mulch over the surface continually. It has had ten cultivations this season already, and will have been again cultivated sixteen times this season. The surface of the ground is covered by a dry mulch three inches deep. The first foot down from the surface contains the least moisture; the second foot, the most; and the third foot not so much as the second. Had the third foot of depth contained more moisture than the second or the first, it might lead to the inference that moisture was being supplied from below. This however, is not the case.

With reference to the amount of moisture required in the soil for favorable tree growth, with eight to ten per cent of moisture, the tree is totally unable to draw support from the soil. At fifteen to twenty-two per cent, conditions are most favorable

for rapid growth. At thirty per cent, the soil is too wet, shutting out the air, retarding the decomposition and hindering the assimilation of plant food.

In the above tests, the second foot contained from eighteen to twenty per cent. This moisture had been conserved from one irrigation supplied in 1910, and the winter rainfall of last season."

It will be seen from the above, that under the conditions which obtain in Idaho, the water cannot only be conserved, but conserved from season to season by the maintenance of a proper mulch, but that the orchards do better under this treatment. All of which goes to prove that the Campbell System, while identified in a way with the semi-arid regions of the world, is applicable to irrigation and especially to the fruit growing districts of the West.

The Commercial Possibilities of Foreign Grapes

By A. C. NEWTON, Grand Junction, Colorado

The foreign grape is as "old as the hills" apparently, as almost from the earliest history of the human race we read of the wines made from these grapes. Noah, of Bible fame, knew all about the foreign grapes and it has been an article of diet as well as of drink all down the centuries.

The nativity of the grape is hard to determine, but most authorities claim that it is native to the country round about the Caspian sea, where the vines are very hardy and grow to the tops of the highest trees. Vines were introduced into France, Germany and other countries of the old world from three to six hundred years before Christ, while it was as late as 281 A. D. when the first vines were planted in the Rhine valley, where the wines have become so famous.

It was not until the middle of the 18th century that the grape was introduced into England, where it met with a good deal of success, though it was tried by the Romans much earlier but failed.

As early as 1620 and 1680 efforts were made to grow foreign grapes in Virginia and Pennsylvania, but the result was a failure and they have never been successfully grown in any section of the East, and in fact they have been and now are supposed to be im-

possible anywhere but in California and the old time settlers of that state open their eyes in surprise if we of the Grand Valley show them magnificent clusters of Tokay and Muscat grapes and claim that we raised them in Colorado—they deny that we can do it at all.

It was about 1771 that the cultivation of these grapes was successfully Virginia and Pennsylvania, but the result has been attended with flattering results, as we are pushing the old countries hard in the amount of wine manufactured, and the heaviest carload shipments the past season from California as I note from a report made by John F. Moore, manager of the Grand Junction Fruit Growers association, the past week, was of foreign grapes, and the number of carloads was given at 4,930 cars, while of peaches, apples and pears there were only about 2,000 each. This was astonishing to me and will be to many here, as we always think of California as a peach country, and it must be understood that only a fraction of these grapes are shipped green, the larger portion being used for wines and raisins.

To my mind there is no other fruit that quite takes the place of the foreign grape for the table; it is decid-

edly healthy and nutritious and can be eaten with impunity, and no orchardist who lives in a section where they can possibly be grown should fail to have at least a few vines for his own table. My friends on the other side of the range in Colorado say that they can grow them to some extent and every section should try it out. The vine is exceedingly hardy but it requires a long season of summer heat for not only the ripening of the fruit but the vine as well and they do not flourish at all in a moist climate.

The greatest drawback to the successful growth of the foreign grapes in this country is the difficulty of getting them to market in a perfect state and the government is making experiments in order to determine how best to do this. The Agricultural Year Book of 1908 says that the use of cold storage will keep the grape from 60 to 100 days while the fruit will keep but ten to twenty days when packed and shipped the usual way. It says the effort is being made in order to supersede the imported article, and it may surprise many to know that in 1907 this country used 1,500 carloads from European countries. The use of finely cut cork has also been successful, and it is in this way that they are imported.

The Year Book of 1909 goes further into detail as to the work of experimenting in shipments and it claims that a good deal of the present loss can be avoided if great care be taken in picking and packing the fruit, as the grape berry is easily cracked or bruised and is to a large per cent rendered unfit for long distance shipment by being pressed into the packages in great haste. Those most carefully prepared and packed will show less than two per cent of decay at the arrival in New York while those packed in the customary way show nearly six per cent decay; the first are in a merchantable condition a week after arrival while the last named are almost unsalable and to a point where there was nothing in them to a grower.



By Courtesy of the D. & R. G. Ry

COLORADO POTATO RANCHES ARE BIG MONEY MAKERS

I was on Market street in Chicago three years ago late in the fall and witnessed the arrival at the custom room of several cars of Tokays, Emperors, Cornichons and other varieties and they were actually unfit for the table and were sold mostly as job lots to the Italian vendors, who went over them carefully and selected out the best. It disgusted me with the shipping of foreign grapes, and until some more successful method of handling is used the grape will not be a money maker where it must be shipped any distance.

I very much doubt if the raising of these grapes here to any great extent will prove satisfactory, as the local market will soon be supplied and we will never be able to send them out in car lots with success. Ten years ago I had the handling of six acres of

these grapes and made many trials in seeking markets outside of Colorado after fully glutting the market here. I sent twenty crates to Minneapolis where they sold as common Concord black grapes and there was barely enough left to pay for the freight and the crating. I also tried Chicago and other points without success. Since then the acreage in our section has been cut down and now there is a good market for a limited supply.

I would set out for home use two or three varieties—the Muscat, Purple Damascus or Black Hamburg and possibly the Tokay, but I do not like the latter so well as the others, and they are far more liable to become bruised if you wish to ship them.

When Mrs. Shute asked me to write something on the subject, I told her

I knew nothing about it, and I did not then know how woefully ignorant I actually was. It is an almost inexhaustible subject. These grapes are raised to an enormous extent and the number of kinds, colors and tastes of wines is legion. Some countries went into the culture so extensively that their rulers had to pass an edict to save some of the ground for bread-stuffs. I confess that I am just a little bit "nutty" on the subject of foreign grapes but the distemper has been on the increase since I began to know just a little bit about this marvelous product—the vine. If I were to see some of the bottles of wine made away back in the middle ages I should certainly want to break the total abstinence pledge and take a "wee bit of a drop."

Importance of Orchard Cultivation In Summer

By E. F. STEPHENS, Nampa, Idaho

Traveling through the country I notice that some orchards planted this spring, as well as some of the older orchards, have not yet been cultivated. People say to themselves and to others, "The spring has been unusually favorable, we have had more than the average amount of snowfall the past winter, we have had frequent spring rains." Under such conditions many a man feels that he can busily engage in other lines of work and that his orchard is not yet suffering from lack of cultivation.

The planter who reasons in this way evidently forgets frequent showers or periods of drizzling rainfalls really require an increased amount of cultivation. Scientific men with ample time for study have demonstrated that where the rainfall is not more than one-fifth of an inch no addition is made to the amount of soil water stored; succeeding evaporation quickly removes the light rainfall.

The late Prof. King of Wisconsin,

has demonstrated that an application of one painful of water applied on the surface around a petted tree or plant each evening, for thirty consecutive days will leave the sub-soil under that tree or plant dryer than a contiguous yard of sub-soil that has not received any water from any source.

How Does Prof. King Explain This?

Artificial application of water to the surface, or a shower, or a rain, promptly develops a rapid evaporation from the surface. This sets in motion the law of transposition of soil moisture stored in the sub-soil. The capillary circulation causes the moisture stored in the sub-soil to rise to the surface, to take the place of that lost by evaporation. Under these conditions the stored moisture in the sub-soil is lost by transpiration.

A light rainfall may not, usually does not, wet down more than an inch or two and this is speedily lost by subsequent rapid evaporation. Only the heavy periods of rainfall deposit

water enough in the soil to reach down to and re-inforce the supply of water already stored in the sub-soil. Hence the skillful orchardist or gardner must start his cultivator after each and every rainfall that crusts the surface. This rainy spring has compelled me to cultivate some of our orchards nine times and we are now starting over all of our three hundred and eighty-five acres of home orchards the seventh time, this within a period of forty-eight days, cultivation having commenced March 20th.

Those who have conserved the very ample supply of snow and rain water given us during the months of January, February, and March now have a sufficient store of soil water to, with suitable tillage, carry their orchards forward a number of months, depending very much upon the character of the soil, the depth that water has been stored in the sub-soil and the character of the past and succeeding tillage.

We have orchard lands that would be classed as high and dry lands which have not been watered in a period of twenty months but the tillage has been such as to maintain three feet of soil moisture. This moisture could not be re-inforced from below because between the surface moisture conserved by cultivation and the lower under-lying water table there is a strata of hard-pan about 12 inches in depth. The soil augur shows three feet of conserved snow and spring rain, one foot of hard-pan; under the hard-pan three feet of soil gradually gaining in moisture down to soil water.

This particular orchard now entering on its fifth season's growth, that is the trees have been planted four years and five weeks, is now coming into bloom.

The question of what can be done by frequent tillage is to some extent governed by the texture of the soil. Where the soil is pliable, easily worked, carrying such percentage of silt or sand as will enable the cultivator to keep it in a mellow condition it seems possible to conserve the moisture from month to month and from



A WELL CULTIVATED GRAND VALLEY ORCHARD, FULLY PROTECTED FROM FROST WITH ORCHARD HEATERS

Cut by Courtesy of D. & R. G. Ry.

year to year. We note, however, where spots of gumbo intervene that it is difficult to maintain such conditions of tillage as will surely store moisture from month to month or from year to year.

Alkali.

Much of the soil in southern Idaho contains more or less alkali. This is detected by the character of the water in shallow surface wells. In our own orchards the wells first dug before irrigation began developed soft, good water at thirty feet. With the advent

of irrigation the water of the wells was made brackish and we were compelled to go down seventy-five to one hundred feet then finding pure, soft water, under a clay strata of such thickness and quality as serves to intercept the alkali and surface waters and give us pure, soft, mountain water.

We note in traveling through the country alkali rising in many places. Uncultivated roadsides will show alkali while properly tilled adjacent fields or orchards will be completely free from alkali.

Why is this?

Suitable tillage and frequent cultivation very greatly reduces the loss of soil water. In other words sixteen to twenty cultivations during the season very nearly prevents the loss of moisture by surface, there will be little sub-soil water rising. If water does not rise from the sub-soil to replace that lost by evaporation very little alkali will be brought to the surface, hence superior and frequent tillage is one of the very best methods of keeping down alkali.

Provo, the Garden Spot of Utah Valley

By J. R. PARRY, Jr., Field Representative

For ages past, philosophers have asserted that Nature's operations are without number; that she has inexhaustible treasures in reserve; that in order to be progressive, one must be creative; and furthermore, that future generations will continue to make discoveries of which we today have not the slightest idea.

Were any of the "veterans of philosophy" to visit Utah today and especially the central part, they would place the seal of "Acme" on Utah Valley, an extremely fruitful region that is developing rapidly as a farm, fruit and mining district. This is also true of the abundant mineral deposits, found in the towering Wasatch Mountains that form the eastern boundary of the Valley, wherein are to be found the watersheds which supply the streams for the season's irrigation purposes.

Realizing that our readers are more interested in the productiveness of the valley from a horticultural and agricultural point of view, space will be almost entirely limited to these two industries.

Passing "Castle Gate" via the Rio

Grande Western Railroad, (going west) where immense coal fields have hardly been uncovered, and winding snake like for two hours through a varied colored canon of the Wasatch Mts, the train finally pierces through the granite western hills and is soon wending its way down grade into the fairly level stretch of Utah valley, forty miles long, (north and south) by eight miles wide, extending north to a point 26 miles south of Salt Lake City. Springfield, Provo, American Fork and Lehi are the principal stations along the route in Utah Valley.

Provo, the County Seat, is the logical commercial center of this vast empire, including thousands of acres of partially cultivated soil, as well as being the home of many prosperous or retired business and mining men who have chosen her as the "Ideal City of Homes"

With beautiful surroundings, healthful climate, and an abundance of sparkling mountain water to develop her varied resources, Provo is certain to grow and thrive.

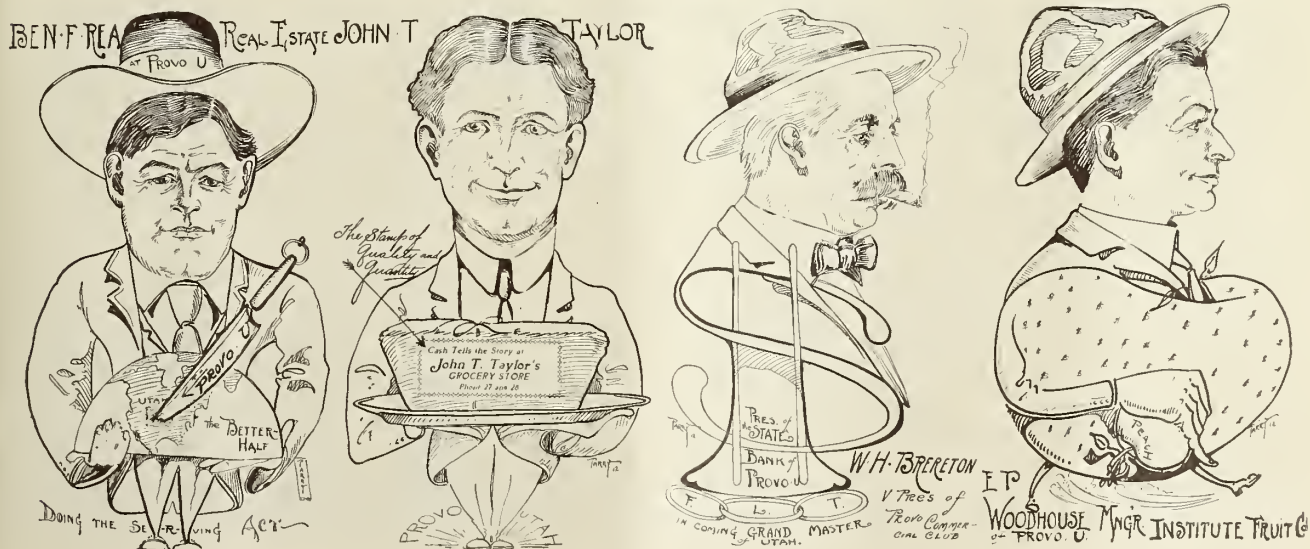
Throughout the valley, intensified farming is being greatly encouraged.

People who formerly cultivated 160 acres, clearing up \$80 to \$1,000, are now reaping \$2,500 off of ten acres or less. Latest farming methods are being adopted. Each succeeding season closes with more bearing trees as well as planted yearlings than the season preceding.

Jonathan, Winesap and Rome Beauty apples, Elberta, Late Crawford's and Wheatland peaches, and Bartlett pears seem to have a ready market and a preference both at home and abroad. Nectarines, plums, prunes, apricots, cherries, cantaloupes, watermelons, and all varieties of berries thrive and grow to perfection. Strawberries in particular grow abundantly. In many orchards \$30 to \$500 are cleared a season per acre by growing strawberries between the fruit trees.

Formerly, growers imagined that the planting of grains and small fruits between the trees was injurious to the fruit culture, but such thoughts have been waived by the up-to-date growers. Today it is generally conceded that berry plants or grain are not only profitable but a benefit to the trees as well

To the east and northeast of Provo,



BEN F. REA.
Mgr. of the Provo Realty Exchange located in Farmers and Merchants Bank Bldg. Handle city and fruit property in and around Provo. "Making loans, collecting rentals and selling land, is our hobby," says Ben. Resident 4 years. Hails from Western slope, Colo.

JOHN F. TAYLOR.
Prop. of "Taylor's Grocery" on W. Center Ave., as well as 3 pieces of fine city property, in west end of town. Handles groceries, cured meats, fruits, etc. Caters to the better trade. Thinks Provo, the Ideal City for homes, fruit culture and happiness."

W. H. BRERETON.
Pres. State Bank of Provo. Owns 1244 acres of Range land, and 40a. of cultivated fruit land. Came to Utah when 1 yr. old, having been born in Cheshire, Eng. The Bank owns one lot on Academy Ave., the main business thoroughfare of Provo.

E. P. WOODHOUSE.
Formerly of Ridgeway, Colo. Manager for 4 yrs. of the Interstate Fruit Co., whose tract of 80 a. joins The Telluride Power site in Provo Canon. Ranch is one of prize tracts in county.

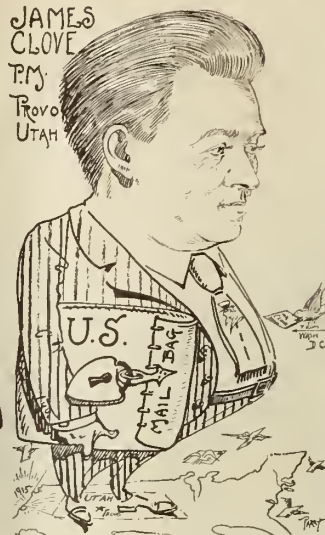


EDWARD FARRER.

Co-partner of "Quality Grocery" store of Provo. Owns residence and property in City. Very optimistic regarding Provo's future as a great fruit section. A "greater growing market in Utah is bound to encourage more production," he says.

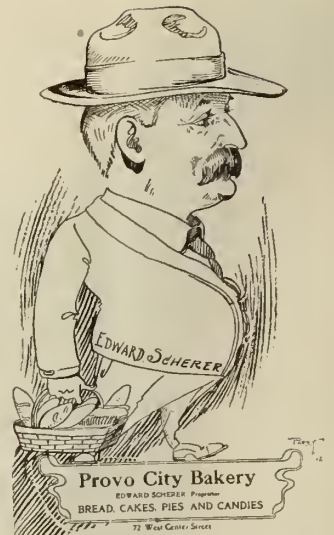
W. P. WHITEHEAD.

Partner of firm Farrer & Whitehead, on S. Academy Ave. Resident of Provo 25 years. After extensive travel "at home and abroad" he returned to Provo, proclaiming that, the scenic grandeur and opportunities in and around the Wasatch Mts. of Utah county are without an equal.



JAMES CLOVE.

Postmaster of Provo. Owner of 40 a. (improved) in heart of fruit belt on Provo Bench. Says that in his district "The Jonathan Apple is King, The Elberta Peach is Queen, and the Black Republican Cherry is a Premier." James raises em' all.



EDWARD SCHERER.

Prop. Provo city Bakery. Makes specialty of fancy orders. Ships to Heber, Thistle and other points within radius of 30 miles Owns home and property in Provo.

along what is called North Provo Bench, is the most favored peach belt of the valley. Likewise, most of the soil of Provo Bench, north of Provo is adapted to peach culture. On both of these benches may be found a gravelly, sandy loam, several feet deep.

To the west and south of Provo, for a distance of five miles (to the shore of Utah Lake, a fresh water body) may be found a heavier soil, which is better adapted to apple culture.

The present water supply from Provo, canon, fourteen miles northeast of the county seat, is far in excess of the present demand. Numerous

canals carry the water for irrigation purposes over the benches to the bottom land, passing thro orchard tracts that are recorded as "big producers."

For drinking purposes, Provo is afforded clear, cold drinking water that is piped from the never failing crystal springs on the mountain side.

An industry meeting with favor and paying big returns is Dairying. Most every farmer or fruit grower possesses one good Holstein or Herford cow at least, thus securing plenty of milk for his family, besides having a surplus for the chickens, and hogs, which too play an important part in the upbuilding of a resourceful district. The

raising of alfalfa sugar beets and barley make excellent fattening feed for hogs.

Natural conditions in and around Provo are exactly in harmony with the endeavors of the poultry men. All feeds for chickens are abundantly raised in this section, also, the decomposed granite soil (a wash from the Wasatch mountains) is most conducive to successful poultry raising.

Of the many undertakings and achievements of which Provo may well be proud is the excellent lighting system generated at the magnificent plant at Olmstead in Provo Canon by the Telluride Power Co., and trans-



B. H. BOWER.

Prop. of Provo Nursery. Has all varieties but endorses the Stand. Var. (Jonathan, Rome Beauties and Winesaps for Utah culture. Been a resident of Utah 19 years; very enthusiastic regarding Provo's future. Fills orders for fruit trees to "Western Slope" Colo.

WILFORD PERRY.

Prop. of Grocery store at No. 358 W. Center St. Provo. Handles in large quantities, seeds, poultry supplies and grain. Owns a large Poultry farm (1,000) $\frac{3}{4}$ of a mile n-w of Provo. Home has 9 large rooms; part of home property is set to fruit trees.

DAVID J. BLAKE.

A resident of Provo 17 yrs. Prop. of the establishment that furnishes "everything and anything in Music." Owns 13 acres of fruit land. Raises standard varieties only; part in bearing. Owns residence and considerable city property.

GEORGE E. BARTON.

President and Manager of the Barton Furniture Co., on N. Academy Ave., Provo. Carries a full line of choice carpets, rugs, linoleums and anything you may want in Furniture ranges and pictures. Heavy property owner.



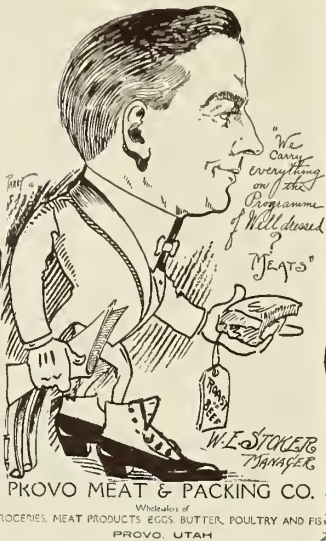
R. R. IRVINE, Jr.
President of Provo Commercial Club. Mr. Irvine and father are dealers in Dry Goods, shoes, ladies and gentlemen's furnishings. R. R. Jr. is a "progressive" and a firm believer in the future growth of Provo as a fruit section.

mitted to towns throughout the eastern, southern and central portions of Utah. It may be well to advise that rates for lighting purposes are very reasonable.

At the present time a company is negotiating with citizens to supply gas to every residence and business building of Provo.

The Knight Woolen Mills of which Mr. Jesse Knight is the principal owner is also located at Provo. It is the only woolen mill in the West.

Provo is gifted with excellent school facilities from the grades through college. The Maeser Memorial building



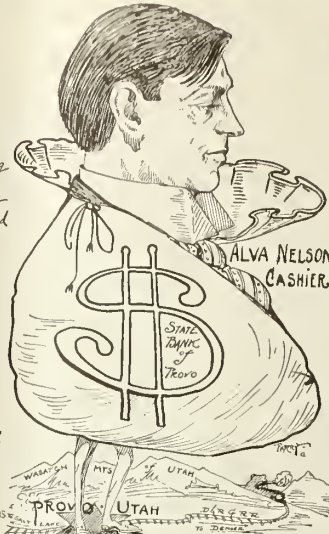
W. E. STOKER.
Manager of Provo Meat & Packing Co. Retail and wholesale. Carries choice meats, fish, groceries, butter, eggs and poultry. Company owns several retail stores and considerable city property.



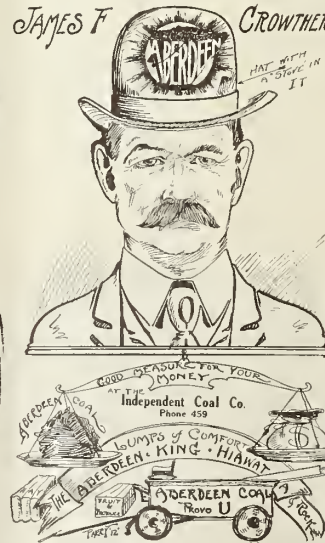
O. H. BERG.
Pioneer settler in Provo. Drove team of oxen across plains from Mo. River, in '66". Has been prominently connected with the growth of Provo, as contractor and builder. Owns several pieces of city property (improved) and a building on east Center St., where "Provo Telegraph office" and "Berg and Son" are located.



EX-MAYOR W. H. RAY.
Among the many "progressives" of Provo, may be named W. H. Ray, to head the list. Tho' a real estate man and handles considerable farm and fruit land each year, he is holding on to considerable of his own awaiting future prices which are increasing rapidly. Been a resident of Provo over 20 years.



ALVA NELSON.
Cashier of State Bank of Provo. Hails from Fairbury, Neb. Been a resident of Utah 16 yrs., and Provo 13 yrs. Alva says, that, "With our natural resources I cannot see why we cannot be one of the foremost districts of the West in a very few years."



JAMES F. CROWTHER.
Owner of 97 acres, two miles n. e. of Provo, of which 60 a. are in alfalfa; 9 a. in fruit, (comprising Jonathans, Rome B., Winter Bananas and Elbertas). Residence and city property; also 1/2 interest in Independent Coal Co. which owns 2 lots on West 1st Street.

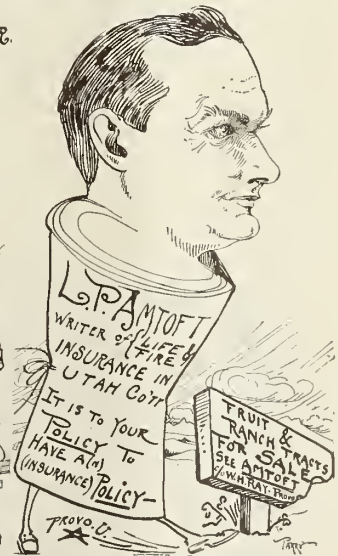


O. M. SCHARF.
Manager Baker Lumber company. Branch located at Provo. Handles everything in wood for building material. "Lumber in large quantities," is our specialty says O. M.

lamation service is the construction of the Strawberry Valley tunnel, 7,500 feet above sea level. It is second in size to that of the Giant bore in Western Colorado, "The Gunnison Tunnel."

Other than being blessed as a prolific producer in grains, fruit and vegetables, the Provo section is favored with a market that far excels its production

Being such, and 'all things taken into consideration, is there any reason why Provo and Utah Valley should not prosper and increase in population till it becomes the "Acme" of intensified farming and fruit culture?



L. P. AMTOFT.
A resident of Provo for eighteen years, and in business relations has become intimate with the foremost men throughout Utah county. Just recently joined forces with the W. H. Ray Real Estate and Insurance co., and is already proving his "metal." Owns residence and city property at Provo.

Some Timely Suggestions On Codling Moth Spray

So far this season, nature has favored the orchardists in that codling moth has not been nearly so plentiful at it was a year ago. Spraying in most cases, has been done better than usual and prospects for a fairly clean crop of fruit are good.

The first brood of worms got in its work somewhat later in the stage of development of the apples than usual. About the middle of May more eggs were found than at any other time during the season. As early as the 12th of the month some of them were found to be hatching. The maximum number of worms from this brood, were hatching between the 20th and 30th of the month. At present we are passing through that period between the two broods, when very few eggs are being laid, and consequently very

few worms are going into the apples. This fact has been determined by a very careful search for eggs in orchards of Colorado, for the past week. Out of 121 codling moth eggs recorded only 115 were freshly laid and would probably hatch and 106 were empty shells from which the worms had emerged.

On an average, it takes about seven weeks for all of the stages of the codling moth to develop, that is, about seven weeks will pass from the time of laying of the first eggs of the first brood, until the time when the first eggs of the second brood are being laid. Many first brood eggs were hatching as early as the 15th of May this season; seven weeks from that time will be the 3rd of July, consequently we can expect the second

brood to begin its work the first week in July in western Colorado, as little difference has been noticed in the time of hatching of eggs in the different parts of the valley this season. The second brood can be expected to reach its maximum between the 10th and 20th of July; this will depend somewhat on weather conditions, however, and close observations will be necessary to determine this point accurately.

In orchards where the first brood has been large, and a considerable number of wormy apples has been the result, a spray early in July will be of utmost importance. At the present time more good can probably be accomplished by the picking off and destruction of wormy apples and the destruction of larvae trapped beneath bands than could be accomplished with an extra spray. Already some of the larvae are going into apple but bands should be examined every ten days from now on throughout the season, until none of the larvae are found to be pupating.

Western Slope Has a Fine Commercial School

We often hear it said that to be well prepared is half of the battle. Especially is this true of a young person who is just starting out in the hustle and bustle of a business life where every one is looking for somebody who is already "broken in." In order to assist the young people of Western Colorado to make a good start in the business world, a school was opened in September, 1909, in Grand Junction, known as the Hoel's Business College.

Since that time, this school has grown rapidly from year to year and to keep up with the demands of his many students, Mr. Hoel has had to add to his equipment many times and now has one of the best equipped business colleges in the west. Always keeping up with the times, two new dictaphones have been installed for the use of the students.

Mr. C. S. Hoel, President of the college has had a wide experience along teaching lines. Since graduating from the Upper Iowa University, he taught

for six years in the public schools of Iowa and Colorado. He spent three years in the government civil service under Secretary James Garfield as accountant and bookkeeper. This he terms his post-graduate course in his education. He entered his first duties as a teacher in a business college as manager of a branch of the Central Business College of Colorado at Montrose. Knowing what could be done with a school of this kind, Mr. Hoel went to Grand Junction where he opened up his school.

Mr. Hoel is in the full vigor of youth and is in sympathy with the youthful ambitions of his students. He is a man of very high ideals and is able to imbue his own characteristics and enthusiasm in the minds of his students.

There are several courses which may be taken at the discretion of the students. They may take a course which will give them a general commercial education or they may choose any one subject and become proficient in it.

The office equipment consists of a modern bank, a commission merchant's office, a wholesale office, a railway and freight office, a post office and an insurance and real estate office. All these give the student a very good insight into how nearly any kind of an office is conducted.

The Commercial Course consists of Bookkeeping, business papers, business methods, rapid calculation, commercial law, banking, spelling, correspondence, business arithmetic, office practice, penmanship, shorthand, touch typewriting, English, multigraphing, card indexing and letter filing.

Arithmetic, English, reading, spelling, history, letter writing, civil government, word study, punctuation and rapid calculation are taught in the English and preparatory course.

The Civil Service Course includes shorthand, spelling, typewriting, letter writing, copying from plain copy, bookkeeping, rough draft, tabulating penmanship and report writing.

The courses are so arranged that a student may begin at any time and a diploma is issued to each student upon completion of the required amount of work. Many of the students of Hoel's Business College are holding positions of responsibility in all parts of Colorado and adjoining states. Mr. Harlie Mazingo passed the Civil Service Examination this spring in Clerical work in the Departmental Service and on May 10th left for Washington to accept a position with the Government. This is only one of the many cases that could be mentioned of graduates who have attained marked success.

Mr. Hoel will be glad to answer any is taught and Miss Ida M. Strike, principal of that department is a graduate of the Gregg School of Stenography of Chicago.

Either Gregg or Graham shorthand inquiries that may be made in regard to his school and letters addressed to him at Grand Junction, Colorado will be promptly answered.



Corner of Typewriting Room at Hoel's Business School.

Western Fruit Prospects For 1912 Best In Many Years

By CLINTON L. OLIVER

A SPECIAL effort to get a line on the fruit crop prospects of the West and a visit by the Fruit Journal Editor to practically all of the fruit sections of Colorado develops the fact that never before has there been such a wonderful crop of fruit promised.

Utah, from which state special representative Parry has just returned, will come through with a better crop than last year and perhaps better than any year in the history of Utah fruit growing.

Idaho apples will be very much in evidence should the present heavy bloom receive the care it should from the spraying and thinning standpoint. There are large areas of new orchards just coming in to bearing this year and the production will be greater than in former years.

New Mexico reports a far heavier promise than it did this time last season. Peaches in the Carlsbad and Farmington district look fine. Apples at Roswell promise larger than last year.

Canon City, Colorado, ought to bring at least a thousand cars of apples this year. The trees were in full bloom at least two weeks later than last season. Cherries and strawberries look good for full crops. Apples however are the large crop at this point.

Northern Colorado will come to the front with a slightly larger apple and small fruit yield than usual and the spring frosts did not do as much damage as the freeze last November.

Down around Manzanola and Rocky Ford the damage to the trees last November when that severe freeze came along while the sap was still up, the

crop will be in excess of last year and the damage is not as serious as was at first supposed. The Cherries are in good shape and there will probably be a large acreage of melons planted as usual.

At Rifle, Colorado, the season is the latest in years and while the acreage in bearing orchard is not as large by many hundred acres as it will be when the trees get at bearing age that are now planted the community will give a good account this season and produce more than ever before.

Grand Valley and DeBeque while as yet of minor importance in the aggregate fruit crop will do well this season and every orchard in the vicinity of these two points were loaded with bloom.

From Palisade through Clifton to Grand Junction and Fruita mortal never saw such a sight as is presented. In this section where orchard after orchard joins for miles and miles the air was laden with the perfume of the apple blooms. The peaches had shed their petals but the apple trees—everyone of them—were doing their best to convey the impression that the harvest would be most wonderful. The pear trees were likewise filled with bloom. Cherries and apricots gave promise of a bounteous harvest. This wonderful harvest coupled with the order from President Taft to start the work on the High Line canal which is to be a monster government irrigation project and the Freight rate decision giving Grand Junction the benefit of the short haul means untold prosperity for the whole Grand Valley this season and for many seasons.

In Delta county—all of Surface Creek section, the North Fork Valley in-

cluding Hotchkiss and Paonia, and the Crawford country—present prospects unequalled in the history of Colorado fruit growing. Apples, Peaches, pears, prunes, sweet and sour cherries and apricots are all the same—loaded to the very limit. The work of thinning will be a terrific problem—even more serious than spraying and irrigating.

Up through Montrose county a similar condition is shown as we have reviewed in other sections. Every kind of fruit makes big promises for this year.

Down in Montezuma county the same condition is reported, with a serious transportation problem to face.

Knowing the possibilities of Colorado having made some study of the development of orchards and orchard planting for the past few years it is safe to predict 15,000 cars of fruit for Colorado this year.

One of the most serious transportation problems in the history of railroading in this state is now up to the traffic managers of our railroads. It would seem that it would be a physical impossibility to move the crop with the facilities at hand. Cars no doubt could be arranged for by our railroads but the motive power is not possessed at this time. One thing is mighty certain and that is the fact that prices are not going to be as high as in short years and the orchardist that thinks he must ship everything that looks like a piece of fruit will find that it will not work to his advantage this season. Nothing but the very highest class fruit is going to make the grower any money this year. There is a good liberal demand for Colorado's high grade stuff. There always will be, but it is not always going to pay to grow runty fruit and the sooner the growers find it out the better it will be for them. The modern package is too expensive to allow for the shipping of inferior fruit. There is only one way to ship choice apples and that is in bulk to the markets that will buy them for what they are worth. Far better put them through the cider mill, the evaporator or the canning factory than to waste the time and money it requires to send them to market where they will knock down the price on the good stuff.

Prosperity is at hand for the fruit districts of the West. The fruit grower of the Intermountain region will buy the automobiles, build the swell homes and surround himself with the comforts of life this year. It all means better equipment for the orchard work a more modern mode of operation for all departments and a higher class citizenship.

The Error of Poverty.

The question of widows and deserted wives left with children to support is always pressing. Of late there is hopeful recognition of the idea that the care of such families should be guided chiefly to the end of making good citizens of the children.—Brooklyn Eagle.

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Milwaukee, Wis.



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Look for Mayer Trade Mark on the sole.

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And INTENSIVE AGRICULTURIST

An Illustrated Monthly Western Country Life Magazine of the Highest Class. Only Periodical Devoted Exclusively to Fruit Growing, Irrigation and the Higher Branches of Agriculture in Colorado, Utah, Idaho, New Mexico, Wyoming, Arizona and the Irrigated West.

Being a consolidation of the World Wide Farming Magazine of Denver, Colorado, with the Intermountain Fruit Journal, of the same Volume and Number as given below.

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OFFICIAL ORGAN OF THE AMERICAN APPLE CONGRESS.

CLINTON L. OLIVER, Secretary.....Denver, Colorado

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VOL. V.

MAY, 1912.

No. 4.



NOTICE

To Subscribers of World Wide Farming Magazine which was combined with the FRUIT JOURNAL during the past month. Please remember that all prepaid subscriptions to World Wide Farming will be carried out for the full term of the subscription by the FRUIT JOURNAL. To best serve the purposes for which your subscription was given, the FRUIT JOURNAL has enlarged its field to cover subjects pertaining to all branches of intensive agriculture.

The Valuable By-Products

A GREAT many communities in the West have not yet made arrangements to put in the necessary preserving, evaporating and canning factories to take care of the by-products. This is one of the most important matters before the fruit growers today. In years of large crops these plants can take care of the over-ripe fruit and make a marketable product of them and return almost as much clear money to the grower as they get when they ship the green fruit. Much waste is thus prevented and what is used in the factories is almost clear gain. These plants also furnish considerable employment to the women and girls of a community and in this way distribute a considerable amount of money throughout the section that results in making it more prosperous. There is

an unlimited demand for first class evaporated, canned and preserved fruit and this demand is going to grow with the increase in population of this country. The consuming public is gaining in proportions over the producing public. The real money is going to be made in supplying what the consumers need and must have. The consumers need the evaporated, canned and preserved fruit therefore greater effort must be put forth in securing the by-product factories.

Co-Operation

IF there ever was a season in the history of fruit growing in the west when every grower, every association, every community ought to co-operate with the railroads in making careful estimates of the crop this is the season. It is going to be impossible to ship all the fruit that will be grown unless every shipper feels it his duty to do his share in making the preparation complete. It is announced that there is to be a meeting of representatives of the associations in Denver within a month to consult with the railroad officials. It may be a little early to make the estimate any where near correct but it will be a starter and no doubt revision will be in order as the season progresses. Much blame is sometimes handed to

the railroads for failure to arrange proper facilities. This blame may at times be merited though it is often due to a lack of assistance on the part of the producers to deliver the necessary information to the roads. Railroads are necessarily operated to make money. They want all the tonnage they can get and they know full well that the more fruit they haul out in first class condition the more money they make not only on that particular fruit but on the general prosperity of the community. THE FRUIT JOURNAL wants to drive home, if possible, the necessity for careful co-operation with the carriers.

Organization

FRUIT conditions have been such the past couple of years that the question of organization for the selling end of the fruit business has been given considerable thought. Several plans have been advanced but none of them have been considered adaptable to all conditions. This however should have nothing of discouragement in it. If some one would propose a perfect plan the immediate conclusion would be that the "millenium" had come. From some sections of the northwest we hear that the Northwestern Fruit Exchange is going to be it and from some other sections the mere suggestion that the fruit will be marketed through the Exchange is cause for a scrap. Never mind—the central selling idea must prevail—whose plan will be adopted is of no consequence. Any plan will need revision as the years go by and we gain in experience.

Hauling Fruit

WITH a tremendous fruit crop in sight the farmers are going to give some real consideration to the problem of hauling their product to the railroad stations. The first and most essential thing to be done is to look after the roads. There is a great deal can be done in this respect by the individuals taking time to throw a rock or fill a chuck hole. When the roads are good there is little that is serious. Wagons with broad tires are great benefits. In many instances the orchardist will invest in a one, two or three ton power truck and in this there would be some class. Not only are the commercial trucks a great success from the hauling point of view but they are actually economical. Power machinery should be substituted for horses wherever possible, especially should this be done where there is a volume of work.

A MIGHTY GOOD MOVE.

At a largely attended farmers' institute at Montrose, Colorado, in February, a resolution was introduced and after much high grade discussion was passed, which called upon the board of the county high school to employ in place of other regular teachers, two young men, graduates of the Agricultural College and equipped to teach the usual sciences and mathematics, but particularly to teach ag-

riculture, horticulture, dairying, animal breeding, and feeding. The president of the county school board, Mr. Lew Ross of Montrose, was present and favored the idea. As the board has a majority of farmers, it is pretty likely to carry out the resolution. It was at first proposed to have these two men act as field advisers in the county, but it was the final sense of the meeting that men of more experience would be required for the latter work.

PARCEL POST.

Congressman Gregg, of Pennsylvania in an argument in the House in favor of parcels post, said recently.

It is true that for years the express companies have been preying upon the people of the country who have had occasion and necessity to ship packages and parcels over their routes. It is also true that these express companies have made fabulous sums from their business. The revelations made in the Interstate Commerce Commission investigation into the conduct of the express business are astounding. For instance, it was discovered that the earnings of one company from the time of its formation to the time of the hearings had been \$598,158,930, and in that time it had distributed dividends amounting to \$43,500,000, yet it practically began business without a cent of actually invested capital. The Interstate Commerce Commission, in its second annual report on the statistics of express companies in the United States for the year ended June 30, 1910, shows that the net operating revenue of the 13 companies covered by its report increased from \$12,294,008 in 1909 to \$14,508,280 in 1910, a gain of 62,214,272, or 18.01 per cent. I only offer these figures at this time for the purpose of showing that if the Federal Government undertakes to go into this business of a general parcels post—and it can do so at a profit—it will practically wipe out any deficit in the Post Office Department. But why should the United States Government, by condemnation proceedings or by contract of sale with these express companies, take over their franchises, rights and properties.

CATALOG OF THE COLORADO AGRICULTURAL COLLEGE.

The FRUIT JOURNAL is in receipt of the new catalog of the Colorado Agricultural College, and it speaks well for the efficient work of that institution. The courses of instruction include Agriculture, Engineering, Veterinary Medicine for young men, and General Science, and Domestic Science for young women.

President Charles A. Lory announces that the calls at the present for teachers in the above lines exceeds the ability of all state institutions to provide them. He advises that the college enrollment increased the past year from 253 to 322. The School of Agriculture, for grammar school graduates has increased in one year from 291 to 331. At the present time the extension service reaches over 77,248. All in all, the past school year has been the most efficient in class

rooms and laboratories in the history of the school. Young men and women desiring to obtain detail information on the course taught by the school may obtain the same by writing to J. W. Lawrence dean of the school at Fort Collins, Colorado.

WOMEN'S CLUBS AND FORESTRY.

Many women's clubs are turning their attentions to civics. Forestry, educational interests and municipal

improvements receive special consideration. Several years ago the Chicago Women's club started a movement in that city which resulted in an ordinance to provide "for planting, preservation, control and culture of trees and shrubbery in the public streets." The National Meeting of the General Federation of Women's Clubs a number of years ago adopted a resolution to "study forestry conditions and resources and further the interest of the towns, cities and states"

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Real Estate and Mining Investments,
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Co-Operation Between Manufacturer and Consumer

A striking Western example of a manufacturer who believes that the cheapest method of distribution may be attained by enlisting the direct support of the consumer through investment in manufacturing enterprises intended to supply his principal needs. A specific example wherein centralized wealth becomes a virtue, and why the principles of co-operation are practical.

There have been a lot of new words coined in recent years along the lines of "Big Business." Whether it is because the people have imbued them from the daily reports in the newspapers of this and that "Trust Busting" campaign of the government against our erstwhile friends, from the Standard Oil on down the line of necessities and luxuries to the Tobacco trust. At any rate, where a few years ago the most popular subject a political stump speaker or "muck raker" could harp on was "Trust Busting," strange to say, the American people seem to have tired of this strenuous mental diet and have reversed their opinions to the point where they actually rise up and remark that "Big Business" has its rights as well as individuals.

Ament this subject, there is an institution right in Denver, that has grown until today it is one of the largest manufacturers and distributors of farm implements of all kinds in the West. In the course of conversation with John Plattner, the head of the Plattner Implement company, of Denver, Colorado, the other day, some interesting phases of the manufacturing business and its varied requirements were brought out. Be it known that John Plattner is somewhat of an economist, or psychologist, as the case may be, himself. His dream is to see his institution a great co-operative manufacturing and distributing agency operated for the profit as well as the material saving of the rural population tributary to this field.

"Our plan is to scatter individual ownership of our large institution among the users of our goods. This would also mean distribution of the profits so the premium will go to the patrons who deserve it," explained Mr. Plattner.

"We are adopting this plan, first, because it has been tried out and found successful. Second, it gives every man his just dues without disorganizing conditions. Third, it retains all of the

benefits of centralized wealth and eliminates harmful results. Fourth, it even goes farther and lessens the necessary expense of production and distribution.

"By this we do not mean we want to sell out or get out as this business is our life work. You may call this plan of business co-operation. Co-operation has sometimes failed in this country, but almost always because the management had theoretical rather than business sense."

The Plattner Implement company is a standing monument to its own efficient organization. At the present time it owns a completely equipped modern factory with over four acres of ground, one third of which is covered with substantial buildings, besides a four-story warehouse and sales-room on Wazee and Fifteenth street, the heart of Denver's wholesale and

jobbers' district. They can manufacture any implement that is used on the farm, economically and efficiently. The only requirement being supply and demand in sufficient quantities. They now manufacture and distribute a mowing machine, complete hay stacking outfit, all kinds of pumps, tanks, pulleys, rakes, eveners, harrows, rollers, etc., and carry in stock any implement used on the farm.

It is a somewhat happy coincident that there are six brothers of the family interested in the company. They are, John Plattner, president; David Plattner, vice president; Fred N. Plattner, secretary; George Plattner, assistant secretary; Samuel Plattner, superintendent of the water supply department; and Jacob Plattner, retail sales department; in addition the organization is complete with F. L. Sigel, treasurer.



Factory of the Plattner Implement Company, Denver, Colorado, and John Plattner, Sales Dept.; Samuel Plattner, Water Supply; F.

Their field of distribution extends from central Kansas and Nebraska to the Pacific coast. Indeed California is one of their best fields. It would seem that their organization offers splendid opportunities for co-operative capital to invest.

AN IDEAL COMBINATION FOR IRRIGATION PURPOSES

THE time is rapidly approaching when the enlargement of irrigated areas in the arid region will be dependent more and more upon pumping propositions than on gravity ditches. There is scarcely a fruit grower, rancher or farmer that in his tract of land does not have a piece of from ten to forty acres of waste land "above the ditch." In conversation with Mr. E. E. Eagle, president of the 20th Century Grader company with western offices at 1509 Blake street, it was learned that he has become intensely interested in the Western problems of irrigation. With this idea in view he has recently opened up a sales office at Grand Junction, Colorado, in the heart of the richest and largest irrigated fruit area in the entire West.

"We have given the pumping problem a great deal of investigation, and have selected what we consider an ideal combination for Western conditions," declared Mr. Eagle. "In the Viking we have the only non-priming rotary pump and this linked up with the Gade "Direct-Air" Gasoline engine is one of the most efficient outfits for pumping for irrigation on either large or small areas. The Gade has been called the "engine that breathes" for the reason that the air for cooling is "inhaled" directly into the cylinder at each intake, in just the same manner as you take air into your lungs. This should not be confused with the so-called "air-cooled" engines that attempt to cool the cylinder by forcing air against the out side by mechanical fans and other contrivances. We are always glad to help irrigationists solve their particular problems if they will communicate with us."

THE FARMER IS THE KEYSTONE

Of the entire industrial world, and his importance is being recognized more fully each year. He should be equally important in the commercial world. We invite you to become one of our active customers, and assure you of satisfactory service in this bank. Write for further information to

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THE LONGMONT FARMERS MILLING & ELEVATOR CO.

J. R. FORSYTH, GEN'L MGR.

LONGMONT, COLO.

REGISTERED IN U. S. PATENT OFFICE 48-156

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Colorado's
Famous

**"Pride
of the
Rockies
Flour"**

Manufactured by

THE LONGMONT FARMER'S
MILLING AND ELEVATOR CO.

Longmont and Denver.

Sold by all reliable grocers.



Leading from left to right, as follows:—Jno. Plattner, President; George Plattner, Vice-president and factory manager.



Guard Your Health

and that of your family against the typhoid fly, by using the Meyer Fly Escapes. Patented, on your door and window screens. Eliminate Fly Paper, Fly Poison, easily, quickly, neatly attached. Want 1000 homes equipped in the month of June.

MEYER FLY ESCAPE

Fly Paper, Fly Poison, easily, quickly, neatly attached. Want 1000 homes equipped in the month of June.

AGENTS WANTED.

Send today 25c Sample Pair

E. J. VAUGHT,

Grand Junction,

Colorado

Hotel El Capitan

Under New Management

HASKINS BROTHERS

No Better in the State

ROCKY FORD

COLORADO

Development of a Western Slope Industrial Enterprise

One of the most striking examples of mercantile development on the Western Slope in the past twelve years, has been the inception and growth of the C. D. Smith Drug company, from a single store on Main street in Grand Junction in 1900, to one of the largest wholesale and retail drug companies in the West today, with a total of seven branch stores in the Grand Valley and a Wholesale department in Grand Junction.

Twelve years ago Mr. Smith came to Grand Junction from Greeley, Colorado, with the idea in view of entering the drug business in that city. As stated above he purchased a store and the following three years was devoted entirely to making it one of the leading establishments of its kind on the Western Slope. His next venture

occurred in 1903 when he bought two drug stores in Fruita and consolidated them into one up-to-date stock that is a credit to a town of several times its size.

This was followed the next year by opening the third branch of the company at Palisade, the hustling peach city of the West. Another year followed, and Mr. Smith branched out in Grand Junction with his depot branch store at the corner of Colorado avenue and Second street.

However the following three years were given to developing a purchasing and selling organization to handle his string of four stores in the most economical and efficient manner. But in 1908, Mr. Smith again enlarged his service by purchasing the Wohlfort Drug store at the corner of Main and Fifth streets in Grand Junction,

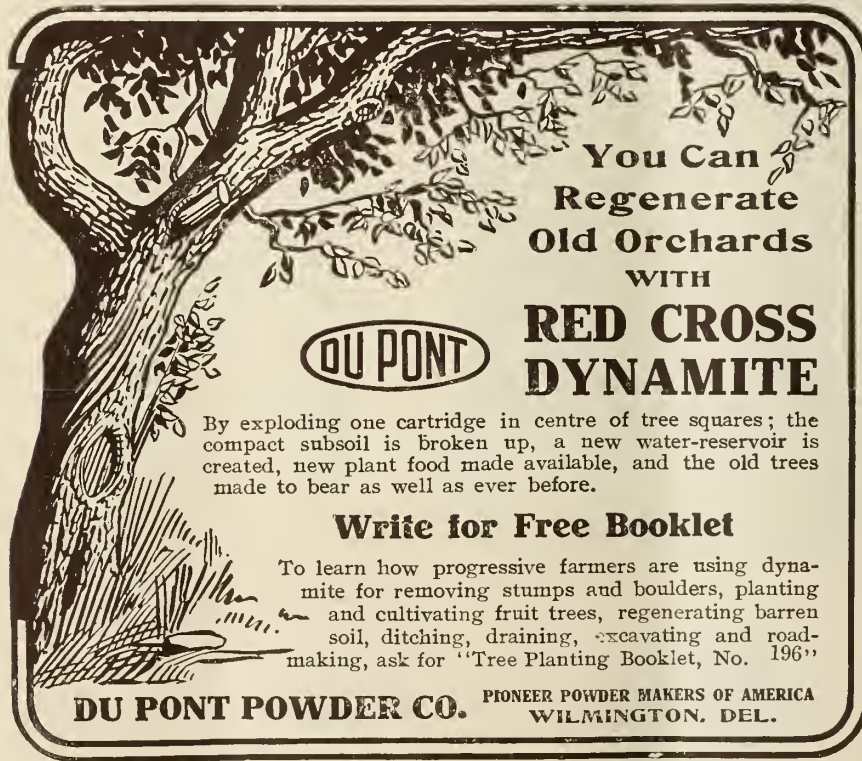
which made him three stores in the Fruit Metropolis of the Western Slope.

Some may wonder what Mr. Smith's prime object was in building up this string of drug stores. His next step disclosed this when in the fall of 1910, he opened a wholesale department in an especially constructed and modern building on three lots at the corner of Colorado avenue and Second streets. It is logical to presume that with his own string of stores and his own wholesale drug and chemical supply house, that he could at all times furnish and maintain in his several stores the best and freshest drugs and chemicals, as he obviated the necessity of overstocking any branch in any particular commodity. This was taken care of through a daily checking system operated in all of the branch stores on exhausted or depleted stocks.

With the thorough establishment of the wholesale department, Mr. Smith again proceeded to enlarge his string of stores. The sixth retail store was opened in the upper Grand Valley at Debeque in 1910 and the seventh and last branch to date was taken over at Grand Valley last fall.

It was not until 1908 when the wholesale department was projected that Mr. Smith organized his business into a stock company. Mr. E. F. Woods, for a number of years associated with the Davis-Bridaham Drug company of Denver and a man with long years of experience in the wholesale drug business was chosen vice-president of the company; Mr. H. L. Wohlfort was made secretary of the company. These men in particular planned and designed the arrangement of the building secured for the purpose of the wholesale department. The wholesale department occupies the full second story, and basement of the Dowrey block in Grand Junction while the depot retail branch is located on the first floor. Mr. Smith is one of the financial factors in the Grand Valley. He was one of the organizers and for the past five years has been vice-president of the Union Trust and Banking company at Grand Junction.

It is comparatively easy for those who are personally acquainted with Mr. Smith to account for his wonderful accomplishment along mercantile lines in the Grand Valley. Probably the most significant reason has been



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WITH
RED CROSS
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By exploding one cartridge in centre of tree squares; the compact subsoil is broken up, a new water-reservoir is created, new plant food made available, and the old trees made to bear as well as ever before.

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To learn how progressive farmers are using dynamite for removing stumps and boulders, planting and cultivating fruit trees, regenerating barren soil, ditching, draining, excavating and road-making, ask for "Tree Planting Booklet, No. 196"

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Do You Want a Home In a Rich Valley?

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The Real Estate Man

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If you do—Investigate the Paonia, Colorado, territory where the snow-capped mountains surround the valleys of orchard homes; where the water is 100 per cent pure: where the fuel supply is inexhaustible; where the **summer nights** are cool and balmy; where **peaches** and **apples** produce abundantly; where **schools** are unexcelled; where **churches** are active and thriving; where **life** is pleasant and people are prosperous.

his constant and tireless personal work, for it is well known that he has labored incessantly for the past twelve years at his desk and in his field of effort. Another characteristic is his natural proclivity to economy and efficiency, along business lines. This has always been reflected in his stores by resultant saving to his patrons. His company has always made it a matter of particular effort to handle in its stores only stocks of the best known quality and grades, from drugs and chemicals to perfumes and candies. The result is that the C. D. Smith Drug company stands today not only one of the largest but a most solid monument in the history of mercantile experience in the Grand Valley and Western Slope of Colorado.

Montrose County and the Gunnison Tunnel

By J. B. OLINGER, Denver, Colo.

If you can be convinced that the same energy expended may increase your earning capacity three to five times, permit you to work for self, enjoy wholesome outdoor life, an abundance of all the good things of earth, best of social conditions, country life with modern city advantages, then you are ready to throw off the fetters that bind you and go to MONTROSE, COLORADO.

The wise investor will seek that locality best suited to intensive cultivation, where crop productions excel and where climatic conditions are best.

The U. S. Government is just completing the Gunnison Tunnel Irrigation project at Montrose, Colorado, furnishing an abundant water supply

to a land that is the wonder of the world for fertility, yield and diversity of crops.

Under this project are 140,000 irrigable acres of which 44,337 acres were cultivated in 1911. The Government Engineer in charge of this project has compiled statistics showing an average crop income from this entire area cultivated in 1911 to be \$55.-\$7 per acre, more than ten times the average for the U. S. This average includes all crops, from new lands just broken, lands poorly farmed, and those intensively cultivated. The cultivated area will perhaps exceed 60,000 acres in 1912 and the remainder will be improved as rapidly as people come in to secure these rich possessions.

Bearing apple orchards in this district pay \$500 to \$1,000 per acre income.

The cultivation of potatoes, onions, and kindred crops between the tree rows of a growing orchard keeps it in prime condition and pays handsome returns while the orchard is coming into bearing. It is no uncommon thing for potatoes to pay \$200 and onions \$500 per acre here, and other crops in like proportion.

Orchards increase in value at the rate of \$100 per acre per year from planting time to bearing age.

Ten acres supports the average sized family in comfort; twenty acres produces more net income than the average 160 acre farm in the best rain states.

Fruit culture is the most pleasant and profitable rural occupation known. It appeals to people of intelligence and refinement. It is free from drudgery, affords a summer of fascinating employment, and a winter of recreation. For general farming one acre here pays as much as three acres in rain states.

Land may now be obtained at low prices considering the productiveness, increasing value, and superior climate.

Montrose apples command premium prices in all of the leading markets, because of their superior flavor, col-

or, fine texture and keeping qualities. The marvelous climate assures you health; the matchless soil assures you wealth.

Good domestic water is easily obtained. In many places springs of pure, cold water abound. Dug wells average 25 to 35 ft. in depth, and artesian wells of pure, soft water affording pressure for lawn hose, fire protection and household use are a certainty at depths of 200 to 300 ft.

The Montrose electric light and power lines are distributed over the orchard districts furnishing current at same price as for city service.

The schools, churches and social conditions are unexcelled.

A personal investigation of the Natural resources of this Valley will convince the most skeptical that this is the opportunity section of the day.

Montrose is reached via the Denver & Rio Grande Ry., a route of unsurpassed scenic grandeur and beauty.

"DON'TS" IN THE PROPER CARE OF LIVE STOCK.

"Don't" water a horse soon after feeding him grain.

"Don't" feed a large quantity of hay to a horse that is afflicted with heaves.

"Don't" change the grain ration abruptly.

"Don't" keep idle horses on full feed of grain.

"Don't" turn horses to a straw stack and expect them to get a living, keep in condition, and with certainty escape impaction of the bowels.

"Don't" fail to have your horses' teeth examined once a year.

"Don't" wash the horse's legs curry them when dry.

Own Your Own Home

Come to Montrose, Colo.

An irrigated farm under the Gunnison Tunnel will pay for itself in three years

LAND VALUES \$50 PER ACRE AND UP

We Challenge the World

- for production of soil.
- to match our excellent climate.
- for a more adequate supply of water.
- for the keeping qualities of our fruit.
- for the highest market prices attained.

80 acres located on California mesa. Choice red soil. Lays perfect. All under cultivation. Best of orchard, potato or alfalfa land. Price \$125 per acre. Terms.

20 acre orchard $\frac{1}{4}$ mile of school, church and small trading point. Improved. Artesian well district. An excellent location for a suburban home. Price \$500 per acre. Terms.

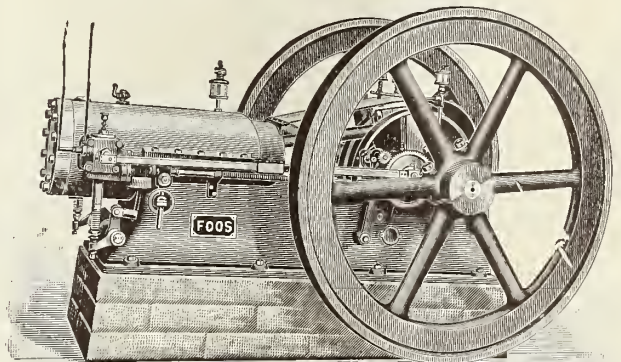
Write us for further information and literature.

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Special R. R. rates.

Two Cents



The cost of a stamp, and a few seconds to fill in coupon below and mail to us. It will bring in answer a complete quotation on a

FOOS--KROGH PUMPING PLANT

FOOS ENGINES are made to operate on gasoline or distillate.

KROGH PUMPS — Vertical or horizontal with automatically water balanced runners will operate with 20 per cent less power than unbalanced types.

Let us give you the cost per acre for irrigating season.

THE MINE & SMELTER SUPPLY CO.

17th and Blake Streets
DENVER, COLO.

WRITE US ABOUT OUR \$2.00 PER ACRE PLAN

Name _____

Address _____

How many Acres? _____

Pump from well or ditch? _____

Total Lift in feet? _____

If Well, how deep? _____

The Mine & Smelter Supply Co.
DENVER, COLO.

Cooperation of Weather Bureau and Growers In Utah

By J. R. PARRY, JR., Fruit Journal Correspondent

"An ounce of prevention is worth a pound of cure."

Realizing the old adage, Provo fruit growers and Mr. A. Thiessen, weather prophet of the United States government bureau at Salt Lake City are working harmoniously toward one great benefit, and that cooperation for fruit protection from frosts. Initial steps have been taken this spring to interest the United States government in installing a weather bureau in the Provo Federal Building for a few weeks during the spring when fruit is most endangered by frosts. During

the recent cold spell, when the blossoms were most endangered, Mr. Thiessen stayed on watch at the Commercial Club rooms, and received reports of the temperature from people throughout the district until early into the wee hours.

It was understood that in case of frost he would phone to each resident in the locality of the danger mark and at a moment's notice thousands of smudge pots could be lighted, thus saving the district, many thousands of dollars by a little forethought and precaution. In time it is hoped that the government will accept this initial step and prepare for co-operation with the fruit growers over the entire country by installing temporary quarters in all fruit districts during the late spring, when the fruit is most endangered by the fatal bite.

Another initial step worthy of mention is the steps taken by Mr. Thiessen of the Salt Lake Weather Bureau in co-operation with the farmer this spring, 1912, by measuring the depth and density of the snow banks as well as drifts on the water sheds of the Wasatch Range.

By this plan of co-operation, several lieutenants are sent out into the several sections of the mountains with measuring instruments and provisions to last them several days. By leaving a portion at the several stations indicated, their burden grows lighter as they advance. They are instructed to proceed to the several snow sheds in their territory and take measurements of the snow, and return with records of same. As a result a letter is published on their return and addressed to the several farmers in the district irrigated by the stream flowing from that water shed.

Great benefits are bound to be realized from this initial step. By this method of publicity a farmer or fruit grower will be given an idea as to the number of acres he can irrigate during the approaching season, per the number of second feet of water he can rely on. It is hoped that the government officials at Washington will become enthused over the recent report from the local bureau at Provo and this step will lead to a nation wide protection to all districts that depend on snow sheds for their water supply for irrigating purposes. Co-operation on the part of the government with the farmer will increase the harvest many fold.

The "wheels of progress" are known to whirl just as rapidly as the fruitfulness of the harvest.

Man and community as well as state have come to realize that: "Back of the loaf is the snowy flour, And back of the flour the mill, And back of the mill is the wheat, And the flour, and the sun, and the Father's will."

The sooner the Weather Bureau at Washington, D. C. begins to protect the interests of "the man with the hoe"

FAT FOLKS SLIM

Marjorie Hamilton Says "Fat Vanishes One Pound a Day By My New Drugless Treatment. Get My Free Book and Begin Reducing at Once"



Marjorie Hamilton Crowned with Praise by Thousands of Grateful Patrons

No drugs to take; no body-racking exercises; no starvation diet; no sweating garments; no pills, oils, cathartics, salts, no medicines of any kind. I lost my enormous weight in a short time and have never been stout since, and through me 100,000 MEN AND WOMEN ARE NOW TAKING MY DRUGLESS TREATMENT. WHY NOT YOU? \$5,000 IN CASH IF I FAIL to prove my drugless treatment anything but safe, quick and harmless in fat reduction. Don't wait until tomorrow; write today for my FREE BOOK containing all particulars and let me send you all I offer free.

MARJORIE HAMILTON

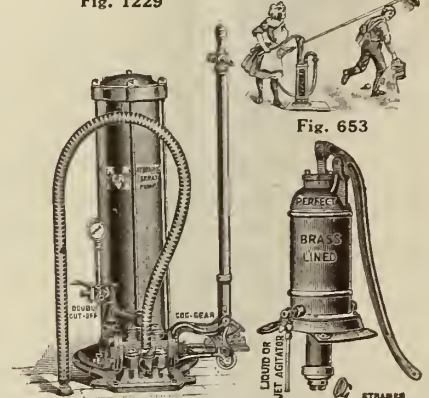
SUITE 2575A CENTRAL BANK BUILDING DENVER, COLORADO

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ALL KINDS NOZZLES, FITTINGS, Etc.

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Take off your hat to the Myers! BEST PUMP ON EARTH!



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Send for catalog and prices of PUMPS, HAY TOOLS AND BARN DOOR HANGERS
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GERMGO SPRAY

"Keeps Disease Away"

A thorough disinfectant for the home. A never failing destroyer of disease germs and insects. Has no equal for Veterinary use and a Sheep dip. Absolutely non poisonous. Germgo sprayed on fruit trees destroys all insects and insures a good yield. No sediment to clog the finest pump or spray. Get the genuine, the best and the cheapest which is GERMGO. Manufactured by

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Catarrhal Conditions

In all parts of the body yield to the Viavi System of Treatment.

The Viavi Hygiene tells about it; sent on request.

VIAVI--DENVER, 607 Mack Block

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DENVER'S PREMIER MODERATE PRICED HOTEL

1645 Welton St. Denver, Colo.

Take 16th or 17th Street Cars from Depot to Welton Street

Next door to Home Dairy Restaurant

and forget the "big stick" and the "muck rake," all humanity will be more prosperous, for there isn't one of us but admire the man, the community, the state or the nation that stands for progression. Tho we cannot all till the soil, there is no reason why we shouldn't encourage the man or the district who does, for he must live by his endeavors and we in turn not only live by the wheat in the bread, but our business, "NATION WIDE" is influenced by his success; little or great as it may be. Since we are dependent largely on the farmer, or the fruit raiser, for the crops they raise, let's hope our National Capital will soon be authorizing the suggestions set forth by the weather prophet of Utah's Bureau, and may the examples which took root in his fertile brain bring manifest results in greater crops, to the husbandman who tills and toils that we may live.

CENTRAL RURAL SCHOOLS ON HUNTLEY PROJECT.

That the settlers on the Huntley irrigation project in Montana are progressive was evidenced at a recent meeting when they voted to consolidate all the district schools into four centrally located graded schools which will accommodate the children of the towns and country. The consolidation of 16 district schools now in operation into four will result not only in economy but in increased efficiency. It is a step in the direction of making country life sufficient.

All over the West the movement is toward a better type of teaching for country children. Everywhere there is recognition of the fact that the old district school system does not conform to the new conditions of the country.

The new plan of consolidating the one-teacher district schools into a larger central school to which the pupils from a distance are transported daily is growing in popularity. This fusion in many sections has resulted in the establishment of commodious buildings equipped with modern conveniences, beautiful grounds and the introduction of such studies as agriculture, home economics, manual training, music, and others which were undreamed of in the isolated district school.

The central schools serve another important and useful purpose in forming convenient social centers for the communities. They encourage frequent gatherings of the farmers and their wives for social intercourse and pleasures, and at these meetings better methods of farming and home-making may be discussed by the experts of the Agriculture Department. These schools have already dignified farming as a profession and are certain in time to have an appreciable influence in retarding the undesirable efflux of our country bred folks to the crowded cities.

"Don't" drive over-heated horses through a stream of cold water, and by no means allow them to drink while in this condition.

"Don't" allow your mares or cows to deliver their young in a dirty barnyard.

TOO LATE TO CLASSIFY

ROSE AND SINGLE COMB RHODE ISLAND REDS of finest quality, selected layers Eggs \$5 per 100. Birds \$1.00 up.

10-12

MRS. LAUN,
Riverdale Farm.
Floyd, Iowa.

FOR SALE—White Holland Turkeys sired by a 35 pound yearling Tom. Also G. C. white Leghorn Cockerels.

10-12

JOHN C. MILLER,
Harlan, Iowa.

FREE to the ladies, a set of the famous Eureka Bent Trimmer, Self-sharpening shears, as a present with new subscription for \$1.00.

Costs little to install—nothing to operate. Raises water 30 ft. for every foot of fall. Land lying above canal or stream supplied with water. Pumps automatically day and night. Pump Water Automatically day and night.

Raise Water FOR YOUR FRUIT—all you need when and where required—with an automatic Rife Ram.

If there is a stream, pond or spring within a mile, write for plans, book and trial offer, FREE.

RIFE ENGINE CO.
2523 Trinity Bldg., NEW YORK



In the very heart of Denver's
Social and Business Activities

The Albany Hotel

Very Popular Hotel where
Popular Prices Prevail

Why Don't You Buy Second Hand Pipe?

Its as good as new, in full lengths, good threads and couplings on each length, and the price is less. Send us your orders. We have any amount of it you want

S. H. SUPPLY & MACHINERY CO.
1750 Wazee St., Denver

50 BEER PINTS Queen City BEER \$3.50

A NEW WAY TO BUY BEER

If you knew what you were drinking when you drink some beers, you would STOP! Have you ever personally investigated the water used in some beers? Have you ever investigated the breweries—the surroundings? Then be careful what beer you put into your stomach.

Here's a new beer, and here's a new way to buy it. "QUEEN CITY" BEER is made in DENVER—the greatest health resort in all America. It's such because of the purity of air—the cleanliness of the city and the pure snow water of the famous Rockies. And that's the water used in "QUEEN CITY" BEER—that's why it's the purest, safest and most delicious beer brewed. "QUEEN CITY" is made of only the best hops and malt, brewed by an expert old German process, aged doubly long and bottled at the brewery in clean bottles. Its rich sparkle is fascinating—its delicious flavor appetizing and delightful.

"QUEEN CITY" IS SOLD ONLY DIRECT to you. BEWARE OF SUBSTITUTES! We sell you 50 pint-size bottles for \$3.50, packed in an attractive, strong case. This is less than you pay for ordinary, impure beers—beers that are not safe to

drink. "QUEEN CITY" BEER and this new way of selling it is winning thousands who are careful what they drink. Don't think that because some beers have been advertised for years they are absolutely pure. They may have been brewed with stock-yard sewerage water.

It is convenient to buy beer our way—it is more private and you always have it on hand—50 bottles for only \$3.50. We pay 15 c.nts per dozen for empties returned prepaid. If you value your health, and want the most delicious beer brewed, send us your order for 50 bottles of "QUEEN CITY" BEER now.

HOW TO ORDER—Send P. O. or express order for \$3.50 with order payable to Cashmon Dist. Co. Do it now.

FREE Sample bottle of famous Old Cashmon Whiskey with first order of "QUEEN CITY" BEER

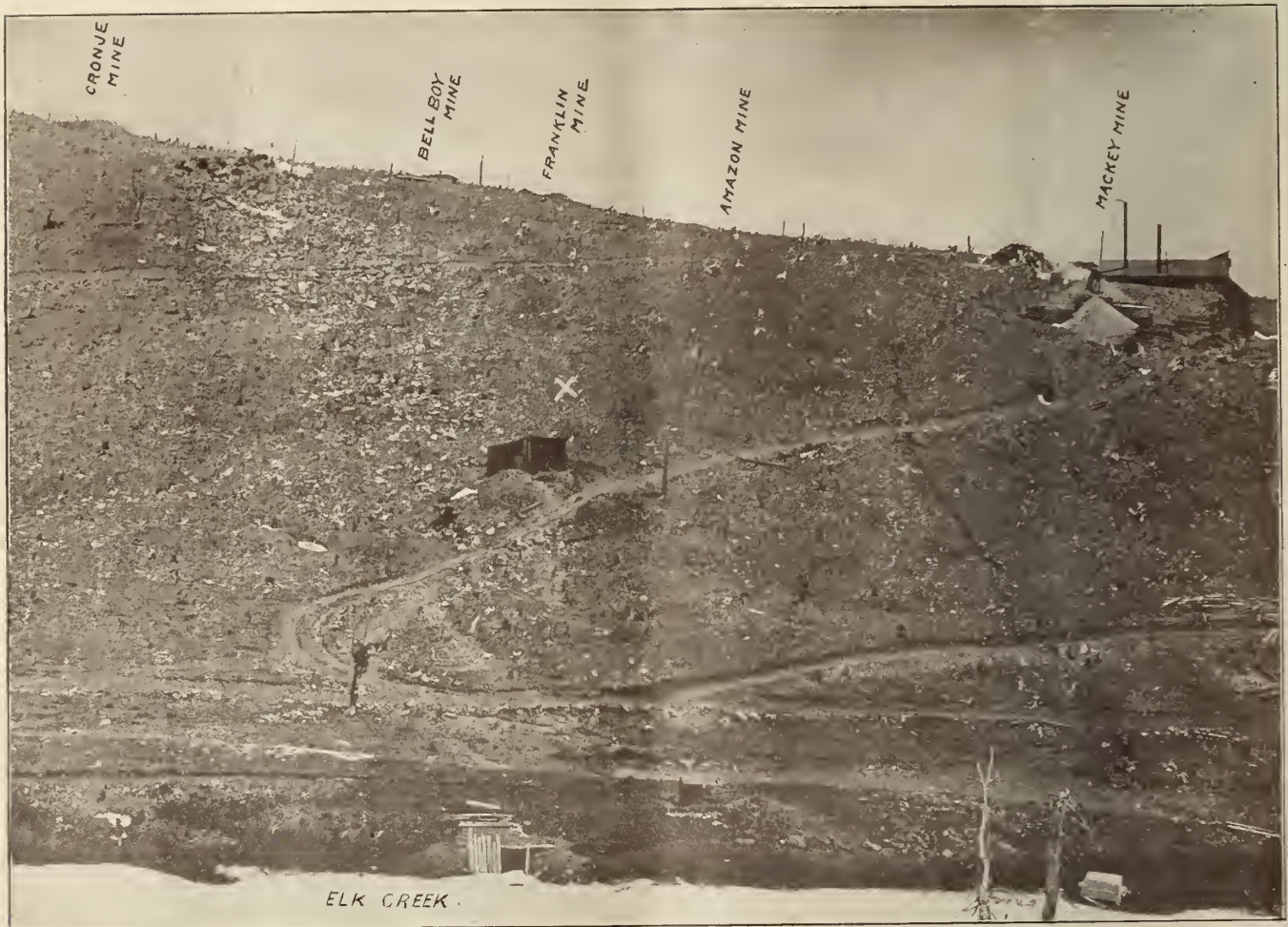
CASHMON DISTRIBUTING CO.

1406 Wazee St., Denver, Colo.

In Strong Cases—
Shipped Anywhere by Express or Freight

Order NOW





The above is a cut of the famous "MACKEY" group of mines in Gilpin County, where is now being erected a large, modern reduction and concentration mill for treatment, right at the mines, of milling ores.

The report of Prof. Arthur J. Hoskin, late of the State School of Mines at Golden, Colo., recently made on the "MACKEY" properties, states that the MACKEY would become noteworthy and would be heard of as one of the big properties of the State.

The contention of mining men conversant with the MACKEY mine is that all five of the great veins exposed on the properties will unite at a depth of about 700 feet, and Mr. Mountz, the manager of the mines, firmly believes that at the junction will be found a great, rich dike of ore fully 30 feet wide, and it will increase the MACKEY

mine to the proportions of one of the really great mines of the State.

Mining men of the district await with deep interest verification by Mr. Mountz of his well-grounded belief of the mineral wealth to be encountered at the 700-foot level, and with that proof, and having one of the biggest mines of the country within its confines, Gilpin County, already recognized as a producer of over \$100,000,000, will take on added life.

The Mackey mine has been a regular producer of pay ore from the grass roots, and, judging from Mr. Mountz' extended practical experience and his important successes, it is very generally believed his predictions will prove to be correct and result in great development for the whole district and wealth for all interested.

The MACKEY Gold Mining and Mill-

ing Company has recently opened offices at 1743 Champa street, Denver, where a large display of fine minerals from the MACKEY mines is shown in the windows of the company.

HOW THE MEXICANS COOK PUMPKINS.

Now that you have read about my big pumpkin that grows to weigh 200 pounds or more and many are sending subscriptions to the Fruit Journal in order to get the seeds, I want to tell you some of the methods the Mexicans use to cook them. You know we do nothing down here in Mexico like they do in the U. S. except when we dig a well we begin at the top. We grow about 50 different kinds of beans but I have never seen beans cooked as we do. The principal food of the

The Mackey Gold Mining & Milling Company

Has just offered to the investing public one of the greatest mining investments ever offered. They own the famous Mackey Mine in Northern Gilpin County, with four other pay mines all in a body, well developed, and now being equipped with a large new mill on the ground. They are offering a limited amount of treasury stock at ten cents per share. This property is well developed and will make one of the biggest pay mines in the State of Colorado.

Here is a chance for you to make a lot of money with a small investment. Write in at once and get photographs and report and prospectus on this proposition. It is run and managed by capable, practical, mining men. There is nothing for sale but treasury stock, which is being sold to equip the mill, at which time we will start to making big money. They have thousands of tons of pay ore blocked out and ready for the mill when it starts. Don't delay or you will not get a chance to buy this first offering, it is way below what it is worth, there will not be much offered at this price.

Write
today to

The Mackey Gold Mining & Milling Co. 1743 Champa St.
Denver, Colorado

common people is corn, and still I have never seen corn cooked as we cook it.

Well I suppose that it is the natural way with them, and as they have done so for several thousand years, it is a little too late right now to make any violent changes.

The natives of Mexico were making and drinking Chocolate before Pikes peak was built to attract tourists to Colorado Springs. They call the Chocolate "Chocolatl" which is the old Aztec name which means "food of God" and the Botanists when they named the Chocolatl, they named it "Theobroma," which is also, when translated from the Greek, "Food of God."

Well in some article I am going to tell you all about the Chocolate and how the Axtecs made it and also how the Mexicans made it, for by their methods you have something worth while to drink.

Well now lets begin on the pumpkins, send the boys out to catch a good ripe big one, and roll it into the house, but be careful and do not break the screen door, while doing it.

Get the cross cut saw and have the boys saw the pumpkin in two, and they get in and shovel out the seeds, save them, and dry them for making "Pipian de Lengua."

Now take the pumpkin and peel off the rind, cutting the pieces into pieces about three inches long by two wide, and then take a large kettle and in the bottom put for about 5 pounds of the pumpkin say a pound of brown sugar, and with it just enough water so that it will make the bottom of the sugar wet, then put in the pumpkin and cover the kettle tight so that the steam will be forced into the bottom to melt the sugar, occasionally stir the pumpkins so that the sugar will get well melted and mixed with the pumpkins, doing this until they are thoroughly cooked and there is a rich, brown, sugary liquid in the kettle, which will be made from the steam from the pumpkins.

They also make what they call "Cubierta de Calabaza" which is by putting a little more sugar in when making the "Calabaza en tacha" and then continue the cooking until the pumpkin is cooked dry and sugary on the out side, this is the method also of making their Cactus candy.

This however is quite difficult, for the pumpkin is easy to burn, but by uncovering the kettle after the pumpkin all gets well covered with the melted sugar, and carefully stirring it you can make it all right.

To make the Chicken "Pippian" you just cut up the chicken and cook (boil) until tender and then cook a little while in the seed liquid.

These things when properly made are sure fine, and very appetizing. Of course the Mexicans put Chile pepper into all these, which is done by roasting one or two chile pepper with the seeds and grinding them up.

You know the Mexicans put chile into every thing they use except their face powder, and foreign relations.

You know the Mexicans are much like the French in their cooking, that is they cook more to please the palate than anything else, and so go in for seasoning, flavors, etc., to a much greater extent than we do.

Now lets just take a bowl of nice rich, fresh milk and another dish of Calabaza en tacha and cut into the milk and then just have a nice social talk and a fine, appetizing feast, give the boys all they can eat, for one of the big pumpkins will feed them a week, and they will enjoy it.

Do you know there is something about this getting up new dishes that I like, I suppose it is the eating of them, at least I feel that is it.

I wouldn't mind telling you a lot more fine ways of cooking things Mexican style if you would just drop a line and say what you wish to know how to cook.

ELMER STEARNS, Botanist,
Escuela de Agricultura,
c Juarez, Mexico.

Ladies, do you want a nice set of serviceable Silver Plated teaspoons, as a present from THE FRUIT JOURNAL? See our advertisement on another page.

WANTED—Well trained beginner as assistant book-keeper. Fine prospects for quick advancement.

WANTED—Stenographer not over eighteen. Salary to start \$40.00 per month, with raise when competence warrants.

WANTED—Young man from 16 to 20 years with a business college training who will develop into a real estate salesman.—Fine opportunity.

Send now for our catalogue and learn of the advantages of our Summer School; also plans for the opening of our Fall Term in September.

CENTRAL
Business College

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DENVER,
COLO.

These are a few of the advertisements running in daily papers, that tell of the demand for capable young men and ladies. Business men are constantly calling and telephoning the College office for help of this class. The College can place every graduate in a position. Only a few months necessary in which to prepare.

Box Labels

FOR APPLES, PEACHES & PEARS

Add selling value to your pack. Identifies you with the consumer. Puts on the finishing touch. Special designs to order.

Stock Labels

We have three or four stock designs of each kind that range in price from \$5.00 to \$10.00 per M. These are especially attractive to the new grower who does not care to go to the expense of a special label.

The Denver Lithographing Company

Color and Commercial Lithographers

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Send attached coupon for samples.

The Denver Lithographing Co.,
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I am interested in box labels for.....

Please send samples of stock special designs and prices. Will require..... thousand.

Name.....

Address.....

J. L. Taylor Secures Three More Stations on Western Slope

In connection with the enormous fruit crop now in sight for the Intermountain district, it is a matter of timely interest to know that J. L. Taylor who has handled the marketing of the output of the Delta County Fruit Growers association in recent years, has already laid his plans to operate on a largely extended scale this year in the Colorado field.

Mr. Taylor is now on the Western Slope arranging the final details for extensive enlargements in shipping stations, packing sheds, and switching facilities that he will need to handle the large volume of fruit and vegetables that he has contracted for this season in Mesa and Delta counties. He already has his own loading stations at Delta, Austin, Paonia, and

Appletown in Delta County. This year he has leased the splendid building of the Olathe Storage company at Olathe in Montrose county, and will handle several hundred carloads of fruit and vegetables from that point. Olathe has attained a reputation second to none for its potatoes in the past two years.

So well pleased have the Grand Valley growers been with the results secured by him that he has found it necessary to establish a branch at Clifton, where he is putting in his own switching facilities, and building. At Palisade he is doing the same thing, which will lure him up for the famous Palisade Elberta peach crop.

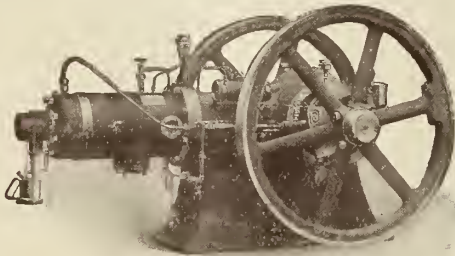
Mr. Taylor attributes much of his success in fruit marketing in the Colo-

rado field to the able corps of assistants which he has gathered around him. His Palisade manager, Mr. I. W. Charles acted in the same capacity last year. At Clifton, his manager, Mr. J. R. Frantz is well acquainted with the conditions as he was previously connected with the Grand Junction Fruit Growers association. Mr. L. R. Myers who will take charge of the new branch at Olathe this season, was connected with the Grand Junction office of the Grand Valley Fruit Produce association, last year.

It is Mr. Taylor's policy to extend the growers who market through his agency every facility in the way of supplying them with all needed supplies from his several branch stations. He carries in stock a large supply of apple, pear and peach boxes and spraying materials, which insures his patrons from any shortage of supplies in these important requisites.

During the shipping season, Mr. Taylor may be found almost constantly in his Denver office at 511 Central Savings Bank building or at his Denver sales room at 7 and 8 City Market. In conversation with a Fruit Journal representative, Mr. Taylor expressed himself as highly pleased at the successful outcome of his field of operation through the frost period. Naturally conservative along marketing lines, Mr. Taylor would only say, "It looks like a big year for the fruit growers. We are bending every effort and making preparations to handle the biggest volume of fruit that ever passed through our hands. I do not anticipate any serious car shortage. The only serious question, lies with the growers in making early preparations to secure ample help during the picking and packing season. Time will tell the rest."

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GRAND JUNCTION, COLO.

If your Grocer doesn't handle it write us direct

THE TEXAS PEACH CROP.

The National League bulletin, the house organ of the National League of Commission Merchants issues the following report for the Texas peach crop this year:

"After a very careful survey of the Texas peach orchards, it is found that the recent cold weather has done no damage. Indications point now to a crop of about 5,000 cars. The winter has been ideal for peaches and the trees are in healthy, good condition.

The largest shipping stations from which peaches will move are Jacksonville, Tyler, Marshall, Lindale, Swan, Winnsboro, Sulphur Springs, Mount Pleasant and Naples.

At Marshall, the Caddo Lake Orchard Co. expects to harvest the largest crop in its history. This is the second largest peach orchard in Harrison County and contains 1,800 acres. Another peach orchard in the county is the Standard Orchard at Scottsville, which has 2,100 acres. The Redlands Orchard has about 800 acres in Harrison County.

Women's clubs may effectively aid in the shade tree and forestry movement by taking up the systematic study of the question in its aesthetic and economic aspects, by forming civic improvement societies, by joining forestry association, and by their influence in schools and libraries.

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"Ingeco" Engines give satisfactory, reliable power at low running cost. Dependable under all conditions. Simple, strong—large bearings and few parts. All parts accessible.

Vertical and Horizontal, Stationary and Portable engines from 1½ to 350 H. P. for operation with gasoline, distillate, oil and producer gas.

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Complete stock of engines and spare parts carried in all principal cities in Rocky Mountain territory with expert engineering advice at your command without charge.

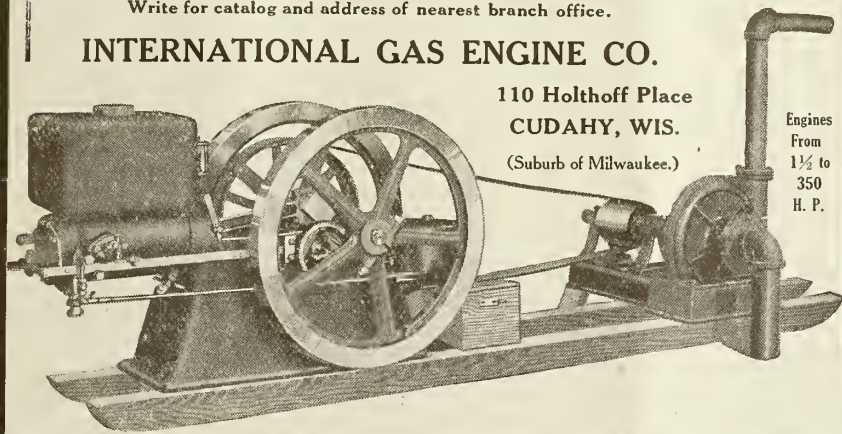
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1½ to
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"INGECO"
Horizontal Engine

GAS ENGINE ECONOMICS ON THE FARM.

(By F. H. ROSECRANTS, Colorado Agricultural Collge.)

The present stage of perfection of the gasoline engine, and the good name which it is making for itself with all those who use it, are attracting a great amount of attention from a large and increasing number of the farming community. While it is not true that the gasoline engine may be applied advantageously to all the machinery on the farm which it is possible to run with mechanical power, it is true that a large part of it which is now run by hand or horse power could be much more conveniently and economically done with gasoline engine power.

In selecting a gasoline engine, there are two important factors to be considered—First, the make of engine, and second, the power of engine. In deciding the first factor, the average farmer does not always possess sufficient knowledge of gas engines to judge the merits of two different makes. The claims and arguments of competing manufacturers, agents and dealers are so contradictory and confusing that, unless one is an expert, their statements throw little light on the subject.

As precautionary statements in regard to the make of engine, I will say: Do not try an engine which is still in the experimental stage. Buy an engine which to your personal knowledge is giving first class satisfaction with its users. Do not buy an engine which is exceedingly cheap. Buy an engine for which repairs can be had without sending the length of the continent for them.

In deciding upon the size of an engine one must depend entirely upon the machinery to be run. The most economical condition of gas engine operation is attained when the engine is run at full load, that is, when the machine which is driven requires the full power of the engine to drive it. This condition cannot always be obtained because it is generally the case that several machines requiring different power must be driven by the same engine. However, by using forethought in purchasing new machinery for different classes of work about the farm, the different machines can usually be selected of such capacity that the same power will be required to run each of them, and hence an engine purchased of just sufficient power to run them. Manufacturers of power-driven machinery give in their catalogues the capacity of their machines and also the amount of power required to run them.

It is often the case on a large farm that it is more economical to have two engines of different power. For instance, have one engine for pumping water, turning the grindstone, driving shop tools, etc., and a larger one for grinding feed, cutting ensilage, etc.

"Don't" leave the shoes on a horse longer than five or six weeks without resetting.

"Don't" allow the blacksmith to rasp the hoof wall and otherwise mutilate the foot in shoeing.

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is all placed we will have about Seven Thousand Stockholders and over TWO MILLION Dollars Capital and Surplus. Life Insurance Stock is a safe investment—legal requirements make it so. The older companies are paying enormous dividends. For full information fill in name and address and mail to

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140 Orange St., Ashland, Ohio

Modern Conveniences for Use In the Country Home

By FRED G. PERSON, Colorado Agricultural College.

The opinion which has been so general "that modern conveniences can be had only in the city," is beginning to change, and instead of "the country coming to the city," the 'city is going to the country.'

In this article, I wish to speak of the home water supply delivered at the tap in the house. With the systems that are being used today, one can have the convenience of hot water, heat, bath, etc., although living several miles from the city.

The most essential is a source of pure water supply. This can be had from a deep well from which all surface waters have been excluded. Having obtained the supply, the next question is the pumping and storage for use when wanted.

The pumping can be done by various methods, such as wind mill, gas engine, etc. These machines are placed upon the market at prices that are within the reach of the average country home.

In the storage of the water, the pressure system used is an important factor. If the pressure at the tap is derived from a gravity system, the storage tank must be placed high enough to give the desired force. This of course necessitates a framework support for the tank; besides, in places where the winters are severe, the tank must be protected from freezing.

If the system of pressure is from compressed air over the water in the tank, then the tank can be placed in the basement and the factor of cold does not interfere.

The plumbing for the house will, of course, be the same as ordinarily used. In case one does not have a range with water front, or does not care to connect to the range, gas-line gas heaters are made to supply the need.

The point of sewerage is very important. This can be taken care of by means of a well constructed cess pool. This should be dug to a gravel bed having a good flow of water through it, then walled up and well covered. Many may object to the cess pool. Of course it is not equal to an up-to-date sewer system, but if it is properly made, its drainage, etc., well cared for, there will seldom be any trouble from it.

Having your water supply, storage, plumbing, and sewerage, you have an independent 'water works system' which will give excellent results.

It is hardly desirable in this article to attempt to give the cost of installation of one of the small plants as that depends upon the individual case under consideration.

GROWTH OF THE FRUIT BUSINESS.

Every person of mature years can remember when it was questioned whether fruit could be raised in many localities where it is now staple—for

instance, in Kansas, Nebraska and most of the western states. Probably the same doubt once existed as to the suitability of New York for fruit growing—yet western New York is said to be the greatest apple region in the world; as to New Jersey and Delaware, where peaches and other fruits are now so profitable; as to the entire Western Reserve, most of which is so valuable for farming and fruit growing that the prices paid for farming lands would seem fabulous to those pioneers who burned up the black walnut trees to make room for their corn patches. The same doubts existed regarding Washington, Oregon and California, now famed the world over for their apples, prunes, raisins, walnuts, and especially for their oranges and lemons. Regarding the latter especially—lemons—it was many years before the growers, at much cost of time and money, learned what

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If your druggist does not stock our vaccines, order direct from us.



The National Insecticide Law requires that all Arsenate of Lead shall contain not less than 12½% Arsenic Oxide, not to exceed ¾ of 1% Water-Soluble Arsenic and not to exceed 50% of moisture. Beyond these chemical requirements the Law is not interested.

All makers of Arsenate of Lead are compelled to comply with the above. It does not follow by any means that therefore one brand is no better than another.

In the eyes of the Law, all men who do not break the Law are equal, but this does not imply that all men who are out of jail are equally good citizens.

The effectiveness and satisfaction received from the use of Arsenate of Lead are very largely owing to its suspension, easy mixing and fast-sticking qualities.

The Law does not attempt to regulate its manufacture in this respect, but these qualities added to its killing power make up the true value of an Arsenate of Lead.

The uniformity of Grasselli Arsenate of Lead in all the above essentials is well known and it is the Standard adopted by the leading growers and Associations of the country.

The Grand Junction Fruit Growers Association, Grand Junction, Colo., and all leading Associations in Colorado, Utah and New Mexico carry Grasselli Arsenate of Lead.

MANUFACTURED BY

The Grasselli Chemical Co.

CLEVELAND, OHIO.

THE COLORADO CHEMICAL & SPRAY MFG. CO.,
GRAND JUNCTION, COLO.

Distributors for Western Colorado.

varieties to plant, how to cultivate them, more especially how to cure them for market, (for the lemon like the pear must be picked green and cured, always being handled literally with gloves, or "like eggs," as the saying goes), and how to ship them. Then it was found that the fruit could be imported more cheaply than the home producer could grow it. Finally the tariff helped that, and in time it is predicted the state of California alone will be able to supply all of the lemons consumed in the United States, "and then some," and that the price will go so low—it is now dropping—that the foreigner will not find this market tempting except to unload his surplus on it.

HOW TO FIGHT THE POTATO BUG.

Now is the time to watch potato vines closely for this insect, which has already become quite widely distributed in the northwest part of the state, and is spreading considerably each year. Shortly after the potato vines come up in May or early June, the beetle makes its appearance on the vines in new localities; if taken in time its spread can be prevented for the year, as it does not fly to amount to anything in the season.

The insect, which is the common "potato bug" of the country east of the Rocky Mountains, is a plump beetle nearly half an inch long, reddish below in front, with yellow and black stripes lengthwise on its back. It deposits its eggs in clusters on the underside of the leaves of the potato, from ten to forty in a cluster. A single beetle may deposit 12 or more clusters. When the eggs hatch, the young that emerge are soft, reddish grubs, which devour the potato leaves rapidly.

The insect occurs at present in Latah, Clearwater, Lewis, Nez Perce and Idaho counties, but may make its appearance this year at some distance from any known case last year, as the adults fly well in the spring. To illustrate the possibilities in checking its spread, a single adult beetle was found in a potato patch at the Experiment Station at Moscow, in June, 1909. It had already deposited several egg-clusters on two or three adjacent hills of potatoes. The insect was destroyed and the surrounding vines carefully searched for all the eggs that had been deposited, which were also destroyed.

No more beetles were seen that year, and none up to the present time. So the introduction of the insect was postponed at least two years by this operation, there being no beetles known at present nearer than ten miles from the Experiment Station.

The insect yields readily to arsenical poisoning. The usual method of treatment is to sprinkle the vines with a mixture of a rounded teaspoonful of Paris green in about three gallons of water. A common sprinkling pot is generally used to make the application, but sometimes on a small scale it is shaken from a whisk broom or a handful of hay. Arsenate of lead may be substituted for Paris green if more convenient, but in the paste

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A Safe, Speedy and Positive Cure for
Curb, Splint, Sweeny, Capped Hock,
Strained Tendons, Founder, Wind
Puffs, and all lameness from Spavin,
Ringbone and other bony tumors.
Cures all skin diseases or Parasites,
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Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,
Sprains, Sore Throat, etc., it is invaluable.
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per bottle. Sold by druggists, or sent by ex-
press, charges paid, with full directions for
its use. Send for descriptive circulars,
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The Lawrence-Williams Co., Cleveland, O.

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livered by the
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than by others because the impeller
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form it is not nearly so strong as the
latter, and about four times as much
should be used. In applying Paris
green it should be remembered that
it rapidly settles to the bottom of the
receptacle, and requires frequent stir-
ring to maintain a uniform strength.

J. M. ALDRICH,
Entomologist,
University of Idaho.

**"DON'TS" IN THE PROPER CARE
OF LIVE STOCK.**

Colorado Agricultural College, Fort
Collins.

"Don't" wait until your mare is al-
most dead, at time of foaling, before
calling a veterinarian.

"Don't" administer medicine to the
horse, or any other animal, through
the nose; nature never intended it
that way.

"Don't" administer any drug to an
animal until you are familiar with its
action, and the exact condition of
your patient.

**GOVERNMENT PASSES LIBERAL
LAWS FOR SETTLERS.**

By FRANCIS JOHN DYER, Washing-
ton, D. C.

Through the passage of the enlarged
homestead bill, the three year home-
stead bill, and other measures which
have for their purpose more liberal
treatment of citizens who desire to se-
cure a home on the public domain,
it is believed that the tide of emigra-
tion to Canada will be somewhat
checked.

In all the public land states there
has been dissatisfaction for a number
of years over the manner in which the
public land laws have been adminis-
tered. It has seemed as if the intent
had been to harass the settler to such
an extent that he would abandon his
claim and let it revert to its original
condition. Then came the cult
of the conservationist, who sought to
prevent the passing of title to individ-
uals or corporations altogether, and
who wanted, and still wants to create
a vast rent roll for the government,
the idea seemingly being to give a
bureaucracy control and to extend its
power and authority.

Now there is a very natural reac-
tion. The government having dispo-
sed of its choicest public lands, it be-
comes necessary to make more reason-
able regulations in order to induce the
masses to get "back to the land." En-
couragement for the farmer is also
coming about as a result of the exten-
sive work of the Agricultural Depart-
ment at Washington, and the activi-
ties of its trained scientists who are
working in all portions of the country
to help solve the problems of the far-
mer and fruitgrower. Beside all this,
Congress is beginning to look with a
more kindly eye on the need of ex-
tending such protection as is afforded
by the tariff to the farmers. At one
time the latter seemed to be without
the pale. Now the farmer, who made
his voice heard when the Canadian re-
ciprocity treaty was under discussion,
has compelled the country to notice
him, and in the future he will find
little trouble in getting Congress to
listen to his petitions.

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Sold on easy payments. We save money, time and freight.
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serviceable Silver Plated teaspoons
as a present from THE FRUIT JOUR-
NAL? See our advertisement on an-
other page.

POULTRY

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Contributions to this department are always welcome and signed articles are solicited. Send the editor little expressions of your own experience. They are valuable to other Poultry Growers.

Address Communications to Editor—Intermountain Fruit Journal and Intensive Agriculturist

THE POULTRYMAN'S CALENDAR.

Demand for broilers is beginning. Eggs are dropping fast. Clean up. Look out for signs of roup and other diseases. Birds hatched now make good broilers later.

If there is one season of the year that is a busy one for the poultry and fruit raiser, it is spring. There is so very much to do that it is only by working early and late that it can all be done. A little work now, however, will save considerable time latter on when every minute is needed for something else.

It is too early to open the houses up entirely but if the windows are put on hinges the openings being screened and screen or chicken wire doors hung to open in a direction opposite to that in which the wooden door opens, it would not take any valuable time later on to make the houses ready for warm weather when it finally comes. The windows and tight doors can be swung back against the side walls and fastened and the house is then an "open air" house.

On some nice bright sunny day the house should be given a thorough washing and spraying with a strong disinfectant. There are a number of very excellent disinfectants on the market. Any one of them will be productive of good results if it is applied freely enough. Use plenty. Get it into every nook and cranny. Don't be afraid of overdoing it. You can't. A strong force pump is the best way of applying a disinfectant. You can reach every corner and every crack. Repeat this "house cleaning" once a week for two or three weeks to make sure that the germs and dirt accumulated during the winter are effectually disposed of.

If the flock is confined in a yard, the ground should be plowed up and either hauled off and replaced, or turned deeply under. If the soil is extremely foul, by all means remove it. It will make excellent fertilizer. Put it around the trees. If the house has a dirt floor, the top should be taken off. It will not be sufficient to turn it under. Germs of roup and other deadly diseases lurk in such filth and one cannot be too careful.

Another thing that requires change is the feeding plans. Nest making foods that have been fed all winter should be omitted from the ration. In some localities where the cold weather is not past, the change should not

be made at this time but in others it is not a bit too early. As long as the birds need the heat, feed them corn and other winter foods, when they don't need the heat, cut such foods out.

FOWL CHOLERA.

By B. F. KAUPP, Pathologist.
The symptoms usually noted are as follows: The bird begins to mope, re-

mains on the roost with feathers ruffled, head down, and wings more or less droopy, the bird presents a "ball" appearance. The bird is weak, and diarrhea is present. The discharge is of a greenish-yellow color. The bird usually lives from three days to a week.

We have studied this disease and conducted experiments with it in chickens, turkeys, and ducks.

When the abdominal cavity is opened, the liver will be noted to be much larger than normal, and darker. The spleen may be enlarged. The intestines are congested and may appear inflamed.

As to treatment: The hen house and yards should be cleaned thoroughly. The house and, so far as possible, the yard, should be sprayed once a day with a 5 per cent solution of carholic acid, zenoleum or creolin. Birds should be watered from drinking fountains. These should be cleaned and disinfected once a day, using disinfecting solution same strength as for house and yards. The feed should be given in

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LAND and Water Fowls. Farm-raised stock, with eggs in season. Send 2c for my valuable illustrated descriptive Poultry Book for 1912. Write Henry Pfile, Box 648, Freeport, Ill.

troughs which are so constructed as not to allow stepping into them. These should be cleaned and disinfected once or twice a day. As the germs escape from the sick birds from the discharge, the birds, as soon as noticed to be ailing, should be destroyed and burned, or at least separated so as to prevent further distribution of the germs.

As treatment sulphocarbolate tablets containing the sulpho-carbolate of calcium, sodium and zinc have given us the best results in our experimental work. Vaccination has also been successfully carried on.

**INTENSIVE FARMING IN
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The truck farmers of the Canary Islands engage in intensive farming almost exclusively, as the farms average but 2 to 5 acres in size, rarely more. The largest farm in the islands is about 140 fanegadas (the fanegada varies in the different islands, being usually a little less than 1 acre). Plowing is done with primitive plows, consisting of a rough-hewn pole or tongue to which is fastened an iron-pointed stick, drawn by oxen. These plows are not so easily injured by the large loose rocks below the surface of the soil as steel blades would be and the low cost of labor, about 50 cents American a day, makes the demand for a modern time-saving implement slight. The results obtained with this method of cultivation are excellent, and the appearance of a newly plowed finca (farm) is equal to that of the best English and European market gardens.

The irrigation, which the average yearly rainfall of 15 inches makes imperative, is supplied on these miniature farms by the use of hand watering cans. The larger farms have cement-lined stone reservoirs, some of which have a capacity of several thousand gallons. These are filled from permanent streams by cement troughs. These leads are economically provided by forming cement grooves on the tops of the stone fences, which separate all the farms and are often used in dividing hillside farms into terraces.

A fanegada may produce 300 bunches of bananas a year. Six hundred kilos (1,300 pounds) of seed potatoes are required to plant the same area, the yield being 5 to 20 times the amount planted. One and a half to two pounds of tomato seed will plant a fanegada and yield two hundred to six hundred 60-pound cases.

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**COWS HIT BY HIGH COST OF
LIVING.**

The high cost of living has reached the Wisconsin university dairy herd. Figures supplied by Professor F. W. Well of the college of agriculture show that in 1910-1911 it cost \$65.72 to feed each cow in the herd, an increase of nearly \$25 a cow over 1908-09. The cows yielded an average return of nearly \$50 a head above cost of feed.

Famous Tree Dies.

The famous chestnut tree du Vingt Mars in the Tuileries Gardens of Paris—famous because it was always the first of the year to burst into bloom—is dead. Strange to say it will not be cut down but fenced in, and this will be done in regard especially to the tradition which has it that the poor Swiss soldiers who died in heroic defence of the French monarchs on August 10, 1792, lie buried at its foot.

Your Enemy a Catarrh.

Everybody is suffering from "a" cold, and attributes it to various causes. According to Sir Ernest Shackleton, however, if the temperature were only lower the danger of catching cold would be much less. For months he and his companions lived in extreme cold, and frequently the possibility of catching cold, was increased by the fact that the toil of dragging sledges over miles of snow and broken ice left the workers at the end of the day in profuse perspiration. Yet during the whole period of their stay in the antarctic not a single member of the party suffered from a cold. But at the first port at which their vessel touched on the homeward journey nearly every man was laid up with catarrh.—London Exchange.

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RHODE ISLAND REDS—Both combs. Ten years breeding them to lay and pay. Your name will bring free mating list and egg circular with prices within the reach of all. H. A. SIBLEY, Lawrence, Kan. 7-12-s

"BUFFALO" STRAIN Buff Orpington Eggs from birds direct from winners of "firsts" and "specials" at Topeka, American Royal and Missouri State shows and themselves the winners at the El Dorado show of six ribbons out of a possible nine. I will sell one-half these eggs at \$3 per 15. Also have choice cockerels for sale, satisfaction assured. Dane Hoffington, Latham, Kansas. 12-12

RHODE ISLAND REDS—(Rose Comb exclusively.) Better than ever before. Pens carefully mated by licensed judge. Eggs, pen 1, \$5.00 per 15. Other pens, \$3.00 per 15. Range flock culled to Red quality, eggs \$1.00 per 15; \$2.50 per 50; \$4.50 per 100. Write for descriptive circular. Address Red Cedar Place, Mrs. J. Wedd, Oakhill, Kan. 11-12-s

FARRAR'S S. C. BUFF ORPINGTONS ARE NATIONAL WINNERS—Winning at Topeka, Kansas City and Des Moines, Single birds, trios and breeding pens for sale. Stock shipped on approval. H. T. FARRAR, Axtell, Kan. 10-12

R. C. R. I. REDS—Eggs from pure bred range flock; 100, \$4.00; from prize winning pens, \$2.00 per 15 and \$6.00 per 50. Mrs. E. F. Weigle, Winfield, Kansas. 7-12-s

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21 VARIETIES—Rocks, Wyandottes, Langshans, Darklings, Cornish, Reds, Orpingtons, Leghorns, Lakenvelders, Hamburgs, Houdans, Spanish, Guineas, Runner Ducks, African geese, Bourbon Red Turkeys, Peafowls. Catalog for stamp. Theodore Fran, Good Thunder, Minn. Box 91. 5-12

48 VARIETIES—Pure bred prize winning chickens, ducks, geese, turkeys, guineas, and pea-fowls; 600 prizes to their credit, including Chicago, Minneapolis. Choice exhibition and breeding fowls at reasonable price. Circular free; 100-page catalog, 4c stamp. ZIEMERS POULTRY FARM, Austin, Minn. Dept. 18. 11-12

EGGS! BUFF ORPINGTON EGGS—From birds, direct from winners of firsts and specials at Topeka, American Royal and Missouri State shows and themselves winners at the "El Dorado Show," of six ribbons out of a possible nine. I am selling about half of these eggs at \$3.00 per 15 eggs. I also have choice Cockerels for sale. Satisfaction assured. DANE HUFFINGTON, Latham, Kansas. 1-13

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S. C. BUFF ORPINGTON—No other bird has met with such favor in the same length of time, why? Because they produce more meat and eggs than any other known fowl. If you want a clean pure-bred trapnested strain, let me supply you with stock or eggs. J. W. Bear, Warrensburg, Mo. 9-12

MAMMOTH BRONZE TURKEYS—That are Mammoth, Chrystal White Orpingtons that are white. S. C. Brown Leghorns and B. P. Rocks, all from prize winners. My entire flock of B. P. Rocks or sale cheap. Also prize winning young turkeys and Poland China Hogs. MRS. ALICE CURNUTT, Rt. 9, Box C, Montserrat, Mo. 11-12

And when the flies begin to swarm, Use Radium Spray and they do no harm.

S. C. BUFF ORPINGTON—My pens have been mated since the 1st of January, with about as fine a lot of poultry as and yearling hens as you could get together. Write for mating list; it is free. J. W. BEAR, Warrensburg, Mo. 9-12-s

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ROSE'S ANCONAS—Prize winners and great layers. Eggs \$1, 2, and \$3 per 15. Write for circular. Mrs. Daisy Rose, Bois D'Are, Mo. Life member of A. P. A. and member American Ancona Club. 5-12

MAMMOTH BRONZE TURKEYS—Hadley strain. Tom weighs 50 lbs., hens 23 to 30 lbs. Eggs \$10.00 for 12 from great Missouri State prize winners. **INDIAN RUNNER DUCKS**, Blue Ribbon Winners in 1909, 1910, 1911, 1912, fawn and white 260 egg strain. Price of eggs, \$2 for 15; \$3 for 30; \$8 for 100. S. C. Brown Leghorns, pure bred stock, eggs \$1 for 15; \$5 for 100. M. H. Schlotzhamer, Pilos Grove, Mo. 11-12

SARVER'S POULTRY FARM, Mt. Moriah, Mo., Breeders of Buff Wyandottes and Narragansett Turkeys. If you wish to know about Eggs for hatching, write us for our mating list. Satisfaction guaranteed. 9-12-s

FOR SALE—Stock from a \$250 pen of Crystal White Orpingtons direct from Kellerstrass, at reasonable prices. Cocks, cockerels, and pullets. Mrs. W. H. Vreeland, Pattonsburg, Mo. 9-12

WHITE ORPINGTON PULLETS FOR SALE—Also choice Cockerels, eggs low. Have some good long green tobacco for sale cheap, write your wants. A. G. DAVISON, Box 333, Downing Mo. 5-12-s

SUNNY CREST FARM—Offers eggs from their high scoring prize winning pens. S. C. Buff Orpingtons, White Wyandottes, S. S. Hamburgs, White Leghorns, also pure fawn and white India Runned Ducks, \$1.50 per setting. E. D. NEWKIRK, Edina, Mo., R. R. No. 4. 9-12-s

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THE ROSELAWN FARM BREEDER OF S. C. BUFF ORPINGTONS POULTRY AND DUCOC JERSEY SWINE—I am offering stock for sale that are first class in every way. I have the show birds this year that I have never had before. I have them Buff from one to the other great size and fine make-up, and I will sell them for the money they are worth. You don't have to go east to buy your show birds. I have them and you won't have to pay from \$50.00 to \$100.00 for them either. Give me a trial and see if I don't treat you right. I have birds from \$2 up, and by inquiring please state just what you want, then I can tell you the price in first letter. JOHN T. STADLER, Box 257Q, Minden, Nebr. 11-12

EGGS, EGGS, EGGS, EGGS, EGGS—At cut prices. Free mating list on scored pens. Twenty different breeds of poultry, ducks and geese. H.P. Stone & Co., Dealers and Breeders, Box H. 15, Platte Center, Nebraska. 4-12

EGGS—From Toulouse and Emden geese, turkeys, Houdans, Leghorns, Rhode Island Reds, Wyandottes, Hamburgs, Orpingtons, games, Plymouth Rocks, Langshans, Cochins, pearl and white Guineas, Bantams, Pekin, Ronen, Muscovys and runner ducks. Hen eggs 15 for \$1; by the hundred, reasonable. Also dogs, rabbits and all kinds of fancy pigeons. Write for free circular. D. L. Bruen, Platte Center, Neb. 2-13

EGGS—S. C. BUFF ORPINGTON—Best of quality, prices and guarantee. Free circular will convince. \$5 per 100 up. Box W, Alfalfadell, Farnum, Neb. 7-12s

POULTRY

S. C. HUFF ORPINGTONS—Won 1st, 2nd and silver medal, Nebraska State Show, 1911. Get hard times prices and money back proposition. Sale now on. Alfalfadell, Box W, Farnam, Neb. 7-12

THE S. C. HUFF ORPINGTON FARM has for sale 50 Cock and Cockerels; 50 Hens; 50 Pullets that are good shape, also color. Taken 1st, 2nd, 3rd and 4th prizes at Nebraska show, also 1st at Denver. John T. Stadler, Minden, Neb. 11-12

HARNARD'S WINNING BARRED ROCKS—They lay, they weigh, they pay. If in need of stock or eggs of high quality send for my mating list, giving list of winnings and fully describes my stock and prices of eggs. Jno. Barnard, Box 3, Portland, Neb. 10-12-s

EGGS—Buff Cochins, Muscovy and Rouen ducks; Toulouse Geese. Gartner Bros., Coleridge, Nebraska, 54.

OHIO

BUFF AND BARRED ROCKS EGGS for hatching, \$1 for 15 or \$1.50 for 30. good size, shape and color. Farm raised and healthy; 11 years experience. Grand View Farm, W. C. M. & Co., New Concord, Ohio, R. F. D. No. 1. 7-12

ANCONAS—The best winter layers on the whole poultry list. Eggs in any quantity. Fertility guaranteed. Write today for free catalog. Evans & Timmins, Box F, Malta, Ohio. 5-12-T

OREGON

FOR SALE—Single Comb Ancona Cockerels, Winners of First Prizes at Salem State Fair, 1910; at Portland, 1910; at Salem State Fair, 1911, and at Marion county poultry show, 1911. Eggs and D. O. Chicks in season. R. Wooley, 1709 Ferry street, Salem, Oregon. 11-12-s

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SICILIAN BUTTERCUPS—One customer got five times as many chicks from 15 of my eggs than from 170 of another breeder. Circular. Stock in season. JOHN R. KEMERY, Downingtown, Pa. 5-12-s

BUTTERCUPS (SICILIAN)—Great layers; large white eggs. September chicks make breeders for next season. Also prize Houdans. Fertility guaranteed; 15 eggs \$2.50. J. R. Kemery, Downingtown, Pa. 5-12

DIAMOND JUBILEE ORPINGTON EGGS—\$2.50 per 13. Sicilian Buttercups, \$1.50 per 13. Stock for sale Oct. 1st. Silver Champion, Single Comb Red and Col. Wyandottes, Buff Cochins Bantams. Write for prices. E. H. Adams, Outwood, Pa. 5-12

UTAH

CRYSTAL WHITE ORPINGTONS—Kellerstrass Strain. Our birds are winners at the three leading fall fairs. Stock and eggs for sale at all times. Charles McClure, Tremonton, Utah. 9-12

WASHINGTON

CRYSTAL WHITE ORPINGTONS—Kellerstrass strain; single and rose comb mottled Anconas, Sykiss and Sheppard strains. I am booking orders for eggs and baby chicks. Send for catalog and note my winnings. 11-12

IRA N. DeLINE, Olympia, Wash.

BLACK LANGSHANS, Pacific Coast Champions. Won 53 ribbons, 3 silver cups. Portland, Pendleton, Spokane, Walla Walla and Colfax shows acknowledged best winter layers bred. To weigh, lay and pay. Eggs \$2.50 per 15. M. E. Taylor, Winona, Wash. 1-13

POULTRY

WISCONSIN

THE HENS PROPER BUSINESS IS TO FILL THE EGG BASKET—Average laying record of my S. C. White Orpingtons in the winter month: 23 eggs per hen and month. Bred to standard requirements. Pay only for quality not for breeders name. 15 eggs \$4.00, \$2.50, \$1.50; strictly fresh and packed with care.

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R. R. 6 Appleton, Wis.

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ALFALFA SEED, best Northwestern Nebraska Seed. Graded. Prices and samples free. Schwabe Bros, Chardon, Neb. 61.

FOR SALE—MISCELLANEOUS.

I HAVE a large number of the finest 1910 census maps yet published. The United States on one side and the World on the other. List of every city of 5,000 population or over. Railroads, rivers, mountains, etc. They are sent prepaid for \$2.50; regular price \$7.00. C. E. Russell, Y. M. C. A. Building, Denver, Colo.

THE ORCHARDIST who wants to make his wife a nice, yet inexpensive present, should send \$1.10 to Clyde Henry, 1714 Humboldt St., Denver, Colo. and get postpaid a set of Garland pattern Oxford silver tea spoons and one of the best farmer's publications in the West.

FRUIT FOR HEALTH.

In all ages the eating of fruit has been recognized as an aid to health. Some of the more advanced dieticians advocate the use of fruit and nuts exclusively. The more reasonable plan, however, seems to be to eat "plenty of fruit," and that is the way Dr. Harvey W. Wiley, the famed pure food expert puts it. He believes that everyone should eat fruit—say oranges or apples, and they cost about the same—everyday. The nation seems to be following this advice. "It will save doctor's bills," says Dr. Wiley, and who should know better than he? But that is a fundamental fact which everyone should know from experience. It is pretty safe to say that the more fruit people eat, the better the health of the nation will be.

AGRICULTURAL IMPORTS.

So great is the demand for agricultural imports in this country that our sales abroad are falling off and we are importing large quantities. The recent shipments of potatoes from Ireland are fresh in everyone's mind, and we take considerable shipments from Canada and Mexico. A recent agricultural item in the consular reports states that last year 197,698 crates of tomatoes were shipped to this country from Cuba, besides 41,813 crates of okra, eggplant, peppers, etc. The farmer still has room to expand his market.

Circular 2 of the Office of State Entomologist, Fort Collins, Colorado, contains a paper on Colorado's Pest Inspection Act, by C. P. Gillette, which gives a full text of the law; a paper on "Prairie Dogs and Methods of Control," by S. Arthur Johnson; and a paper on "The Wyoming Spermophile, or 'Picket-pin Gopher,'" by W. L. Burnett.

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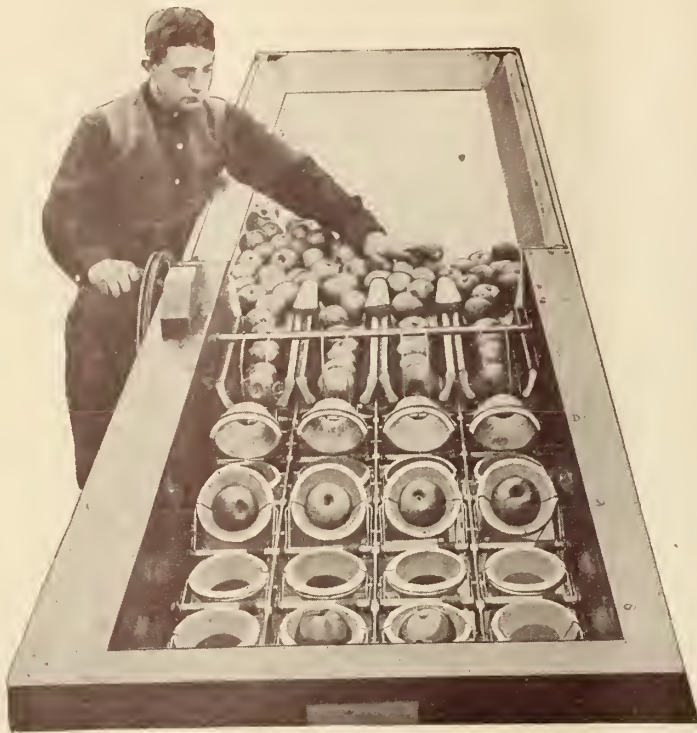
JUNE, 1912

No. 5



ASSOCIATION MANAGER INSPECTING ORCHARDS AT PAONIA, COLORADO

"ONLY SWORN CIRCULATION IN ITS FIELD." MEMBER OF FARM PRESS CLUB



The Mechanical Fruit Grader a Proven Success

Clearfield, Utah, Dec. 28th, 1911.
Schellenger Fruit Grading Machine Co.,
Salt Lake City, Utah.

Dear Sirs:—

I have used your Schellenger Fruit Grading Machine for the past year and graded eleven cars of apples and two cars of peaches, and found it to do number one work and a money saver of 3 to 5 cents per box.

Yours truly,
[Signed] EZRA V. STEED

The Schellenger 1912 peach and apple graders sort the fruit according to its Cheek-to-Cheek diameter into Six Size grades. It solves the expensive and perplexing labor problem and places fancy prices within the reach of every grower.

Hadn't You Better Look Them Up?

Eventually You Will Want Our Address:

Schellenger Fruit Grading Machine Co.

(Incorporated)
OGDEN, UTAH



There are two ways of attracting attention

The successful business man employs one—
the unsuccessful another.

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Labels—Cartons—Cut-Outs—Posters and Commercial Work

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Published Monthly in Behalf of Fruit Growing and Marketing, Intensive Agriculture, Irrigation and Allied Interests in Colorado, Utah, New Mexico, Idaho, Wyoming and the West

VOLUME V

JUNE, 1912

NUMBER 5

Central Marketing Plan as Applied to Colorado Conditions

By W. H. GARVIN, Delta, Colorado

As a number of fruit growers seem interested in the recent agitation regarding a central marketing agency for Western Colorado fruit and having had many requests for my ideas on this subject I am pleased to submit the following:

There are three main points to consider,—

What is necessary to make a success.

What may cause failure,

The benefits to be derived in case of success.

In the first place the success of a joint selling arrangement will depend largely on the ability of the officers to eliminate all local jealousies and petty differences. Absolute loyalty and earnest enthusiasm in the project are necessary at least until ample opportunity has been given to test the plan.

It is now conceded by almost every one engaged in the fruit business that growing fruit and preparing it for market is one business, and marketing fruit another. Still there are many growers of fruit who have their own individual plans for marketing and no two are alike. The present agitation about a central marketing agency has apparently aroused more interest than any of the numerous plans proposed in the past.

There is no doubt that such a marketing agency under able management could help the fruit growing industry of western Colorado, but this brings to my mind the remark made by the manager of a railway company in commenting on the general feeling against the great combinations in business. He said: "When farmers get together, it's called co-operation; when mechanics do it, it's called organized labor; when merchants and manufacturers do it, it is called a trust and is declared a violation of law for being in restraint of trade." However true this may be, the statement is more or less misleading. Had this man investigated, he would have found that organizations of farmers or growers rarely succeed, simply because they will not hang together, each preferring to act separately.

Among the benefits that would come through the use of one distributing medium for the Western Slope

would be avoiding the disaster of too much fruit in a single market and not enough in others. By supplying the legitimate demands of all markets, dealers are protected against losses by sudden fluctuations and better average returns can be secured by growers without increasing the price to consumers, which always limits the demand.

Such a selling agency if it could secure the support of the growers would eliminate much of the competition among themselves. A campaign to secure a uniform pack and grade could be taken up, making it possible to do business with more certainty; the building up of a reputation which would bring permanent customers and the maintaining of friendly relations among all parties interested. In short, a square deal to all concerned.

It is needless to say that our industry is up against increasing competition from several states west of us. Up to the present time when these states have had a crop our crop has been light and vice versa. Providence may not always arrange matters this way and we may all have a full crop the same year. It should not be necessary to give us a

hard jolt to wake us up. We must anticipate an increased production. We all know the box-apple districts commenced planting heavily about 7 years ago. Through a joint selling medium profitable disposition of our increasing crops can be secured by exploring new fields and opening new markets. Individuals rarely undertake such steps because of the hazard, preferring to trail and take advantage of what others have done, but it is not difficult to figure results if all interests should conclude to trail.

The problem of transportation, including rates, service and claims is handled to better advantage through co-operation. The old adage, "In union there is strength" is confirmed in dealing with the railroads on this basis. Transportation companies are more apt to give a respectful hearing and grant reasonable requests to the representative of a substantial marketing agency than to an individual. It is apparent at the present time that the services of a man of ability to act as traffic manager would be a good investment, but there is not enough business under any one organization at present to warrant the necessary expense.



A THRIFTY WESTERN PEAR ORCHARD, WELL CULTIVATED

In the joint purchase of growers' supplies some saving could no doubt be made.

To be successful a central marketing agency would have to have the support of at least half of the representative fruit of the section in which it intends to operate. By representative fruit I mean a fair share of the

balance of the season galloping over the country, proclaiming that his sale of perhaps two or three cars proves him a better salesman than the man who is marketing a thousand cars of all grades and varieties. It is unfortunate that he can not be given a try-out on twenty-five or thirty cars, but I fear such trials would prove rather

ization where he must be governed more or less by the advice and conditions made necessary by the circumstances, he does not always accept the situation in the right spirit. He is also apt to lend too willing an ear to the attacks which are always made on such an organization, which means that many co-operative associations are disrupted by gossip, without any foundation. When one association or shipper fares better than another instead of crying favorites, the fair thing to do is to investigate and learn why. It will probably prove to be a case of inferior pack, difference in time of shipment, etc.

In conclusion I will say that when our local associations and shippers get their business on a sound footing, a marketing agency no doubt is the next step, but it is necessary to have a solid foundation to successfully build anything. The associations with which I am familiar are giving their patrons good service at a very low cost, and I know that the commissions received by these associations on the lower grades of fruit have not covered the cost of handling, still one hears that their charges are too high. A successful marketing agency means good men and they can not be secured unless well paid. It also means travelling expenses, telegraph and telephone tolls, stationery stamps and many other outlays, but in the various discussions and resolutions I have not seen or heard the most important thing mentioned—money.



PACKING HOUSE OF NELSON BROS. FRUIT CO. PAONIA, COLORADO

desirable as well as undesirable in order to compare results. It can not be expected that the results from co-operative marketing will in every instance show better prices than the prices realized by some one shipping independently. The very fact that a co-operative organization exists will produce conditions which the man on the outside can sometimes use to his own profit, and I have observed that when he happens to secure such an advantage he usually spends the

expensive to the owners of the fruit.

G. Harold Powell, of California, an acknowledged authority on co-operation among fruit growers, recently wrote an article on the causes for the failure of many co-operative associations. I remember one statement in particular. He stated that the nature of a growers' occupation accustomed him to running his own affairs entirely according to his own ideas and at his own convenience, consequently when he enters a co-operative organ-

Fruit Outlook For Western Slope of Colorado For 1912

By R. S. HERRICK, Field Horticulturist, Colorado Experiment Station

Never in the history of fruit-growing on the western slope of Colorado have prospects been brighter for a full crop of all kinds of fruit for the season of 1912, than they are at the present time. True, it is that in certain individual orchards and for certain varieties of fruit, the prospects have been better in certain years gone by but taken as a whole and for all kinds of fruit it is believed that western Colorado will ship more fruit than ever before. If one were to pick out the best producer from the present indications, it would very likely be the peach because everywhere on the western slope the healthy peach trees are certainly well loaded with fruit. Of course this should not lead one to plant peach trees where they are not sure of a crop but once in several years but speaking for this year wherever the mature peach tree is growing and if not winter injured, one will find it doing its share in producing the largest peach crop which western Colorado has seen. On account of the prospect of a full peach crop, it is very hard to give very accurate estimates on the fruit outlook because many young peach trees have never borne a crop before and besides many of the older trees heretofore have been more or less injured by winter or spring frosts. It is true that in some cases there has been up-to-date a very heavy drop both on the peach

and the apple. In many cases the fruit commenced in some cases while the fruit had just dropped its bloom and in others it had become a quarter of an inch and sometimes more in diameter.

There are three or more reasons why fruit is caused to drop. Severe spring frosts will often cause a severe drop and sometimes a total loss, but the temperature in no place reported on the western slope for the spring of 1912, was cold enough to cause apples, pears or peaches to drop. Winter injury by freezing will so injure fruit buds to such an extent that they may come out into bloom but fail to set fruit or if they are only slightly injured they may look as if they were set and then drop. This is thought to be the chief reason why the peach has dropped its fruit when it was thought that it was set. During the time that the Wine Sap and Mammoth Black Twig apples were in bloom this period being thirteen days from the time the first bloom appeared to that of the last in an orchard near Grand Junction where date on the season of bloom was kept for eleven different leading commercial varieties of apples) there were nine days out of the thirteen which were cloudy or partly so and on six of these days there was some rain. It was also very windy on many of these days and it is thought these weather con-

ditions are the chief reasons why such varieties as the Wine Sap, Mammoth Black Twig and Minkler did not set their fruit. The Wine Sap and Mammoth Black Twig are sterile at least this year's experiment would show that they will not be pollinated with their own pollen and in order to set fruit have to be fertilized with pollen from some other variety. Varieties like the Rome, Willow, Grimes, Gano, Jonathan, etc. seem to be self-fertile or at least partly so so that they stand a better chance of setting fruit even though weather conditions are not favorable for insects such as bees, flies, etc. to do the work of cross-fertilizing. It is thought that if the orchardists would keep more bees in or near their orchards that they would help to bring about better conditions in regard to the cross-pollination of the different varieties of fruit and especially those which are sterile. It is thought that in Mesa county the Wine Sap and Mammoth Black Twig apples will produce from fifty to sixty per cent of a crop, this estimate is given from the present indication and may not be very accurate.

The following estimates are given after consulting several of the leading fruit men in Mesa, Delta and Montrose counties and at this time can not be so very accurate as several conditions may arise between now and at harvest time.

Mesa County.

Apples—Rifle and vicinity (including peaches), from 75 to 125 cars.
Apples—Grand Valley and vicinity (including peaches) (very few), 100 cars.
Apples—DeBeque and vicinity (including peaches) 100 cars.
Apples—Palisade (including Plateau Valley) from 100 to 200 cars.
Apples—Clifton, 500 to 750 cars.
Apples—Grand Junction, 400 to 600 cars.
Apples—Fruita and vicinity, 450 to 550 cars.
Pears—For Mesa County, 200 to 250 cars.
(The most of the pears will be shipped from Grand Junction, Clifton and Palisade).
Peaches—Palisade (including Plateau Valley, from 25 to 30 cars). from 1,300 to 2,000 cars.
Peaches—Clifton, from 400 to 500 cars.

Peaches—Grand Junction, from 200 to 225 cars.
Total from 4,375 to 5,350 cars.
This estimate does not include cherries, grapes, plums, strawberries, etc.

Delta County.

Apples—Paonia from 800 to 1,000 cars.
Apples—Hotchkiss, from 800 to 900 cars.
Apples—Austin (including Saxton and Redland Mesa), from 700 to 1,000 cars.
Apples—Delta (including peaches) from 150 to 200 cars.
Peaches—Paonia, from 1,200 to 1,500 cars.
Peaches—Hotchkiss, from 400 to 450 cars.
Peaches—Austin, from 500 to 600 cars.
Total, from 4,550 to 5,650 cars.
This does not include estimates on small fruits.

Montrose County.

Peaches and apples (largest per cent apples), from 2,000 to 2,500 cars.
It will be seen that the above estimate gives Delta County from 175 to 300 cars more than Mesa County. At this time the drop on the Wine Sap and Mammoth Black Twig had not taken place to such an extent in Delta County as it has in Mesa County except in places and at present the writer does not know whether it will take place over the entire county or not as the fruit at Cedaredge, Hotchkiss and Paonia is later than in the Grand Valley in the vicinity of Grand Junction. Then, too, Mesa County raises more small fruit than does Delta County and this would make some difference.
It is understood that Montezuma County has a very good outlook for a fruit crop but at this time it is impossible to give the estimate in car-load lots.

Salt Lake County, Utah, the "Sunny Dixie" of the West

By J. R. PARRY, Jr.—Staff Representative.

Surrounded on all sides, but that of the west by the Wasatch mountains, and that bounded by the Great Salt Lake, the County of Salt Lake, may easily be pictured as a very productive section of the state of Utah, wherein lays Utah's greatest population, now numbering more than 120,000.

Salt Lake City, the county seat, is a thriving "progressive" metropolis of 92,000 population, and increasing rapidly, in addition to the "Pet City" of the late E. H. Harriman, Salt Lake County boasts of three other flourishing towns (all of which have a smelter numbered amongst their industries, Garfield, the most widely known of the three, is regarded as the largest copper smelter in the world. Both the other two in men-

tion, namely Murray and Midvale, run close upon its heels. This fact alone emphasizes the importance of these towns to the farmer for the marketing of crops and all kinds of fruit, dairy and poultry products. The near-by mining camps also afford an excellent market for all the farmer and fruit grower can grow.

No fruit tract in the county is over 19 miles from the heart of Salt Lake City, the capitol of Utah; a city that is fast reaching perfection. The farmers of Salt Lake County have never found any trouble in marketing their crops. Oftentimes it is sought without their having to bother about hauling it to market.

The land of the county is well under cultivation, and with the exception of some odd thousand acres west

of the Jordan river, the county might be regarded as the most prolific of diversified farming areas in all Utah. Anyone who has visited there would hardly raise a question of doubt to this broad statement so often made.

The county is gifted with a valuable water shed to the north, east and south, which mountains afford an abundance of water all seasons of the year. No less than a half dozen streams, pure as crystal and cold in temperature come rushing down the slopes and caucos of the range that helped to make the valley so attractive.

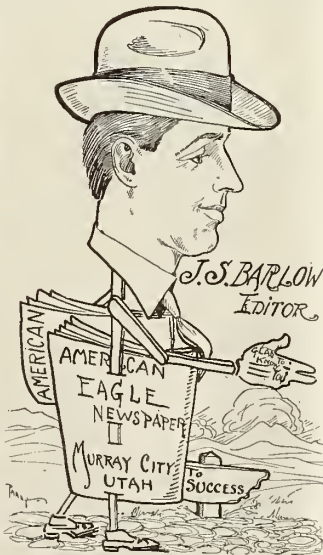
The pioneers of the state were in the main agriculturalists, not only by choice, but by instinct as well. Records have it that the first day the earliest settlers entered their "Prom-



Golden Rule Mercantile Co.
J. C. PENNY, Proprietor
DRY GOODS, CLOTHING, SHOES
All Goods Bought and Sold for Cash
CAL WASH. COL. ORE. MONT.
WYOMING UTAH NEVADA IDAHO

A. F. INSURANCE

Manager of Golden Rule Store at Murray. J. C. Penny, proprietor of same and four other "one price, spot cash" stores. Has the distinction of being originator of same, carrying dry goods, shoes, etc. Very optimistic about Murray City.



J. S. BARLOW,

Member of Board of Governors of Murray City Com. Club. Editor of American Eagle Newspaper at Murray, also publisher of newspaper of Midvale and West Jordan. All around booster for Salt Lake county and its resources.



DR. PERCY F. SPICER,
D. D. S.

Dentist, who enjoys one of the best practices in Salt Lake County. Located at Murray fifteen months. Caters only to first class trade and believes in Murray's future. Another progressive who is doing much to bring out merits of this district.



DR. A. A. BIRD,

Has been City Physician for three years. Member of Board of Governors of Murray Com. Club. Owns stock in Miller Cahoon Agric. Impl. Co. of Murray, also stockholder in new canning factory. Owns home on two lots besides two vacant city lots.



J. LOUIS BROWN.

Attorney in Murray City. Former Secretary of Com. Club and legal advisor at present for city council. Large stockholder in Murray canning factory and encouraging as much as any one man the raising of tomatoes.

ised Land" back in "the '50's" they constructed a temporary irrigation ditch.

Because of the great possibilities at hand and the modern means of storing electrical energy, also because of Salt Lake County having so many rapid flowing streams down the steep slope from the banks of melting snow, wide-awake men of repute who appreciate the precious power available are now putting their shoulders to the wheel and for the general good are operating with the owners of the power sites and exerting every possible means to make Salt Lake the largest manufacturing center in the west.



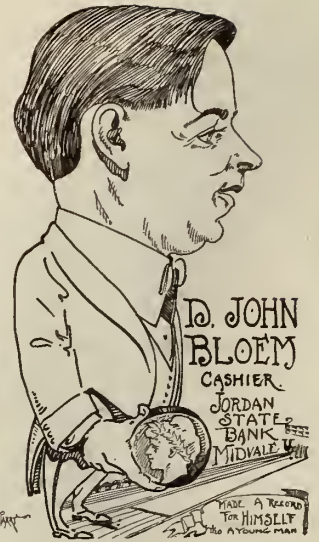
N. EDW. LILJENBERG.

City Engineer at Murray, with office at Murray City Hall, two days per week. Also an architect of reputation with offices in Newhouse Bldg., Salt Lake City. Puts in spare time boosting for Murray section.



DR. W. H. ROTHWELL, M. D.

Physician for smelter employees. Owns two lots one block off Main Ave. Owns fine residence and office adjoining. Member of Board of Gov. of Com Club and member of school board. Interested in canning factory and large land owner in fruit districts.



D. JOHN BLOEM.

Cashier of Jordan State Bank at Midvale three years. Considers apple culture only in its infancy around Midvale, where soil, water, and plenty of sunshine exists. Bank is largest in Southern Salt Lake County. Has \$150,000 resources.

If the growing demand for electrical energy continues for the next ten years as it has of recent years, the prediction of the late E. H. Harriman will be verified. Salt Lake and her suburbs to the south are continually erecting plants for manufacture that will soon be leading a pace that few districts west of the Mississippi river can equal.

Extensive experiments are annually made in propagating dry farming pursuits, and, with interesting results. Bench lands along the Wasatch range produce abundantly if sown to winter wheat.

Fruit, vegetables, hay, grain, poultry, dairy products and money are

paying interesting returns to the coffers of the farmer of Salt Lake County. Potatoes and especially strawberries of this section are in demand both in eastern and western states. The latter yield enormous returns. Other crops such as sugar beets and alfalfa produce abundantly. It is no longer a surprise for a local farmer to raise 700 and even 800 bushels of onions off an acre of land, nor to measure up 600 bushels of potatoes from one acre. Nor is it embarrassing for many of them to say, that, they cut seven and eight tons of alfalfa to an acre, nor that the same size tract yielded 22 tons of sugar beets. Right here, it may be interesting to note



A. E. MALMSTROM.

Manager of the clean and attractive M. M. Grocery. Owns 20 acres (under cultivation) three miles west of town. Raises three good crops of alfalfa and an average of 45 bushels of wheat to an acre. Land is adapted to fruit and sugar beets.



LEON J. OLSON.

Cashier of People's State Bank at Midvale three years. Stockholders of this institution of finance are among the more prosperous agriculturalist and horticulturalists of the district. Inquiries regarding Midvale fruit benches will be answered with pleasure.



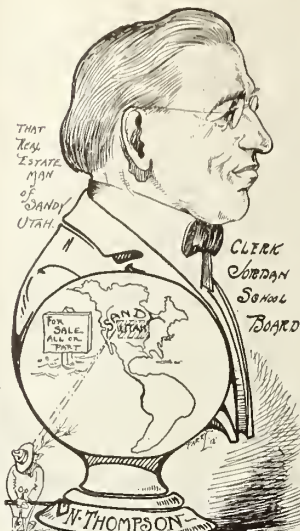
D. O. RIDEOUT.

President of Draper Com. Club. Formerly State Senator from Utah County. One of the largest individual land and real estate holders in valley. Prominent in all features to build a greater Draper, a more prolific Utah County and a more progressive state.



D. H. MIDD.

Manager Midvale Golden Rule Store. Partner in 10 other strictly cash stores in nearby territory, which it is his duty to oversee. Handles dry goods, clothes, shoes, etc. Located at Midvale two years.



J. A. POWELL.
Treasurer of Sandy Com. Club; native son of Utah, practically grew up in Sandy. Very optimistic about Sandy and Jordan districts' fruit opportunities as well as future possibilities in business pursuits. Well posted on possibilities of Sandy section in all lines.

JAMES JENSEN.
Pioneer of the West. Owns 12 acres within Sandy city limits and six beautiful city lots. Firm of Jensen-Kuhre. Owns 20 acres of unimproved land besides two city blocks. Own \$20,000 worth of improvements on railroad tracks.

N. THOMPSON.
Clerk of Jordan School Board. Sec. of Sandy City Com. Club. Resides on one acre of fine property at Sandy. Residence cost \$3500. Owns considerable city property and fruit land. Handles real estate and farm or fruit tracts throughout valley.

A. R. GARDNER.
Cashier of Sandy City Bank. Actively engaged in making his town a "greater Sandy." Patentee of a weevil exterminator for alfalfa which is so economically operated that it bears attention of farmers in Idaho, Colorado and Wyoming, as well as elsewhere.

that the sugar beet crops are contracted for in advance, by the beet sugar companies. The companies even go so far as to furnish the seed, and offer instruction of planting and tilling free. Furthermore they pay \$4.50 to \$4.75 per ton for crops when delivered to the factory. Any farmer following directions given by the skilled experts cannot help but do well. The net proceeds from sugar beets vary from \$40 to \$880 per acre, according to soil and conditions.

Improved land in the county is steadily advancing in price. At pres-

ent good improved land can be bought for \$100 to \$250 per acre. Raw land under irrigation can be had from \$50 per acre and up. Dry farms are selling for \$5 per acre and up, according to location, improvements and advantages.

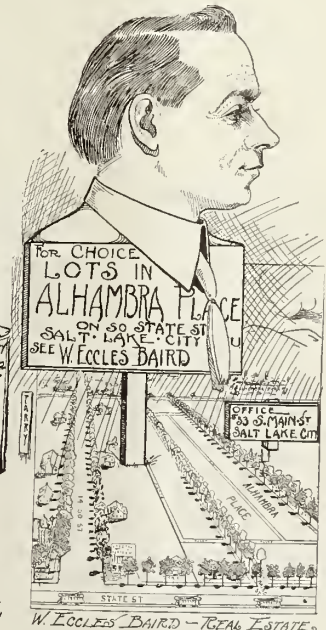
Close to and south of Salt Lake City are a number of progressive suburbs. Of course, it is only natural for a large city to have a number of adjoining settlements but it is unusual to say the least, for a city to have several with such abundant resources. Much of the valuable land close in,

is held in 5 and 10 acre tracts. The larger areas under cultivation are near the foot of the Wasatch mountains or near the lake shores.

DRAPER, UTAH.

Seventeen miles southeast of Salt Lake City lies one of the oldest settlements in the state. Its location is at the foot of the Wasatch mountains. Encircled by numerous orchards it attracts the eye of the visitor, and makes him yearn to live there, where soil, sunshine and water are so abundant.

(Continued on page 26)



I. H. HUGHES.
Manager of Golden Gate Livery Co. that owns 100 feet fronting on S. Center St. at Sandy and 8 residence lots, also two acres of peach, apple, cherry and plum soil. Realizes that tracts six miles east in Granite district is the coming So. Jordan Fruit Belt.

HENRY D. MILLER.
Proprietor of the Sandy Livery located at the junction of Main and So. State Sts. A better location for fruit growers and farmers to stop to feed, or renters to hire rigs would be hard to find. Has done much to encourage material development of this favored section.

JOHN BOYCE.
One of the most prominent fruit and berry growers in all Salt Lake County. Orchard of 16 acres 12 and 14 years old and in fine trim, as result of persistent care. A firm advocate for "Better Fruit" raising. Raises apples, peaches and many varieties of berries.

W. ECCLES BAIRD.
A general real estate and mortgage broker of Salt Lake City, who has made wonderful strides in the realty business. His beautiful Alhambra Place, located on So. State St., is being made attractive by many modern buildings.

Some of the Cardinal Principles of Irrigation Made Plain

By PROF. W. H. OLIN of Idaho

Characterizing the intelligent, painstaking farmer as the most essential element of crop success in Idaho and the irrigated West, W. H. Olin, director of the agricultural extension of the University of Idaho, gives out a lot of interesting formation and comment about irrigation in his eighth lecture of the Idaho teachers' correspondence course. Copies of the lecture have been sent from the office of Grace M. Shepherd, state superintendent of public instruction, to teachers in all the schools throughout the state, who will in turn acquaint the pupils with their contents.

"Irrigation calls for the highest class of intelligent farming," says Prof. Olin. "The farmer here must not only be a student of water distribution and control, but he must, also understand the soil, the seed, his climatic environment and market essentials. He must also study the habits of crop pests and learn the most effective means of combating them."

"The first irrigators gave no thought in the beginning to their right to use creeks and rivers. Water was running to waste and they put it to use in the same way as they enjoyed the sunshine and breathed the pure air of the West. There seemed no more need at that time of recording data of ditch construction and capacity of same, than there was for them to keep record of elk and deer, grouse and duck, which they shot for food. All represented unused natural resources and they could not foresee the great future of irrigation and what it should accomplish.

"As far back as 1846, the Kearney code provided that the laws previously in force concerning water courses, should be continued. The Spanish conquerors in the sixteenth century

found the Pueblo Indians of the Rio Grande practicing irrigation farming and cropping the valley in a most creditable manner.

"In defining the fundamental terms common in irrigation practice, Prof. Olin says, in effect:

"A water right is a legal right to divert water from a stream, reservoir or canal, to crop land for irrigation purposes.

"All water rights possess appropriation in order of date of decree and the right of priority is the right with the first decree and must be recognized as first claim to irrigation water from the source stream, canal or reservoir, when adjudicated, as its decree shall name for full amount of said decree.

"There are two kinds of water rights, direct and storage. A direct water right gives the owner authority for direct use of water from source, stream or canal, and a storage right gives legal authority for impounding water in reservoirs as a storage supply for use as may be desired.

"The custom of opening headgates of all ditches leading to reservoirs during a period of heavy rains is quite generally practiced. This excess of water is known as 'flood water,' and unless stored in reservoirs not only often causes damages to crops and property in the lower rivers, but it is also of no economic use. Therefore, it is the custom for reservoir owners to figure on flood waters for their reservoirs. For this reason flood water rights have grown to have a commercial value in connection with reservoir construction. When the run-off of any given stream is above normal, it is called flood, or excess water. It may be caused by the rapid melting of mountain snows feeding the stream, or exces-

sive rains within the watershed, or both. The regularity of the flood, or high water, run-off of a given stream usually determines the commercial value of these flood water rights."

Brief Summary of the Fruit Crop in the Grand Valley

By A. B. CHANDLER, Grand Junction, Colo.

After two weeks of thorough investigation throughout the valley I find that the peach crop is very heavy and the peaches are growing universally fast. All varieties should be thinned except the Elberta and I think by the time they get through dropping that there will be very little if any thinning to do. Many of the growers are thinning other varieties than Elbertas and a few have been thinning for a week at this writing, June 10.

There is about 90 per cent of an apple crop, the shortage is due to Black Twigs and Wine Sap, which taken together will have about 50 per cent of a crop. The shortage on Wine Sap and Black Twigs is due to the lack of proper pruning. I find that Wine Sap, especially that have been well pruned and cut back, have a full crop, while the trees that are half pruned have about 30 per cent of a crop and the trees that were not pruned have nothing on them worth spraying. If you want to grow fine fruit you must keep the vitality of the tree good and I know nothing better than a good pruning.

Taking Grand Valley from Palisade to Fruita, if the fruit develops that is in sight at the present time, there will be about 5,500 cars of all kinds of fruit.

Owing to the large crop and the fact that the most of the peaches are Elbertas and must be harvested with in a very short time, and that our apples are to be sized and layered throughout the box, and that help is going to be hard to get. I would suggest that the grower correspond with Mr. J. L. Hamilton of Grand Junction, Colorado, and also with the Schellinger Fruit Grading Co., of Ogden, Utah, in regard to their mechanical grading machines.

Pears are about 75 per cent of a crop. The shortage is due to the Bartletts which are about fifty per cent. The Bartletts will be exceedingly fine.

Apricots and plums will be the largest crop that the valley has ever had.

The first step for the final unification of all the ditches in the Uncompahgre Valley project, Colorado, taken last month when the secretary of the Interior approved the contract with the North Mesa Ditch company of Montrose, Colorado. Under the terms of this contract the company sells to the United States its property and rights and the land owners under this canal system may now derive the benefit of the waters from the Gunnison tunnel upon becoming members of the Uncompahgre Valley Water Users' association.



IRRIGATION FROM FLOWING ARTESIAN WELL IN DEMING DISTRICT OF NEW MEXICO

Huntley Project In Montana Has Proven a Success

One of the most modest, withal one of the most interesting of the Government irrigation projects is the Huntley in southern Montana. It represents no spectacular engineering features, yet from a sociological standpoint it is one of the most interesting works so far undertaken. The project embraces about 35,000 acres of land, which was divided by the engineers in farms of 40 acres each. This was a daring thing to do in a country where men believed themselves to as many hundred or thousand acres as they could fence in. The engineers argued that in a region so favorably situated in regard to soil, climate and crops, 40 acres were enough, and the crop report for 1911 has just been received by the Reclamation Service in Washington, D. C., indicates that their contention was well founded.

During 1911, 12,000 acres were actually irrigated but crop returns have only been received from 11,100 acres. The estimated value of crops on the area reported was \$316,759, or nearly \$29 per ton. Considering that about 30 per cent of this area was new land cropped for the first time, and that the spring of 1911 was unusually dry and unfavorable for the germination of seed, this is a pretty good showing for amateur irrigators. With only one-third of the acreage of the project in crop the value of the yield was approximately 37 per cent of the cost of building the irrigation system. The settlers have also acquired live stock during the year, including poultry and poultry and dairy products, amounting to \$32,509.75. Including these sales, returns during 1911 amounted to an average of more than \$31 per acre of the lands irrigated. The cost of building this system amounted to only \$3 0per acre.

Of the lands irrigated during 1911, 3,062 acres were reported as devoted to sugar-beets. The gross value of this crop averaged \$60 per acre. The sugar beet company at Billings 12 miles west of Huntley, has erected seven beet dumps along the railroads, so that no farmer has a long haul. The average distance of all farms on the Huntley project is only 1½ miles from a railroad station. Five thousand acres on the project have signed contracts with the sugar company to raise beets in 1912.

Next to sugar beets alfalfa was planted on the largest acreage. At the present time eastern buyers are securing all the alfalfa that can be spared by the farmers at \$9.50 per ton, although the estimates were made at \$7 per ton in the crop report.

Although the Huntley project is only four years old it is today one of the most compact rural communities in the Northwest. There are as a rule 16 farm houses to the square mile, and in some sections there is a succession of homes along the road that hints more to suburban than rural life. There are only 71 farms now open to homestead entry, but the

East Extension now under construction and which it is estimated will be completed during the coming summer, will put between 3,500 and 4,000 acres under ditch, of which 3,000 acres will be subject to homestead entry under the Reclamation Act.

There are seven Government townsites on the project, located along the two railroads which traverse the tract its entire length. A portion of the lots in five of these townsites was offered for sale in August, 1907, and on April 18, 1912, there will be an auction sale of additional lots in four of these towns. This sale offers splendid opportunities for business and professional men and artisans to establish themselves in new towns in the midst of a growing and intensively cultivated agricultural community. The usual hardships of Pioneer life are not encountered on this project. The settlers enjoy the privilege of rural free delivery and country telephones fourteen schools have been established and seven church organizations hold regular services. There is a strong movement on foot to establish high schools in the various towns to which the children of the farmers will be conveyed in busses daily.

A map of western United States on which the Department of Agriculture has indicated the agricultural life zones, shows that the climatic conditions on the Huntley project are practically the same as obtained in Kansas and Nebraska as regards temperature. The growing season is unusually long. Late spring frosts are unknown.

Calves should not be turned out to pasture unless they have had a little green feed before, as it is liable to cause scours. Give all the fresh, clean water the calf will drink.

TOMATO GROWING IN CANADA.

From Consul ELIX S. S. JOHNSON, Kingston, Ontario.

The production of early tomatoes has become prominent in the more favored parts of Ontario Province, including the Niagara Peninsula, the Leamington district in Essex County, and the neighborhood of Toronto, and it is carried on to a lesser extent throughout the tomato-growing sections of the Province. The total shipments from the Leamington district, exclusive of those consigned to Winnipeg, from July 1 to August 12, 1911, amounted to 40,000 baskets. No reliable information is available of the shipments from the other districts. Most of the early tomatoes are marketed through Toronto. The Essex growers claim that the western trade has not proved satisfactory, as the first shipments by express are expensive and come in competition with the American product, while later the cheaper shipments by freight compete with the St. Catharines tomatoes. It is also said that the fruit is not handled to the best advantage in Winnipeg, the jobber taking too large a share of the profits.

Most of the seed comes from the United States, the price running from \$1 to \$10 per pound, the general price being about \$3. The duty on seed imported from the United States is 10 per cent ad valorem, when importation is in packages weighing over 1 pound, and 25 per cent ad valorem when in packages weighing 1 pound or less. In 1911 Canada imported fresh tomatoes as follows: From the United States, 203,344 bushels, valued at \$256,127; from Cuba 480 bushels, value \$770; from the United Kingdom, 743 bushels, value \$996.

A few sweet apples or lumps of sugar is likely to prove much more effective than a whip in securing obedience from an intelligent, spirited, highly bred colt, or even a mature animal of the horse kind.



THE NEW HIMALAYA BERRIES AS GROWN IN COLORADO

THE INTERMOUNTAIN FRUIT JOURNAL

And INTENSIVE AGRICULTURIST

An Illustrated Monthly Western Country Life Magazine of the Highest Class. Only Periodical Devoted Exclusively to Fruit Growing, Irrigation and the Higher Branches of Agriculture in Colorado, Utah, Idaho, New Mexico, Wyoming, Arizona and the Irrigated West.

Being a consolidation of the World Wide Farming Magazine of Denver, Colorado, with the Intermountain Fruit Journal, of the same Volume and Number as given below.

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No. 5.



NOTICE

To Subscribers of World Wide Farming Magazine which was combined with the FRUIT JOURNAL during the past month. Please remember that all prepaid subscriptions to World Wide Farming will be carried out for the full term of the subscription by the FRUIT JOURNAL. To best serve the purposes for which your subscription was given, the FRUIT JOURNAL has enlarged its field to cover subjects pertaining to all branches of intensive agriculture.

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Association of American Advertisers
No. 2420 Whitehall Bldg. N. Y. City

The Help Question

A LONG with other problems that the fruit growers of the West are facing this year comes the interesting one of "what are we going to do about help?" The immense crops of peaches, apples, prunes, cherries and apricots that are on the trees now emphasize the fact that an army will be employed in the work during the season. The situation offers one of the finest opportunities for day-workers, clerks and office men to take a vacation from their duties in the cities and go out to the fruit districts and have a jolly good rest from their arduous duties and at the same time make a nice profit on the time they spend away from their regular work. Wages will be good and the girls and boys will be as valuable as the grown ups. Any live-

ly girl can earn from \$2.00 to \$4.50 per day packing fruit. Whole families could secure a tent and camping outfit—spend the fruit picking and packing season in the fruit districts and each member would be making a fine income. The mother or girls could employ their evenings canning the fruit that they could have for the asking and when it came time to return not only would the family treasury be in flourishing condition but the pantry can be filled with luscious fruit for the winter. It is a rare opportunity and one that can be made profitable to the workers as well as the growers if it is properly presented. The help question handled by people with ideas and means to present them to the mass of willing ones who stand ready to do the work is one easily solved.

A Good Move

Q UITE a number of the marketing concerns, such as associations and fruit companies in the fruit districts have announced to their growers that they will not, this year, ship the third grade fruit. The immense crop of the country has made this necessary and it is about time. For years the inferior fruit of careless growers has caused a decline in the price of the better grades. A considerable sentiment has sprung up during the past few years against the shipment of inferior fruit but it never has taken concrete form and the growers who thought it was best to ship such fruit have always outweighed that of the growers with better judgment. To grow a crop of high-class fruit ought to be enough incentive in itself, but the prospect for a price on good fruit larger than could be expected if the poor stuff is shipped ought to be enough additional encouragement to make it impossible to induce a grower to ship third grade fruit. Well this year it is here and the ultimatum is out. Question—What are you going to do about it? The best thing is to thin carefully, spray thoroughly, pick carefully and only pack the best of your crop. Take the balance of it to the evaporator or canning factory—if you have one and if not make it into vinegar or some other easily prepared by-product. Such action will make your fruit and all the fruit from your section more famous and in greater demand at a higher price. It is up to each one to earnestly consider this new feature in the fruit business.

Politics

W HILE The Fruit Journal believes that every good citizen ought to take an active interest in politics of the nation, state, county and municipality, it is also a great relief to the publishers of this paper that it is not within the province of a publication of this class to take up political questions. For the daily or weekly newspaper or even the magazine of national or general interest there is reason for publishing discussions of the political issues. Our interest centers around the problems of the fruit grower and intensive agriculturist. There is an aesthetic line in Journalism over which the editor will not step if he maintains the highest possible standard of the profession. This publication goes to members of all political parties alike. It is of no consequence to them what the politics of the publishers are as the publishers do not foist their views on their readers. It is too bad that all class publishers do not adhere to this policy. It is extremely disgusting to pick up a paper—supposed to be agricultural—and read a lot of editorial slush fit only for a daily paper or muck-raking magazine. It could be made profitable for the publishers of this magazine to indulge in politics. Even the campaign orators can not talk to 12,000 people every month, year in and year out, and if there is "power in the press" (admitted) services such as this paper could render to political parties would be worth a consider-

able sum. We have no patience with the "political farm paper"—if they would adhere to the ethical principles and sell only advertising space to political parties it would be excusable, but to sell editorial space is beyond the pale of the farm public's endurance. We believe the clean columns of this publication are appreciated by our readers of all political faiths.

A Necessity

MECCHANICAL power for orchard work is something that must come sooner or later. It will be for the inventor of a light orchard tractor to reap a harvest. In the thickly settled fruit districts hardly an acre can be spared for the growing of hay or grain. Horse feed is so high in price that keeping horses is getting to be a problem. Then besides this, horses are worth lots of money. If some manufacturer of motors would just put in some time designing and placing on the market a tractor that would not weigh above 2,000 pounds, and it would be better at 1,200 to 1,500 pounds, that had sufficient power to pull an orchard cultivator, harrow or disc at a maximum speed of five to six miles an hour—it would find a ready market in the orchard sections. This sort of machine is fast becoming a necessity, and while the demand is not very loud in its expression just now it would be spontaneous upon the announcement that such a machine was available. Power trucks for hauling the fruit to the loading station are also sure to come into general use. Speed in transportation from the orchard to the railroad is going to cut considerable figure in handling the immense crops of perishable fruit in the western country. It is a problem that must be given considerable thought within the next few years. Most of the two and three ton trucks at the present time are too expensive for the ordinary orchardist and a revision in the style and price of the truck for the farmer is a problem for the manufacturer to solve. A gasoline or crude oil spraying outfit so arranged that the motor could run the pumps as well as propel the car is also going to be in demand.

Great Prosperity

ATTEENDANT upon the immense crops of orchard and farm products in the Intermountain region, this year, will follow an era of unprecedented prosperity. Even should the prices in general be quite low, the volume will be sufficiently large to bring vast sums of money into the hands of the farmer and fruit grower. Every manufacturer of any kind of supplies necessary for the proper conduct of an orchard or farm should lose no time in presenting to these people the possibilities of their wares. With money in the farmer's pocket new implements will be purchased freely, new fencing material, automobiles, etc. There is no publication in the rural field embraced by **The Fruit Journal** that offers such opportunities for publicity as does this magazine. Aside from being the only class publication in this field

that would allow the American Association of Advertisers to examine its circulation, it reaches a higher class of progressive citizenship than any paper of a rural nature. Advertisers will certainly recognize this when it is presented to them. We are prepared to extend to every advertiser or prospective advertiser the courtesy of a statement of circulation or the unlimited privilege of expert examination of our circulation records.

ENGLAND OFFERS GOOD MARKET FOR AMERICAN FRUITS

Consul General John L. Griffiths, stationed at London, has made a careful study of the imports into the United Kingdom and reports for fruits as follows:

"The imports of raw fruit (excepting bananas) into the United Kingdom in 1911 aggregated 12,921,066 hundredweight, valued at \$45,719,239, against 12,761,838 hundredweight of the value of \$42,261,090 in 1910. Last year 6,714,479 bunches of bananas, valued at \$8,943,099, were imported, against 6,094,579 bunches in 1910, valued at \$8,266,022. There was a slight increase in the quantity of apples imported and a falling off of nearly 200,000 hundredweight in the imports of oranges. With the exception of apricots, peaches, lemons and plums, there were slight increases in the imports of all other raw fruits.

The great bulk of the imports of American fruit into the United Kingdom consists of apples, the receipts of which amounted to about 1,250,000 barrels (three boxes of California or Oregon apples being regarded as equivalent to a barrel) last year. The fruit in some instances did not come up to the usual standard, which was due, it is said, to the hot weather of the summer and early autumn ripening the fruit a month or six weeks earlier than usual. Prices of all varieties, with the exception of Newton pippins, varied during the year from \$3.40 to \$4.86 per barrel. The Newton pippins from Virginia, which were exceptionally fine, realized \$4.86 to \$8.75 per barrel. The California Newtons commanded \$1.70 to \$2.55 per box, while the apples from Oregon, of which the supply was not great, varied in price from \$3.40 to \$4.13 per box. American apples are popular in the United Kingdom, although they have formidable rivals in the Canadian and Tasmanian products.

"There was a shipment of peaches from the state of Washington which caused considerable interest because of the fine condition in which the fruit was received. There were one or two consignments of peaches from Canada, and it is stated that imports from that source will probably increase.

"While improved methods of packing have been noticeable in the fruit arriving from the United States in recent years, there is an occasional complaint, and a comparison instituted between American and Canadian shipments results greatly to the advantage of Canada."

Trap nests eliminate drones with accuracy from any flock of hens.

RIFE RAMS

Water In Your Orchard

or fruit patch saves time and labor. Get all you need from an automatic Rife Ram.

Costs little to install—nothing to operate. Raises water 30 ft. for every foot of fall. Land lying above canal or stream supplied with water. Pumps automatically day and night, winter and summer. Fully guaranteed.

If there is a stream, pond or spring within a mile, write for plans, book and trial offer, FREE.

RIFE ENGINE CO.
2534 Trinity Bldg., NEW YORK



Do You Grow Fruit ?

Send for FREE Sample Best Fruit Paper

Many readers say a single number is worth a dollar, but we will send you one free and tell you how to get a 300 page book on fruit growing free of charge.

WRITE TODAY

The Fruit Grower
Box 111 St. Joseph, Missouri



BETTER FRUIT

The fruit growers' paper that tells you how to grow better fruit and get better prices. Each month specializes some distinct feature of fruit growing that every grower should know

Price \$1.00 Per Year

Sample copy on request.

Better Fruit Publishing Company

HOOD RIVER, OREGON

L. J. MOUNTZ & CO. 1745 Champa Street

I have taken the agency for the Wellington Gardens at Boulder, Colorado. This is a large tract of fruit and garden land adjoining the most beautiful residence city in the state, if not in the United States. Located right at the foot of the mountains with its clear spring water, and sheltered as it is where it is moderate in winter and cool in summer, where fruit, berries and garden truck grows abundantly, and where you have the best water right in the country. We will sell you these tracts from one acre up to any number you wish, for from \$100 to \$500 per acre according to location, with fully paid up water right. We will let you pay for them just as you wish, you may make as small a payment as \$5 per acre down, and pay for it as you please after that with interest at 6%. The people already on this tract have made as high as \$300 per year in garden truck. You get big prices for you produce at Boulder, the State University is there and the people pay big prices for good stuff. These gardens are right near the street car line, and right next to the Rocky Mountains on a sloping prairie. It will all double in value in a short time. You can hold your position and buy this land on payments, if you will leave it to us we will pick out the best there is for the price. Soil all the same; water all the same, difference in price is due to the closeness to town, the closest adjoins the city limits, farthest is three miles away. Let us tell you about it; we can send you pamphlets and pictures, etc. of this beautiful garden. We also have all kinds of fruit tracts located all over the State, large and small ranches, both of alfalfa and beets, also stock ranches, grazing lands, both for sale and exchange. Drop us a line and tell us your wants and we will try and accommodate you.

L. J. MOUNTZ & COMPANY 1745 Champa St. Denver

SOME IMPORTANT HINTS ON SPRAYING

Thoroughness and timeliness are the two most important points in successful spraying. Remember, it costs just as much to do a poor job of spraying as it does to do a thorough one, and the results are usually widely different.

Do not spray when trees are in full bloom, as it will reduce the crop, and kill the bees, which are valuable friends of the fruit grower.

Do not spray immediately after a rain.

It is better to spray on a still day, or, if there is a wind, to spray only on the windward side of the trees, spraying the other side on the first still day, or when the wind changes.

Wooden tubs, barrels or earthen jars should be used when preparing the mixtures which contain copper sulphate, corrosive sublimate, or arsenate of lead.

Carefully label all substances used in making spraying mixtures, and keep them some place where they cannot be used by mistake.

Arsenical sprays should not be applied to fruits, etc., within two weeks of the time they are to be used as food.

The three essentials for a successful dairy cow are vigor, capacity for food and well-developed organs for milk production.

The cow must have a good breathing apparatus, indicated by a large nostril, wide breast and good width across the floor of the chest.

If you get an incubator, assign the running of it to one person, and let him have sole charge.

To improve the dairy herd, keep the best, and sell the rest.

TOO LATE TO CLASSIFY

WANTED—POULTRY, EGGS AND SUPPLIES from advertisers and readers who will renew their subscription or subscribe for this journal—to advertise my proposition send \$1.00 for subscription to the Intermountain Fruit Journal for one year and I will send you free one share of stock in the Railroad Association Farms, money earning factory etc., and next fall or spring at your option, 6 fine berry plants assorted value \$1.00. This offer will not appear again in this paper. Bear in mind you are really getting \$3.00 value for only \$1.00 which is made to only one person in a family. Address today, Delmore Hawkins, Mgr. Lock Box 97. Koshkonong, Mo. The Big Red Apple County.



A Big Bargain

In a 30 H. P. Avery undermounted Plow Engine, complete with steam lift 10 Gang Plow. For Quick Sale we will make a Special Price. Write to

THE PLATTNER IMPLEMENT CO. 1612 15th Street
Denver, Colo.



FRUIT AND IRRIGATION IN DELTA COUNTY This is the Money Making Combination

That we are now prepared to offer you on the Escalante Redlands Mesa in Delta County, the premier fruit and agricultural county of the West.

TERMS: Water right; \$10 an acre cash, \$10 an acre in twelve months, without interest; \$40 in five years at 6% interest.

Government Land at a cost of 25c per acre for filing on the land and \$1 per acre at time of obtaining patent.

"I saw a wonderful country; that part of Colorado is as near perfect as nature and the hand of man can make it." JAMES R. GARFIELD, Former Secretary of the Interior.

This project is fully financed and will be rapidly pushed to completion. There are 14,000 acres of irrigable land in the project, lying within seven to 18 miles of Delta, a large fruit shipping point directly on the Denver and Rio Grande railroad's transcontinental line. For detailed information and affidavits of owners, address the

SAM FARMER ESCALANTE IRRIGATION CO.
DELTA, COLORADO

1721 STOUT STREET DENVER, COLORADO

PROTECTED



A BANK ACCOUNT GUARDS AGAINST THE INVASION OF FINANCIAL TROUBLES.

OUR BANK BEING A NATIONAL BANK, PLACES US UNDER GOVERNMENT SUPERVISION, AND GUARANTEES SAFETY TO EVERY DEPOSITOR. WE REFER THOSE WHO HAVE NOT DEALT WITH US TO THOSE WHO HAVE.

Make OUR Bank YOUR Bank

THE MESA COUNTY NATIONAL BANK

"MESA COUNTY'S OLDEST BUSINESS HOUSE"

ORSON P. ADAMS, President.
W. P. ELA, Vice-President.

W. REX GRAHAM, Cashier.
DAN T. HILL, Assistant Cashier.

Canon Block, Cor. 4th and Main Grand Junction, Colo.

JAS. H. LANE
MAKES THE BEST
GALVANIZED PIPE
FOR FLUMING
GRAND JUNCTION, COLO.

THE O. P. BAUR CONFECTIONERY COMPANY

The Best Candies, Ice Cream, Ices and Sodas in the West

1512 CURTIS ST., DENVER

SOME FRENCH EXPERIMENTS ON RURAL ROAD MAKING.

By Consul WILLIAM H. HUNT, St. Etienne.

In a report made to the French Academy of Science particular attention is drawn to the danger to the eyes from dust arising from tarred roads. To determine the effect, mixtures of fine road dust to which tar in varying proportions was added were made up, and the eyes of rabbits dusted with the mixtures. The results were conclusive. While the pure road dust had little or no effect on the rabbits, their eyes were greatly affected by the presence of tar and serious diseases broke out after these applications, showing the noxious effect of the tar.

Tarring produces good results only if the roads are well built and in repair, and composed of sufficiently hard materials; if the tar fully penetrates the crevices and does not form an external crust which the first winter rains would raise up and transform into mud; and, finally, if the drying conditions during the bad season are satisfactory. With these few restrictions, it may be said that tarring effectively protects the surface of highways against motor-car traffic, and even against ordinary traffic if the latter be not extraordinarily heavy.

The use of superficial tarring is becoming more and more extended, principally in the neighborhood of Paris. In the St. Etienne district and other parts of the provincial France, progress has been slower except near a few large industrial centers. However, a certain increase in the mileage of tarred roads was reported from 1908 to 1909. The appropriation allowed for these experiments in 1909 in 24 Departments amounted to \$19,077, covering 126 kilometers of tarred roads, compared with 75 kilometers in 1908. (One kilometer equals 0.62137 mile.)

Other Substances Employed.

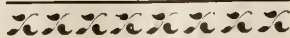
In the Department of Loire the tar is spread hot by hand or by a spray. Another method consists in rendering cold tar fluid by the addition of 10 per cent of crude oil and spreading it by the same means as the hot tar.

In the Department of Seine et Oise recent experiments have been made with tar and oil emulsions; deliquescent salts also have a real effect, but that they can be employed only for special occasions, such as fetes, races, etc. This department employs every year solutions of calcium chloride for watering certain sections of the roads which are not in a sufficiently good condition to receive a coat of tar, at the cost of 2 cents per square meter (1.196 square yards). If the weather is too dry the road is sprinkled with ordinary water.

Chloride of magnesium produces the same results, but the price is higher. It is used in Germany, where 3 per cent solutions (because of their low congealing point) lay the dust in the streets during winter. Emulsions such as westrumite and similar products appear to be abandoned of late because of their high price and short duration.

PRACTICAL ORCHARD

Notes and Comments



Written Right Among the Trees
By CLINTON L. OLIVER, Paonia, Colo.

It has been nine years since the writer took his hoe in hand and marched forth to destroy the objectionable weed or to irrigate the orchard trees. Quite a number of charges have come over the methods of cultivation in the orchard during these nine years that have been devoted to editorial work, promoting apple shows, etc. It seems good to get back to the soil and it will be a pleasure to tell through this department, which will appear every month, about the experiences in all parts of the orchard work.

clover, cow peas and even the once detestible sweet clover was a most excellent cover crop that even the once detestible sweet clover was a most excellent cover crop that could be grown and turned under. This has been practiced almost universally in this section and the orchards all show the results. Old trees that acted as if they were hide bound are making excellent growth this year—proving the necessity for fertilization. Later this space will contain a more complete treatise on cover-crops and how they work out in practice.

It would have been a crime some years ago to have anything but the very cleanest cultivation in the orchard and the fellow who allowed a spear of anything green to show was not a good orchardist. Now the fruit growers have come to realize that no soil is inexhaustible and when much is being taken out from year to year something must be put back. It was impossible to get commercial fertilizer at a price that would permit its use and there was too little stable manure available to do any good. Then someone discovered that alfalfa, red

There is a big crop on the trees this year and it was clearly demonstrated that one power spray outfit is insufficient for thirty acres of apples. We were too long at the first spraying and toward the end the apples were formed and the calyx closed. It will be interesting to watch these trees that were sprayed late and see what the codling moth will succeed in doing to them. The second spraying will be done early in July this year and by that time two power outfits will be ready for use. While the second spraying is not as much of a

time job as the first it is necessary to do the work quickly and have it out of the road for the other work.

The first irrigation for this year was completed by June 15th. Irrigation on the mesa land is particular work and requires considerable skill. It takes a good irrigator to bring the water off the land at the ends of the rows as clear as it was when it went on but it can be done. A neighbor who is unskilled in the ways of irrigation is sending his ranch down to us in large quantities. We have a draw or gulch on our land with dams in it and this is being rapidly filled up. In three days he has washed enough land down to us to have taken a team a month to haul. He's losing money fast. The second irrigation will come right after the next spraying.

In many cases it doesn't pay to graft old trees. At any rate the old trees must be strong, thrifty specimens and have nothing against them but their variety. Wagner trees grafted eight or nine years ago are poorer trees today than five-year-old Jonathans. This also is true of many other varieties. In the long run it is better to shoot the old tree out with dynamite and plant a young, healthy tree, root grafted in the nursery to the variety desired.

Several people in this vicinity got scared this season when on cutting the blossom ends of their apples they found from one to four little yellow



There Is No Danger of Moldy Preserves

If You Seal With

Parowax

(Pure Refined Paraffine)

**Absolutely Air Tight.
Easy to Use.
Inexpensive.**

Parowax is tasteless and odorless. Every package carries the Pure Food guarantee. Full directions with every package.



Pound and half-pound cartons. Druggists and Grocers Everywhere.

Continental Oil Company

DENVER PUEBLO ALBUQUERQUE CHEYENNE BUTTE BOISE SALT LAKE CITY

"Get a Home in Colorado"

Where the sun shines 360 days in the year. Where the cool pure mountain water sparkles at your door.

Where the Goddess of Fortune awaits you. Where cyclones, blizzards and stifling heat is unknown.

Where five acres will produce in fruit (lucious peaches, big red apples, golden pears, etc.) what 160 acres will in farm products, or equal to a salary of \$2500.00 per year. Come to

Palisade, Colorado

the Valley of Plenty, good homes, churches and schools, city advantages, and modern orchards.

We want to tell you about this great valley and what opportunities are here for you. Write today.

H. R. Hough & Co.

PALISADE, COLO.

Palisade National Bank Bldg.

TEAR OUT AND MAIL TODAY

H. R. HOUGH & CO.

Dear Sir:

Please send me full description of "The Home of the Peach."

Name _____

Street _____

State _____

My occupation is: _____

Can invest about \$ _____

looking worms. On putting them under the microscope, however, it was soon demonstrated that they were not codling moth, but were what many call "tree jumpers." They lacked the black head of the moth and when they moved the action was straight ahead evidently by the use of feet. They were also too lively for moth. If they had been moth there would have been enough of them to eat the entire crop on the trees.

Reports from other sections have it that the Wine Sap and Arkansas Black are dropping badly and some are afraid that they will have no crop. This is not true in this section and there will be a plentiful crop although perhaps it will not be a full crop. The quality ought to be par excellence.

The "peach drop" is late this season in this valley. The thinning operation will not be in full swing until about the first of the month.

The fellow who doesn't make big arrangements for help to care for this fall's crop will be might sorry. It is going to be a serious problem. The railroad people are getting ready for their part and they seem to be thoroughly impressed with the enormity of their task for this season.

The Business Men's Association of Palisade appreciates the efficient service given this section by the Weather Bureau Service and feels under many obligations for the earnest, painstaking work of E. S. Nichols, who has charge of the Grand Junction office and has given the ranchers of the valley much reliable information that has been of almost incalculable benefit to them.

The association also desires to extend its hearty thanks to the Telephone company, for the prompt and efficient service in conveying this information to the people.

The outlook is extremely bright for big crops of apples and cherries in Western Michigan this year. It is more than likely that some past records will be broken.

Are the cattle well housed and fed? Feed for egg production should be rich in protein.

Food plays an important part in the growth and development of the colt.

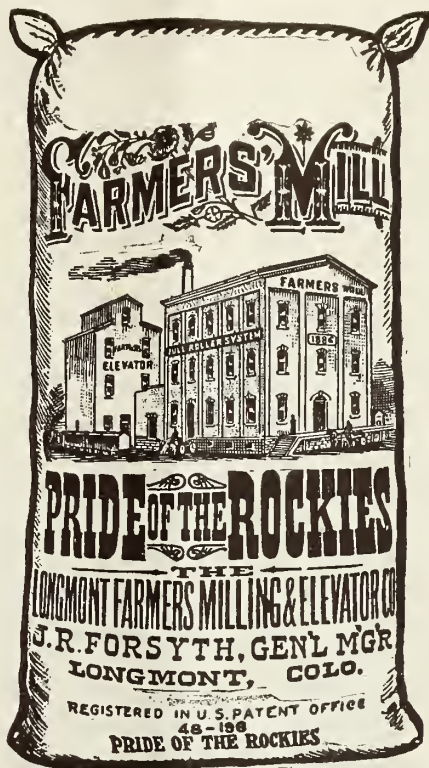
When through using, the spray pump should be cleaned by forcing water through it.

Keep all spraying apparatus in repair, so that the work will not be delayed at the critical time.

Don't spray indiscriminately, but

study the pests you have to combat, and adopt the most effective means of destroying them.

Deal gently with the cow of nervous temperament. She usually is one of the best in your herd.



Colorado's
Famous

"Pride
of the
Rockies
Flour"

Manufactured by

THE LONGMONT FARMER'S
MILLING AND ELEVATOR CO.

Longmont and Denver.

Sold by all reliable grocers.

Western Box & Lumber Co.

FACTORY, DENVER, COLO.

MILLS TABERNASH, COLO.

WOODEN PACKAGES AND CRATES

Manufactured from White Pine.

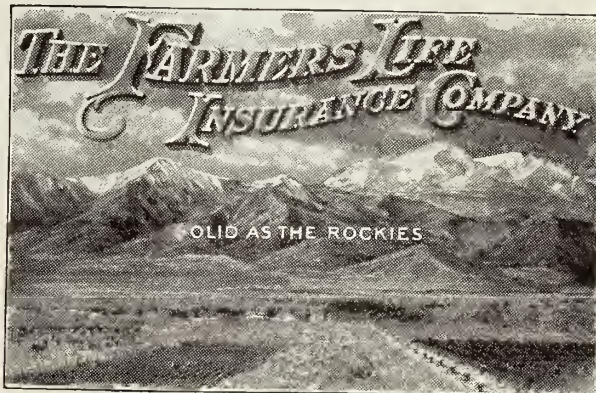
Lightest Box on the Market. Orders Solicited.

LARGE CAPACITY

PROMPT SERVICE

Tel. Champa 1633

2281 19th Street



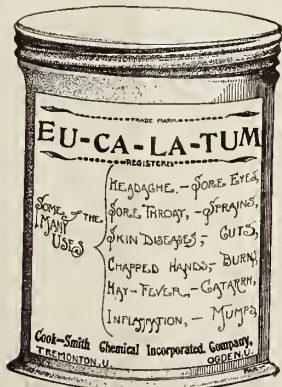
Is organized to do business with the farmers and stockraisers of the United States. We are going to sell a limited amount of our Capital Stock to a few of the leading farmers and drovers in every agricultural county in this country. When our Capital Stock

is all placed we will have about Seven Thousand Stockholders and over TWO MILLION Dollars Capital and Surplus. Life Insurance Stock is a safe investment—legal requirements make it so. The older companies are paying enormous dividends. For full information fill in name and address and mail to

THE FARMERS LIFE INSURANCE CO.,
DENVER, COLO.

Name _____

Address _____



FOR SALE AT ALL DRUGGISTS

OUR ADVERTISERS GIVE SPECIAL ATTENTION IF YOU MENTION THIS MAGAZINE.

The Natural Function of The State Agricultural College

By the Bureau of Education of the Department of Interior

The United States government under the provisions of the acts of Congress of July 2, 1862, August 30, 1890, and March 4, 1907, is contributing \$2,500,000 annually toward the support of the state colleges of agriculture and mechanic arts, established under the provisions of the first of these acts. Each state has at least one such institution, and in seventeen Southern states there are separate institutions for Negroes. The federal government contributes annually in each state for the benefit of these institutions \$50,000, and in addition \$30,000 in partial support of agricultural experiment stations maintained in connection with the agricultural colleges. These appropriations involve recognition by Congress of the two-fold task of these institutions, namely, instruction and investigation; and a bill now under consideration to appropriate annually an additional \$15,000 to each state for extension work in agriculture contemplates recognition of the threefold nature of their proper task.

The Bureau of Education in whose hands the administration of the funds for these institutions rests is often asked to define the purposes and functions of the distinctive agricultural colleges or departments of agriculture. The Bureau maintains that the main purpose of these agricultural colleges or departments is expressed in the thought that they are the organ or servant of the state, designed primarily to benefit the agricultural and rural life, both of the state and of the nation. The following abstract of a report of President Kenyon L. Butterfield of the Massachusetts Agricultural College to the trustees of that institution coincides with the views which have controlled the action of this Bureau in its approval or disapproval of the expenditure of the federal funds:

There are three main types of service which the college may render:

1. Investigation.
2. Instruction.
3. Extension service.

Investigation may be called the search for truth about agriculture and rural affairs; instruction, the incarnation of this truth in trained leadership; extension service, the dissemination or democratization of this truth—its distribution among all the people interested.

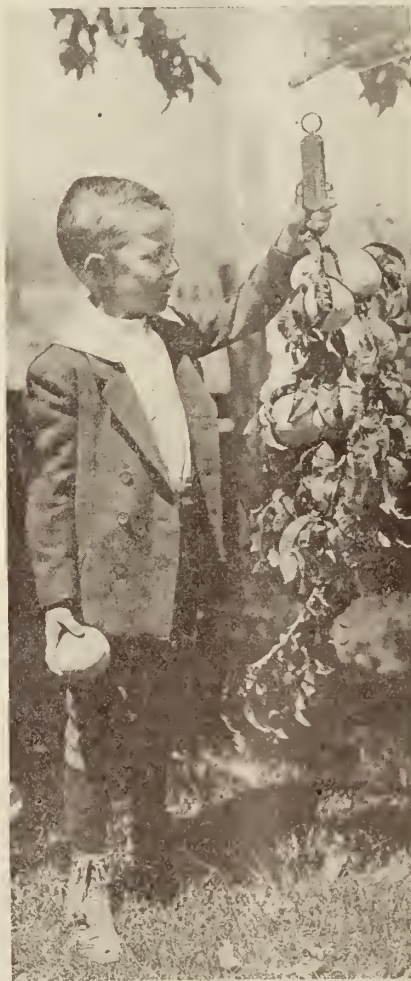
Thus one college has a three-fold task; not three tasks, but one task, to be fulfilled in these three fairly distinct methods or types of work. Let us discuss each one of these with as much brevity as possible.

Of course the characteristic work of this college, as of any college, is to teach the students who resort to it. But it is peculiarly true of an agricultural college that it can not teach until it has something to teach. Hence, logically, the first business of the college is to investigate. It seems best, therefore, to place research

first in the order of present discussion.

INVESTIGATION.

There are laws governing the operations of soil and the growth of plants and animals. Experience and observation enable men to follow these laws to a degree—but only to a degree. Few farmers have time for prolonged or systematic study or the training or facilities for it. Men must be set apart for this work, men especially trained, with time and apparatus. Thus the agricultural ex-



SOME PRIZE WESTERN SLOPE PEACHES

periment station came into being. This work of investigation divides itself into several types as follows:

1. **RESEARCH.**—This is a study of the fundamental laws that underlie the operations of the soil and the growth of plants and animals. The aim of research in agriculture is to gain exact knowledge of general principals that may be applied to the business of growing food and other supplies coming from the soil.

2. **EXPERIMENTATION.**—Once the general principles or laws are discovered, the method of their application to actual operations shall be worked out. Expert farmers will accomplish a good deal of this experimentation, but not all of it.

Hence, the college, through its experiment station, must continuously carry on these experiments.

3. **AN AGRICULTURAL SURVEY**—We now recognize the need of knowing not only the general laws of nature and their applications to methods of culture, but that each farmer needs to know how to make the application under his peculiar conditions of soil, climate, topography, market and transportation facilities, etc. So long as there are unsolved problems lying before our farmers, which can be solved only in the light of the knowledge which the average farmer can not gain for himself, then the college must help.

4. **THE ECONOMIC PHASE.**—There is the problem of distributing the products once grown; the nearness to market, transportation, the character of the market, competition for the market, the function and rewards of the middlemen, the development of agricultural credit, business co-operation among farmers, etc. These economic considerations, just because they are vital to the success of agriculture, are a subject for thorough investigation by the agricultural college.

5. **THE SOCIAL PHASE.**—But, after all, there is an even larger issue. Our greatest concern is with the quality of people developed by the rural mode of living. Hence, the conditions of rural life—moral, religious, recreational, sociable—are of significance. Because these things are vital to the welfare of the Commonwealth, they must be studied.

INSTRUCTION.

We may now consider the methods by which the instruction of the college shall minister to its chief purpose. There are three main outcomes to be cherished in the course of study, and I state them in inverse order with respect to human destinies, but in direct order with respect to immediate purposes and policies. They are, first, preparation for the agricultural vocations; second, preparation for citizenship, particularly rural citizenship; third, the all-round development of the man.

PREPARATION FOR THE AGRICULTURAL VOCATIONS.—This is the immediate business of the college on the teaching side. The courses of study, the methods of teaching, the atmosphere of the institution, should all make for this end. The term "agricultural vocations" is perhaps somewhat misleading, but must answer until we find a better one. It is not the same as farming. The term does not imply that all of these vocations are pursued in the open country, but it includes those vocations the adequate preparation for which must embrace a thorough study of the soil, or of plants, or of animals, for the purpose of using that knowledge for economic ends; and also the vocations of a professional character which have to do directly with the life of the rural people. The men called for in these

agricultural vocations may be grouped roughly as follows: :

- (a) Independent farmers.
- (b) Farming experts or managers.
- (c) Specialists in agricultural practice or science, such as teachers and investigators and extension workers.
- (d) Professional experts such as landscape gardeners, foresters, and horticulturists.
- (e) Business experts in lines related to agriculture.
- (f) Rural social engineering, that is, professions in which social service to the rural people is the keynote, such as teachers in agricultural high schools, country clergymen, rural Y. M. C. A. secretaries, etc.

TRAINING FOR CITIZENSHIP.—The most efficient service to society which can be rendered by most men is the honorable pursuit of a useful vocation, and it becomes the fundamental task of the agricultural college to inspire its graduates with the thought that they are to follow their chosen vocation, not primarily as a means of making money, but primarily as a means of service to society. This may sound theoretical and academic, but it is sound sociology, sound pedagogy, sound ethics, sound religion.

Nevertheless, each individual has obligations to the community that lie outside his vocation. No matter how isolated his life may be, or how busily he may be engaged in the exacting duties of his vocation, he is obliged by many considerations, not the least of which is his education at state expense, to give an intelligent and honest account of himself as a member of society, as a political citizen. It is especially incumbent upon the man who follows his vocation in a rural environment that he shall understand the peculiar needs of the rural community as well as those larger general needs which incorporate themselves in state and national policies. The agricultural college, therefore, must try to make sure that every graduate has secured some grip both upon the problems of the rural community and upon the general problems of the day—problems social, economic, governmental, ethical.

THE MAN HIMSELF.—Without question, the man must be greater than his work and perhaps even greater than his citizenship. But I think we have not yet sufficiently realized the possibilities of vocation in the making of a man, and hence we have not realized the culture-value of the training for vocation. As a matter of fact, those qualities of mind and character that we like to think of as belonging to the superior man, such as sound physical health, intellectual vigor, ripe culture, high ideals and noble thinking are cultivated, in no small degree, by the right sort of pursuit of the day's work and by the right sort of service to one's family, neighborhood, town, state and nation. I believe, therefore, that whenever we have organized our agricultural vocational courses in the proper way, whenever the materials of study in those courses have been adequately elaborated, and assuming that all the subjects are properly taught, we will find

that the man thus trained, granted that he has within him the seeds of culture, will become a cultivated, well-rounded man.

More than knowledge of problems, greater than an interest in politics, is the spirit of community service, the willingness to sacrifice something of one's financial gains, of one's time and energy and leisure and comfort for the sake of leading one's community on to higher levels; for the sake of solving its problems.

An agricultural college can not give its chief attention to the training of men for the utilization of their leisure. Yet there is no reason why the men who follow the agricultural vocations may not have leisure. They must have it. Leisure feeds the highest impulses of the soul. Leisure is essential to the enlargement of the spirit. An agricultural college should have teachers and offer courses, and require men to take those courses, that will tend to give the individual student, no matter what his vocation, some grasp of the eternal verities, some hold on the essential things of life, some knowledge of the sources of personal power, great inspiration, a grip of the problems of human duty and human destiny. This may be secured through literature, or through philosophy, or through history; but we can not afford to give the baccalaureate degree to any man who has not at least opened the door and peered into that high-vaulted chamber which contains the choicest treasure of human thought and aspiration.

The setting hen must be protected from lice. She offers a splendid breeding place for these parasites and unless something is done to check their growth in the nest the chickens will be hatched under serious handicap.

In France a few experiments have been made with crude petroleum, so much employed in America, but they were not continued on account of the high cost and the inconvenience of the mud which appears with the autumn rains. Besides the superficial materials are employed as a substratum to the macadam. Tar macadam is extensively employed in England, and has recently been tried in France.

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is the little device which should do all your heavy work for you. A light but powerful lever operated, self-locking winch. A twelve-year-old boy can easily lift three thousand pounds with the aid of this device.

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Miss Lila O. Boyle, Mgr.

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Salt Lake County Utah, "The Sunny Dixie" of the West.

(Continued from page 15).

Fruit raising by dry farming methods has been practiced with success on the benches east of town for half a dozen years. Today dewberry plants are proving prolific producers. Mr. J. M. Smith, deputy county horticulturalist cleared better than \$300 off of one acre of dewberries last year.

All stone fruits do exceptionally well on the benches east of town, where the soil is of silicated formation, in combination with a light sandy loam.

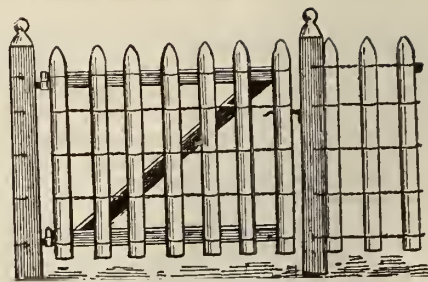
Pears and apples do well on the wets side of the Jordan river, where the soil is heavier. One of the best

growing. Acres upon acres are now planted to trees that formerly produced large crops of lucerne (alfalfa). Surprising as it may seem; any section such as Draper that can boast of adding four feet growth to a peach yearling, and four feet and a half growth to an apple yearling, may be recognized as a most favorable locality. School facilities are unequalled. A new \$30,000 grade school building is now being erected in the Granite School district, which will be ready for occupancy in the fall. This district has a school population of 5,237; valuation of school property is \$370,900; assessed valuation of the school district, \$8,867,416. Teams are employed to transfer pupils who live at a distance. Each conveyance carries about 30 pupils. There are 117 teachers employed (men and women). The high school alone has an enrollment of 172 pupils; ten teachers are employed. Music, art, domestic science and manual training courses are provided in the high school, thus providing the students with the best opportunities to equip themselves for their future life work.

MURRAY, UTAH.

Murray is a suburb, ten miles south of Salt Lake City. As a factory site Murray is gaining considerable prominence. In particular may be mentioned the Murray Canning Factory, which runs full capacity four months of the year. The manager has already contracted for the entire tomatoe crop of 1913, even though a year off. This includes the surplus of berries not sold to market, as well as peaches, pears and apples sold each year to the cannery.

Ten dollars a ton is paid for tomatoes delivered at the factory. The largest producer last year raised an average of 19 tons to the acre, thus realizing excellent returns. It is a recognized fact, that tomato culture is most successfully carried on in the Hunter district, west of Murray and Midvale, near the lake shore. Whereas, for peaches the better crops are raised on the benches east of town.



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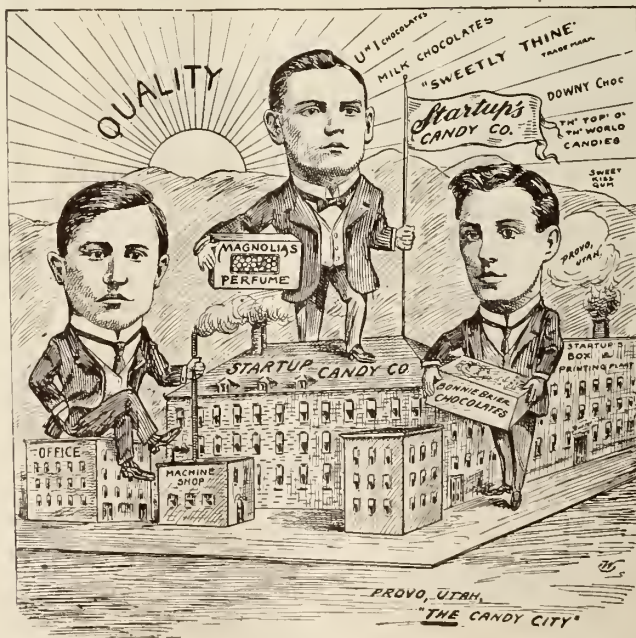


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The Startup Bros. of Provo, Utah, Candy Mfg'rs state that: "Candy is simply artificial fruit. Used in reason it is the food luxury of the Rich and Poor alike."



where the soil is lighter and the fruit is better protected from frosts.

Seventy-five tomato peelers are employed at the factory, thus giving you some idea of the working force in this department alone. Sanitary tops for cans are used exclusively. Cans are all hand packed, then sealed. No solder is used.

So much interest has been aroused over the opportunities for a broom factory, because of a couple of farmers growing broom corn with amazing success last season, that inducements were made to many others by the commercial club this year encouraging them to go into the raising of the corn energetically for a year. If the results contemplated are secured, there is no question of doubt but that Murray district will have a branch of the Western Broom Factory operating within her limits before another year passes. The fiber grown in this particular section is extremely tough, and of lasting quality.

The Murray Commercial Club is propagating for the first time some "Ginseng Root" which was received by the president from the agricultural department, at Washington, D. C.

MIDVALE, UTAH.

Midvale, another suburb of Salt Lake is reached either by street car or the Rio Grande or the Salt Lake route trains. It is fast becoming a thriving apple and berry section, due to the abundance of water available, which is supplied by the canals which have their source in Utah Lake. The water is fed by the large pumping plant on the north shore of the lake. Four miles west of Midvale on the west benches of the Jordan river are nine sections of formerly arid land, which, until last year were utilized exclusively for Dry Farming. The canal that was built a year ago to reclaim the area, proved the land to be very productive. On the higher lands 36 and 40 bushels of wheat per acre is not unusual. Plans are now under way to irrigate a strip six miles long, west of Midvale, and redeem virgin soil along both sides of the Jordan river. Due to a \$50,000 payroll at the Midvale smelter, business is brisk all seasons of the year. Conditions afford an excellent market, for all products. Modern methods of treating the ore at the smelter, as well as bag condensing the smoke in the "Bag House" has overcome the fumes formerly given off in the refining process, so that the small amount of gas that escapes is not harmful to crops. Taxes at Midvale are comparatively light.

That the people of the district have confidence in the fruit and berry culture, in and around Murray, Midvale, Sandy and Draper, is evidenced by the fact that 100,000 trees, mostly apple and peaches were set out during the present season.

SANDY, UTAH.

Sandy is the terminus of the suburban car line as well as the stagnin point on the "Salt Lake Route" for Par. City and other famous mining camps in the Wasatch mountains. Attention is called to its location in the very heart of the peach and apple districts. It is afforded excellent shipping facilities, and is just

close enough to Salt Lake to haul a load in and return home in time for lunch. Quite a business district has sprung up, which promises to make

a thrifty town of Sandy as more people come to appreciate the possibilities of the valley round about. A suburban electric line run south of Salt

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Three Blocks from New Court House

50 Sample Rooms

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50 BEER PINTS Queen City BEER \$3.50

A NEW WAY TO BUY BEER

If you knew what you were drinking when you drink some beers, you would STOP! Have you ever personally investigated the water used in some beers? Have you ever investigated the breweries—the surroundings? Then be careful what beer you put into your stomach.

Here's a new beer, and here's a new way to buy it. "QUEEN CITY" BEER is made in DENVER—the greatest health resort in all America. It's such because of the purity of air—the cleanliness of the city and the pure snow water of the famous Rockies. And that's the water used in "QUEEN CITY" BEER—that's why it's the purest, safest and most delicious beer brewed. "QUEEN CITY" is made of only the best hops and malt, brewed by an expert old German process, aged doubly long and bottled at the brewery in clean bottles. Its rich sparkle is fascinating—its delicious flavor appetizing and delightful.

"QUEEN CITY" IS SOLD ONLY DIRECT to you. BEWARE OF SUBSTITUTES! We sell you 50 pint-size bottles for \$3.50, packed in an attractive, strong case. This is less than you pay for ordinary, impure beers—beers that are not safe to drink. "QUEEN CITY" BEER and this new way of selling it is winning thousands who are careful what they drink. Don't think that because some beers have been advertised for years they are absolutely pure. They may have been brewed with stock-yard sewerage water.

It is convenient to buy beer our way—it is more private and you always have it on hand—50 bottles for only \$3.50. We pay 15 cents per dozen for empties returned prepaid. If you value your health, and want the most delicious beer brewed, send us your order for 50 bottles of "QUEEN CITY" BEER now.

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In Strong Cases—Shipped Anywhere by Express or Freight

Order NOW

Lake along the mountain base to the Holiday district, four miles east of Sandy. The Jesse Knight Electric Railroad and Power Company has recently obtained a franchise to run a railroad line from Salt Lake through the Sandy-Draper districts to Lehi, 40 miles, south of Provo, tapping all the valuable districts to the south.

It is rumored that the Utah Light and Railroad Extension Company will also build a line in the near future running its "ribbons" along the fruitful benches of the Wasatch mountains. When some stress is laid on the fact that Salt Lake City is importing a great amount of its vegetables, dairy and poultry products from eastern and northern sections and states, is it not high time to see that immense opportunities await the husbandman who will settle there and enter upon his duties energetically? The possibilities were never greater. The opportunity awaits you and yours. Correspondence with any of the Commercial Club secretaries of the towns named will secure literature and such information as desired.

Among the enterprising and energetic fruit projects being watched with unusual interest, is the active steps taken by the "Murray Orchard Co.," incorporated for \$20,000. Their tract, northeast of Sandy, comprise of 66 acres, on which was planted 5,600 fruit trees the past season. "The East Mill Creek Orchard Co.," whose tract of 16 acres is near by, is incorporated for \$16,000. Trees were planted the past spring.

The power plant at the Boise dam, about 12 miles from Boise, Idaho, has been thoroughly tried out, and the engineers in charge have submitted a very favorable report to the Washington office of the Reclamation service. The generator units were first started up on April 20, and the plant was put in commission, practically ready for steady operation on May 3. All the apparatus was dried out, adjusted, and placed in operation and no appreciable trouble occurred in any part of the plant. The butterfly gates which admit water to the turbine pits have proven very satisfactory. They can be successfully operated by two men and can be opened and closed very quickly. About 2,000 horsepower will be developed at this plant and transmitted electrically to the Arrowrock dam site, a distance of about 20 miles, where it will be used for construction purposes.

The operation of the governors at Arrowrock was tested by producing the most violent fluctuation of load possible with the two cableways and other apparatus in operation. The results indicated that the governors will be able to handle this exceedingly variable load with entire satisfaction.

Never jump from the wagon when the horse is running away. More lives and limbs are lost in that way than by remaining in the wagon.

In round numbers one million fruit trees were set out in Western Michigan this spring. These trees are mostly apples, peaches and cherries.

THE FARMER IS THE KEYSTONE

Of the entire industrial world, and his importance is being recognized more fully each year. He should be equally important in the commercial world. We invite you to become one of our active customers, and assure you of satisfactory service in this bank. Write for further information to

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Nobody but an employer knows how earnestly an employer looks for business ability in the young men and women who are candidates for advancement.

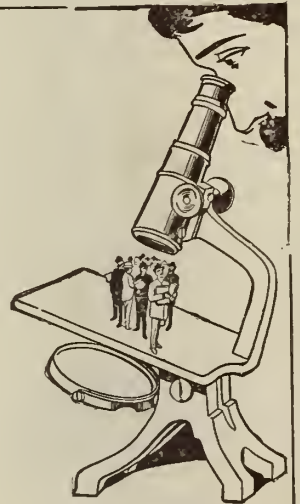
Business ability never comes unrewarded. Those who fail—those who work for small salaries—are simply unworthy of more.

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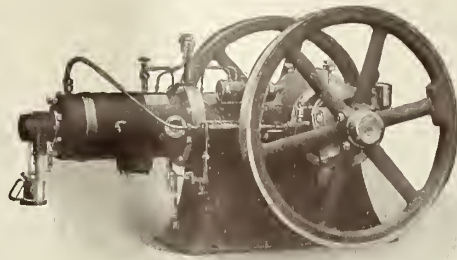
Copy of "3 Year Homestead Law"

After much urging, President Taft has recently affixed his signature to the Borah-Taylor "Three-Year Homestead Law," one of the most important measures in recent years to the development of the West. The Fruit Journal is just in receipt of a copy of the law, from Congressman Taylor of Colorado, which we publish in full below.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section twenty-two hundred and ninety-one of the Revised Statutes of the United States be amended to read as follows:

"Sec. 2291. No certificate, however, shall be given or patent issued therefor until the expiration of three years from the date of such entry; and if at the expiration of such time, or at any time within two years thereafter, the person making such entry, or if he be dead his widow, or in case of her death his heirs or devisee, or in case of a widow making such entry her heirs or devisee in case of her death, proves by himself and by two credible witnesses that he, she, or they have a habitable house upon the land and have actually resided upon and cultivated the same for the term of three years succeeding the time of filing the affidavit, and makes affidavit that no part of such land has been alienated, except as provided in section twenty-two hundred and eighty-eight, and that he, she, or they will bear true allegiance to the Government of the United States, then in such case he, she, or they, if at that time citizens of the United States, shall be entitled to a patent, as in other cases provided by law: Provided, That upon filing in the local land office notice of the beginning of such absence, the entryman shall be entitled to a continuous leave of absence from the land for a period not exceeding five months in each year after establishing residence, and upon the termination of such absence the entryman shall file a notice of such termination in the local land office, but in case of commutation the fourteen months' actual residence as now required by law must be shown, and the person commuting must be at the time a citizen of the United States: Provided, That when the person making entry dies before the offer of final proof those succeeding to the entry must show that the entryman had complied with the law in all respects to the date of his death and that they have since complied with the law in all respects, as would have been required of the entryman had he lived, excepting that they are relieved from any requirement of residence upon the land: Provided, further, That the entryman shall, in order to comply with the requirements of cultivation herein provided for, cultivate not less than one-sixteenth of the area of his entry, beginning with the second year of the entry, and not less than one-eighth, beginning with the third year of the entry, and until final proof, except that in the case of entries under section six of the enlarged-homestead law double the area of cultivation herein provided shall be required, but the Secretary of the Interior may, upon a satisfactory showing, under rules and regulations prescribed by him, reduce the required area of cultivation: Provided, That the above provision as to cultivation shall not apply to entries under the Act of April twenty-eighth, nineteen hundred and four, commonly known as the Kinkaid Act, or entries under the Act of June seventeenth, nineteen hundred and two, commonly known as the reclamation Act, and that the provisions of this section relative to the homestead period shall apply to all unperfected entries as well as entries hereafter made upon which residence is required: Provided, That the Secretary of the Interior shall, within sixty days after the passage of this Act, send a copy of the same to each homestead entryman of record who may be affected thereby, by ordinary mail to his last known address, and any such entryman may, by giving notice within one hundred and twenty days after the passage of this Act, by registered letter to the register and receiver of the local land office, elect

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Fig. 1469

Fig. 1358

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to make proof upon his entry under the law under which the same was made without regard to the provisions of this Act."

"Sec. 2927. If, at any time after the filing of the affidavit as required in section twenty-two hundred and ninety and before the expiration of the three years mentioned in section twenty-two hundred and ninety-one, it is proved, after due notice to the settler, to the satisfaction of the register of the land office that the person having filed such affidavit has failed to establish residence within six months after the date of entry, or abandoned the land for more than six months at any time, then and in that event the land so entered shall revert to the Government: Provided, That the three years' period of residence herein fixed shall date from the time of establishing actual permanent residence upon the land: And provided further, That where there may be climatic reasons, sickness, or other unavoidable cause, the Commissioner of the General Land Office may, in his discretion, allow the settler twelve months from the date of filing in which to commence his residence on said land under such rules and regulations as he may prescribe."

GRAND VALLEY JUNIOR.

The Western Slope should gladly welcome a new country which is just being developed in the Grand River Valley in Utah on the main line of the Denver and Rio Grande railroad.

The soils and climatic conditions are practically the same as the best around Grand Junction which is about forty miles east of this country.

The Grand Valley Fruit and Water company; with offices in Denver, New York city, and Marris, Utah, have spent a considerable amount of money in the development of the country and are delivering water in a portion of their ditches this spring. They have just completed a dam across Cottonwood Creek, water is now being stored in the reservoir. From measurements taken of the stream flow for the last three years this company should have a great deal more water

that they can deliver than they have now sold. These measurements, we are informed, have been taken with great care and regularity and although the country has had the reputation of being a desert there is here an ample water supply for the acreage being developed and more too.

This country has long been an excellent range for sheep and cattle but is now becoming a farming community. Potatoes, onions, and many other crops are being grown this year in small patches and it is expected to have a very good yield from them.

Sixty acres of land near the small town of Marris, Utah, is being fenced with galvanized barb wire and Carbo steel posts are being used instead of wooden ones. Improvements are being made in a permanent and up to date manner and many of them would be a credit to many older communities.

The future financing of the development of this country was assured by the interesting of New York capital in this project about a year ago. Extensive future developments are planned and it is now but a question of a short while until this country will be recognized as a most excellent addition to Grand Valley's territory.

The executive officers of the above company are: George O. Marris of Marris, Utah, president; G. W. Middleton, of New York city, vice-president, and Wm. M. Marris, of Denver, secretary and treasurer. The board of directors are all men of standing in their respective communities, whose high character insures an honest and up to date management.

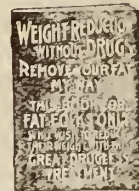
WHY MONTE RAMSEY TOOK AGENCY FOR MIDLAND CARS

After looking for the last five years for a medium priced car that would stand these mountain roads, we have at last found it in the Midland Cars what we have been looking for, with 3 point suspension hung in the frame so that your engine will have full 40 horse power at all times. No matter what position you get the car in, it is impossible to cramp the engine, and the simplicity of the car is a big feature. Every working part of the car running in oil.

The differential and rear axles can be removed and replaced in 5 minutes. The car can be started from the seat and the lights turned on and lighted from the seat. One of the simplest constructed cars of the market. So says Monte Ramsey of Grand Junction, Colorado, agent for the "Midland 40" on the western slope of Colorado.

ANNOUNCEMENT OF THE AMERICAN ROAD CONGRESS.

President Taft has consented to serve as the honorary president of the American Road Congress, which is to be the combination of the big conventions of the American Association for Highway Improvement, the American Automobile Association, the National Association of Road Material and Machinery Manufacturers and all their affiliated organizations. The congress is to be held next fall, either in September or October, the exact



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NEW DRUGLESS HOME TREATMENT
Bodily Fat and Double Chin Vanish
LOSE ONE POUND A DAY SAFELY
without starvation diet, violent
exercises, straps, belts, cups,
wires, jacks, sweating, electri-
city, rollers, bandages, soap,
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or medicines of any kind. Most
marvelous treatment of age for harmless
FAT REDUCTION. Stands supremely
victorious over all. Nothing to doubt.
No risk. Delightful results guaranteed.
Thousands of pleased patrons. Strong
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the FOE, before it gets rid of you.
Delays are dangerous. Send postal
or letter today sure for my FREE
BOOK on DRUGLESS WEIGHT REDUCTION
and BEGIN REDUCING NOW.
MARJORIE HAMILTON, 2576A C. B. Bldg., Denver, Colo.

Any Old Piece for Any Old Stove

Just send us the complete name and number, as found on the stove, and give a good description of the part wanted.

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Guard Your Health

and that of your family against the typhoid fly, by using the Meyer Fly Escapes. Patented, on your door and window screens. Eliminate Fly Paper, Fly Poison, easily, quickly, neatly attached. Want 1000 homes equipped in the month of June.

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AGENTS WANTED. Send today 25c Sample Pair

E. J. VAUGHT,
Grand Junction, Colorado

EXPRESS CHARGES PREPAID

Four Full Quarts

\$3.20



Your Money Back If Not Satisfied

Our old reliable 2-star Whiskey, pure, sweet and smooth. Good for either medicinal or sideboard use, and satisfaction guaranteed.

Write for mammoth Catalog of all kinds of merchandise, just out.

The largest mail order house west of the Missouri.

BON I. LOOK 16th & Blake Denver, Colo.

FREE to the ladies, a set of the famous Eureka Bent Trimmer, Self-sharpening shears, as a present with new subscription for \$1.00.

time and place not yet having been determined.

The President has agreed to act as honorary president because the congress is designed to crystalize the road movement in the United States. All the associations which are to participate in the Congress have previously been holding individual conventions. All have been working wholeheartedly, but in different ways, for the improvement of the roads of the United States. The congress will bring all factions together. It will line up the farmers with the automobilists; the state road authorities with the Federal authorities; the manufacturers with the engineers; the scientists with the laymen.

Every interest working for a better system of public roads in the United States will be represented at the American Road Congress, which is expected to be one of the biggest conventions, outside those of a political nature, ever held in this country. With the American Association for Highway Improvement alone, nearly one hundred state, county and municipal road improvement associations are allied. With the American Automobile Association, hundreds of automobile organizations are affiliated. All these will be represented at the congress. The American Automobile Association will arrange for automobile tours to the convention city and will play an important part in the convention. Certain days of the week will be set aside for the special program of the A. A. A. and the automobilists who will be present will be thoroughly informed as to the various types of road best adapted to their uses.

The United States Office of Public Roads has arranged to present a complete exhibit of all its electric models, showing road machinery at work, and models showing the various types of road. There will be stereopticon views and lectures by experts. President Taft, as honorary president of the congress, will make an address. The other speakers will include some of the leading government officials, diplomats, engineers, and railroad and automobile men. The convention will last a week and there will be a program for the entertainment of the distinguished guests.

The great economic principle at the basis of the educational work of the American Road Congress is that money invested in the public roads makes annual returns almost as great as the money originally expended. The officials of the congress have prepared figures showing that the improvement of the main highways of the country, constituting about 20 per cent of all public roads, would result in an annual saving of at least \$250,000,000 in the cost of hauling alone. It is estimated that the amount saved annually in hauling alone would be sufficient to improve 50,000 miles of road at an average cost of \$5,000 per mile. In five years, this would improve 250,000 miles of road, which would be sufficient to bring the total mileage of improved highways up to the required 20 per cent. The increase in land values is another important factor that will be dwelt upon at the congress.

To Destroy Aphis, Thrips, Etc.

Without Injury to Foliage Spray with

"Black Leaf 40"

Sulphate of Nicotine

"Black Leaf 40" is highly recommended by experiment stations and spraying experts throughout the entire United States.

Owing to the large dilution, neither foliage nor fruit is stained.

Also "Black Leaf 40" is perfectly soluble in water—no clogging of nozzles.

PRICES

10-lb. can, \$12.50—Makes 1000 gallons, "five hundredths of 1 per cent Nicotine"

2-lb. can, 3.25—Makes 240 gallons, "five hundredths of 1 per cent Nicotine"

½-lb. can, .85—Makes 47 gallons, "five hundredths of 1 per cent Nicotine"

These prices prevail at ALL agencies in railroad towns throughout the United States. If you cannot thus obtain "Black Leaf 40," send us postoffice money order and we will ship you by express, prepaid.

The Kentucky Tobacco Product Co.

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Louisville, Kentucky

The Queen City College of Dress Making and Tailoring

The College presents the best opportunities to all ladies who wish to learn an up-to-date paying business. The Queen City System is absolutely the most beautiful and perfect system in the World. Bring your own material. We have instructors that are competent to teach you how to make a garment perfect in fit and finish.

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Nearly 12,000 young men and young ladies have attended our school and prepared for business careers as stenographers, bookkeepers, cashiers, secretaries, salesmen, invoice and bill clerks, accountants, etc. Only a few months' time is required and a little money.

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Which is situated in center of the most fertile farming district in the Platte Valley the home of the successful truck gardeners and Poultry raisers. We have some bargains in good 5, 10, 15 and 20 acre tracts, improved and unimproved. For information write or phone

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The cause of disease and does not merely neutralize the symptoms. It restores health.
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BLACK LEG IN CATTLE SURELY PREVENTED
CUTTER'S BLACK LEG VACCINE
California's favorite, the most successful, easiest used and lowest priced reliable vaccine made. Powder, string or pill form. Write for free Black Leg Booklet.
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If your druggist does not stock our vaccines, order direct from us.

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"The Firm with a Reputation"

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OVERALLS

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The Most for Your Money

Michaelson's Sale

of entire Stock damaged by

Smoke and Water

Offers the greatest opportunity of the age for rare bargains in Men's and Boy's clothing, furnishings and footwear for the family.

THE BIG STORE

Corner 15th and Larimer Streets

Ladies, do you want a nice set of serviceable Silver Plated teaspoons, as a present from THE FRUIT JOURNAL? See our advertisement on another page.

RECLAMATION SERVICE RULING
ON HOMESTEAD MORTGAGES

The Secretary of the Interior has just issued the following regulation relative to mortgages upon homestead entries within reclamation projects:

Mortgages of lands embraced in homestead entries within reclamation projects may file in the local land office for the district within which the land is located a notice of such mortgage, and shall become entitled to receive and be given the same notice of any contest or other proceedings thereafter had affecting the land as is required to be given the entryman in connection with such proceeding. Every such notice of a mortgage received must be forthwith noted upon the records of the local land office and be promptly reported to the General Land Office, where like notation will be made. Relinquishment of a homestead entry within a reclamation project upon which final proof has been submitted, where the records show the land to have been mortgaged, will not be accepted or noted unless the mortgagee joins therein, nor will an assignment of such entry or part thereof under the act of June 23, 1910 (36 Stat., 592) be recognized or permitted unless the assignment specifically refers to such mortgage and is made and accepted subject thereto.

QUESTIONS AND ANSWERS.

Cimarron, New Mexico.

Cimarron, New Mex., May 27, 1912.

Dear Sirs:

We are very anxious to ascertain what treatment is best suited to prevent sun-scald on apple trees, also whether you can refer us to any good authority on this subject.

Perhaps some of your subscribers, of which we are one, may have had experience with a combination sun-scald and rabbit proof mixture.

Thanking you in advance, we beg to remain,

Faithfully yours

THE URACA RANCH,

F. M. Ladd, Manager.

F. M. L.—I know of no application for the prevention of sun-scald on apple trees that is better than a good coat of whitewash, which reflects the sunlight and does much to lower the temperature where the sun strikes the bark squarely. The addition of a little salt or milk to the whitewash would do much to increase its adhesive power. The south side of the trunks may be shaded by boards or even by a hill of corn planted on that side of the tree and allowed to remain standing over winter and through the spring.

One of the best applications to prevent rabbit injuries to trees is the ordinary lime-sulphur mixture such as is used for San Jose Scale. If the lime-sulphur is home-made and an excess of lime used, the same preparation would also be a fairly good preventive of sun-scald.

C. P. GILLETE,

Enomologist, Colorado Agricultural College.

Despise not the day of the one-horse farmer, for it leads to a two-horse team.

Warranted to Give Satisfaction.

Gombault's
Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for
Curb, Splint, Sweeny, Capped Hock,
Strained Tendons, Founder, Wind
Puffs, and all lameness from Spain,
Ringbone and other bony tumors.
Cures all skin diseases or Parasites,
Thrush, Diphtheria. Removes all
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,
Sprains, Sore Throat, etc., it is invaluable.
Every bottle of Caustic Balsam sold is
Warranted to give satisfaction. Price \$1.50
per bottle. Sold by druggists, or sent by ex-
press, charges paid, with full directions for
its use. Send for descriptive circulars,
testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

ELECTRIC MATERIALS

Fire and Frost Alarms. Pumping Motors, Storage Batteries
Write 1322 Lawrence. The Electric Automatic Appliance Co.

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HIDE, FURS & TALLOW

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Office and Warehouse 114-116 Central Main Street
PUEBLO, COLORADO

Automatic

"Nu Plan" Vacuum
Cleaner

Guaranteed

Runs like carpet sweeper

Price \$15.00

Attractive proposition to
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Phone Champa 2871

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POULTRY

DEVOTED TO HIGH CLASS, PROFITABLE POULTRY GROWING

Contributions to this department are always welcome and signed articles are solicited. Send the editor little expressions of your own experience. They are valuable to other Poultry Growers.

Address Communications to Editor—Intermountain Fruit Journal and Intensive Agriculturist

POULTRY NOTES.

The best producers are not always the best market fowls.

Gentleness counts much with chickens, as it does with other birds and animals.

The necessity for fresh air has led to the great popularity of the open front houses.

Eggs and fowls used in the home should be credited at market prices. This is only fair.

When the white of an egg is watery it shows that one is not feeding a good, well-balanced ration.

Chickens should have good food and plenty of it, as well as clean, fresh water and clean coops.

Young geese are not to be picked the first year, unless you sell them dressed, a very difficult thing for the novice to do.

The things which are important in the poultry business are the things which are deemed the least important by the big raisers.

To keep poultry from roosting over feed mangers and other places that ought to be kept clean, nail a small wire four inches above the board.

PEA MEAL FOR CHICKENS.

For poultry food pea meal will be found nutritious, rice easily digested, linseed meal cathartic, potato starch digestible, barley nutritious but laxative, and oatmeal more nutritious than either wheat or barley. There is fully five and one-half per cent of fat in oatmeal. Corn contains from seven to eight per cent of yellow fat.

PROFITABLE POULTRY ON SMALL TRACTS

A young lady living in a small city had impaired her health by too confining work in a city office, says Christian Herald. Her physician ordered her to a sanitarium for rest and upbuilding, and when she returned to work he instructed her to eat four fresh-laid eggs daily; two eggs for breakfast, and the others raw, in milk. Finding it difficult to obtain dependable fresh eggs, she persuaded her mother to permit her having a small flock in the home yard. A portable house was purchased and fifteen pullets installed in it. A small brother was paid 10 cents a week to feed and care for the flock, two bags of ready-mixed food were bought, and the result of the venture was not only all the eggs the young lady needed and a supply for the family, but there was a surplus which found a ready market at the corner drug store, bringing 10 cents a dozen above the market price.

TWO COWS SEND A BOY TO SCHOOL

The product from two cows, belonging to the Kansas Agricultural College is taking George Campbell through college, paying his way and supplying milk to fifty-two families.

A story telling how a boy's expenses could be earned by a milk route was sent out about two months ago by the department of industrial journalism. The possibilities appealed to Campbell. He arranged with the dairy de-

partment for the output of two cows, a Holstein, averaging sixty-four pounds of milk daily, and a Jersey, giving about forty-eight pounds of milk a day. He inserted an advertisement in the daily papers of Manhattan, informing the public that he was prepared to supply fresh milk or cream, butter or cottage cheese. Within ten days fifty-two families had applied to him for one quart of milk every morning. Several wanted butter and a large number ordered cottage cheese.

The output of the cows averages fourteen gallons, of which Campbell is taking thirteen gallons. The milk is delivered early in the morning. If he owned these two cows and sold their product at thirty two cents a gallon he would be earning \$4.16 a day. The feed for the two cows costs less than one dollar a day.

OXYGEN NEEDED IN SOIL.

The germs in the soil which develop a nitric acid in the soil find oxygen indispensable to their life, and it is important that a large supply of it penetrate the soil. Oxygen is also needed to prevent the destruction of

LARGE S. C. WHITE LEGHORNS

Bred for Heavy Winter Egg Production

200 paid us \$1124.00 profit. Winter laying and those 40c eggs made it possible

YOU CAN DO AS WELL Guaranteed Fertile hatching eggs, Chicks and stock at Let-Live Prices, Catalog Free.

O. C. FRANTZ, Route 2,

Rocky Ford, Colorado

DISINFECTS

CHLOROLEUM

PREVENTS DISEASE

Kills Lice and Mites on Poultry diluted 1 to 50. The most economical preparation on the market used and endorsed by leading poultrymen everywhere
LIME AND SULPHUR solution for spraying fruit trees.

YOUR DEALER, OR THE AMERICAN ANTISEPTIC CO., DENVER, COLO.

S. C. WHITE LEGHORNS

Some fine laying pullets at the ridiculously low price of **\$1.25 Each**
Eggs and Baby Chicks at reduced prices for balance of season.

LEWIS R. MOWRY, 225 SYMES BLOCK
DENVER, COLORADO



Barteldes' "Best Line" of

Poultry Goods

GIVES

BEST RESULTS

Root Bee Goods in Stock

the nitrates after they are once formed and with these facts staring us in the face, it is plain that we are in danger of having the soil depleted of its needful nitrates through the destruction of the organic matter, if the land is allowed to remain too long with insufficient ventilation, as a result of poor drainage. This fact is emphasized in the works of all our soil experts. Prof. Goff, in his book, "The Principles of Plant Culture," sums the whole matter up in this terse statement:

"Drainage promotes soil aeration by forming an outlet for the surplus water that would otherwise fill the cavities. Although moisture is essential to root growth, land plants do not prosper with their roots immersed in water. True, most plants may be grown in 'water culture,' i. e. with their roots from germination grown in water that is freely exposed to the air; but the roots of land plants soon smother for want of free oxygen when the soil cavities are filled with water, because the soil tends to prevent the water within its cavities from absorbing air."

The farmers on irrigated land are especially warned against further neglect by drainage. Delay is suicidal. Procrastination is not only the thief of time, but a robber filching the possibilities of success from the farmer whose lands are saturated with alkali water.

INTERNATIONAL DRY-FARMING CONGRESS.

The Seventh International Dry-Farming Congress is to be held at Lethbridge, Alberta, Canada, October 21 to 26, 1912. During the same week there will be an international exposition of dry-farmed products, farm machinery, and labor-saving devices for the home and farm sanitation. There will also be held at the same time the Second Annual Convention of the International Conference of Agricultural Colleges and Experiment Stations, and the Second Annual Convention of the International Congress of Farm Women. There will be a conference on soil, tillage, and machinery, one on crops and breeding, one on agricultural forestry (or forestry as it pertains to the farm), one on live stock and dairying, one on agricultural education, one on farm management, and one on scientific research as it relates to agricultural subjects. Two hundred acres will be available for soil-tillage demonstrations in connection with the machinery exhibit. The secretary-treasurer, Mr. John I. Burns, invites correspondence for further information.

The Secretary of the Interior has authorized the Reclamation Service to proceed with the construction of the pumping plant, distribution system, and transmission line for the West Extension of the Minidoka project, Idaho. This extension will cover an area of 2,200 acres of high land lying about six miles northwest of Burley. Water for irrigation will be pumped by power generated at Minidoka dam and transmitted electrically down the valley. The estimated cost of the work is \$72,500.

DAIRY NOTES.

Dairy cows will fall off in milk unless they are fed grain, even if the pasture is pretty good.

The pails, strainers, cans and separators must be thoroughly cleaned each time they are used.

The best time to dehorn calves is when they are but a few days old by the use of caustic potash.

The only honest way to water milk is by giving water to the cows. They should have an abundance of it at all times.

To have a cow make a good official record is now worth more than to have her take a lot of first prizes in the show ring.

The introduction of co-operative testing associations would be a source of education and stimulus to all dairymen and farmers.

It will pay to buy wheat bran to mix with the barley or corn meal for feeding cows. Bran and barley meal, half and half, makes good meal for milk.

EXERCISE FOR BROOD SOW.

The good brood sow should have plenty of exercise right up to the time of farrowing. The best way to make certain that she will get this exercise is to have a green chop for her to graze and then feed her a little extra far enough from the pasture to compel her to take the exercise.

LET RANCH ANIMALS HAVE ACCESS TO SALT

All farm animals have an instinctive craving for salt. But if it is so placed as to be always within their reach, they will consume just as much as they need, and no more. It is only when it has been kept from them for a long period that there is danger of their eating too much. It is therefore an excellent practice to keep it in a box or boxes where they can have access to it whenever they desire. When they are salted, as is the practice with many farmers, only once a week, while some may get enough, others may suffer from a deficient supply. Salt promotes an active circulation of the blood, which never becomes thick and sluggish so long as the supply is plentiful; it assists digestion, and is often a preventive of disease. It is so cheap that no stockraiser can really afford to deny to his animals all that they want of it.

S. C. WHITE LEGHORNS
FOR SALE, at a bargain, to make room for young stock.
J. O. BARTHOLOMEW
Rocky Ford :: Colorado

SINGLE COMB WHITE LEGHORN RANCHE

I have the never quit laying Leghorns, with a record second to none for summer and winter laying. Any person desirous of obtaining baby chicks or eggs from this remarkable strain, can be accommodated by placing your order now for early delivery. Write

G. W. HIGGINS,

508 North 12th Street

Rocky Ford, Colo.

SINGLE COMB WHITE ORPINGTONS

ONE HUNDRED BREFDERS FOR SALE
EGGS \$5.00 Pr R 15

PATRICK & AIRGOOD

2428 N. Tejon St.

Colorado Springs, Colo.

Eggs! Baby Chix! Eggs!



Theres Money For You In

Miller's S. C. W. LEGHORNS

Write for catalogue and Special Combination Offer of the best incubator in Colorado filled with the best eggs in Colorado.

Address G. I. Miller, Rocky Ford, Colo.

Rose Lawn Poultry Yards

Canon City, Colorado

E. R. LYNCH, Prop.

BREEDER OF

Rose Lawn and S. C. R. I. Reds

S. C. Brown Leghorns.

and Barred Rocks

20 premiums on 21 birds at Colorado Springs Show and 12 premiums at National Western Poultry Show

Eggs \$2 per 15; \$3 per 30; \$5 per 50; \$7 per 100
Fine Cockerels and Breeders Cheap

MIX ACCORDING TO YOUR OWN IDEAS
"CHICK CRAX"
FOR SMALL CHIX
Denver Elevator Co.

RESCREENED
CRACKED WHEAT
Phone Main 456 Denver, Colo.

RADIUM SPRAY

Now a celebrated commercial necessity. Over 20,000 cans sold in Denver in 8 months. Kills by suffocation, all insects, vermin and germs that breathe through the pores of the skin. Non-poison, non-combustible, non-inflammable.

WRITE FOR OUR SPECIAL CIRCULAR. How we cured all cases of roup and sore throat at the big chicken show. Does not soil white plumage.
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628 14th St., Denver, Colo.

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48 VARIETIES—Pure bred prize winning chickens, ducks, geese, turkeys, guineas, and pea-fowls; 600 prizes to their credit, including Chicago, Minneapolis. Choice exhibition and breeding fowls at reasonable price. Circular free: 100-page catalog, 4c stamp. **ZIEMERS POULTRY FARM**, Austin, Minn. Dept. 18. 11-12

EGGS: BUFF ORPINGTON EGGS—From birds, direct from winners of firsts and specials at Topeka, American Royal and Missouri State shows and themselves winners at the "El Dorado Show," of six ribbons out of a possible nine. I am selling about half of these eggs at \$3.00 per 15 eggs; I also have choice Cockerels for sale. Satisfaction assured. **DANE HUFFINGTON**, Latham, Kansas. 1-13

MISSOURI

S. C. BUFF ORPINGTON—No other bird has met with such favor in the same length of time, why? Because they produce more meat and eggs than any other known fowl. If you want a clean pure-bred trapnested strain, let me supply you with stock or eggs. **J. W. Bear**, Warrensburg, Mo. 9-12

MAMMOTH BRONZE TURKEYS—That are Mammoth, Chrystal White Orpingtons that are white. **S. C. Brown** Leghorns and **B. P. Rocks**, all from prize winners. My entire flock of **B. P. Rocks** or sale cheap. Also prize winning young turkeys and Poland China Hogs. **MRS. ALICE CURNUTT**, Rt. 9, Box C, Montserrat, Mo. 11-12

And when the flies begin to swarm, Use Radium Spray and they do no harm.

S. C. BUFF ORPINGTON—My pens have been mated since the 1st of January, with about as fine a lot of pullets and yearling hens as you could get together. Write for mating list; it is free. **J. W. BEAR**, Warrensburg, Mo. 9-12-s

MAMMOTH BRONZE TURKEYS—Hadley strain. Tom weighs 50 lbs., hens 23 to 30 lbs. Eggs \$10.00 for 12 from great Missouri State prize winners. **INDIAN RUNNER DUCKS**, Blue Ribbon Winners in 1909, 1910, 1911, 1912, fawn and white 260 egg strain. Price of eggs, \$2 for 15; \$3 for 30; \$3 for 100. **S. C. Brown** Leghorns, pure bred stock, eggs \$1 for 15; \$5 for 100. **M. H. Schlotzhamer**, Pinos Grove, Mo. 11-12

SARVER'S POULTRY FARM, Mt. Moriah, Mo., Breeders of Buff Wyandottes and Narragansett Turkeys. If you wish to know about Eggs for hatching, write us for our mating list. Satisfaction guaranteed. 9-12-s

FOR SALE—Stock from a \$250 pen of Crystal White Orpingtons direct from Kellerstrass, at reasonable prices. Cocks, cockerels, and pullets. **Mrs. W. H. Vreeland**, Pattonsburg, Mo. 9-12

SUNNY CREST FARM—Offers eggs from their high scoring prize winning pens. **S. C. Buff Orpingtons**, White Wyandottes, **S. S. Hamburgs**, White Leghorns, also pure fawn and white India Runned Ducks, \$1.50 per setting. **E. D. NEWKIRK**, Edina, Mo., R. R. No. 4. 9-12-s

NARRAGANSETT TURKEYS—The Farmer's favorite, 3 farms stock on each not related to the other. Pens, trio or single birds at reasonable prices. Satisfaction guaranteed. **George Carver**, Mt. Moriah, Mo. 9-12

THE AMERICAN BIRD—Not the eagle, the Barred Plymouth Rock, the staple of the world. Three strains Ostrich Plumes, Ringlets and Blue Bells. The best blood lines in the world. Catalog free. A sweeping show record. **J. A. Ayers**, La Plata, Mo. 9-12

POULTRY

NEBRASKA

THE ROSELAWN FARM BREEDER OF S. C. BUFF ORPINGTONS POULTRY AND DUROC JERSEY SWINE—I am offering stock for sale that are first class in every way. I have the show birds this year that I have never had before. I have them Buff from one to the other great size and fine make-up, and I will sell them for the money they are worth. You don't have to go east to buy your show birds. I have them and you won't have to pay from \$50.00 to \$100.00 for them either. Give me a trial and see if I don't treat you right. I have birds from \$2 up, and by inquiring please state just what you want, then I can tell you the price in first letter. **JOHN T. STADLER**, Box 257Q, Minden, Nebr. 11-12

EGGS—From Toulouse and Emden geese, turkeys, Houdans, Leghorns, Rhode Island Reds, Wyandottes, Hamburgs, Orpingtons, games, Plymouth Rocks, Langshans, Cochins, pearl and white Guineas, Bantams, Pekin, Ronen, Muscovys and runner ducks. Hen eggs 15 for \$1; by the hundred, reasonable. Also dogs, rabbits and all kinds of fancy pigeons. Write for free circular. **D. L. Bruen**, Platte Center, Neb. 2-13

EGGS—S. C. BUFF ORPINGTON—Best of quality, prices and guarantee. Free circular will convince. \$5 per 100 up. Box W, Alfalfadell, Farnum, Neb. 7-12s

S. C. BUFF ORPINGTONS—Won 1st, 2nd and silver medal, Nebraska State Show, 1911. Get hard times prices and money back proposition. Sale now on. Alfalfadell, Box W, Farnam, Neb. 7-12

THE S. C. BUFF ORPINGTON FARM has for sale 50 Cock and Cockerels; 50 Hens; 50 Pullets that are good shape, also color. Taken 1st, 2nd, 3rd and 4th prizes at Nebraska show, also 1st at Denver. **John T. Stadler**, Minden, Neb. 11-12

BARNARD'S WINNING BARRED ROCKS—They lay, they weigh, they pay. If in need of stock or eggs of high quality send for my mating list, giving list of winnings and fully describes my stock and prices of eggs. **Jno. Barnard**, Box 3, Portland, Neb. 10-12-s

EGGS—Buff Cochins, Muscovy and Rouen ducks; Toulouse Geese. **Gartner Bros.**, Coleridge, Nebraska, 54.

OHIO

BUFF AND BARRED ROCKS EGGS for hatching, \$1 for 15 or \$1.50 for 30, good size, shape and color. Farm raised and healthy; 11 years experience. **Grand View Farm**, W. C. M. & Co., New Concord, Ohio, R. F. D. No. 1. 7-12

OREGON

FOR SALE—Single Comb Ancona Cockerels, Winners of First Prizes at Salem State Fair, 1910; at Portland, 1910; at Salem State Fair, 1911, and at Marion county poultry show, 1911. Eggs and D. O. Chicks in season. **R. Wooley**, 1709 Ferry street, Salem, Oregon. 11-12-s

UTAH

CRYSTAL WHITE ORPINGTONS—Kellerstrass Strain. Our birds are winners at the three leading fall fairs. Stock and eggs for sale at all times. **Charles McClure**, Tremonton, Utah. 9-12

WASHINGTON

CRYSTAL WHITE ORPINGTONS—Kellerstrass strain; single and rose comb mottled Anconas, Sykis and Sheppard strains. I am booking orders for eggs and baby chicks. Send for catalog and note my winnings. 11-12

IRA N. DeLINE, Olympia, Wash.

POULTRY

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THE HENS PROPER BUSINESS IS TO FILL THE EGG BASKET—Average laying record of my **S. C. White Orpingtons** in the winter month: 23 eggs per hen and month. Bred to standard requirements. Pay only for quality not for breeders name. 15 eggs \$4.00, \$2.50, \$1.50; strictly fresh and packed with care. 11-12

REV. G. DETTMAN, R. R. 6 Appleton, Wis.

1912 Fruit Market Outlook and Necessity for Grading

By **N. C. SCHELLENGER**, Ogden, Utah.

There will not be an over production of fancy market apples, but there is that danger with the lower grades. There is every assurance of a big crop of apples and peaches this year in practically every fruit growing district and the market problem will be a proportionately difficult one for the grower to solve. There are two questions confronting you which in themselves govern the amount of your profits, or the extent of your loss on the season's crop:

First, the marketing problem.

Second, the cost of production.

No one can make money raising good fruit and selling it for low prices, but that is all you can expect for good fruit which lacks uniformity of grade. The fruit grower's market lies with the masses who live in the centers of population. These city people are accustomed to modern business methods and to get their custom one must recognize and be governed by the conditions. Fresh fruit is not a necessity of life, but on the contrary is a mild form of luxury to the city man and his family. Is it good business to try to market a luxury without making it appear at its very best and putting it in a form that will attract the attention of and tempt the purchaser? No, it is not. The modern merchant displays his goods in the most attractive manner he can devise and hires expert window dressers to arrange the window displays to attract the passerby. His greatest profits are not made on the necessities of life, but on the luxuries, and to sell them they must be made to look their best. He studies the demands of his trade and by catering to it succeeds where the merchant who does business the same as his grandfather did, fails. City people are very observing, when they find an article that pleases them they look for the brand and not only call for it thereafter, but tell their friends of their discovery. They are the most liberal users of luxuries, but they will not pay a high price for a scrubby, unattractive looking article. If the fruit is attractive, looks delicious and then fulfills in use every expectation of the purchaser, you have gained a

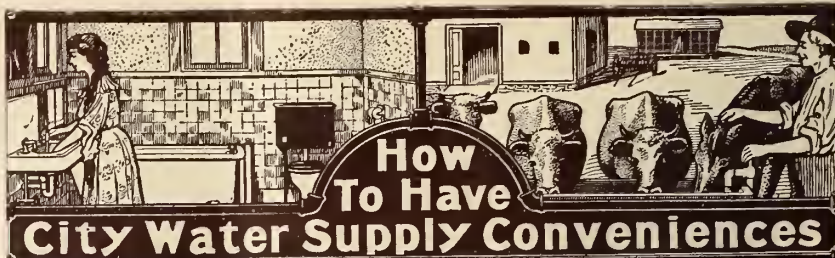
new and permanent customer. This is creating the demand and it is the advertising upon which the grower must depend. You are not raising fruit for one or two seasons only, but it is a life work and to succeed, like the merchant you must build up a trade for your brand, merit being its foundation. The barrel or box should be properly labeled, stating the variety, number of apples or peaches contained in it, together with your name and address. Growers who do take pains to grade and pack their fruit right enjoy ready sales of their crops and good prices. They not only establish reputations for themselves, but for their districts as well. It is a recognized law among manufacturers that you cannot increase the demand for an article by offering an inferior grade to the consumer or patron. Of course you are not going to be content with bottom prices for good fruit when accurate grading is the sure road to fancy prices.

In regard to the cost of production, no grower of commercial fruit can afford to let an item incident to producing the fruit cost more than is absolutely necessary. The cost of labor to grade and pack the fruit by hand is a heavy expense. Added to this is the trouble experienced in getting sufficient and competent help. Nor is this all, there is the question of getting the force properly organized so things go forward smoothly and with dispatch. The demands upon the grower are so many and pressing he finds it impossible to meet them all and properly supervise the work.

The result is his crop is not packed out as it should be or as he would have it. The question then arises, how can the small grower, as well as the large, meet the demands of the modern market? The answer is, by employing improved and modern methods.

As a solution to your problems we invite your attention to the Schellenger Fruit Grading Machine, manufactured in Ogden, Utah. This machine is the pioneer apple and peach grader. It was first placed upon the market just prior to the 1911 packing season and it immediately found a demand not only in excess of the company's estimate, but in excess of the factory's capacity. Every machine, both the peach graders and the apple graders, gave entire satisfaction to our customers in the various fruit districts from the famous Pacific Northwest to as far east as the New England states. In our booklet entitled "Modern Methods of Grading and Packing Fruit" we publish a large number of endorsements we received from prominent growers who used our 1911 machine. This book contains much valuable information to fruit growers and will be of interest and value to you. We will gladly mail a copy free of charge to any address upon request.

After the fruit has been accurately graded according to its cheek-to-cheek diameter into six size grades a new beginner can put up the famous "Tier Pack" with a few hours practice. Not only that, he can average twice as many packed boxes per day as the expert packer using the old method, whose claim to high wages lies solely in his ability to determine by his eye the exact size and classification of each apple.



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THE INTER MOUNTAIN **FRUIT JOURNAL**

AND INTENSIVE AGRICULTURIST

VOL. V; NO. 6

JULY, 1912

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VOLUME V

JULY, 1912

NUMBER 6

Orchard Management in Relation to Fruit Fairs

By R. S. HERRICK, Field Horticulturist, Grand Junction

Upon careful examination of fruit at fairs in the fall of the year one can generally tell what kind of treatment the orchard received during the year from which the fruit was collected. It is possible, however, to gather first class show fruit from neglected orchards but this is not the rule. The time is at hand when our fruit fairs are more representative of the kind of orchards that we maintain. And this is being more emphasized by the fact that people who win the prizes are those who give much care and attention in caring for the orchard throughout the year.

The spring of the year is the proper time to commence to think about and prepare for the fairs which are to be held in the fall. If one tries to grow exhibition fruit on all of his trees the chances are that he will have first class fruit for market purposes. Competition is growing keener and it is now necessary in order to obtain the highest price to grow only the very best. In order to do this, careful attention must be paid to the various phases of orchard management. Careful individual study of each tree should be made to ascertain its vitality, general condition, etc. The first thing to be considered in the orchard is the sanitary condition, such as proper drainage, and fertility, and the physical condition of the soil. One should see that the soil contains plenty of humus or decayed organic matter, since without this element plant food becomes unavailable, the soil

does not take moisture well and does not hold it when it is applied.

One should look carefully after the pruning to see that the branches are stocky, capable of supporting a heavy load of fruit, allowing plenty of sunlight to penetrate, securing the proper spread and not allowing the tree to grow too high. All these will have much to do with securing a better grade of fruit for the market and the fair. The trees may require a very heavy thinning, this to be done some time during the latter part of June or the first of July. Thinning facilitates selecting and grading the fruit in the fall as fewer culled and ununiform apples will have to be handled. Such varieties as the Winesap and Missouri Pippins should be thinned to about eight or ten inches apart. When thinning, do not look at the apples which have fallen to the ground but notice only those still remaining on the tree. See that each one is so located that it will not become limb bruised caused either by limbs or by wind. All wormy fruit should be picked off and destroyed. All doubles broken, as they often do not obtain the proper size and give the worms a better chance to enter on the side.

Fruit fairs should be patronized by every orchardist and it should be the aim of each to display the representative fruit of his orchard so that the total selection would be a fair representative of the locality. The orchardist should spend but a few minutes in selecting show fruit but

should bear in mind during the whole season that his object is to grow the best fruit possible on every tree, not only for show purposes but for the market. In a way, every one likes competition, especially if he thinks he stands a show of winning, and it should be the object of every orchardist not only to win premiums at the fairs but to put upon the market the very best product that the market demands. Everyone likes to see and hear of honest advertising and there is no better way to do this than to grow show fruit that competes with the best, whether it be for the fruit fairs or for the market.

WONDERS OF INTENSIVE CULTIVATION.

American farmers have much to learn, if they ever decide that it is desirable to learn it, with regard to intensive cultivation.

United States Consul Robert Frazer, Jr., of Valencia, Spain, has written to the state department to the effect that in the Province of Valencia families subsist on the produce of four-tenths of an acre of land and that as many as 160 families live on 100 acres. The cultivation is by hand, little machinery being used, and the land is officially valued at an average of \$656 an acre. Rainfall being insufficient, irrigation is necessary, but the production is enormous, amounting to more than 1,000,000 metric tons of oranges, olives, grapes and other crops.



COMMERCIAL
ORCHARDS
AT
SPRING GLEN
NEAR
PRICE
UTAH

Courtesy of
D. & R. G. R. R.

Instructions for Picking and Packing of the Peach Crop

By CARL K. RUPP, Horticulturist, Grand Junction

Owing to the fact that peaches are in transit from six to ten days, consideration must be given to the picking of this fruit at such a stage that it is fully matured and still not too ripe to withstand transportation and handling. This state of ripeness is easily detected by the color of the fruit at this period, namely by the red, which is generally a solid color, beginning to break and appear mottled with the yellow hues of the skin. If picked just as this mottled condition begins to appear, peaches will be mature and still in condition to carry well to our markets.

Great care should be exercised in picking and handling of peaches, as they stand less rough handling than any of our staple fruits. Because of this, it is advisable to grade by hand and pack directly from the picking boxes or carriers, as mechanically graded peaches show more or less bruising from rough handling. It takes but a very short time for a packer to learn to grade their fruit properly as there are generally but two sizes. The Extras and Fancies, in crops that have been properly thinned and grown. It costs but very

little, if any more, to handle them in this way rather than by machine. The better condition and less loss of the fruit justifies what little additional expense there might be.

In making boxes be careful to place sides very near the lower edge of the end, thus avoiding too large cracks along the bottom at the side of boxes.

In grading for packing, none but perfect peaches should be packed. Cull out all over ripe, specked, bruised split pit, misshapen or wormy fruit; and care should be exercised to have none but peaches of uniform sizes packed together.

In packing peaches the paper is usually placed to the left of the packer and the fruit at the right. The packer picks paper with left hand, holding it flatly over the palm, and fruit with right hand placing point or calyx end of peach in center of paper and folding paper neatly over the stem, placing fruit stem end down on folds of paper; except Elbertas which are placed and wrapped on their sides and because of their long shape, packed the long way across box.

Great care should be exercised not to allow ragged edges of paper to protrude from the sides of the boxes, as

neat packages have a great deal to do with the sale of the fruit.

PEACH PACKS USED IN THE GRAND VALLEY.

EXTRAS.

45—(3-2)x(4-5)	65—(3-2)x(6-7)
50—(3-2)x(5-5)	70—(3-2)x(7-7)
55—(3-2)x(5-6)	72—(3-3)x(6-6)
60—(3-2)x(6-6)	78—(3-3)x(6-7)

90's OR FANCIES.

96—(3-3)x(8-8)	84—(3-3)x(7-7)
90—(3-3)x(7-8)	

108's OR CHOICE.

102—(3-3)x(8-9)	108—(3-3)x(9-9)
-----------------	-----------------

Figures (3-2) and (3-3) have reference to the manner in which the fruit is placed in the box. Figures (4-5) to (9-9) have reference to the number of peaches in alternating rows running lengthwise of the box. To pack the 3-2 pack, place a peach in each corner at the end of the box and divide the space remaining with the third peach. This leaves two spaces in which to place the next two peaches in pockets thus formed and so on through the layer; place the fruit of the top layer into pockets left in the first layer. In this way no peach rests directly on the one under.

To pack the 3-3 pack place one peach in the corner of the box and divide the remaining space along the end with two other peaches. This leaves three spaces or pockets in which to place the next three peaches and so on through the layer and placing second layer as explained above.

Care should be taken that fruit fills the box properly using boxes measuring $11\frac{1}{2}$ inches x 18 3-8 inches and $4\frac{1}{2}$ or 5 inches in depth, according to the size of peaches packed. The cover should just touch peaches without much bulge but still holding them firmly in place. Use only two-four penny nails in each cleat used on the cover of the box, nailing through cleats only. Stamp variety, grade, grower's number and packer's number neatly in the upper left hand corner of the blank end of the box.

Salting is one of the most important parts of good butter making. It takes an artist to know just how it should be done.



IRRIGATING AN ORDHARD IN THE ANIMAS VALLEY OF COLORADO
Courtesy of D. & R. G. R. R.

Control of the Fire Blight in the Pear Orchard

Fruitgrowers and orchardists, and all owners of fruit trees in general, are warned of impending dangers to their orchards through the ravages of a disease known as pear or fire blight and which is known to prevail to some extent in Idaho at present. While the presence of the damaging disease has not yet threatened any serious damage, yet it is known that many orchards have already felt the sting of the blight and radical steps are necessary at once to prevent the further spread of the affliction.

The blight not only attacks pear trees, but from cases reported to the state horticultural department the last week, apple trees, in many instances,

are suffering, and in a few cases the fruit itself bears the marks of blight.

Nature of the Disease.

"This disease is commonly known as pear or fire blight," says J. U. McPherson, Idaho horticultural inspector.

"It is a contagious, bacterial disease and its effects are worse upon pear trees than any other fruit, but this year it has done considerable damage to the pear, quince and the apple, as well as fruits of the same.

"It attacks and rapidly kills the blossoms, young fruit and new twigs, and runs down the living bark to the larger limbs, and from there on to the trunk of the tree. While this disease

rarely kills the leaves, it does kill the stems, and eventually the leaves will die from the attack upon the limbs.

"The part of the tree that is killed by the blight is the inner bark and the cambium layer. When the bark of the limb is killed the whole limb soon dies, but where the limb is simply girdled by the disease it may send out leaves again the next season and then die. The parts of the tree below the parts reached by the blight are healthy. The work of the blight and the severity of it varies according to the weather and the climatic conditions.

How It Operates.

Sometimes it attacks only the blos-

som clusters, or perhaps only the young tips of the growing twigs sometimes it runs down on the main branches and trunk, and again it extends down only a few inches from the point of attack. The sudden collapse of the foliage on blighted branches is evidence of the work of the blight. The rate that this disease progresses will vary according to the weather. It will travel as far as from two to three inches from the point of attack in one day, but has been known to travel as much as a foot.

Warm, moist weather is conducive to the development of the disease.

Work of Wasps and Flies.

"Bees, wasps and flies are a medium by which blight is carried from tree to tree. Whenever a tree is blighted there is a certain amount of secretion of gum that will come out in and around the effected parts, and the different insects in walking about on this gum, and flying from there to uninfected parts will infect other trees by carrying this disease on their feet or parts of their bodies.

Only Remedy Known.

"There is but one remedy known at the present time and that is the constant use of the pruning knife and saw. All of the effected shoots, limbs or twigs, as well as the affected fruit, which shows any signs of this disease should be cut off at once and burned. The cut should be made some five or ten inches below the effected parts, and after each cut the knife or saw should be disinfected by dipping it into a solution of kerosene or of carbolic acid."

Solving the Labor Problem in the Western Slope Districts

By LOUIS MEYER, Clifton, Colorado

Twenty thousand people is a low estimate of the men, women and children it will require to handle the fruit crop of the Western Slope of Colorado this year.

Of this number, possibly fifteen thousand will come from fruit cities and the orchards where the work must be done, while the remainder must be imported for the harvest.

Five thousand people, in addition to those already on hand must then be added to the population of western Colorado during the ninety-day period, say from August 20, when the first of the Elberta peaches will be ready for shipment at Palisade. Fortunately, the Elberta crop does not all ripen during the same period on the Western Slope, and the people from the various peach-growing communities are thus enabled to help each other during the rush season.

At Palisade, Clifton, Paonia, Delta, and other towns on the Western Slope the growers have organized labor bureaus which are expected in a large measure to solve the problem, which otherwise each grower would individually be forced to work out.

These bureaus are organized along exceedingly simple lines, as is the one in Clifton. The mere suggestion in

the news stories published in Denver and other papers, of the big harvest has sufficed to send a flood of inquiries into the fruit districts, from people wanting the work. Many of them, without waiting for anything additional to guide them, have rushed into the Grand Valley intent upon getting work. Most of them are disappointed because the real need of fruit packers and pickers will not be apparent until after the middle of August. At that time the Elberta season begins at Palisade, followed a week later at Clifton, and Grand Junction and probably two weeks later in the Paonia, Hotchkiss and Delta county districts. Then as soon as the peach rush is over the apple harvest will begin, and continue until about the middle of November, so that there will be work in the fruit districts for a period of three months.

Each written request for work in the fruit fields is answered by the various labor bureaus, giving definite information as to just when harvest hands will be required, and also defining the wage scale to be paid. The same scale has been adopted at Palisade and Clifton, and presumably will be followed in the other fruit sections.

The maximum wage for pickers will be thirty cents for experienced hands, and twenty-five cents per hour for those lacking experience. Fruit picking, particularly in peaches is a fine art, and it requires unusual skill to be able to ascertain when the peach is ready for market. For packers, a maximum wage scale of two and a half cents per box has been fixed for ungraded peaches, with two cents for graded fruit. Experienced girls have been known to pack as high as two hundred boxes per day, so that the wages to be earned can be considered very remunerative.

The growers have also agreed to charge not more than twenty-five cents per meal to the workers, and the eating houses are also bound by this scale.

Many of the experienced workers plan on bringing tent equipage with cook outfits and camping out for the season. This is highly essential in many cases, as it is extremely difficult to provide for the additional help required during the harvest. The ranchers also agree to provide free camping spots for workers who bring their own outfits.

The growers are required to notify the bureau of their needs, which in



STRAWBERRY FIELD AND APPLE ORCHARD IN UTAH VALLEY

Courtesy of D. & R. G. R. R.

turn keeps in touch with the packers and pickers, thus insuring work during the entire season where possible. The bureaus are supported by a charge of twenty-five cents, to be paid both by the employer and employe. This amount, however, will not be sufficient to pay the entire expenses and the fruit association agree to make good any deficit.

The Delta county growers have adopted a different plan of assessing a one mill tax on each box of fruit shipped, which is expected to raise a sum sufficient to maintain the employment bureau.

The Colorado railroads have granted the requests of the associations for a half fare rate into the fruit sec-

tions during the harvest months, these rates becoming effective July 15, and continuing until December 1. Rates may be obtained upon presentation of credentials from the bureaus.

The labor question is one of essential importance for the peach grower, as the Elberta season lasts but about two weeks and haste is imperative to avoid loss from over-ripe fruit. On a ten acre ranch this means the marketing of an average of nearly 1,000 boxes of fruit daily for almost the entire two weeks period. It is estimated that a packer and picker together will handle on an average of from 100 to 125 boxes of fruit per day. This means that a force of about twenty

people will be needed during the rush period to properly harvest an Elberta crop. If there should be a rain or unusually hot weather, thus ripening the peaches in a hurry, it might become necessary to almost double this force.

Two years ago at Palisade thousands of boxes of peaches were permitted to rot on the trees because of insufficient labor to handle it, but this year there will be no such loss because of the preparations made to supply sufficient help.

It is estimated that the Western Slope counties will ship approximately 5,000 cars of peaches this season, which is almost double the largest crop of any in the history of Colorado.

Development of Waterworks Systems for Rural Communities

The Colorado Agricultural College has taken a great deal of interest in everything that tends to more comfortable and satisfying life on the farm. There is nothing more needed than that conditions of work for the

or cistern immediately over the kitchen sink and a dry earth closed with a covered laticed passageway from the house. If the head of the family won't clean a dry earth closet, he ought to be made to do the room

the principles of water filtration and sewage purification have been laid before many farm audiences.

In many parts of Colorado there are thickly populated regions without any supply of well water. In such regions, water must be hauled from cities or streams, or ditch water be filtered and stored in reservoirs and cisterns. It so happens that this is true in much of our fruit districts where places are small, values high and population relatively large.

The last legislature passed and the governor signed a bill which, now law, empowers municipalities to sell water through pipes to people resident outside the city limits. At Loma, on a recent institute trip, Mr. Edward Weckel called Mr. Fitch's attention to another step needed. Mr. Weckel has drafted a bill giving to rural districts the right to organize and issue bonds for constructing reservoirs and filter beds and laying pipe lines for water to be used for domestic or other purposes. There are many localities where such powers would offer the cheapest and best way to secure water for house and stock, and of a quality to insure healthfulness. We suggest that editors of papers in fruit regions, ministers, doctors and others interested in rural welfare, particularly legislators and candidates for the legislature, get in touch with Mr. Edward Weckel at Loma, Colorado, and push along this good idea so needed in many places.



TRUCK GARDENING AT ALAMOSA, COLORADO

Courtesy of D. & R. G. R. R.

farm women should be made as convenient as possible. So far as the family's means will permit, the kitchen should be arranged for the fewest steps possible between the range, the sink, the pantry and the table. There can be no possible excuse for a farmer who is getting ahead to have better appliances for his work than are provided for the housework. This usually does not mean complicated equipment, but only a little careful thought and rearrangement — sometimes the rebuilding of a chimney or the elimination of a step between rooms of different level.

The water supply and the disposal of waste water and sewage are very important parts of such a plan of improvement in the convenience and comfort of the farm house. Only genuine poverty can be sufficient excuse for not having a pump or other water supply from tank, well

work and care for the baby for a year.

As a general proposition, in Colorado, farm women and farm men can arrange these things if only they have the need brought to their attention. To this end, Supt. C. H. Hinman, of the Extension Department of the Agricultural College, Bacteriologist W. C. Sackett, and Mr. C. L. Fitch, who is familiar with farm improvements in Weld county, have delivered lectures upon the question of water supply and sewage disposal at many farmers' meetings at the College and over the state. The Extension Department has published a circular upon the construction of septic tanks which will purify the sewage so that it can be used in garden irrigation or turned into streams, with safety. Plans for farm waterworks, ranging from the simplest to the most complete, have been submitted, and

IRRIGATION BY SPRINKLING.

Irrigation by sprinkling is being tried in California, and is meeting with favor, the only drawback being the cost of installation, which comes to about \$150 an acre. For offset it saves the cost of leveling the ground, as is required for irrigation at grade, and it is said that by turning on the spray during a cold night the air can be kept above the freezing point.

HE WILL HOLD HIS BEST.

When you buy dairy cows remember that if you are buying from a dairyman who intends to continue in business the chances are that you are not getting the best that he has.

Carrying the Rural Problems Into Our School System

Urging a greater interest in rural problems and in the introduction of agricultural enthusiasm into the school room, Dr. James Withycombe, director of the experiment station, spoke recently before the teachers gathered at the Oregon Agricultural College summer session.

"The supreme purpose of education is citizenship," said Dr. Withycombe in introduction. "Thus the cardinal principle that should dominate our common school work should be education for efficiency. We are citizens of a state marvelous for its agricultural opportunities, yet we present the peculiarly anomaly of having only about 30 per cent of our population living upon the land.

"As a nation we have made tremendous progress; for example, while we have only 7 per cent of the inhabited area of the world, yet we have two-fifths of the bank deposits and banking capital of the world, over one-third of the railways of the globe and we produce over one-fifth of the world's wheat, three-fourths of the world's corn, and one-fourth of the oats. This fabulous production, however, is not due so much to our good methods of farming, as to the great fertility of our virgin soils. This fertility through faulty methods is being rapidly exhausted; hence every rural person is interested in methods for its future conservation.

"While we are producing immense quantities of agricultural commodities, the fact remains that according to our present increase of population the question of feeding our people is a vital one. Statistics show that our population doubles every twenty-five years. According to this, in about 50 years we shall have some 400,000,000 people in the United States.

"There is not a great deal of undeveloped agricultural area left when we will have reclaimed through irrigation and improved methods of dry farming that which is not now occupied. When we consider this great economic problem it certainly seems

that the school children of our country should get some idea early in life regarding their probable solution.

"The pupils in the lower grades should have their attention directed to some phase of agriculture, as this is our great basic industry. Teachers should have a deep sympathy and interest in rural affairs. They should get hold of some examples of successful farmers and bring them in some way to the attention of the boys in the public schools.

"A farmer in this county for example, last year harvested \$8,000 worth of clover seed from 80 acres of land while his neighbor on a similar area in two seasons, including a summer fallow, raised but 35 bushels of wheat an acre, worth only \$25 an acre, with perhaps double the cost of production per acre. This should be shown the students and it may possibly excite their interest in clover growing.

"A good plan would be to secure a clover plant, or one of vetch or some other league, and show the nodules on the roots, explaining the nitrogen organisms thereon, and their beneficial effect on the soil in regard to crops. Again, another good educational feature would be to secure some good, typical, rural scenes as pictures to hang on the walls of the school—fine horses, high class swine and cattle, good poultry breeds—and occasionally call the attention of the children to their merits. In this way the boys will begin to think there is something in agriculture.

"I am not a very firm believer in elementary agriculture in the public school, but I do favor making it elemental fundamental agriculture. Rural economic problems could be presented, as the question of co-operative marketing, buying and selling, and co-operative banking, thus calling the attention of the pupils to methods of reducing the great cost of marketing the products of the farm. This would be a great benefit to the producer and the consumer as well, in the next generation.

"Since agriculture is our great basic industry, this work should be emphasized in all our public schools. Of necessity 90 per cent of our population must choose industrial occupations. In a state like Oregon, agriculture is the great field of opportunity."

RIO GRANDE BUDGET PROVIDES FOR EXTENSIVE IMPROVEMENTS

Vice-President Brown of the Denver & Rio Grande railroad has just given out particulars regarding the 1912 budget.

The gross expenditures will approximate six million dollars, of which two and one-half millions will be spent for equipment and the balance on double track and improvement of terminal facilities.

During the past week orders for 16 Mallet compound locomotives of the articulated type were given the American Locomotive Works of Schenectady, New York, and the Baldwin Locomotive Works of Philadelphia, received an order for fourteen Mikado type freight locomotives. An additional order for six passenger locomotives will be placed within a few days and also a contract for seven hundred box cars, three hundred fifty coal cars, one hundred stock and fifty cabooses.

A contract for nine miles of second tract between Castle Gate and Kyune, Utah, has been given the Kilpatrick Bros. of Beatrice, Nebraska. With this stretch completed, Denver & Rio Grande will have a continuous double track line from Helper to Tucker, Utah, a distance of thirty-three and two-tenths miles. Ten thousand tons of eight-five pounds steel rail will be used in relaying track at various points during the coming summer. A large sum of money has been appropriated for improving terminal and junction point facilities and much side track will be added during the present summer.



HAYING
SCENE
ON
A
WESTERN
IRRIGATED
FARM

Courtesy of
Plattner
Implement
Company



SAGE-BRUSH MESA LAND ON MARRS PROJECT AND DITCHER DRIVING A LATERAL

New Irrigation Project in the Lower Grand Valley

By CLYDE H. SMITH of the FRUIT JOURNAL Staff

Right on the edge of the great American Desert, just above the rocky rim of the Canon of the Lower Grand River Valley in Utah, some 50 miles west of Grand Junction, Colorado, one of the big battles of reclamation at the hands of private capital is being waged. Desiring to obtain first hand information of the size and merits of this proposition the writer boarded a west bound Rio Grande train out of Grand Junction which dropped him off an hour and a half later at the little station of Marrs in the cool hours of the early morning.

Our first conception of the project, as we started on our four mile drive from the company store to the storage reservoir, located on the head waters of Cottonwood Creek, was the ideal character of the soil and drainage for the purpose of commercial fruit growing. The upper section of this project adjacent to Marrs and the storage reservoir is almost uniformly a fine red sandy loam. Just across the tracks of the Rio Grande railroad which traverses directly through the heart of the whole project, the wagon road runs adjoining to the main canal, which has been completed for a distance of five miles below the reservoir.

The monster sixty horse power Vulcan steam ditch digger stood at the end of the lateral. This is being used to drive the main canal for a distance of 20 miles from the reservoir to a point beyond Cisco, the next station West of Marrs. Along the road from Marrs to the reservoir, we found a large crew of men and teams with scrapers rapidly leveling the main canal up to grade and filling out the banks, getting it in readiness to turn water in this month on the first unit.

Water Shed and Reservoir.

On our arrival at the main reservoir on Cottonwood Creek and after spending several hours driving over the surrounding hills which gave us a fine view of the entire water shed extending back for a distance of eight miles through the foothills to the Book Cliff Mountains. It is our thorough belief that this project is destined to be one of the finest storage irrigation systems in the West. The first unit of the reservoir and project is practically complete. At the present time a force of men and teams are at work putting the finishing touches on the top of

the fill which extends for a distance of 1,200 feet across the narrow gap at the convergence of the channel of Cottonwood Creek. The engineers, Mr. Hoyt Whipple and Mr. S. E. Guthrey informed me that the foundation of the dam is rip rapped and interwoven in piling across the entire base of the gap. This was filled in with gravel and dirt to a height of 30 feet, converging at the top with face wide enough to drive three teams of horses side by side, and the entire front side of the reservoir is faced for a depth of several feet with crushed rock.

Although the flow of Cottonwood Creek was not stopped until about a month ago, at the present time the reservoir is nearly one-third full. Measurements and geological surveys for the past several years show that the flow of the creek is about its lowest during the time mentioned. The present capacity of the storage reservoir under the first unit is 1,200 acre feet and as the summer rains and flood waters begin the last of this month, the writer is thoroughly convinced that there will be no trouble in making at least two fills of the reservoir per season.

As the company only calculates to

irrigate between 1,000 and 1,500 acres under the first unit of construction whereas two fills of the reservoir would provide water for 2,400 acres, it can be readily seen that they are operating on a conservative basis. The Grand Valley Fruit and Water Co., which is constructing this project is developing along systematic lines. The project as a whole is well adapted to this end.

The company already has laterals and main canals sufficiently developed and water in the reservoir to irrigate this year several hundred acres. However, with over nine months of time before the land owners will have need of water for irrigation for next year, it can be seen that the company will have no difficulty in being prepared to deliver the water for the first unit.

The First and Second Units.

In order that the reader may clearly understand the plan of development of this project, we have divided it into units. From what has already been written, it will be seen that the first unit of construction, which is now practically complete, includes the building of the storage reservoir on Cottonwood Creek to a height of 30 feet; 10 miles of construction on the low line canal, one-half of which has already been completed; a diagonal lateral to divert the water to the upper section of the project adjacent to Marrs and two other additional laterals, several miles in length, at necessary points on the main canal below Marrs and above the station of Cisco.

As the work on these laterals can be done almost entirely with plows and scrapers, this section of the work will be rapidly completed. The additional cost of the completion of the second unit will be comparatively simple as it consists principally in extending the height of the storage reservoir to 50 feet, which will provide for a storage capacity of 5,000 acre feet per fill, and the extension of the main canal to a distance of 20 miles, which will complete the low line canal system.

Geological surveys and measurements on the water shed of Cottonwood Creek, extending over a period of several years, show that the reservoir at the second unit of development will fill one and one-half times



SIXTY HORSEPOWER VULCAN STEAM DITCHER ON MAIN CANAL



VIEW OF A SECTION OF STORAGE RESERVOIR ON COTTONWOOD CREEK

per season and furnish ample water for irrigating between 6,000 and 8,000 acres. Following the completion of the first unit, including main canals and laterals, it is the plan of the company to continue the work of construction on the storage reservoir for the second unit so that there will be no delay in supplying the water as demanded for the second unit.

Final Plans of Development.

Were it not the intention of the company to proceed with the construction of this project beyond the second unit, it would at that stage of development be a remarkable example of its type in the West. For the purpose of this article, we will not at this time consider the inducements of the proposition for present settlement beyond the second unit. However, we cannot refrain from outlining to our readers in this connection, the further development of the project in order that the scope and character of the project in its finality may be thoroughly understood.

The geological survey and measurements of the water shed of Cottonwood Creek show that it drains an area of 180 square miles including a section of the Book Cliff Mountains and the foothills, which extend for hundreds of miles from Western Colorado through Utah. It is this range of Book Cliff Mountains that comprise to a material extent the water shed which furnishes the drainage and flood waters for the Green River in Utah and the Grand River in Colorado. The two streams named are the largest rivers between the Missouri Valley and the Pacific Slope.

With the third unit of construction, in addition to the water shed on Cottonwood Creek, at a reasonable cost, the plans provide for the construction of a small reservoir dam at the convergence of West Water Creek and a diversion canal, six miles in length, emptying into the Cottonwood Creek reservoir and increasing the height of the storage reservoir on Cotton-

wood Creek to 65 feet. A storage capacity and water supply of 24,800 acre feet per fill will be provided.

One would think that this would be the final stage of development for the project, but as a matter of fact the fourth unit of development is of even greater extent. This comprises an increase in the height of the storage dam on Cottonwood Creek to the 115-foot level, with the adjacent natural hill formation and impounding a storage of 130,000 acre feet, per fill. Subsidiary to the flood waters and natural flow from both Cottonwood Creek and West Water Creek, the latter creek having a water shed of over 300 square miles, this unit of development includes the construction of a power plant and dam in the narrow canon of the Grand River, a distance

of six miles southeast of the storage reservoir. The dam at the Grand River is to be 165 feet high, between surrounding walls of solid granite and will furnish power to lift the water through a pipe line 4,000 feet in length to a vertical height of 300 feet, to the rim of the canon and thence it will be carried on a natural grade through an inlet canal for a distance of fifteen miles into the storage reservoir on Cottonwood Creek. One of the attractive features of this proposition in its entirety is that it will have at completion less than two miles of dead canal in the entire system. By this we mean there will be but two miles of canal from which water cannot be taken for irrigation purposes. This unit of development also provides for the construction of the high line canal for a distance of 50 miles from the storage reservoir which runs generally in a parallel direction five miles above the low line canal.

General Character of Project.

In the mind of the writer one of the most attractive features of this proposition is that the company in determining the acreage that will come under water through its irrigation system considers the size of their project only by the acres of irrigable land that will be available. The size and scope of many projects is determined by the number of acres under its canal system without taking into account the amount of waste and unavailable land for irrigable purposes. By this we mean, high points above the water level, gulleys and steep slopes, rocky patches of waste land, etc.

The general character of this project is as follows: The upper section of the proposition, adjacent to the storage reservoir and Marrs is rolling and comprises some waste land. As stated before, the soil in this portion of the project is almost entirely a fine sandy loam that in-

(Continued on page 27)



SCENE ON MAIN CANAL BELOW STORAGE RESERVOIR

THE INTERMOUNTAIN FRUIT JOURNAL

And INTENSIVE AGRICULTURIST

An Illustrated Monthly Western Country Life Magazine of the Highest Class. Only Periodical Devoted Exclusively to Fruit Growing, Irrigation and the Higher Branches of Agriculture in Colorado, Utah, Idaho, New Mexico, Wyoming, Arizona and the Irrigated West.

Being a consolidation of the World Wide Farming Magazine of Denver, Colorado, with the Intermountain Fruit Journal, of the same Volume and Number as given below.

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CLINTON L. OLIVER, Secretary.....Paonia, Colorado

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NOTICE

To Subscribers of World Wide Farming Magazine which was combined with the FRUIT JOURNAL in month of April, 1912. Please remember that all prepaid subscriptions to World Wide Farming will be carried out for the full term of the subscription by the FRUIT JOURNAL. To best serve the purposes for which your subscription was given, the FRUIT JOURNAL has enlarged its field to cover subjects pertaining to all branches of intensive agriculture.

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Profession of Fruit Growing

OF course it stands to reason that the arid regions of the West with its bright, sunny days almost the year round, should not experience the difficulty with fungus diseases and pests that prevail in the East. But we were particularly impressed with the suggestion of that Kansas professor of horticulture that recommended that a state law be passed prohibiting the planting of scattered fruit trees and small orchards intended only for home use, where no attempt was made to combat the attack of fungi and pests, and their natural spread to adjacent and neighboring orchards planted for commercial purposes.

The last few years, as a result of extensive effort, the whole world is being guided in its operations along commercial fruit growing lines by

Western methods. In the words of E. F. Stephens, for years a practical nurseryman and now one of the commercial orchardists of Nampa, Idaho.

"It is more and more apparent that since the advent of fungus diseases and insect enemies the growing of fruit in commercial quantities would rapidly pass into the hands of the up-to-date strictly commercial grower. The planter who devotes all his time to an orchard proposition will be compelled to not only keep himself thoroughly posted in all the discoveries which lead to better and more successful growing of fruit but he will also associate himself with other growers in trade organizations and be prepared to meet the yet more difficult problems surrounding the successful marketing of his crop. With the continued development of our own markets steadily expanding

by reason of increased wealth and population, together with the markets opening in foreign countries for our best grades of fruit, the intelligent planter may feel sure of a steadily expanding market for fruit of the best grade. The commercial planter will endeavor to grow the highest possible percentage of extra fancy and fancy grades; will not depress his market by crowding it with the low or third grade product; will grade and pick his fruit with such skill and accuracy that his pack shall prove to be exactly what it claims, fancy and extra fancy as the case may be, and in all other ways open to him will cultivate the expanding market for high class fruit."

A Bumper Crop

THIS fall and winter promises to be the most prosperous period in the history of the rural districts of the irrigated West. Crops, both horticultural and agricultural are the most bounteous in years and prices for many products will be top notch. As we near the season for the peach harvest, early indications which were discouraging have so far been disseminated, that it now appears that prices will be fair, considering the volume of the Western crop. While Texas has been on the market several weeks with a large crop, the markets in general will hold out for the Western irrigated crop, because of the fine texture and flavor of our Elbertas. Reliable reports indicate that Michigan will ship only about half a crop, and this year the California crop will not hit the Eastern markets simultaneous with Colorado and Utah peaches. Taken all in all, while our growers should not expect fancy prices but good profitable returns considering the volume of their crop. We do not like to encourage our growers to expect too much as the associations will have by several hundred percent a larger volume of fruit to place than ever before and it is impossible to tell just what developments might occur when the time comes to move the crop. We hope for the best and feel that returns will not prove disappointing.

Too Much Irrigation

IT would certainly seem that many growers and ranchers, would soon be impressed with the truth of that adage: "Little irrigation, ample cultivation," which applies to nearly all forms of agriculture as well as fruit growing. Of course there are exceptions to all rules, as in the case of soils that are heavily loaded with saline deposits, where irrigation washes out the soil and prevents the salts from scalding or otherwise injuring the roots of various plants. However, in the case of fruit growing the rule applies in its entirety. We know of an instance at Grand Junction that illustrates perfectly the all important value of thorough cultivation. The Wallace pear orchard from the time it was set out until it was four or five years of age, only had one irrigating a season and with constant cultivation, made an even

stronger growth than neighboring orchards that were irrigated even four or five times during the season. It takes such practical examples as these to drive home to some growers the truth of this principle. Some of our newer settlers seem to be imbued with the idea that irrigation is a substitute for every evil, as the remarks of one grower on the Western Slope would indicate. Following the frost fight a year ago, a business man consoled this grower with the information that it would save him work on thinning his fruit later on and so was a "Blessing in disguise." "Well," replied the grower, "if the Lord wills it, I suppose it is. All the same, if it didn't make any difference, I had sooner the Lord would do some of the irrigating and let me thin my own fruit." So it goes, we only learn by hard experience.

Importance of the Package

WITH the immense crop of fruit that the Western states are destined to produce and ship this year, the question of package and grade narrows down to one of the most vital features of the proposition of marketing. Several of the associations of Colorado in addition to adopting the Diamond hand-pack in place of the "Shuffle" pack heretofore used on some grades, are going a step further and announce that they will ship but two grades, i. e., the Extra Fancy and Fancy. The Choice pack must go the cider press, canneries or evaporation, where it belongs. It is reasonable to expect that the hand pack will cost from two to four cents more per box to put up, but it will bring several times that amount in additional returns, as well as increase the volume of demand for Western fruit in the centers of consumption in the Middle West and East.

We have been studying with considerable interest the efforts of one box manufacturer to introduce a new box known as the "Appco Shipsafe" package that offers some interesting possibilities both from a marketing and advertising standpoint for apples in particular. The package seems to be both practical and economical. The striking advantage seems to be that when the package reaches the market it enables the retail dealers to display it to the best advantage to attract the consumer which is a most vital point. Apples packed in Shipsafe packages of a dozen or two dozen each, and shipped containers holding six dozen apples ought to appeal strongly to wholesale and retail dealers. It will certainly enable the growers to realize more on their Fancy Grades of apples than with the present package. We hope our growers will investigate and test the merits of this new package.

A New Department

BEGINNING with this issue of THE FRUIT JOURNAL, we have found it necessary to add a department "Pertaining to the Household." We have done this primarily for the reason that it is the aim of the publishers of THE FRUIT

JOURNAL to make its columns of interest to every member of the household. There are many subjects affecting the home that we want to assist the wife and mother in educating the other members of the family to see the importance of all the family. Not only that, but we believe that one of the most vital factors in this "Back to the Soil," movement, is to raise the standard of comfort and convenience in the country home. These comforts and conveniences in the rural home are just as needful as to the city resident. Under present day conditions, modern conveniences such as pressure water systems, lighting systems, hot and cold water and bath, are just as available in the country, as in the city today. With this brief announcement we will submit it for our readers to judge as to the value and importance of the mater-

ial offered in this department for their approval. Needless to say, we court the suggestions of our readers as to wherein we may render THE FRUIT JOURNAL more and more attractive to them. That is the prime object of its publishers.

It is the "know how" that counts on the farm as well as in other callings. Did you ever hear of the plumber who sent in a bill for fixing a pump and which read as follows: "Fixin', 50 cents; knowin' \$5." This is just about the proportion of "know-in how" to actual work that exists in successful farming.

The man with a clear conscience and patches on his trousers gets more out of this world than the man who goes beyond his means to be fashionable.

Box Labels

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PRACTICAL ORCHARD Notes and Comments

Written Right Among the Trees
By CLINTON L. OLIVER, Paonia, Colo.

It is mighty hard to get horses for orchard work that are not too tall. There would be a great demand for a short blocky horse for orchard work. An orchardist can prune his trees so that an ordinary horse can get under them fairly well before the fruit comes on but as soon as the weight begins to bear down on the limbs not only does the ordinary horse break the limbs but the apples, low down, get bruised and naturally ruined. Horses are mighty high now and a horse as above mentioned would be worth \$200 a head easy.

Orchardists in this vicinity have discovered that they must use the greatest care in using the "arsenite of zinc" spray for the codling moth. Several have burned their foliage quite badly. The arsenite of zinc kills quickly and sticks well, but an orchardist cannot take chances on burning his foliage. Arsenate of lead seems to have done the work very well in this vicinity and the crop up-to-date is the cleanest that ever hung on the tree since the advent of the moth. It looks like two sprayings were plenty, but nearly everyone is going to spray twice more. However nothing but a clean crop is worth growing and while spraying is expensive it must be carefully done.

Peach thinning is on the boards just now. The usual June drop came early in July and was not heavy. This means a big thinning job. We are spending about \$20.00 an acre taking off peaches so that those remaining can get good size and so that we can ship a crop of "Extra Fancy" instead of marbles. We are warned by the associations that they are not going to ship "pie" stuff this year so we don't propose to have any. Apple thinning will also be a big job. The Missouri Pippins need it worse than any other variety. It seems as if they had tried to make an apple for each bloom. The Rome Beauty crop is about right and the same can be

sa'd for the Winesaps although each will need some thinning. Grimes and Jonathan will also each need a considerable thinning.

There is 100 per cent improvement in the sections of our orchards where clover has been grown for the past couple of years. As a whole the clover is profitable for itself. It makes hay that delights the horses palate. From a patch of about 3 acres we got \$50 worth of hay from the first cutting. We will get two more cuttings which will make equally as good as the first. In other words we will have about \$50 per acre from our hay and the benefit of the fertilization which is worth many times more. We will plow under what there is this fall and next spring we will plant the other sections of the orchard. Clean cultivation about one year out of three will be our aim from now on. It takes considerable more water to irrigate the orchard where there is clover.

The orchards in this vicinity are remarkably free from aphid this season. However the water suckers that have grown this year have a good many on them. Our orchards show a few. We are getting rid of them by cutting the sprouts and throwing them out in the sun. This kills them very quickly. I presume that the drying up of the foliage leaves them without any nourishment. Where there are aphid higher up in the trees we are spraying with "Black Leaf 40" and "Whale Oil Soap" in the proportions of 1 pint of "40" and 20 pounds of soap to 200 gallons. We also use the "Black Leaf" or commonly called "Sheep Dip" and when we do this we use a gallon and a quarter of the "dip" to 200 gallons. The expense however is about the same in each instance. It certainly turns the aphid from green to black.

The cost of spraying is something that hasn't been very closely figured

by most orchardists. Here is what it means to spray 28 acres of apple trees ranging in age from 6 to 16 years. The chemical used in this case was Vreeland's "Electro" the dry powdered form Arsenate of Lead.

Labor	\$ 52.00
Horses	20.00
Gasolene	4.20
Electro	37.50
Engine Oil .....	.30

\$114.00

Some of the above expense need not count directly to the orchardist—for instance—part of the labor will be his own and probably he will own his own team and the expense will cut to a minimum. Four dollars an acre looks like a small expense and it is of itself. Of course this has to be done three or four times and then for the season it figures \$12 to \$16 per acre.

BIG BORE OPENED ON THE STRAWBERRY PROJECT.

Strawberry Tunnel, a four mile bore through the Wasatch Mountains, was holed through at seven o'clock the morning of June 20. This is one of the most spectacular and important engineering works of the Reclamation Service, its purpose being to convey water from Strawberry River in the Colorado drainage basin into the Great American Desert, which has no outlet to the sea, where it will be used in the reclamation of about 60,000 acres of exceedingly fertile land in the vicinity of Utah Lake.

The tunnel has a cross section of 9 by 10½ feet, and a carrying capacity of 550 second feet. It cost a million dollars. All the power used for driving the tunnel, lighting the camps, and operating the heavy machinery, cars, etc., has been supplied from the Government's own plant on Spanish Fork River in the Utah Valley, and transmitted electrically to the tunnel site.

Before construction could begin it was necessary to build many miles of wagon road and telephone lines, and to establish camps in the mountains a mile and a half above sea level. For several months each year the camps were cut off from the outside world, the roads were blocked by snow and ice.

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Denver, Colo.

Send for our Fall Bulletin it will be out soon

P. O. Box 1758

Loma Is Making An Enviably Record

Down at the orchard town of Loma, some 15 miles west of Grand Junction, there is a tract of land several thousand acres in extent that is rapidly developing along both horticultural and intensive agricultural lines.

The fact that this tract is being developed by one of the strongest financial companies in the West, which already has interests in the Grand Valley amounting to vast sums of money, enables them to furnish the settler in this district with many advantages.

While the lands at Loma have been open to settlers only a few years, it is over half developed. The company owns the largest and most modern canning factory on the Western slope and already has orders booked for its capacity.

The factory is already busily engaged in canning beans which will be followed later on with tomatoes and pumpkins. In fact the "Sunshine," "Superb" and "Perfection" brands of the Loma Canning & Preserving Co. are already well known to the trade.

The volume of garden products that will be canned this year is shown by the following acreage: Tomatoes, 150 acres; beans, 85 acres; and pumpkins, 75 acres. We are advised that the factory will employ as high as 100 people at times during the season. The pay roll will amount to over \$30,000. These crops are planted as fillers between the rows while the orchards are coming into bearing.

Another crop in the Loma district is sugar beets. The sugar factory at Grand Junction, which is owned by the company which is developing Loma, advises us that their beet acreage in the Loma district is something over 800 acres. The record of production last year shows that Loma growers averaged \$5.50 per ton for their beets with a production of 12 to 15 tons to the acre.

Lord Ogilvy, the expert agricultural authority for the Denver Post in a re-

cent article has the following to say of Loma:

"The Loma district was the heaviest beet producing district for the Grand Junction sugar factory before its adaptability to fruit was realized and energetic people took hold of it.

"The Golden Hills fruit ranch, belonging to Mr. Reed and managed by Mr. Leavitt, was a new tract of land four years ago, but now the thousand acres of the home ranch are all in cultivation, and most of the 1,250 in various tracts outside. The farm buildings are very well arranged and substantial, with many conveniences, such as concrete reservoir for the stock.

"Four hundred and twenty-five acres have already been set to apples, the oldest of which are already in bloom and will be allowed to bear

a little fruit this season. The trees are healthy and there has been little trouble except from sun scald."

The growth of irrigation systems throughout the world has been a remarkable feature of the agricultural progress of the nineteenth century, says a writer in the National Magazine. The great Assouan dam across the upper Nile has added myriads of acres to the fertilized area of Egypt; France has sown the northern Sahara with oases, made beautiful and fruitful by artesian wells; British India is dotted here and there by public works, which store up the floods of the periodical rains, against the scorching drought of midsummer, and besides millions invested by corporations and private citizens, the United States government has constructed some splendid irrigation systems in what have been considered irreclaimable deserts.

Gibson Fruit and Produce Company

One of the largest and most important factors in the Western Slope fruit business this season is The Gibson Fruit & Produce company, with general offices at Canon City, Colorado.

This company has opened a line of offices, and are prepared to do business at eighteen different places in the fruit-producing sections of Colorado and New Mexico. At all of these points they have their own resident managers, warehouses, loading stations, and trackage facilities. And they are fully equipped to handle fruit at all of these places.

They are going as figure very heavily in the apple and potato deal particularly, and with their physical equipment they are in splendid shape to handle the crops.

Mr. D. E. Gibson, the president, is one of the wealthy men of the State of Colorado, and the company has his full support and backing. This

places the company in a position financially to do as much business as they feel inclined or able to do; it protects the grower in all sections because they will know absolutely that their money will be forthcoming; and on account of the high standing in the community of Mr. Gibson, everybody doing business with the company, either selling to it or buying from it, will know that they will get a square deal absolutely; and that any promises made by this company will be fulfilled to the letter.

The general management of the branch offices will be under the direct supervision of Mr. Herman Loehr, secretary of the company, who has had a great deal of experience in managing line offices; and under Mr. Loehr the Gibson Fruit & Produce Company have employed some of the best and most experienced fruit men in Colorado; so that this company is amply equipped to do this business

Let Us Sell You

Some Real Snaps in the Way of Great Bargains—Here Is One:

160 acres 5 miles due west of Loveland, Colo., good fences, small house and barn, 100 acres in crop and under irrigation with first-class perpetual water rights fully paid up. This 100 acres of this 160 is in a valley, good red fruit soil, well located, the very best of alfalfa, beets, etc. Land with the same soil and in the same location closeby, with bearing orchards on them worth \$500 per acre. You can buy this 160 acres for \$40 per acre with this paid-up water right and improvements. This was just listed today and the man says sell at once and get the money; must have cash.

Here Is Another One

220 acres 1 mile from Wellington, Colo., under 2 good ditches where you can buy water for \$20 per acre on payments. 80% of this is good farm land, under the ditch that lays beautiful; you can't beat this for location, the land adjoining this on three sides is worth \$100 per acre with some improvements in alfalfa, under the same water with paid-up water rights, you can buy this in the same condition for \$30 per acre, you can buy these 220 acres

as they are today for \$25 per acre, cash. We will carry a mortgage on this for you for 1/2 that amount.

Here Is Another One

320 acres 8 miles north of Utica, Kansas, in Gove County; 5-room stone house, good barn, well fenced and cross fenced, on the Smoky River bottom; alfalfa land, 160 acres in corn, quite a good deal of alfalfa, can all be put to alfalfa, this is a fine place, the man that owns it is a non-resident living in Colorado at the present time, says sell this place and cut the price in two, making it \$20 per acre, cash. 1000 acre mountain range joining that will take care of thousands of head of cattle; these 1000 acres are all level valley land, all under irrigation, and the place on a great big stream that runs the year around over land 30 feet of water per second of time decreed. This land is in hay, but will raise great crops of oats, potatoes, barley, or any kind of a crop that grows in that locality. Fine location, 7 miles from a good railroad town on the Moffat, Grand County, Colo. Here is a good bargain for a stock or hay ranch, it will earn from \$10 to \$15000 per year for hay alone; beautiful place to live; the very best of mountain climate. Price \$50 per acre, good buildings, large corral, all kinds of cattle sheds, well fenced and cross fenced.

We have all kinds of bargains and snaps. We handle nothing but snaps. If you are coming west or to Colorado to buy a bargain, write to us and we will show them to you, as we won't list them unless they are bargains, and you can depend on what you get from us being as represented.

L. J. MOUNTZ & COMPANY, 1743 Champa St., Denver

in the very best possible manner, and to get out the produce in the very best condition.

The selling end of the business will be under the direct and active supervision of Mr. James Turnbull of Canon City, who has had fifteen years experience in the marketing and handling of Colorado fruits. There is probably no one in the West who has a more comprehensive knowledge of the marketing of Colorado apples and potatoes than has Mr. Turnbull.

Mr. Turnbull has lined up representation for the company in all the leading markets of the United States where the company wishes to operate, and these representatives are men whom experience and personal contact has taught Mr. Turnbull, that they know how to handle the deal at that end.

They are instituting some changes in Western Slope methods, as they are arranging to practically pay cash to the grower for everything they handle. We have no doubt at all but that this plan will meet with hearty approval on the part of the ranchmen.

We predict success for The Gibson Fruit & Produce company.

Irrigate Your Orchard or fruit patch without expense or bother of pumping. Use an automatic

Rife Ram

Costs little to install—nothing to operate. Raises water 30 feet for every foot of fall. Land lying above canal or stream supplied with water. Pumps automatically day and night, winter and summer. Fully guaranteed.

If there is a stream, pond or spring within a mile, write for plans, book and trial offer FREE.

Rife Engine Co.
2524 Trinity Bldg.,
New York



KEES FRUIT PICKER

GATHERS APPLES, PEACHES, etc., as carefully as by hand with less work. Saves climbing ladder. No fruit out of reach. No wire to injure fruit or tangle in branches. Fruit drops into cloth bag, which can be filled before lowering. Price complete, except long handle (a fishpole will do), 75c, postage paid. Your

money back if not O. K. Circular sent on request. Address Box 715.

Reports on the Fruit Crop Prospects

MICHIGAN REPORTS A HALF CROP ON PEACHES.

"The prospects are for not more than half a crop of peaches in Michigan, at the most," said R. D. Graham, leading peach grower of Kent county and western Michigan, today.

"This shortage in the peach crop means a loss of millions of bushels and of dollars to the state of Michigan.

"There is but one reason for this failure of the peach crop. It is the cold weather. The scale did not destroy the peach crop this time. The indications were for at least a good average crop of peaches in Michigan, but an exceptionally severe winter tells the story."

GREAT FRUIT COUNTRY.

According to consular reports, the Island of Tasmania, of which very little is heard in this part of the world, is becoming one of the leading fruit districts in the world and is desirous of closer business relations with the United States.

As yet the chief market for Tasmanian fruits is England, although large shipments are made to Germany, and to other countries. Apples seem to be the chief crop. Experimental shipments to New York last year met with disappointing results as they were shipped via England, and in crossing the Atlantic they were damaged by frost.

BIG FRUIT CROP REPORTED FROM WYOMING.

"Reports from various parts of Wyoming indicate that the prospects for fruit in the state were never brighter," says the Secretary of the State Board of Horticulture. "The past winter was one in which much moisture fell in most parts of the state. The heavy snows in the orchards served as a mulch and a protection to the trees. Likewise these same heavy snows delayed the opening of the season, and thus far no damage has been reported from frost. It has also been a most excellent year for starting new orchards. Moisture has been

plentiful. The soil has worked up splendidly, and the new orchards have been set under most favorable conditions. No definite figures are at hand as to the extent of the planting, but indications are that never before were so many orchards started. This includes not only the home orchards, but a number of very extensive commercial orchards as well."

CALIFORNIA FRUIT CROPS PROMISE GOOD YIELD.

California fruit crops generally promise well, according to reports from various counties on the basis of a full crop as follows:

For Apples—25 counties report the crop 75 per cent and over. The two principal ones, 90 and 100 per cent.

For Apricots—19 counties 75 per cent and over.

For Peaches—22 counties 75 per cent and over; eight heavy producers, 90 and 100 per cent.

For Pears—10 counties report 75 per cent and over, 9 counties 100 per cent and over.

For Prunes—18 counties report 70 per cent, six 100 per cent.

For Table Grapes—16 counties report over 75 per cent of a full crop. Citrus fruit shipments are over 6,000 carloads less than the same date in 1911. The season's shipments will approximate 36,000 carloads.

Deciduous fruit shipments to June 29 exceed last year's by some sixty carloads.

Poultry and dairy industries are being largely extended all over the state. Blooded dairy stock and hogs are in demand, and prices have advanced 25 to 50 per cent over two years ago.

MESA COUNTY FAIR WILL BE A HUMMER.

By J. Monroe Stewart, Secretary.
The Mesa County Industrial and Fruit Fair Association is preparing for the biggest Fair in its history. We have the largest crop that has ever hung on our trees. The hot summer sun is developing all vegetation before one's very eyes. The cool, delicious nights are hardening up the



FRUIT AND IRRIGATION IN DELTA COUNTY This is the Money Making Combination

That we are now prepared to offer you on the Escalante Redlands Mesa in Delta County, the premier fruit and agricultural county of the West.

TERMS: Water right; \$10 an acre cash, \$10 an acre in twelve months, without interest; \$40 in five years at 6% interest.

Government Land at a cost of 25c per acre for filing on the land and \$1 per acre at time of obtaining patent.

"I saw a wonderful country; that part of Colorado is as near perfect as nature and the hand of man can make it." JAMES R. GARFIELD, Former Secretary of the Interior.

This project is fully financed and will be rapidly pushed to completion. There are 14,000 acres of irrigable land in the project, lying within seven to 18 miles of Delta, a large fruit shipping point directly on the Denver and Rio Grande railroad's transcontinental line. For detailed information and affidavits of owners, address the

SAM FARMER ESCALANTE IRRIGATION CO.

DELTA, COLORADO

1721 STOUT STREET DENVER, COLORADO

fruit and grain while they refresh the ranchers' slumber after a day of glad toil. Every section of the valley is preparing for a fine exhibit of the great fruit crop. Apples of all varieties will be exhibited in great abundance. Early peaches, apricots and nectarines will be iced to preserve them for this fruit show. Pears, grapes and other fruits will be banked in profusion. We are working for a cheap rate from the eastern part of the state so that the people may see this wonderful exhibit and the still more wonderful one of the fruit actually on the trees, tons upon tons of red apples, bearing the limbs to the ground.

The racing programme promises to be the best we have ever had. We are members of the Western Colorado-Utah racing circuit, and since its formation our racing has improved every year.

Every day of the fair this year will be a big day.

The first day will be children's day and a great spectacular parade of 2,000 children in drill formation with colored flags on the ball diamond before the grandstand is being arranged for.

The second day, first day of races, will be Pioneers' day, and we are planning for either a Barbecue or, what will be more appropriate, one of our good old-fashioned peach days, with free peaches for everybody.

Third day, Wild West day. Everybody knows what that is.

Fourth day, Inter-County sports and track events. Also a concert by the contesting bands in unison. It is hoped to have at least four good bands here during the week, for a band contest, which will insure plenty of good music both at the grounds and on the street.

The arrangements also contemplate a night opening every night, with grounds and exhibition hall brilliantly illuminated, together with one of the most complete industrial and commercial exhibits ever attempted here. We also hope to have a midway that will be first class in every particular.

These are some of our tentative plans. We will try to give out definite plans by the next issue of the Intermountain Fruit Journal.

Come over and enjoy a good time with us September 24, 25, 26, 27.

SELLING FARM PEACEMEAL.

The man who puts all his dependence on growing wheat or any other indigenous crop, and who sells that crop off to be shipped out of the country, and keeps that up, is simply taking his farm fertility out piecemeal and sending it by fast freight to the ends of the earth, never to come back again.

OUR BAD ROADS.

The cost of hauling over our country roads is now about 23 cents per ton per mile. In European countries the cost is below ten cents. Our bad roads are an expensive proposition.

Let a strange dog rush through the poultry yard and the excitement will affect the egg supply for that day.

Why Don't You Buy Second Hand Pipe?

Its as good as new, in full lengths, good threads and couplings on each length, and the price is less. Send us your orders. We have any amount of it you want

S. H. SUPPLY & MACHINERY CO.
1750 Wazee St., Denver



202 Fifteenth Street
Denver, Colo.

A Wink to You

You have been put "next" by a wink, a "tip" as it is called. You have acted on the "wink" and profited thereby, or gained a point of advantage.

Here is a "Wink" that will Start You Right in the Business World

On September 3 a fine crowd of boys and girls, young men and young ladies—all earnest, ambitious and determined—will begin BUSINESS, SHORTHAND and STENOGRAPHY courses in our school, located in a new building, and within six to twelve months nearly every one of them will be filling positions in offices and drawing salaries from \$40 to \$80 monthly. **Why Not You?** This is your "wink" to better your condition in life. Begin now by sending for our free catalogue. It tells everything and shows what others are doing.

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Issues all kinds of policies payable to Beneficiaries on monthly, quarterly or annual installments during life; also Partnership and Corporation policies.

We will send you our pamphlet: "What a Northwestern Policy Is; What it Does," on receipt of the attached coupon.

JESSE M. WHELOCK, General Agent

For Colorado, New Mexico and Southern Wyoming
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"IT IS BETTER TO TAKE A POLICY IN THE NORTHWESTERN,
THAN TO WISH YOU HAD."

Please send me pamphlet explaining your policies. Payable to wife or children, or for my own old age, or Corporation and partnership.‡

NAME

STREET

CITY AND STATE

‡Draw line under plan desired.

Over-Bearing Knocks Apple Profits

Perhaps in no place in the world are our shrubs and trees more likely to overbear than in Wyoming. It is a common experience in orchards that have come into full bearing, to find that fruit sets entirely too thickly. Very few people, however, have the heart or take the time to thin out the fruit when it has once set. We do not realize how the strain will increase as the season advances. The longer the thinning is neglected, the greater the waste seems when one begins to remove the fruit. Yet it has been shown time and again that thinning fruit is not a waste, but a real economy in that it increases the quantity and improves the quality. Not only is this profitable from the standpoint of the fruit, but it may be the means of saving the tree itself from destruction. The following article taken from the Wisconsin Horticulturist emphasizes this fact and gives some reasons and rules that will be of interest.

"Profit in Thinning Apples."

"One hundred and sixty-two dollars with eight-five cents per acre net profit for thinning apples on eight-year-old Ben Davis trees, is reported by L. D. Batcheler, horticulturist for the

Utah Experiment Station in Orchard and Farm. The net increase of choice and fancy fruit where the fruit was thinned but receiving the same treatment otherwise, was worth \$1.39 per tree. Professor Batcheler enumerates the advantages of thinning as follows: 'production of fancier fruit, regular crops from year to year, no props or breaking of limbs and opportunity to destroy insect infested fruit thus materially checking the spread of insects early in the season.'

"Fixed rules for thinning cannot be given. The amount and method depends on age, variety, and general thrift of the tree. Some growers estimate the amount they want to leave on a tree, then thin one to that amount by actually counting the apples left. Then that tree will serve as a model whereby accurate amounts can be left on the other trees without counting. Other growers note the distance apart at which the fruits ripen best, and thin them to that distance, always being careful not to injure any of the fruit spurs. The time for thinning is when the apples are a little larger than a ripe olive. Delay means waste of the tree's energy and decreases in fancy fruit."

Profits Available to Irrigation Farmer

By L. M. WINDSOR, Utah Agricultural College

In this age of specialization the man who attempts to launch out in several directions is bound to fall sooner or later. He who sets out to do one thing, and does it well, is the man who succeeds. This is true not only in business and professional work, but on the farm as well. The successful farmer is the one who devotes himself to the particular line of agriculture for which he finds himself adapted.

There is one subject which has not been divided as it should have been, because of the lack of attention which it has secured, and that is the subject of irrigation. Degrees are still offered in irrigation engineering, which includes the entire subject of both the dam and canal construction, technique and the application of water to the soil and the drainage of the water from the soil.

In every case there is a right and a wrong way to irrigate, and a right and a wrong time to apply the water, and to know which is the right requires special study just the same as does the knowledge of how to produce a 1,200-pound beef from a grade Hereford steer. In fact, the mastering of the irrigation art is a great deal more difficult than most subjects, because so little thought has been given to irrigation, and so little of real moment has been written about it. However, this may be, we need not sit idly by and make no move to work out better methods of handling our irrigation water, just because there is no one to show us just what to do in every case.

That is all the greater reason why we should act to and attack the problem for ourselves. The men who get a thorough knowledge of this question today are going to be the teachers of tomorrow.

To convince ourselves of the importance irrigation plays in our agriculture we have only to consider what our farms are without it. The arid farm is limited practically to the growing of wheat, while the same farm by the aid of irrigation has unlimited possibilities. An arid farmer does exceptionally well if he clears ten dollars per acre, while the irrigation farmer with an ordinary crop of oats can clear sixty dollars an acre on the same kind of soil. The increase then, of 600 per cent, is due not to the farmer nor to the soil, but to the irrigation water, thus making the water five times as valuable as the soil. And with the more intensive farming thus made possible, the returns due to the water sometimes reach fifty times the returns from an equal area of arid land.

If the water is so valuable, why is it that so little attention is paid to its measurement and distribution? When a piece of land changes hands, the buyer never thinks of accepting it without first having it carefully surveyed and an abstract made of it, yet he is willing to accept the water for that land just as it comes, or just as the water master, if there be one, sees fit to give it to him. Many times he is not satisfied, and still he takes no steps toward the correction of this condition.

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ALL KINDS
NOZZLES, FITTINGS, Etc.

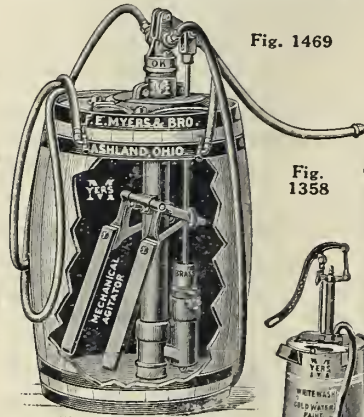




Fig. 1469

Fig. 1358

We manufacture Spray Pumps for every need, from the small hand and bucket pumps to the large power outfits.

Send for catalog and prices of
PUMPS, HAY TOOLS AND BARN DOOR HANGERS
F. E. Myers & Bros. 140 Orange St. Ashland, Ohio

ELECTRO Arsenate of Lead
(The Powdered Form) is stronger than any other and absolutely safe. Unaffected by climate. Write for proofs.

The Vreeland Chemical Co.
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In a wholesome, interesting way tells what everyone should know about health and how to get and keep it; send for it post free.

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Fire and Frost Alarms. Pumping Motors, Storage Batteries
Write 1322 Lawrence. The Electric Automatic Appliance Co.

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Which is situated in center of the most fertile farming district in the Platte Valley the home of the successful truck gardeners and Poultry raisers. We have some bargains in good 5, 10, 15 and 20 acre tracts, improved and unimproved. For information write or phone

BAKHAUS-NELSON REALTY CO.
Phone Littleton 1421 Littleton, Colorado

Irrigation Project in the Lower Grand Valley

(Continued from page 19).

sure perfect water drainage. As we drove over the project from the reservoir, along the line of the survey of the inlet canal to the power sight in the canon of the Grand River, a distance of 10 miles, the writer was able to study the lay of the land and the character of the soil very carefully. In this respect its similarity to the Orchard Mesa project, just across the river from Grand Junction was very striking.

Following this up, it leads us to one of the greatest advantages of this system and that is the fact that it is in the same valley, of a similar soil and under the same climatic conditions, that govern the upper Grand Valley, a distance of only 50 miles east, at Grand Junction, which today is known all over the world as one of the greatest commercial fruit districts in the country. This means that the settlers under the project in the lower Grand Valley need have no question of doubt as to the fitness of the project for commercial fruit growing. It is a matter of record, that the majority of irrigation projects being opened for settlement in the West at the present time are being placed on the market with the avowed object of their fitness for commercial fruit growing. The reason for this probably is that there is no question as to profit in this vocation. In most cases, it is quite likely that they more or less adapted for this proposition but in the case of the lower Grand Valley project, there is absolutely no question of doubt.

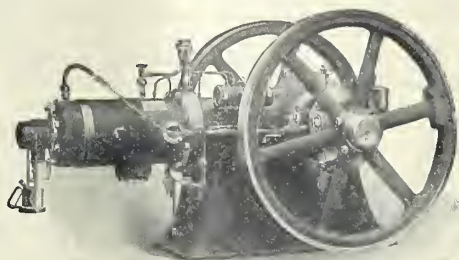
After going over the power sight we started on a drive directly across the project to the section adjacent to Cisco, six miles west of Marrs, which comprises the extent of the project available for water under the first unit. A few miles below Marrs, the character of the country changes remarkably. Instead of a rolling stretch of country somewhat broken but with a soil of unknown depth of a fine sandy loam in character, we came to another vast stretch of territory quite common in the West that has a widely recognized value for commercial fruit growing. The country in this vicinity is a large mesa of what is generally known as sage brush land, which the history of development in the West has proven to be one of its most fertile classes of soil. The character of the soil here was more of an adobe formation and in this vicinity could be cleared and put under cultivation with practically no expense for leveling and grading.

Summary of Advantages.

With the above outline of the construction and character of this proposition, for the information of those who may consider the advantages of this project for their purposes, we summarize our observations as follows:

First—Under the several units of development as outlined, the writer has no hesitancy in saying that am-

MUNCIE CRUDE OIL ENGINE



Runs on Crude Oil, Solar Oil, Fuel Oil, Gas Oil, Coal Oil, Distillate Naptha or Gasoline without a Change of Adjustment.

Has no Carburetor, Ignitor, Valve Gear, Gear Wheels, Batteries, Magneto, Wires, Coil, Switches or Timer

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on the Western Slope . . .

IMPERIAL Highest Patent Flour

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The Mesa Flour Mill Co.
Miss Lila O. Boyle, Mgr.
GRAND JUNCTION, COLO.

If your Grocer doesn't handle it write us direct

ple water will be provided for the purchaser of land under this system.

Second—Owing to the vast area of land under the several canals, the settler or purchaser of land or water or both will be able to select for purchase, tracts of any size within his means that are absolutely irrigable and ready for development.

Third—The proven character of the project and the absolute financial ability of its builders as shown to the writer, warrants the most careful attention of settlers and home-seekers, desiring fruit lands in the Western districts.

Fourth—Location on the main line of the Denver & Rio Grande railroad which runs directly through the project with two stations at the present time within its limits, provides transportation facilities of the highest class. As stated above from the standpoint of character of soil and climatic conditions, it is identical with the Grand Valley, 50 miles east.

The next question of the prospective investor would then be, what is the price for land and water under this project. While the primary purpose of this article is to show our readers first hand information as to the construction and character of this project, as a matter of information, we will state that the company furnishes to the purchaser of water under its system one of the best contracts which we have ever seen. Price of water is \$100 per acre for which they furnish 1½ acre-feet of water. The terms give ample time for payments, without interest. Further than this the water stock is absolutely non-assessable except for the maintenance of canal and system. The Grand Valley Fruit and Water Co., which owns and is building the irrigation system, owns a considerable amount of land under the system. Tracts may be purchased in any size to suit the settler, from ten acres up.

There is also some government land still open for settlement but of this the amount is limited. The smallest amount of land on which the settler may file is 40 acres and there are still a few 40-acre tracts on which the settler will be able to find from 10 to 40 acres of good irrigable land.

Detailed information in regard to this feature of the project can be obtained by writing to the general offices of the Grand Valley Fruit and Water Co., Denver, Colorado or to its eastern office, 25 Broad St., New York city. The financial ability of the company is best shown by the personnel of its board of directors which include Geo. O. Marrs, engineer, Marrs, Utah; Wm. M. Marrs, real estate, Denver, Colo.; I. I. Boak, head counsel, Woodman of the World, Denver, Colo.; C. H. Osborn, attorney, Denver, Colo.; W. T. Hurley, printer, Denver, Colo.; G. W. Middleton, investments, New York city and Wm. B. Hord, attorney, New York city.

HOW TO RIPEN TOMATOES.

"Considerable trouble has been experienced in the past in the ripening of the tomato crop," said Prof. A. G. B. Bouquet, vegetable garden expert of the O. A. C., recently. "One of

the greatest drawbacks has been in the dropping of blossoms in the early summer, with a resultant meagre setting of fruit. Instead, therefore, of having ripe tomatoes the last of July and middle of August, many vines do not begin to set fruit early enough to permit ripening before the fall. As a result there is much less either by the cracking of the fruit by rains, or frosted vines.

"The make-up of the tomato flower is such as to make it necessary often to pollenate the blossoms artificially. The trouble of poor setting of fruits is nothing more or less than non-fertilization of the female organs of the flower. If this organ is not properly pollinated, the flower will fall, breaking off at the first joint below.

"Tomato blossoms remain open several days, and pollination can be aided greatly by the gardens. On bright, sunny days the pollen in the flower will scatter readily if the vine is shaken or tapped with a stick or lead pencil. A high temperature, such as that between ten and two o'clock will cause the pollen to scatter much more freshly and be caught by the pistil, the female organ. I would suggest that some plants be kept as checks and not shaken, to compare results.

"If pruning or staking of the vines is desired the plants should be put closer together in the row, 2½ or 3 feet. They should be pruned to a single stem by removing all the laterals at the axils of the leaves.

BIG FRUIT CROPS

don't worry us, for we are accustomed to distributing large quantities of Western Fruits of all kinds.

While we have already quite a number of contracts with associations and car-lot shippers, our ever-widening trade outlets, both in domestic and foreign markets, make it possible for us to sell apples or any other fruits to best advantage.

We stand on our long record for *making money for our clients* and for giving them a square deal.

Keep us in mind and rest assured we shall be glad to hear from you about marketing your fruits.

If you don't need us today, you may tomorrow.

GIBSON FRUIT COMPANY
69 W. South Water St., Chicago, Illinois

AGRICULTURAL OPPORTUNITIES.

Information Concerning the Resources
Products and Physical Charac-
teristics of Various States.

A government publication that should prove of interest to all residents of the United States and particularly to those who are considering the question of leaving congested industrial centers for the purpose of engaging in agriculture pursuits is a bulletin entitled "Agricultural Opportunities" which is being issued for free distribution by the Division of Information of the Bureau of Immigration and Naturalization Department of Commerce and Labor.

The bulletin is in seven separate sections as follows: The North Atlantic states; the South Atlantic states; the North Central states (eastern group); the North Central states (western group); the South Central states; the Western states (northern group), including the Territory of Alaska; the Western States (southern group), including the Territory of Hawaii.

Each state is discussed briefly under the following headings: Climate, surface, and soil; irrigation and dry farming (where they are practiced to any extent); principal crops; stock raising; prices of farms and inducements to settlers; farm expense; general and special inducements.

At the end of each article is given the address of the state official, who can furnish additional information with respect to his particular state. The bulletin itself is based on information furnished to the Division of Information by officials of the states described, supplemented by data secured from publications of the United States Bureau of the Census and the United States Reclamation Service, and from other official sources.

BIRDS AND INSECTS.

The birds destroy enormous quantities of insects. A conservative estimate of the number consumed by each individual insectivorous bird is one hundred a day.

The figures for Massachusetts alone illustrate what birds can do: A careful estimate gives five insect-eating birds to the acre, making a total of at least 25,600,000 for the state.

These birds consume daily, between the first of May and the end of September, 2,560,000,000 insects, or 21,000 bushels of them. The total for the season is about 360,000,000,000 insects or 3,000,000 bushels. If the birds could be increased one bird to the acre, it would mean the destruction of 600,000 more bushels of insects during the five months. Can we therefore afford to sacrifice the life of even one of these industrious servants?

It is quite a chore to get stovepipe up every time just right. Tell you how we do it: When we take the pipe down we mark every length with a piece of white chalk. Do it before you take it down and there will be no trouble next time.



**CLARK'S
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Orchard and Farm

Harrows, Cider Mills, Etc.

Also Spray Pumps and Outfits, Rhodes Pruning Tools, Pointed and Step Orchard Ladders, Veneer Tree Protectors, Wilson Picking Bags, Kee's Fruit Pickers and other good things for the fruit grower. Nurserymen's Tools, Thomas Baler and Box Clamp, Common Sense Tree Digger, etc. Raney Home Canner, the best ever. Fodder Balers, Barrel Headers.



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CUTAWAY HARROW**

Elastic Pruning Paint

For Damaged Fruit and Shade Trees. Save those already damaged by rabbits, borers, pruning or other causes.

Improved Raney Cannery

Make Home Canning Practical and Profitable to every housekeeper, farmer, fruit or truck grower. Write for catalogue.

Fruit Evaporator Supplies

a Specialty. Send list of wants.

E. G. MENDENHALL, General Distributing Agent "Clark's Tools"
Also Fruit Growers' Supply Depot **Box B; KINMUNDY, ILLINOIS**

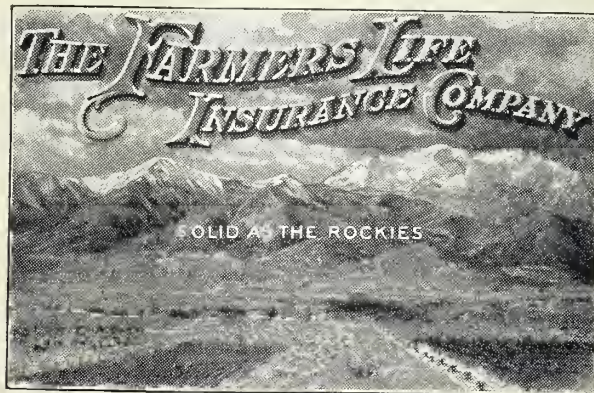


Colorado's
Famous

"Pride
of the
Rockies
Flour"

Manufactured by
**THE LONGMONT FARMER'S
MILLING AND ELEVATOR CO.**
Longmont and Denver.

Sold by all reliable grocers.



Is organized to do business with the farmers and stock-raisers of the United States. We are going to sell a limited amount of our Capital Stock to a few of the leading farmers and drovers in every agricultural county in this country. When our Capital Stock

is all placed we will have about Seven Thousand Stockholders and over TWO MILLION Dollars Capital and Surplus. Life Insurance Stock is a safe investment—legal requirements make it so. The older companies are paying enormous dividends. For full information fill in name and address and mail to

**THE FARMERS LIFE INSURANCE CO.,
DENVER, COLO.**

Name _____

Address _____

APPCO APPLE PACKING.

Standard of Measure to Be One Dozen Apples. Doubtful Bulk Measure Abolished. A Neat, Safe Package That Can Be Shipped Anywhere Under Any Conditions.

Bulk measure is not and never will be satisfactory to the buyer or to the packer. The buyer takes what he can get without any assurance of quality. The seller takes what the commission man wishes to make returns upon and has no method of identifying his own pack.

Various methods have been resorted to, such as the wooden box and corrugated boxes of various sizes, but the solution seems now to be what is known as the Appco Shipsafe Dozen Box.

One dozen No. 3 Hood River Jonathan Apples in the Appco Standard Dozen Box, as illustrated, is sealed by the packer and delivered to the consumer as originally sealed. Instead of buying 10c or 25c worth of apples, the consumer buys a dozen No. 3 Jonathan or Northern Spy or other variety. The more apples you can get in the consumer's home at one time the more consumed. The increase in consumption as a result of selling in one dozen boxes will justify the cost of Shipsafe. Figures refer to cuts in their advertisement herewith:

No. 1. Shows one dozen 3-inch apples in the Appco Standard Dozen

Box. The lip or overlap of the cover allows for slight varieties in size. Close and seal with a label which carries your name or trade mark or your association name, the name of the variety and the size—3-in., 3½-in., 4-in., etc., according to sizes established by the grading machine.

No. 2. Shows the sealed box. The cellular construction of the Appco Standard Dozen Box makes the box rigid—more rigid than the thin wood boxes. Proof against cold and heat no refrigeration is required. Should you pack at time when ventilation is required, the proper holes can be punched.

No. 3. This shows six Appco Standard Dozen Boxes enclosed in a larger Appco Shipsafe. Fitting snugly, the covers are folded over and quickly glued to place; or, if but temporary closing is desired, the seam taped with gummed paper tape. In either case the package will stand the roughest handling without bruising the apples. The hundreds of air cushions take up every kind of shock.

While this dozen box is new and thorough tests have not been made, the consensus of opinion is that apples grading 2¼-in. and less should be packed two dozen in a box and sold and advertised as Family Apples. A child invariably takes the larger apple, eats part of it and throws the balance of it away. The small apple would satisfy just as well and if of good form, smooth and sound are quite as desirable as the larger apple.

It is suggested that two dozen of these apples be packed in a box to economize on the packing. The difference in cost between the two dozen box and one dozen box being but little.

The next size is for 2½ and 2¾-in. apples. These class as medium and should pack one dozen in a box, though two dozen could be very nicely handled.

The next size would be Fancy 3 and 3¼-in. These should be packed one dozen in a box, as well as anything larger than this size. These boxes are made to a fraction of an inch and to conform to Standard Types—Jonathans, Willow Twig and such types. The proper pack is cheek up. The illustration shows stem up but the cheek up is advised. The only possible chance of bruising them is on the end and because of the few apples and of the many cushions enclosing these few apples, a loose pack will not bruise with the roughest sort of handling. This contemplates, of course, that six small boxes will be enclosed in a larger box, which gives it hundreds of additional cushions that take up the shock.

The question of ventilation has not as yet been determined. The manufacturers tell us that they can without additional cost punch holes in each end of the small box and in the sides of the larger box, giving any ventilation desired.

It is contemplated that the grower should close these boxes with their label, which may be made especially for this purpose, or by ordinary label will answer.

The cost of this packing has not been definitely determined, but will approximate, say, 2c or 2½c per dozen apples in excess of the present packing costs.

One argument in favor of this box is that expert packers are not necessary. Any woman or child can in a few minutes learn to pack in this box quite as well as the expert.

In case grading machines are used, the packing of apples is very simple and a perfectly tight pack results.

The appealing feature of this package is that your apples under your brand are delivered to the consumer in the pink of condition and gradually the consumer will learn to demand such packing because of the excellence of the fruit. These boxes insure the very lowest carrying charge whether shipped freight or express.

After both the package and the fruit has been once cooled, icing is not necessary where a refrigerator car is used. In cooler weather an ordinary freight car will carry this fruit safely because freezing in anything less than zero weather is almost out of question.

The manufacturers of this package have labored long and diligently to produce a practical Shipsafe for apples and growers generally should assist in the development by experimenting and making suggestions to these people, who are very desirous of producing just the right thing.

In their advertisement elsewhere they propose to send a bulletin which prices, describes and illustrates these boxes in the various styles and shapes.



1

APPCO Shipsafe Standard Apple Packing

No. 1—The APPCO Dozen Box ready to close.

No. 2—Closed and Sealed with Grower's Label.

No. 3—To Ship—six 1-doz. boxes are enclosed in an Appco Shipsafe.



2

No Refrigeration

Against cold should be necessary. No bruising or marking of any kind.



3

Lowest Freight Rate

Approved by the Interstate Commerce Commission

Write for "Fruit Bulletin" for prices and particulars on how to protect your fruit.

Appco Corrugated Caps for barrels, 14 to 16½ inches. Per 1000 \$7.00

Appco Corrugated Box Lining, for any size box. Per 1,000 . \$6.00

**APPCO CAPS are Better
SAMPLE Sent on Request**

American PAPER PRODUCTS Co.
255 Bremen Avenue
St. Louis, Mo.

**NEW PACKING MATERIAL
FOR WESTERN GRAPES.**

By a series of experiments extending over the past six years, the Department of Agriculture has found that California grapes packed with a filler of redwood sawdust keep better and longer in cold storage than when packed in ground cork. This opens a new field for the sale of Red Emperor grapes in the Eastern markets at a time when the problem of disposing of a large part of this crop is attracting attention from the growers. These grapes ripen at the end of the season and have hitherto been stored in open crates with only fair success. By picking the grapes at the proper time and packing them in redwood sawdust they can now be kept in excellent condition until about January 10, thereby enabling the growers to take advantage of the Christmas demand.

The extent to which a market for these grapes can be developed is as yet unknown, as only small experimental shipments have as yet been made. The two carloads shipped to the East during 1911 were favorably received by the trade and brought prices that yielded the growers a good planning to pack their fruit in this manner this year, so that the shipments to the East may amount to 50 carloads or more. Small shipments of high quality Tokay grapes packed in this manner were sent from California to England and met with ready acceptance.

Redwood sawdust has been found to be peculiarly adapted to use in fruit packing, as it is more nearly neutral in odor and flavor than even ground cork and therefore does not impart its taste or odor to the fruit, as would the sawdust from other kinds of wood. The sawdust coming from the band saws used in the redwood mills is carefully dried and then sifted to eliminate the fine dust and the slivers, leaving about 50 per cent of the original sawdust suitable for use in packing. The preparation of the sawdust is done by some of the sawmills, one company having installed special machinery for the work, and the Department of Agriculture has an agent in the field to assist the growers in selecting the proper fruit for packing and in obtaining properly prepared sawdust.

Possible sources of danger to this new industry are careless selection of packing of grapes by some growers, resulting in injuring the reputation of the storage grapes before they have gained a firm position on the market, and the possible overstocking of an undeveloped market. Only the finest grade of grapes should be used and they should be packed in properly prepared pure redwood sawdust.

The careless method of handling fruits in vogue at some transshipment points is particularly mentioned by the experts of the Department of Agriculture as a factor which tends to injure the fruit trade of the United States, especially in the foreign markets. The fruit growers of the United States have learned how to pack fruit so that it can reach its destination in good condition if properly handled,

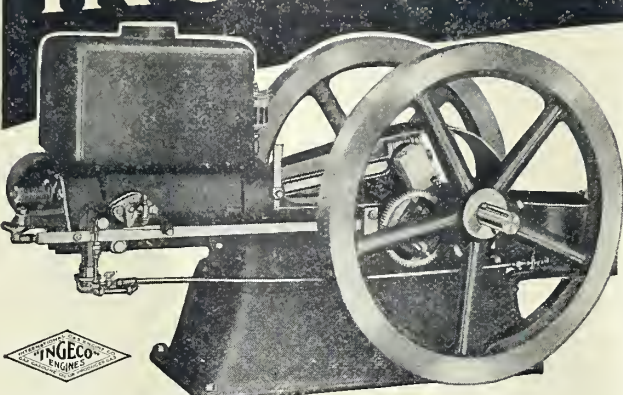
but their best efforts are often set at naught by the improper handling of the packages in transshipment.

FREE to the ladies, a set of the famous Eureka Bent Trimmer, Self-sharpening shears, as a present with new subscription for \$1.00.

Goslings will thrive if fed on grass alone, but will not make such rapid growth, of course, as when they are given a little grain.

Clover is the greatest pasture for hogs—provided it is not allowed to mature.

"INGECO" ENGINES



and Pumping Outfits

For Operation With Gasoline, Distillates, Oil and Producer Gas

All Sizes Stationary and Portable Horizontal or Vertical

1 1/2 to 350 H.P.

The INGECO is a trustworthy engine. High grade, simple, economical and reliable. Pumping outfits in all sizes for irrigation and every other need. Find out about INGECO Engines before you buy.

Complete stock of engines and spare parts carried in all principal cities in Rocky Mountain territory, with expert service at your command without charge. Write for catalogue and address of nearest branch office.

International Gas Engine Co. 110 Holthoff Place, CUDAHY, WISCONSIN (Suburb of Milwaukee)

DRINK HABIT The Gatlin treatment cures drink habit in **THREE DAYS** without hypodermic injections, cumulative poisonous drugs or any inconvenience. This is the twelfth year of the Gatlin Institute---the treatment is no experiment. Thousands of the best business men of the country owe their business standing today to the fact that they took the Gatlin treatment **IN TIME**. Call or write for particulars.

CURED IN 3 DAYS

Private Address, Chas. D. Campbell, Mgr.
Telephone Main 4099

THE GATLIN INSTITUTE
1425 Cleveland Place, Denver, Colo.

PERTAINING TO THE HOUSEHOLD

Suggestions and Improvements That Tend to Raise the Standard of Comfort in the Home Will Be Found on this Page. The FRUIT JOURNAL Believes that Nothing Stimulates the "Back to the Land" Movement so Much as These Little Details in the Home

Since the time of Adam, the apple has been a man's fruit. He seizes upon it as a toothsome morsel to tickle his palate for a moment, devours it, and then forgets all about it.

The peach appeals to the beauty-loving, provident nature of the woman. As she gazes upon the immature fruit of emerald hue, she does not see the little, hard, green marble before her, but looks far beyond it to the glorious Elberta in its ultimate perfection. It looms large before her in its blushing beauty, bursting with immense possibilities, then melting into delicious jam, pungent pickles, delectable butter. Or she beholds its gleaming golden, through row upon row, of widemouthed jars which have preserved its form and beauty intact. Then she forgets her dream, and rushes to the nearest grocer to lay in a supply of jars and fruit ahead of her neighbor, resolved to out-do her best friend, and have such a display of jams, preserves, jellies, whole fruit and butter, at whatever cost to herself that will spurn her enemies green with jealousy.

It does not matter so much about the breed as it does about the kind of treatment your hens receive.

The Wolcott School

1400 Marion Street Denver, Colorado

Boarding & Day School for Girls

Holds certificate privilege for Smith Vassar and Wellesley colleges; also has younger departments and a kindergarten. Circular upon application.

ESTABLISHED 1885 INCORPORATED 1893

Stove Repairs

Any Old Piece for Any Old Stove

Just send us the complete name and number, as found on the stove, and give a good description of the part wanted.

The Western Stove Repair Co.
1515 Fifteenth St. DENVER, COLC.



MEYER FLY ESCAPE

Guard Your Health and that of your family against the typhoid fly, by using the Meyer Fly Escapes. Patented, on your door and window screens. Eliminate Fly Paper, Fly Poison, easily, quickly, neatly attached. Want 1000 homes equipped in the month of June.

AGENTS WANTED. Send today 25c Sample Pair

E. J. VAUGHT,
Grand Junction, Colorado

HOME CANNING AND HIGH COST OF LIVING.

A thorough investigation into the high cost of living in the cities, brought out that the city housekeeper was paying exorbitant prices for the fancy package and can, instead of receiving the value of money expended in food.

It was demonstrated that the cost of living could be reduced one-half, if the city dweller would buy fruit in quantities and put it up herself. The lady who must exist in a tiny city flat may have some excuse for shirking the economical duty of home canning, in her lack of store room for the finished product. But the woman who has a home in country or village, with peaches so plentiful, and sugar so cheap this year, should follow the good old ways of her grandmother in filling pantry and cellar with wholesome home canned fruit. The family health and pocketbook will surely suffer when home canning becomes a lost art.

SOME PEACH RECIPES.

The following recipes for cooling summer drinks and salads are furnished by May Belle Brooks, Columbus, Ohio, an authority on household matters.

Peach Punch—Boil together a pint of water, and one cup of sugar for five minutes. Set this aside to cool while you prepare the fruit. Mince together one cup of pineapple and three cups of Elberta peaches. Add the juice of one lemon. When the syrup is cold, add the fruits and one quart of iced water, or carbonated water if obtainable.

Elberta Salad—Select the finest Elberta peaches. Pare, cut the peaches in half and stone. Lay the peaches in lettuce hearts and fill the center of each half with chopped nuts and fruit mixed with mayonnaise. Put a teaspoonful of whipped cream on top of each half.

CAKE IS GOOD FOOD.

Article on Subject in Journal of Home Economics by O. A. C. Professor.

That cake is a concentrated food, the average slice containing practically as much food value as one and one-half glasses of milk, is the opinion of Prof. Ava B. Milam of the domestic science department at the Oregon Agricultural College, in the first of a series of scientific articles on "Factors Affecting the Economic and the Dietetic Value of Foods," in the current number of the Journal of Home Economics.

"When an article of diet comes into as general use as has cake, the fac-

tors affecting its economic and dietetic value as well as its quality justify study," says Miss Milam. "There is a lack of definite knowledge of these factors and inadequate means of controlling the conditions. The purpose of the study was to show the effect of varying the kind and form of ingredients on the quality, the cost, and the economic and dietetic value of cakes.

"The work was carried out on a typical whole egg and butter cake, one of a close grain and fine texture."

Among the interesting points in the paper are the following: "The cost of cakes may be reduced, from the standpoint of time consumed in the mixing by melting as well as

Free! Send your name and address and that of Five of your friends in different towns and receive

Book on New Process

of Canning Fruits and Vegetables.

Mrs. W. T. Price 1605 Penn Ave. N. Minneapolis, Minn.

ARE YOU FAT?



I Was ONCE

I Reduced Myself

I was Fat, Uncomfortable, Looked Old, Felt Miserable, suffered with Rheumatism, Asthma, Neuralgia. When I worked or walked, I puffed like a Porpoise. I took every advertised medicine I could find. I Starved, Sweated, Exercised, Doctored and changed climate, but I ruined my digestion, felt like an invalid, but steadily gained weight. There was not a single plan or drug that I heard of that I did not try. I failed to reduce my weight. I dropped society, as I did not care to be the butt of all the jokes. It was embarrassing to have my friends tell me I was getting Stout, as no one knew it better than myself.

SOMETHING HAD TO BE DONE

I began to study the cause of FAT. When I discovered the cause I found the remedy. The French Method gave me an insight. I improved on that. Removed the objectionable features, added more pleasant ones, and then I tried my plan on myself for a week. It worked like Magic. I could have

SCREAMED WITH JOY

at the end of the first week when the scales told me I had lost ten pounds by my simple, easy, harmless, Drugless Method. It was a pleasure then to continue until I regained my normal self in size. I feel fifteen years younger. I look fifteen years younger. My Double Chin has entirely disappeared. I can walk or work now. I can climb a mountain. I am normal in size. I can walk or work now. I can weigh just what I want to weigh. I am master of my own body now. I did not starve, but ate all I wanted to. I did not take Sweat Baths. I did not Drug. I used no Electricity, or harmful exercises, but I found the Simple, Safe, Common Sense WAY of reducing my weight, and I applied it. I have tried it on others. My Doctor says I am a perfect picture of health now. I am no longer ailing. I am now a happy, healthy woman. Now I am going to help others to be happy. I have written a book on the subject. If you are fat, I want you to have it. It will tell you all about my Harmless, Drugless Method. To all who send me their name and address I mail it FREE, as long as the present supply lasts. It will save you Money, Save you from Harmful Drugs, Save you from Starvation Diets, Harmful Exercises, possibly save YOUR LIFE. It is yours for the asking without a penny. Just send your name and address. A Postal Card will do and I'll be glad to send it so that you can quickly learn how to reduce yourself and be as happy as I am. Write today, as this advertisement may not appear again in this paper.

HATTIE BIEL, 283 Barclay, Denver, Colo.

creaming the fat used—a saving of half the time of mixing. The best cakes are made by the use of the fine pastry flours, although good cakes may be made with bread flour. The high gluten content in bread flour is undesirable in cakes. The form of sugar used greatly affects the quality of the cake with little effect on the cost. Powdered sugar is most easily and thoroughly mixed in the solid state. Cakes of as good quality are obtained by using water as by using milk, either whole or condensed. When water is used the cake costs one and one-half cents less than when milk is used, but the food value is also decreased. Eggs are essential, serving as leavening agents and influencing the flavor, texture, grain, and food value. If fresh powders are used a fairly good cake may be made with desiccated eggs if fresh ones are not available. Reducing the amount of butter in the standard 3-cup flour recipe, from three-fourths to half a cup of butter, the food value is lowered but the quality seems improved. If the cakes are not eaten warm, lard substitutes that are fresh may be used instead of butter.

HOW TO MAKE JELLY.

Ways to Prevent Candying and Other Faults Shown by O. A. C. Girl in Article.

How to avoid the "candyng" and make jelly "jell," is told in an article written by Miss Margaret McCall of Albany, a graduate of the Oregon Agricultural College department of domestic science, in the last number of "The Oregon Countryman," published by the students.

"The most common disappointments in jelly making are failure of the jelly to harden, and the candyng of the jelly," says Miss McCall. "Jelly is made by combining sugar and fruit juice and heating to the boiling point for a short time. The ability of the fruit to form jelly is owing to a substance called pectin, present in all fruit when ripe or nearly so. Pectin is similar to starch, and it is the action of the pectin and the acid in the fruit which causes it to gelatinize.

"Fruit for jelly should be selected carefully, being not over-ripe, so that the pectin is at its best. It should be freshly picked and free as possible from defects. Any defective part should be removed. An acid fruit is usually preferable for jelly. Some acid fruits, however, are deficient in pectin, and thus difficult to make into jelly. This trouble may be overcome by adding fruit juice containing a large amount of pectin. The flavor will be modified, but in many cases the result is a very good jelly.

"Some of the most desirable fruits for jelly making are currants, blackberries, raspberries, loganberries, grapes, quinces, peaches, apples and crabapples. Juicy fruits, such as currants and berries, should not be gathered after a rain on account of the large amount of moisture they have absorbed. They should, for the same reason, be washed as quickly as possible.

"They may be put in the preserving

kettle after washing, crushed slightly with a wooden spoon and heated slowly, while they are stirred at frequent intervals. When the fruit is hot it should be crushed thoroughly with a wooden vegetable masher. It should then be strained through a double thickness of cheesecloth placed over a wire strainer, which is over a large bowl. It should drain as long as the juice will drip, and pressure should not be used. The clear juice may be used at once, or may be strained through a flannel bag before use.

"When the juice has been measured into a clean preserving kettle, a pint of granulated sugar should be added for every pint of juice and stirred until dissolved. When it has been put on the fire and brought to a boil, it should be drawn back and skimmed. This should be repeated twice before pouring the liquid in hot, sterilized jelly glasses. These should be put near a sunny window in a room free from dust. The glasses should be covered with cheesecloth until the jelly has set.

"Large fruits such as the apple must be boiled in water until soft, and the liquid strained from the pulp before making the jelly. The heating of the fruit juice and sugar to the boiling point serves three purposes: To sterilize the material completely to concentrate it to the proper consistency, and to invert, by the combined action of temperature and free acids, a large quantity of cane sugar, preventing the jelly from granulating.

"Precautions to be observed in jelly making are: Do not use iron or tin utensils; the fruit acids attack

these metals and give a bad color to the finished product, and affect the taste; the kettle should be porcelain lined or enameled, or of aluminum. Do not cook the fruit juice and sugar too long or the pectin will lose its gelatinizing power. Do not add too great a proportion of sugar or the jelly will crystalize. Hard boiling may also cause crystallization.

"Jellies should be covered as soon as they have set to prevent the growth of molds and bacteria and to prevent evaporation. They may be covered by a quarter-inch coat of sterilized paraffin. When removed from the glass the jelly should be firm but not tough. It should preserve its angles when cut, and should have a good color and a distinctive flavor of the juice used."

The half of a big Elberta with a spoonful of whipped or straight cream over it, a dot of home-made jelly in the center is a most inviting desert for summer or winter.

The woman who has a can of choice peaches in her pantry need never worry about something appetizing to set before the unexpected guest.

Peach juice slightly diluted with water, with the addition of lemon juice is a wholesome and refreshing drink to carry to the harvest field.

Every housewife who considers the health of her family should put up an abundance of peaches for winter use.

THE O. P. BAUR CONFECTIONERY COMPANY

The Best Candies, Ice Cream, Ices and Sodas in the West

1512 CURTIS ST., DENVER

LAKESIDE

THE WHITE CITY

DENVER'S BEAUTIFUL MILLION DOLLAR CONEY ISLAND

Williams' Marine Band

Free Concerts Nightly
Matinee Concerts Saturday and Sunday

Fealy-Durkin Company in Casino Theater

Excellent Cafe Service

The Biggest and Best Array of Up-to-Date Rides and
Concessions in the Park's History

POULTRY

DEVOTED TO HIGH
CLASS, PROFITABLE
POULTRY GROWING



Contributions to this department are always welcome and signed articles are solicited. Send the editor little expressions of your own experience. They are valuable to other Poultry Growers.

Address Communications to Editor—Intermountain Fruit Journal and Intensive Agriculturist

POULTRY HINTS AND SUGGESTIONS.

Of course, if you are going in for poultry to sell on the market you must select the fowl that will produce the most meat, and if for eggs the breed that will produce more eggs than meat. Then it is "up to you" to get the most out of them, as the slang goes.

While hens have no sentiment, there is no doubt they are extremely nervous at times—particularly during the breeding season—and should be so placed that they cannot be disturbed.

One of our poultry folk advises putting a pint of coal oil in each bucket of whitewash before going over the inside of the hen house. This for the special benefit of lice and mites.

When a sick fowl is discovered, remove it at once. Maybe if you will attend to it then and there you can save it, whereas if allowed to wait too long, it may die.

Throw an extra lot of hay into the poultry yards. The chickens will scratch out every clover seed. There is no better way to make them work for their food.

It is a good plan to teach the young generation of chickens to roost on perches as soon as possible. For one thing, this will keep them out of reach of rats.

The average cockerel does not pay for his keep and he should be sent to the block as soon as he weighs four pounds unless he is to be kept for breeding.

Once more, do not feed the young chicks a particle of anything for at least 36 hours after they are hatched. Early feeding means disease and death.

Dump houses are the greatest promoters of disease among fowls.

CLOVER FOR EGG PRODUCTION.

Clover is as much an egg producer as it is a producer of milk. It is rich in nitrogen and mineral matter. Having a high nutritive ration, it is equal to barley, and almost as high as wheat. Its action is to extend the food ration, reduce the too concentrated grain food, and prevent the accumulation of internal fat.

The second crop, or "proven" clover, is the best. Clover should be cut when in full blossom. Let it grow until the first blossoms begin to turn brown.

PROGRESSIVE METHODS OF MARKETING POULTRY PRODUCTS

(By F. H. STONEBURN.)

Poultry products of various kinds form one of the greatest crops produced upon American farms. The ever increasing number of farms and plants devoted exclusively to poultry keeping produce large amounts of high grade goods, although these are inconsiderable when compared with the vast supply coming from the small flocks scattered upon the farms and in the villages throughout the country. Unquestionably the great bulk of poultry products has come in the past from the latter source, and this condition is likely to continue.

Most farmers concede that their flocks of poultry yield them a fair profit, although any intelligent ob-

server has but to spend a short time in investigating the great markets to learn that poor methods of preparing and marketing alone prevent the producer from receiving much greater returns. The majority of poultry raisers fail to realize that their profits could be largely increased, first, by the production of better and more uniform goods; and second, by improved methods of disposing of them.

Not infrequently it is stated that high grade goods sell themselves, and in a sense this is true, but it is not enough to turn out superior goods; much is lost if they are not marketed in the most careful manner. The poultryman who receives the highest quotations for his products throughout the year is the one who studies "how, when, and where" to market. He learns that during certain months in each year there is a shortage of

S. C. WHITE LEGHORNS

FOR SALE, at a bargain, to make room for young stock.

J. O. BARTHOLOMEW
Rocky Ford :: Colorado

MIX ACCORDING TO YOUR OWN IDEAS
"CHICK CRAX"
FOR SMALL CHIX



Denver Elevator Co.

RESCREENED
CRACKED WHEAT

Phone Main 456 Denver, Colo.

RADIUM SPRAY

Now a celebrated commercial necessity. Over 20,000 cans sold in Denver in 8 months. Kills by suffocation, all insects, vermin and germs that breathe through the pores of the skin. Non-poison, non-combustible, non-inflammable.

WRITE FOR OUR SPECIAL CIRCULAR. How we cured all cases of roup and sore throat at the big chicken show. Does not soil white plumage.
Factory, Laboratory, Salesroom and Office
628 14th St., Denver, Colo.

Phone, Main 7509

DISINFECTS

CHLOROLEUM

PREVENTS DISEASE

Kills Lice and Mites on Poultry diluted 1 to 50. The most economical preparation on the market used and endorsed by leading poultrymen everywhere
LIME AND SULPHUR solution for spraying fruit trees.

YOUR DEALER, OR THE AMERICAN ANTISEPTIC CO., DENVER, COLO.



Barteldes' "Best Line" of

Poultry Goods

GIVES

BEST RESULTS

Root Bee Goods in Stock

different kinds of poultry products, and he plans to produce as large a quantity as possible for these products during the season of scant supply. He then ascertains in which market he can dispose of these goods to best advantage, and prepares and packs them according to the requirements of those markets.

Poultry products are concentrated and valuable, although not extremely perishable. Therefore, improved means of transportation make it possible for the poultryman to place his goods in the best markets without greatly increased expense.

The best trade in the great cities pays the very highest prices for all kinds of poultry products, but this trade is difficult to secure and can be held only by those able to ship stated quantities of their special products regularly during the year, or at least throughout the season when such products are in demand. It is, therefore, usually a waste of time for those who can ship only at uncertain intervals to attempt to handle this trade.

According to his opportunities the poultryman may choose from several methods of disposing of his products, selling direct to the consumer, selling direct to the retailer, or shipping to commission merchants for sale upon the open market.

Selling direct to the consumer is regarded as the most profitable method of disposing of high grade goods. As a rule substantial increase may be secured over the price paid by stores and markets.

Hotels, restaurants, clubs, and hospitals are excellent customers, and very frequently they contract for their supplies in this way. As a rule such institutions are willing to pay good prices, and their trade is desirable because heavy supplies are needed and it is easier to ship the entire output of a farm to one large customer than to divide it among several who use small quantities.

No special poultry product can be marketed throughout the year to such good advantage as eggs. When gathered from the nest they are a "finished product" ready for packing and shipment without the intermediate processes of dressing and cooling which so greatly trouble the seller of dressed poultry. The farmer or poultryman who makes a specialty of producing market eggs can estimate within a very few cents the price they will bring him throughout the year, an advantage possessed by no other farm product. With almost the regularity of a pendulum egg prices swing backward and forward according to season, as a careful study of market reports covering several years clearly demonstrates. Generally the period of lowest prices begins the latter part of March or in early April and continues well into May. This is the natural breeding season of the fowls and therefore the period of greatest production. The period of low prices varies somewhat from year to year, an early spring hastening the drop in price, and a late one retarding it. As the fowls become broody the production begins to drop off, and large numbers of eggs are incubated, thus

further reducing the supply available for consumption. Prices then take an upward turn, rising gradually from May to September, when a large proportion of the adult fowls go into molt and practically cease production. From this point the rise is rapid, reaching the highest point in December and January and dropping rapidly during February and March as the spring food of eggs begins to reach the market.

During the period of heaviest production vast numbers of eggs are placed in cold storage for preservation until the season of scant supply. This system really acts as a balance wheel, as it absorbs all surplus at a fair price. There is no doubt that, without this or some similar method of preservation, egg prices would go to a ruinously low figure every spring, as at that time production is greatly in excess of consumption.

THE EXTENSION SERVICE.

We come now to the third phase of the task of the college—the dissemination of truth to all the people of the state. With respect to agriculture and rural matters the state of Massachusetts is our class room. I hold that the function of extension service on the part of the agricultural college is co-ordinate with its function of investigation and of teaching resident students, and the reason lies less in any logical formula than it does in a practical need and a practical means of meeting that need. What I mean is this: The ultimate purpose of the agricultural college is the benefit of the agriculture of the state. One means of benefit is investigation; another is by training leaders; but another, and, in some respects, the most important, is by reaching with information and inspiration every worker in the land. It is the logical outcome of the social or state function of the institution.

There are other reasons why the extension service should become organic in the agricultural college. It reacts on the research and teaching, bringing them into more intimate touch with the realities and the fundamental needs of agriculture and country life. It gives the institution that state-wide and social leadership which makes it the center of light and leading in agricultural affairs. The people themselves expect that the college shall distribute what it knows for the benefit of the people who can not come to the college. It is because they cherish the belief that the college exists to serve them directly and immediately, as well as through the training of a comparatively few individual leaders, that they are willing to pour out money in its behalf.

Obviously this extension service should be so organized that it shall not interfere with the work of research or of teaching. Temporarily, because of lack of men, it may have this bad effect, but this only a passing phase and can be remedied as soon as we have adequate appropriations and can develop what shall practically be an extension service faculty.

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POULTRY

THE ROSELAWN FARM BREEDER OF S. C. BUFF ORPINGTONS POULTRY AND DUROC JERSEY SWINE—I am offering stock for sale that are first class in every way. I have the show birds this year that I have never had before. I have them Buff from one to the other great size and fine make-up, and I will sell them for the money they are worth. You don't have to go east to buy your show birds. I have them and you won't have to pay from \$50.00 to \$100.00 for them either. Give me a trial and see if I don't treat you right. I have birds from \$2 up, and by inquiring please state just what you want, then I can tell you the price in first letter. JOHN T. STADLER, Box 257Q, Minden, Nebr. 11-12

EGGS—From Toulouse and Emden geese, turkeys, Houdans, Leghorns, Rhode Island Reds, Wyandottes, Hamburgs, Orpingtons, games, Plymouth Rocks, Langshans, Cochins, pearl and white Guineas, Bantams, Pekin, Ronen, Muscovys and runner ducks. Hen eggs 15 for \$1; by the hundred, reasonable. Also dogs, rabbits and all kinds of fancy pigeons. Write for free circular. D. L. Bruen, Platte Center, Neb. 2-13

THE S. C. BUFF ORPINGTON FARM has for sale 50 Cock and Cockerels; 50 Hens; 50 Pullets that are good shape, also color. Taken 1st, 2nd, 3rd and 4th prizes at Nebraska show, also 1st at Denver. John T. Stadler, Minden, Neb. 11-12

BARNARD'S WINNING BARRED ROCKS—They lay, they weigh, they pay. If in need of stock or eggs of high quality send for my mating list, giving list of winnings and fully describes my stock and prices of eggs. Jno. Barnard, Box 3, Portland, Neb. 10-12-s

EGGS—Buff Cochin, Muscovy and Rouen ducks; Toulouse Geese. Gardner Bros., Coleridge, Nebraska, 54.

OHIO

BUFF AND BARRED ROCKS EGGS for hatching, \$1 for 15 or \$1.50 for 30. good size, shape and color. Farm raised and healthy; 11 years experience. Grand View Farm, W. C. M. & Co., New Concord, Ohio, R. F. D. No. 1. 7-12

OREGON

FOR SALE—Single Comb Ancona Cockerels, Winners of First Prizes at Salem State Fair, 1910; at Portland, 1910; at Salem State Fair, 1911, and at Marion county poultry show, 1911. Eggs and D. O. Chicks in season. R. Wooley, 1709 Ferry street, Salem, Oregon. 11-12-s

UTAH

CRYSTAL WHITE ORPINGTONS ---Kellerstrass Strain. Our birds are winners at the three leading fall fairs. Stock and eggs for sale at all times. Charles McClure, Tremont, Utah. 9-12

WASHINGTON

CRYSTAL WHITE ORPINGTONS—Kellerstrass strain; single and rose comb mottled Anconas, Sykis and Sheppard strains. I am booking orders for eggs and baby chicks. Send for catalog and note my winnings. 11-12 IRA N. DELINE, Olympia, Wash.

BLACK LANGSHANS, Pacific Coast Champions. Won 53 ribbons, 3 silver cups. Portland, Pendleton, Spokane, Walla Walla and Colfax shows acknowledged best winter layers bred. To weigh, lay and pay. Eggs \$2.50 per 15. M. E. Taylor, Winona, Wash. 1-13

POULTRY

WISCONSIN

THE HENS PROPER BUSINESS IS TO FILL THE EGG BASKET—Average laying record of my S. C. White Orpingtons in the winter month: 23 eggs per hen and month. Bred to standard requirements. Pay only for quality not for breeders name. 15 eggs \$4.00, \$2.50, \$1.50; strictly fresh and packed with care. 11-12 REV. G. DETTMAN, R. R. 6 Appleton, Wis.

PLAN TO DEFER OPENING OF THE SALT RIVER PROJECT.

The Secretary of the Interior has authorized the Reclamation Service to confer with users of the Salt River project in Arizona with the idea of agreeing upon conditions under which the Department may announce a plan for deferring the opening of the project for two years from Dec. 1, 1912.

The Salt River project when completed will consist of a storage dam, a diversion dam, main canal, wells and laterals, together with the power plants to furnish power for pumping water to about 40,000 acres of land. The net amount already spent on this project is \$9,621,670.87. The amount estimated to complete the project so far as it is desirable to do so from any special fund is something over \$1,000,000. The allotment to the Salt River project has already been exhausted. It is not probable that further allotments may be obtained, nor is it desirable that they should be. The laterals are completed so that about 160,000 acres can be served. The total area which will be watered when the works are fully completed is about 220,000 acres.

If the opening of the projects is delayed for about two years, the money necessary to complete it may be raised by the water users themselves under a form of contract similar to that of August 19, 1910, under which they have raised \$450,000 for the work and propose to raise \$450,000 this year. The advantages from the water users' joint of view are, first, that the delay will enable those not now having water to get their land in crop and to begin to get some return from it; second that all of them will have an opportunity to recover from the losses due to the heavy rains of the summer of 1911.

The advantages from the point of view of the United States are that the money to complete the project will be furnished by the people; that the reservoir would have a chance to fill; that the whole project can be opened instead of only about 70 per cent of it; and that there will be reasonable certainty of at least as good returns at the end of five years, as if the project were opened at the present time.

YESTERDAY.

He who by the plow would thrive,
Himself must either hold or drive.
Benjamin Franklin.

TODAY.

He who by the plow now thrives,
Rides a spring seat, and both holds
and drives.

34,05
IN

7-1-12

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OFFICIAL ORGAN OF THE AMERICAN APPLE CONGRESS

THE INTER MOUNTAIN FRUIT JOURNAL

AND INTENSIVE AGRICULTURIST

VOL. VI; NO. 1

AUGUST, 1912

10 CENTS A COPY



DELEGATES TO THE EIGHTEENTH ANNUAL CONVENTION OF THE INTERNATIONAL APPLE SHIPPERS' ASSOCIATION IN BANQUET AT SHERMAN HOUSE, CHICAGO, THIS MONTH

"ONLY SWORN CIRCULATION IN ITS FIELD." MEMBER OF FARM PRESS CLUB

UNDEVELOPED FRUIT LAND WITH DEVELOPED WATER RIGHTS

In the Lower Grand River Valley, only
Fifty Miles West of Grand Junction

No section in the west has superior advantages to ours. Located directly on the main line of the Denver and Rio Grande railroad. Soil and climate identical with the best at Grand Junction and in the same valley.

Fruit lands with water (1½ acre-feet to the acre) for \$3.00 per acre down and \$3.00 per acre per month, without interest.

Write today for illustrated folder.

THE GRAND VALLEY FRUIT & WATER COMPANY
EQUITABLE BUILDING
DENVER, COLORADO

25 BROAD STREET
NEW YORK CITY



A man without a telephone is like a man in the dark, he knows where he is but no one else can reach him readily.

*The Mountain States
Telephone and Telegraph
Company*

The Intermountain Fruit Journal

AND INTENSIVE AGRICULTURIST

Being a Combination of

The Intermountain Fruit Journal and World Wide Farming

Published Monthly in Behalf of Fruit Growing and Marketing, Intensive Agriculture, Irrigation and Allied Interests in Colorado, Utah, New Mexico, Idaho, Wyoming and the West

VOLUME VI

AUGUST, 1912

NUMBER 1

Apple Shipper's Association Holds Interesting Meeting

By RODENBAUGH AND MORRIS, Staff Representatives

After a three day session marked by the heaviest attendance on record, the eighteenth annual convention of the International Apple Shippers' Association has passed into history. August 7, 8 and 9 were the dates and the Hotel Sherman, Chicago was the place of meeting.

The sessions were featured by interesting and instructive talks covering all phases of the apple question. The speeches had been carefully prepared and covered details with minute care.

Much enthusiasm was apparent over the growth and constant development of the Association which from a small beginning of less than fifty members, has grown to a power with more than half a thousand enrolled under its banners.

Chicago apple dealers did all in their power to entertain the visitors. On the afternoon of the first day,

members were taken in automobiles through Chicago's splendid parks and residence streets. A big banquet was given Thursday evening and this feature was well enjoyed and largely attended.

President E. N. Loomis, who has done so much to further the interests of the Association was re-elected president for the ensuing year. Other officers for 1912-13 were: Charles Shafer, Gasport, N. Y. vice-president; R. G. Phillips, Rochester, N. Y. secretary and W. M. French, New York, treasurer. Atlantic City was chosen as the next meeting place.

President Loomis' Speech in Part.

A splendid tribute to the untiring energy of William L. Wagner, and his work in the successful outcome of the Sulzer standard apple barrel law was given by President Loomis when he said, "I am sure that I but speak your thoughts when I say that the greatest

credit for this accomplishment, is due first of all for the one man who for five years has stuck to this work, has never been discouraged, or allowed anybody else to be discouraged, and who today, must feel the pride that comes with success. I refer to William L. Wagner. In behalf of our association, I extend to you, Mr. Wagner, out utmost thanks."

Mr. Pennington, President of the Western Fruit Jobbers association, secretary Phillips, and Messrs. Shafer, Kimball and French were also given due credit for the parts they played in the ultimate passage of the measure.

Mr. Loomis then reviewed the benefits to be derived from the storage in transit privileges granted by the Transcontinental freight bureau. "In view of the large crop of box apples in prospect in the far western states, this privilege should be of great use



18TH ANNUAL CONVENTION OF THE INTERNATIONAL APPLE SHIPPERS' ASSOCIATION IN SESSION THIS MONTH



THRIFTY YOUNG PEACH ORCHARD AT BROGAN, OREGON, ON THE OREGON SHORT LINE

in the movement of the coming crop. There is still much work to be done in this direction as the charge of ten cents per hundred for this privilege is by far too great. It amounts to \$40.00 or \$50.00 a car, whereas the actual expense to the railroad does not exceed \$5 a car. We must convince the railroads that it is to their advantage to promote the distribution of the box apple car as economically as widely as possible. The apple crop is harvested in approximately a month's time; it is consumed in nine months. In order to protect and make prosperous the Western States in their apple production, the railroads must provide a storage privilege without extra cost over the through rates for the storage of this crop during the nine months in which it is being marketed."

Mr. Loomis referred also to the benefits to be derived from the reduction in its express rates. Also the advantages of the uniform bill of lading passed in the last session of congress and another law regarding the prompt payment of freight claims by the railroads.

Stating that the chief purpose of the International Apple Shippers Association was to furnish accurate information to its members regarding conditions of the apple crop and also to work unitedly for the enactment of beneficial and much needed legislation, President Loomis in a very able and thorough address reviewed conditions in the apple industry, and gave delegates a clear insight in the accomplishments and workings of the organization.

"It is of great importance," said Mr. Loomis, "to uplift the apple industry, and advance its methods and custom so that it may take its place as it rightfully should as one of the chief industries of our country. We must always strive to do all in our power to encourage the production of high grade fruit; to establish uniform grades and encourage honest packing in uniform packages; to correct abuses or evils existing either among growers and packers of apples, or on the part of the railroads, or existing

in the connection with selling of apples.

"The secretary's monthly reports for the coming season giving reliable information regarding size and condition of the apple crop is of special importance. I urge upon every member to give what information he has regarding any section with which he is familiar and let us not only make a report or statement of the size and conditions of this crop for our own use, but let us publish it broad-cast, so that the growers, transportation companies, and the dealer alike, may fully understand the problem that lies before them, in successfully moving this promised large crop of apples.

R. H. Pennington Spared No One.

"Legislation and Consistency" was the title of the address delivered by R. H. Pennington, of Evansville, Ind. Mr. Pennington who is president of the Western Fruit Jobbers Association spared no one in his able and masterful talk.

Mr. Pennington first reviewed the details of the fight made by apple associations to reduce the hazard in the handling of goods. He told also of the work done to increase public confidence, broaden the outlet and increase demand as well as the efforts made to insure a staple market for the producer and dealer and a square deal for the ultimate consumer.

That these endeavors have been partially successful was apparent by the Porter, LaFean and Sulzer bills. Mr. Pennington went on to show that apple dealers had thus far failed to secure more beneficial results through inconsistency in talking the purchase of first class fruit properly graded and packed in full sized packages, and then actually buying short packages, junk, windfalls and cider apples. Another failing was the setting of an evil example to the consumer, by packing fruit before his very eyes, not in conformity with the contracts required of him.

Here are the results of these inconsistencies. First, a demoralized market. Second, a destruction of confidence. Third, a monetary loss to the dealer. The remedy for all this is

the Sulzer bill, which, if taken advantage of, will bring greater prosperity to all concerned.

Mr. Pennington stated that the growers were only too anxious to cooperate in the enforcement of the law and it was their active interest which aided materially in its final passage.

"We have the tools in our possession," said the speaker, "The tools are good. Your money is in them. You helped to buy them and authorized their purchase. No tool is valuable if laid aside to rust. You have the tools, and we believe you have the intelligence to use them; not to use them is a reflection upon your intelligence and not upon the tool. Now is the time to strike while the iron is hot."

Educate Consumer by Advertising.

One of the most interesting and novel talks delivered before the convention was that of U. Grant Border of Baltimore, recognized as an authority on apples. Mr. Border contended that there is need, and great need for a national advertising campaign to educate the consumer to the great value of apples and thus increase consumption. That such a policy as this is imperative, was the contention of the Baltimore man, since statistics tend to show that apple production in a few years will reach a hundred million barrels.

"In the face of these figures" said Mr. Border, "it behooves us to throw off our lethargy and no longer sit in the fancied security that every thing will take care of itself without very special effort on our part. The most costly way to sell any article is to store it and wait for the purchaser to come. The least inexpensive way is to acquaint the public with the merits of it by advertising in systematic manner.

"Next to wide and intelligent distribution, advertising is the greatest factor in solving our problem. Let us tell the people everywhere all we can about varieties, crops and prices. Let us take them into our confidence and tell them why Ben Davis are not satisfactory in the early fall, but tell

them the good qualities they do possess for late winter and spring use.

"Let us create wide spread interest by offering liberal prizes for the most complete list of apple uses and for the best recipes. Imagine the far reaching effects if prizes were offered in the Curtis publications which enter nearly four million eating homes. Why, we would soon have the whole country baking apple pies, puddings, dumplings, and telling uses for apples of which we never dreamed.

"Did it ever strike you how many boxes and barrels of apples could be sold during the holidays, as gifts? Nothing is more acceptable or more appreciated and the right kind of general advertising would turn the trick benefiting the grower, dealer and receiver. I believe national advertising would to a great extent, keep the retail price of apples within reasonable bounds, by educating the public in apple value, because the exorbitant profit demanded by some dealers is proving a real check on consumption."

Sam Lux Spoke on Grading.

Sam E. Lux, of Topeka, Kansas, and one of the best known fruit men of the west, gave a splendid address on the subject; "Packing and Grading Apples Under Rules Adopted by National Legislation."

"In establishing uniform grades and packages," said Mr. Lux, "the smallest packer is making history by upbuilding an industry in his own land. I believe everyone connected with the apple industry will admit the necessity of such uniformity. I do not fear being called a crank, because I insist upon packing and handling my apples so they will conform to the requirements of a national law, but I appreciate the help these rules give to me and to every apple man. I glory in the fact that the apple growers and dealers of our country are strong enough to get recognition and support from our congress. Let us use every effort to secure the hearty determined support of every honest grower, packer and distributor of apples, to the end that we may have uniform packages and grades, backed by government rules and regulations.

"To my mind this is the only way we can expect to build up the apple industry and secure a proper and satisfactory world wide distribution of American apples. Let us have a standard grade from the Atlantic to the Gulf, established by the authority of our government and supported by the American people, with such zeal and enthusiasm that the American apple shall be crowned "King of fruit" in every nation of the earth."

ery, the fact that the terrace bank is not to be plowed across or that the whole field must be worked in contours, necessitating short rows between the terraces, may not be such a very serious hindrance; but where gang plows, section harrows, and riding cultivators are to be used, a system of terracing whereby it is possible to plow across fields of medium slope regardless of terrace banks, is highly desirable. The Mangum terrace system permits cultivation of the entire field. With this system in more general use it is believed that millions of acres could be cultivated with 2-row cultivators where under many of the systems of terracing at present it is possible to use only a 1-horse outfit, and even then do unsatisfactory work. The use of the Mangum terrace becomes all the more a matter of general interest when it is recalled that the future use of labor-saving machinery is in a great measure dependent upon the cultivation of lands in larger and less irregular bodies. In this system where the land has only a medium slope, it is perfectly feasible to cultivate directly over the terrace on a line with the greatest level of the field.

In general the Mangum terrace is a broad bank of earth contouring the field at a grade of approximately 1½ inches to 14 feet. It can be constructed in several ways, but under ordinary farm conditions the most practical way is by backfurfrowing along the grade line. The proper height will depend upon the slope of the land, the steeper slopes requiring higher banks. These terrace lines are usually laid off at intervals of about 6 feet of fall in the slope of the land. This would make them come on very steep land sometimes 20 to 30 steps apart and on very slightly sloping land 50 to 75 steps apart. After the terrace has been constructed it should be carefully watched the first year, for it takes several years to build up a thoroughly strong and reliable terrace bank. The next year the terrace is backfurfrowed again, and this is continued from year to year until the desired height is reached.

Believing that there are many farmers, particularly those of the South who have found the terrace problem an extremely puzzling proposition, will be interested in the Mangum terrace, the Department of Agriculture will shortly publish as Circular No. 94 of the Bureau of Plant Industry, full description and methods of constructing it. It is not believed, however, that the circulars will be available for distribution for two or three weeks. Nine half tone views of the Mangum terrace in different stages of construction are shown.

"Don't" wait until your animals are beyond help before calling a veterinarian.

"Don't" administer medicine on the "gun shot" plan.

"Don't" be continually dosing your horse; keep him well by proper care.

"Don't" clip your horse and leave him unprotected while not in motion.

"Don't" feed your horses when they are very tired, especially grain.

Prevention of Erosion With Terraces

On a number of farms where there is any considerable slope it is necessary to have some sort of ditch or terrace system to carry off the water in such a way as to prevent erosion of the soil. Many of the systems now in vogue are entirely satisfactory with reference to the removal of surplus water without erosion, but frequently fail to meet the needs of a commercial system of agriculture where it is essential to use modern

machinery. Officials of the Department of Agriculture are authority for the statement that the Mangum terrace, as worked out by P. H. Mangum, of Wake Forest, N. C., many years ago, admirably meets the requirements of the farm for modern machinery equipment.

Where 1-horse implements are mainly used and the farms are of such size as not to warrant the use of a more extensive type of machin-



A SAMPLE OF GRAND VALLEY PEARS

—Courtesy of the Loma Land Co.

Report on National Apple Crop Shows Material Increase

By RODENBAUGH AND MORRIS, Chicago Representatives

The crop report of the International Apple Shippers' Association, which shows the largest apple increase, especially in the box apple section, in history inspires confidence in the handlers of the king of fruits throughout the country.

The Pacific coast group comprising the states of Colorado, Utah, Washington, Oregon, California, New Mexico, and Montana showed larger increase than any other apple growing section. Not a state in this group showed a decrease from last year's yield. Estimates on Washington crop tended to show that it will be nearly four

New York and the important state of Michigan. As a whole the group will show an increase of 12 to 15 per cent, with winter fruit much in excess of last year. Quality is good and conditions are now favorable.

The Southern Group—This section as a whole, including the noncommercial states of Kentucky, Tennessee and Delaware, will show a decrease of 10 per cent, due to the substantial falling off in the northern part of the Shenandoah valley and the southern part of the Cumberland, covering northern Virginia and the eastern panhandle of West Virginia and

CENTRAL GROUP.

New York	.....120..	Fair to Good
New Jersey	..... 50.....	Fair
Pennsylvania	.... 70..	Fair to Good
Ohio	..... 55..	Fair to Good
Michigan	.....150..	Fair to Good
Wisconsin	..... 50.....	Fair

SOUTHERN GROUP.

Maryland	..... 50.....	Fair
Virginia	.....130..	Poor to exc't
West Virginia	.... 60..	Poor to exc't
Kentucky	.....500..	Poor to Good
Tennessee	.....300.....	Fair
Delaware	.....130..	Fair to Good

MIDDLE WESTERN GROUP.

Indiana	..... 85..	Poor to Good
Illinois	.....100..	Poor to Good
Minnesota	..... 25.....	Fair
Missouri	.....200..	Poor to Good
Arkansas	.....175.....	Poor
Iowa	..... 30..	Fair to Good
Nebraska	.....100..	Fair to Good
Kansas	.....350.....	Fair

PACIFIC COAST GROUP.

Colorado	.....167.....	Good
Utah	.....240.....	Good
Idaho	.....227.....	Good
Washington	....375.....	Good
Oregon	.....350.....	Good
California	.....135.....	Good
New Mexico	.....100.....	Good
Montana	.....200.....	Good

CANADA.

British Columbia	.185.....	Good
Ontario	.....150..	Fair to Good
Nova Scotia	.... 65..	Poor to Good

Apples From All Sections Exhibited.

Judging from the number and quality of apples exhibited in the Louis room of the Hotel Sherman during the convention the reports regarding a big apple crop are in no sense exaggerated. Undoubtedly, the biggest attraction at the convention was this show.

The judges consisting of John Denney, Chicago; F. H. Simpson, Flora, Ill.; D. N. Minick, Chambersburg, Pa.; John Talbott, Spencerport, New York; and William Dixon, Hamilton, Ont., awarded prizes as follows.

Sweepstakes prizes for President's cup, won by Lilly Orchard Co.

Group one, Friday Brothers, Coloma, Mich., first. Clapp, Littlejohn Co., Dutton, Ont., second. E. L. Heminway, Bridgeport, Va., third.

Group two, H. M. Dunlap, Sovay, Ill., first. Barton Fruit Co., Mitchell, Ind., second. H. M. Simpson & Sons, Vincennes, Ind., third.

Group three, Rothwell & Co., Martinsburg, W. Va., first. Adams County Fruit Growers Association, Bendersville, Pa., second. Frederick Fruit Growers Association, Winchester, Va., third.

Group four, W. N. Wyndham, Enit, Wash., first. McDonald & Son, Watsonville, Cal., second.

Judge not a hen by her beauty, but by the way she does her duty.

The successful feeding of poultry is among the most difficult of feeding problems.



A SECTION OF THE GRAND VALLEY CANAL NEAR GRAND JUNCTION

—Courtesy of the Loma Land Co.

times greater than in 1911. At a conservative estimate, it is figured that 32,500 cars will be shipped out of this territory this year, as compared to 15,000 a year ago. This is an increase of 118 per cent.

In the middle west, the increase is estimated at 40 per cent due to the large crop in the important states of Missouri and Kansas. Minnesota, Indiana, and Iowa are the only states in this section to fall below last year's level. In Minnesota, the crop appears but only 25 per cent normal, and in Iowa the figures are only 30 per cent. However, these two states are not regarded as important apple producing centers.

The New England Group—This group shows nearly the same as last year, or within 3 to 5 per cent as many, with conditions favorable and fruit showing up every day; the decrease in Massachusetts and the possible 5 per cent decreases in Maine being practically offset by gains in the other states. Quality good.

The Central Group—This large and very important group shows decreases in Pennsylvania, Ohio and the unimportant states of New Jersey and Wisconsin, which are more than offset by gains in the great state of

western Maryland. Outside of cedar rust on Yorks in a part of this group, the size and quality is much better than last year. Taking the three commercial states of Virginia, West Virginia and Maryland together, the decrease in them is slightly more than 15 per cent.

Canada—While there is a decrease in Nova Scotia, of about 590,000 barrels, yet the crop there still exceeds 1,100,000 barrels, which is the second largest in its history and over three times that of 1910; and the decrease here is a little more than offset by the gain in Ontario alone, saying nothing about the increase in British Columbia, which is relatively unimportant. The increase for the Dominion as a whole is 5 to 10 per cent.

PERCENTAGE COMPARED WITH 1911 CROP.

NEW ENGLAND CROP.

State	Percentage	Quality
Maine	..... 95..	Fair to Good
New Hampshire	..110..	Fair to Good
Vermont	.....350..	Fair to Good
Massachusetts	... 85..	Fair to Good
Rhode Island	.... 50..	Fair to Good
Connecticut	.....150..	Fair to Good

New Project to Develop 14,000 Acres in Delta County

By CLYDE H. SMITH of the FRUIT JOURNAL Staff

One of the important steps in the wonderful development of Delta County, Colorado, the premier fruit county of the West, is the assured completion of the irrigation system that will furnish water for 14,000 acres of choice land in the southwest portion of the county by the Sam Farmer Escalante Irrigation company. All of this land is located at an altitude of 4,900 to 6,000 feet—just right to insure the right flavor, color and keeping qualities for the apples for shipment to Eastern markets at top prices.

The lands to be developed are mostly government land and subject to settlement under the Desert Land act. The lands are located at a distance of from seven to eighteen miles, from Delta, the county seat of Delta county. Delta is located on the main line of the Denver & Rio Grande railroad, which affords the best transportation facilities direct to the big markets of the country. The bulk of the land under this project is red sandy loam covered with a thick growth of black sage, a sure indication of fertility. The extreme lower section of the project is covered with cactus and white sage. The land is all easily adopted to being broken and cleared at a light expense.

A considerable amount of work on the project has already been done, including four and one-half miles of the main canal above the Long Park reservoir. This canal will carry 80 cubic feet of water per second and empties into Marion reservoir No. 7. The first unit of development will provide water for 4,000 acres of land next season. But little storage will be needed for this unit as the Escalante river, fed by its tributaries, is a live stream the year around.

The financing of the project is in the hands of Winfred Rucker, who is closely associated with large interests that are reaching out into irrigation in Colorado and other Western states. Mr. Rucker came to Denver a year ago when a French syndicate furnished the Denver Reservoir Irrigation company with two millions of dollars with which to complete their project which was badly involved. He has been associated with the completion of that now successful project which is one of the largest in America.

Speaking of The Sam Farmer Escalante Irrigation company's project, Mr. Rucker says, "Of the smaller irrigation projects that I have examined, in Colorado and other Western states, I consider this one the best.

"The lands, within a very few years in my judgment, will rank with the very best fruit lands in the United States. The project has the advantages of good railway facilities, an abundant supply of water, proximity to a prosperous little city and the best of soil. The lands lie in long tongues, with gulches between and this physical feature furnishes the air drainage so necessary for successful fruit culture.

"These natural advantages combined with the efforts of the officers

of the company will undoubtedly make this tract one of the most valuable in Colorado for agricultural purposes."

The cost of water will be very reasonable in proportion to the average rate made to settlers under project constructed in the West at the hands of private capital. The cost is fixed at \$60 per acre and will be sold on very reasonable terms. The company is particularly fortunate in securing the services of T. A. Goodale of Denver as the project engineer,

attaining a depth of a number of feet upon the higher lands, the conditions favor a constant supply of irrigation water."

The officers and directors of the company are all well known Colorado men, most of whom have been actively associated with the development of Delta county for many years. They are as follows: Sam Farmer of Delta, president; H. H. Schaefer of Weldonia, Colorado, vice-president; Hebray W. Korfhage, formerly of



COMMERCIAL ORCHARD AND INTENSIVE AGRICULTURE IN DELTA COUNTY

who came strongly recommended by Peter O'Brien and company, one of the largest engineering firms in the West today. In a recent report, relative to the all important question of drainage and storage of water for this project, Mr. Goodale says:

"The water for irrigation and storage purposes will be derived from three main creeks and their tributaries; the Cottonwood, Dry Fork of Rio Escalante and East Branch of the Rio Escalante, all of which are tributaries to the Gunnison."

"Filings on these streams appropriate 150 second feet of water, a part of which will be derived from direct flow, the balance from flood waters, which in the spring of the year amounts to many hundred second feet. About one-third of the water intended to be delivered for irrigation purposes will be stored on account of the low run off during the latter part of the irrigation season."

"The drainage area lies entirely within the Uncompahgre Forest Reserve and is fairly heavily timbered. It embraces an area of about 30 square miles."

"The precipitation within the area, rather equally divided throughout the seasons, will probably average about nine inches for lands lower than 6,000 feet; slightly over ten inches for lands around 6,000 to 7,000 feet, and about twenty-five inches for the high mountain lands."

"The latter area furnishes the water supply for irrigation, and as the winter precipitation falls chiefly as snow,

Delta, now Denver, secretary-treasurer; Dave Severance, formerly of Delta, now of Severance, Colorado, and John W. Gerber of Delta, are on the board of directors. The company has offices at Delta and Denver. The Denver office is 1721 Stout street. Full information as to how to secure lands under this project may be secured by writing either of these offices.

PREPARING FOR APPLE ANNUAL.

Watsonville is beginning to get ready for its third Apple Annual, to be held October 7 to 12. The premium list is being arranged, and every effort will be made to have this apple show outdo those that have preceded it. In 1911 the attendance was 50,000 and it is desired to double the number this year if possible. Every apple producing section of the State was represented last year in the exhibits.

USE OF SPREADER BEST.

The piling of manure in small lots as it is hauled afield may have some points in its favor, but from the standpoint of realizing the largest possible good from the fertilizing elements contained it is plainly a poorer method than scattering from the spreader.

Handled in this way, the soluble portion of the fertilizers that the manure contains soak at once in to the soil, while if the manure is put in piles there is a loss by chemical changes and the escape of gases.

THE INTERMOUNTAIN FRUIT JOURNAL

And INTENSIVE AGRICULTURIST

An Illustrated Monthly Western Country Life Magazine of the Highest Class. Only Periodical Devoted Exclusively to Fruit Growing, Irrigation and the Higher Branches of Agriculture in Colorado, Utah, Idaho, New Mexico, Wyoming, Arizona and the Irrigated West.

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OFFICIAL ORGAN OF THE AMERICAN APPLE CONGRESS.

CLINTON L. OLIVER, Secretary.....Paonia, Colorado

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No. 1.



NOTICE

To Subscribers of World Wide Farming Magazine which was combined with the FRUIT JOURNAL in month of April, 1912. Please remember that all prepaid subscriptions to World Wide Farming will be carried out for the full term of the subscription by the FRUIT JOURNAL. To best serve the purposes for which your subscription was given, the FRUIT JOURNAL has enlarged its field to cover subjects pertaining to all branches of intensive agriculture.

The Association of American Advertisers has examined and certified to the circulation of this publication. The figures of circulation contained in the Association's report only are guaranteed.
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The Apple Congress

DOUTBLESS a good many of our fruit growers have been speculating as to what has become of The American Apple Congress which was launched so auspiciously in Denver two years ago. We are pleased to state that plans are under way that bid fair to insure the 1912 meeting of this important organization. We hope by the time we go to press with our next issue that we will be in a position to make a full announcement in the matter. We can, however, say that one of the biggest boosters in Denver, one of the men who helped promote the first meeting has stated that rather than see this important organization lose out, he will advance the necessary funds to assure the 1912 meeting. The Apple Congress is bound to become one of the large national conventions along fruit lines. It was organized here in

the West two years ago this winter, at a time when the fruit interests of the state were in hard shape financially. With the largest fruit crop in the history of Colorado and neighboring states now on the trees, the Intermountain states can ill afford to let the Apple Congress die. It will not suffer this fate, we are sure. In the meantime, we suggest that our growers give the matter of a proper program for the event some thought and write us their ideas in the matter as we expect to be ready to take up active work on the plans for the 1912 meeting within a few weeks.

Denver Fall Festival

IF there ever was time that outside conditions rendered it almost imperative that the business and commercial interests of Denver get together and arrange for a mammoth festival in the fall, it is now. At a

meeting held in Denver the other evening, called by the business men to decide on the question of reorganizing the old Mountain and Plain Festival association, there seemed to be a lurking sentiment manifested to withhold definite announcement in the matter for a while longer. This seems to us a very lax view to take in the matter. The rural districts of Colorado will this fall harvest the largest horticultural and agricultural crops in their history. There will flow, as a result of this unprecedented crop, a volume of money into the wholesale and retail houses of this city, too large to even estimate at this time. It behooves the "big money" interests of Denver to celebrate this condition in a fitting manner late this fall. How can this sentiment be better centered, to the end that Colorado manufacturing interests be remembered in the spending of this money, than through a monster festival, such as a number of years ago was celebrated each year. Sam F. Dutton, the energetic manager of the Albany hotel, took a decided stand in favor of the fall festival and we hope to see the business interests of Denver stand with him and carry out the plan. The rural districts of Colorado will back their judgment by their attendance.

"Fly Fishing Is Good"

ONLY those of us, whose lot it has been at some period in our life to live in the "torrid" East at this time of the year, can grasp the thrill of satisfaction at the above announcement. In conversation with a man in Colorado Springs not long ago, who we happened to know was working for a rather meager salary and raising a family of children, we picked up a crumb of optimism. "Do you know," he remarked, "I consider it worth \$50 a month to any man with a family, just for the sheer pleasure of living in this climate." This was very true, but when we come to consider the added pleasure of being able, anywhere in this whole country to get away on a week end trip for a couple of days of real, old-fashioned, "dyed-in-the-wool" trout fishing, there remained no further argument for the fellow that still refuses to follow the advice of Horace Greeley. We have the greatest respect in the world for the country east of the Missouri river—as a place to market our products. In fact we are glad it is there and that its population is crowded, from a selfish standpoint. However, it is a good thing that all of us do not prefer the same place to live, else Colorado and the West would be a mighty congested community.

Our Rural Schools

THE people of our Great Western Country are now confronted with the unmistakable fact that it is due time to be highly appreciative of the educational opportunities which are at hand to be taken advantage of, and one would more fully realize this fact after reading an article by a Kansas professor in which he states that the rural schools of the Eastern and Southern states are

working under most unfavorable circumstances.

As a matter of fact, the school buildings are, as a rule, very open and uncomfortable structures, the interior being very poorly heated, furnished, etc., thereby rendering it very uncomfortable for the children who attend these schools.

In many instances it is found that the school buildings are located so that it causes the greatest inconvenience to a great number wishing to attend school, which results in a large number of children not attending.

The teachers employed in these rural schools, in many cases, receive small compensation for their services, and of course this results in some incompetent ones being employed.

When one comes to compare the above conditions with the conditions in our Western territory, which is furnished with elegant structures for school buildings, the interior being fitted with the most comfortable furniture and seating equipment, and the utmost care being taken in selecting the locality for the building, so as to make it most convenient for all concerned, we should feel proud indeed that we are not surrounded by conditions that cause educational progress to be delayed, and prevent the coming generation from having the very best opportunities along this line.

It is evident that our Western states will continue to push forward, and even struggle to improve conditions educationally.

Congratulation is due our Western people when the fact is apparent that they have, in so short a time, improved conditions to such a great extent as to have it conceded that they have in many respects surpassed the Eastern and Southern states along educational lines.

A STRONG CANDIDATE

**Why Alva Adams Should Be Selected
As the Choice of the Colorado
Democracy for the United
States Senate.**

(By Alfred Patch, Denver, Colorado.)

In organizing the Alva Adams Senatorial Club, a number of our leading citizens who have the best interests of Colorado at heart, feel it their duty to cite some of the reasons for backing the candidacy of Governor Adams for the United States Senate from Colorado. By reason of his wide acquaintance, state and national, he would go to Washington equipped to get the most effective co-operation for the interests of this state from his colleagues. It is a matter of pride to point to his efficient and economical administrations as governor of Colorado. Inasmuch as some of the most vital questions to come before the senate will be relative to the water rights and public lands of the state, it is no more than right that one of the two senators to be chosen to represent Colorado, should come from outside of Denver, which is not so directly affected in the matter. During his residence of forty years in Colorado, he has become recognized as one of the national authorities on these subjects.

In both national and state politics, Alva Adams has been a progressive in the truest sense of the term. He is an ardent supporter of Wilson and

Marshall and is in full accord with the Baltimore platform. In state affairs he has consistently supported and advocated progressive measures, and has urged and aided the passage of the laws promised to the people in the party's state platforms.

Alva Adams is one of those who, at all times, have been true to the Democratic party and to its principles. He was as loyal to the party in the days of adversity as in its days of prosperity. He has given as freely of his time and means in aid of the party when its cause seemed hopeless as when victory seemed assured. He has not been a fair weather Democrat.

Alva Adams has been nominated by the party on numerous occasions, but never before its present contest did he ever solicit a nomination for any office. Every race which he has made has been at the request of the party. Each nomination came to him without contest by the unanimous voice of the party convention. And in some instances he has made a race at the request of the party and against his own desire when other strong men in the party have refused to make the fight.

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The Navy to Blame.

It is solemnly asseverated that butter is at its present exalted altitude because of the fact the navy buys hundreds of thousands of pounds to put into cold storage for the use of the men on the ships and in the navy yards. It is declared, for instance, the government now has in cold storage in Boston and New York from 30 to 40 per cent of all the butter stored in those localities.

This is about the most damaging charge that could have been hurled at the fleet. Unless it is disproved by Secretary Meyer he will find that an army of myriads of housewives will stand resolutely between him and any appropriation or authorization for more dreadnaughts.—Washington, D. C. Times.

Poultry and Fruit, a Great Combination at Loma

By CLARENCE LYMAN, Grand Junction, Colorado

There are five to eight years, long hard years, between hope and realization, in the case of a man of small means who plants an apple or pear orchard. Many a community has been started with the essentials of soil and climate and water rights, which has languished and failed because no means was provided for carrying the settlers across the lean years.

Loma, the settlement at the Western end of the Grand Valley, is a very striking illustration of what can be done by wise and intelligent management, after the land has been sold and settled, to keep the settlers reasonably prosperous and encouraged.

The several thousand acres comprised in the Loma community was owned almost entirely by two groups of capitalists, who have from the beginning worked in close accord. Instead of selling out the land and leaving the settlers to work out their own salvation on the "root hog or die" basis, the companies have actually reinvested more cash money than they have netted from the sales operations, in keeping their settlers prosperous. In a recent issue of the Fruit Journal was an account of the canning factory operations at Loma. Of still greater importance to the community is the poultry industry, still in its infancy but started and growing RIGHT.

There seems to be no place in the world where climatic conditions so favor the poultry industry as in the Valleys of the Western Slope in Colorado. The dry climate of both summer and winter allows out-of-door living for the hens—which means exercise, health—and eggs. The winters are cold enough to keep the chickens healthy, while the heat of summer is never oppressive. To top all the region is very free from chicken pests and diseases. There is nothing better for a young orchard than to have chickens running through it. A moth or bug or worm that has

been digested by a chicken is past doing all harm to trees or fruit.

In carrying out the Loma policy of helping the settlers help themselves it was decided to encourage in every way possible the poultry business. The first essential in such a matter is to get a leader, and after a careful canvass of the situation and the available candidates, Prof. C. H. Burgess was chosen. He is an educator of more than ordinary ability, has had long

class in poultry handling is, "Remember that it is not the chicken business that is on trial. That has been tried and proven to be a success in the Grand Valley. It is you that is on trial. If you cannot make a success of the chicken business, the trouble is with you." The Loma Poultry Association meets weekly and discusses the whole range of poultry production, with the new light gained by the members by actual experience. The Grand Valley Egg Exchange, which has its headquarters at Loma, handles eggs produced all up and down the valley. They are shipped in "straight cases," that is either all white eggs or all brown eggs, are certified as to freshness and quality, and have been bringing the produc-



A COZY LITTLE HOME IN THE LOMA DISTRICT

experience in the chicken business on the most advanced plans, both in Michigan and in the Grand Valley, and is able not only to produce plenty of eggs and fine chickens, but is able to tell others how.

Quality was at once made the keynote of progress at Loma. The settlers were instructed to find out what their market demands were, and to aim to supply that market. They were shown that the road to success lay in having first a small bunch of chickens, handling them right, and then adding to their flock as they found themselves able to make them pay. One of Prof. Burgess's favorite sayings, when he is instructing a

ers a steady price of 25 cents per dozen, net above all shipping and selling expense. The association has been shipping from 500 to 800 case a week, and has a market for many times that production.

The poultry business is on a very solid basis at Loma. Each man has been carefully instructed to try only a few chickens at first, to provide them with the best of accommodations, not costly but made right, to make a few succeed and then to branch out on a large scale. In the course of the next year it is expected that there will be in the Loma district between 75 and 100 flocks of from 500 to 1000 hens. Careful records kept of the

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It is TODAY the "Metropolis of the Western Slope," a district which NOW has more acres of commercial orchards—set and bearing within a radius of 50 miles, than several FRUIT STATES in the Northwest. Feeds the territory tributary to TWO GREAT GOVERNMENT RECLAMATION PROJECTS, i. e.—the Gunnison Tunnel Project of 147,000 acres, located in Delta and Montrose counties, to the southeast, and the Grand Valley Project of 65,000 acres, contiguous to the city.

☐ Has more miles of paved streets and electric street railway than any other city of its size in the state.

☐ A mountain water system costing \$500,000 has just been installed.

☐ Has just been granted a reduced freight rate, opening up wonderful opportunities for manufacturing and wholesale enterprises.

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Colorado

cost of production show that such a flock would take less than half a man's time to tend properly, and should pay in the neighborhood of \$1.50 per hen in net profits. On this basis, the owner of ten acres could be sure of rather more than a good living from his hens alone, while the unused acreage should produce a large part of what the family consumed in the way of food.

The policy at Loma has been not toward centralization, but toward developing ability on the part of the individual settlers to produce good eggs in the largest supply and at lowest cost; the centralization being almost along the line of co-operative selling and co-operative buying of food stuffs and supplies.

FINDING MARKETS.

Nevertheless, it is a refreshing thing for the farmer that his interests are becoming so dear to the men who shape the political destinies of the country. It is fallacious to assert that the limit of production has been reached in this country. Under proper protection, with ordinary safeguards, and with such governmental assistance as is wise and proper, this country can export potatoes, instead of importing them. It can sell its pork, wheat, hops, and butter to all the nations of the world. It can ship its apples, pears, oranges, figs, and dates to the very lands where such things have had monopoly of the markets heretofore. It can sell its wines in France, its beef in England, its lemons in Spain and Sicily, its olive oil in all the capitals of Europe, and its beer on the Baltic and Danube. But first, it should cultivate markets right at the farm gates, and help the producer to get into closer touch with the ultimate consumer.

SILAGE FOR COWS.

A yield of 12 tons of silage may easily be obtained from one acre of corn. Allowing 30 pounds of silage as a daily ration, one acre of corn will furnish four cows with silage for 200 days.

"Don't" feed the cows heavy just before calving time.

"Don't" feed wheat or barley to horses when oats and corn are available.

Peaches Wanted

In view of the fact that the Southern and Eastern crop is pretty well out of the way we're now in position to take hold of the distribution of some Colorado and other Western stock.

We've handled several hundred cars from the Southwest during the season just closed, and many of our customers to whom we have sold this season and heretofore are still open for purchases of Western peaches from us. Why not let us sell them yours?

Get in touch with us at once by letter or wire. State what you have and give particulars fully so that we may answer promptly, and go to work on your stock.

Western peaches and other fruits are our specialty and we point to our long record of square-dealings with car-lot shippers and associations as the *Best Guarantee* that our sales are the kind you're looking for.

All markets are open to us, for our wide connections enable us to sell promptly and at best prices anywhere on the map.

It is probable we could use a few cars of very fine stock for export if we can get them packed right and have a line on them before it is too late. In domestic markets we can place several hundred cars where they will make the most money for their owners.

At any rate, keep us in mind, for if you don't need us today or tomorrow you may a little later.

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The blue cheviot and khaki are warranted absolutely fast colors. Be sure to state size and material wanted; sizes 14 to 19 and half sizes. Remember you buy a 75c shirt. Every one is guaranteed to give satisfaction; at only

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Denver, Colo.

P. O. Box 1758

Send for our Fall Bulletin. It will be out soon.

New Albany Hotel is a Model of Excellence in West

The New Albany Hotel which Sam F. Dutton threw open to the public early this month has certainly proven to be a model of excellence in the West. For a number of years and in fact since it came under Mr. Dutton's management, the Albany has been steadily increasing in popularity amongst the fruit growers and ranchers of the Intermountain district, who journey to the Queen City a number of times each year. But many of our readers who have long since learned to admire the Albany service, will be happily astonished when they make their next trip to Denver and visit the Albany. Always a popular priced hotel, it must not be assumed the rates at the Albany have been advanced as it will not be in this feature that the change will be noted.

Rather it will be hard for the visitor to comprehend that Mr. Dutton is able to surround his guests with such an abundance of rich furnishings and aesthetic decorations at the Albany standard of prices for service.

But with the opening of this new annex to the Albany hotel Denver has taken an advanced position in the accommodations it furnishes for its visitors and its own people.

In uniqueness of design, in its furniture and furnishings, in the splendor and beauty of its half-a-score of banquet halls and dining rooms, in the artistic lighting design of its dining rooms and promenades and in the scores of little conveniences furnished for patrons of the hotel in all the guest rooms the New Albany is in a class by itself.

The furnishing of guest rooms has not been confined by any means to the addition. Every room in the house, from top to bottom, has been entirely refurnished. There are now

360 guest rooms, 300 of which are equipped with baths. Before the end of the year every guest room in the house, with the exception of about fifteen, will have a private bath.

The furniture in these rooms is of Mr. Dutton's own design. There are no double beds. Each room is furnished with twin beds, all of the same general design. They are of old ivory with cane head and foot boards, a feature not found in hotel beds any place else in the country.

Nothing about the New Albany hotel has been the subject of more favorable comment or attracts wider attention than the ornamental work and modeled designs with which the Roman Promenade is decorated.

The balustrades, columns and other decorations are of Caen stone, a composition now introduced in Denver for the first time. It is an accurate imitation of fine gray French sandstone. It is harder than the original stone and of the same ground and color. Almost everybody who has examined it has been of the impression that it is sandstone, of a color and texture different from any found in this country.

At the extreme end of the Roman promenade is the entrance to the Cathedral ball room, at present being used as a Summer Garden, with abundant and appropriate foliage decorations. This room is named after the peculiar style of architecture carried out in its design. The effect is of heavy carved stone, with arches and pillars to match. The lighting arrangement is novel and perfect.

To the right of the Roman promenade, before you enter Cathedral hall, are the Complexion Gardens and the Magnolia room. The lighting scheme here is exquisite. Four large Roman urns, standing seven feet high, stand

in the Complexion Gardens. By daylight they serve as ornaments but at night the myriad of electric lights concealed in the top, throw their rays of light to the ceiling, casting a soft glow of light as bright as day over the cafe.

It is evident that Mr. Dutton's motto is "Nothing is too good for Albany guests." The Albany stands as an enduring monument of Sam Dutton's practical boosting for Denver and Colorado. By his own investments he has shown his faith in the future in store for the Centennial state. Mr. Dutton was one of the moving spirits that secured for Denver two Apple Shows and the organization and two meetings of the American Apple Congress.

BETTER FRUIT

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FAMOUS COMPLEXION GARDENS AT THE NEW ALBANY.

Ranchers Should Assist Local Fairs With Exhibits

By C. H. HINMAN of the Colorado Agricultural College

Beginning the latter part of this month, there will be held in this state about twenty county fairs and the state fair.

These fairs are educational institutions of no small importance. They enable the farmer and breeder to revise and correct their standards and afford them the means of measuring their progress. Valuable as they are, there is still room for improving the educational features of most of the fairs. It is especially important that the exhibitors be as numerous as possible. Each farmer should consider it his duty to help build up his local county fair by making exhibits in as many classes as possible. He should do this not only to add to the interest of the fair for every one else, but should take this interest especially for its value to himself. He will study standards of perfection more closely when he is himself interested as an exhibitor than he will otherwise.

It is especially important that the judging at these fairs shall be done by competent men. An excellent plan, which is being adopted in many places, is to have the judge give his reasons for his decisions, pointing out just where merits and defects exists. This plan makes the competition truly educational. It does, however, possess two defects. Some excellent judges are not able to express themselves well in stock addresses, and while their placement is good the reasons given are not always satisfactory. The other difficulty is even more serious, especially in connection with live stock. It takes a pretty broad-minded man to be not unduly prejudiced in favor of his own products, and some of them go so far as to unconsciously regard his fellow exhibitors as personal enemies, and to feel that the only thing of importance is that he shall win. Such men do not like to have the defects of their entries pointed out in public, and usually the more glaring the defects the greater the reluctance to

have these mentioned. The result is too often that the exhibitor is offended and refuses to exhibit again. This lack of sportsmanlike attitude on the part of the exhibitor is the greatest drawback to making the show ring of the best possible educational value.

It takes a judge of rare tact to be

able to give the reasons for his placements without offending unsuccessful exhibitors, and it may be questioned whether this move is wise in Colorado as yet. In the more thickly settled communities of the Middle West, where the fair associations are thoroughly established, and where the difficulty is not to secure entries, but rather to prevent classes from becoming unwieldy, such arrangement is undoubtedly good. It would be good here if the exhibitors would sanction it.

"Don't" stand the horse on an inclined plank floor.

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"Black Leaf 40" is highly recommended by experiment stations and spraying experts throughout the entire United States.

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These prices prevail at ALL agencies in railroad towns throughout the United States. If you cannot thus obtain "Black Leaf 40," send us postoffice money order and we will ship you by express, prepaid.

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The Orchardist's Friend. The Cheapest, Lightest and Most Durable Machine on the Market. Its utility has been proven during the past five years. Its use easily saves one man's time and wages daily during the packing season. The boxing is also done with less injury to the fruit.

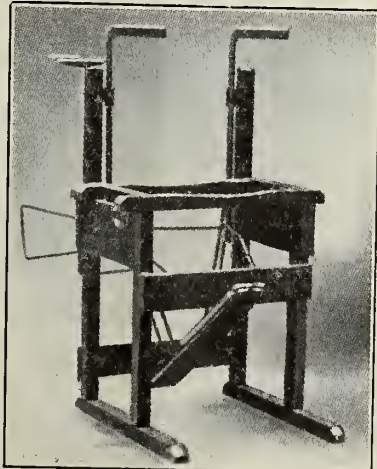
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Our Educational Page

The value of a publication to its subscribers depends largely on the reliability and usefulness of its page contents, both reading and advertising. When none but reliable firms are permitted to use the latter, as is the case with this journal, both value and use is enhanced. In keeping with this policy an educational page appears with this issue, as to the thoughtful and prudent parent, at this season, their children's education is a matter of serious importance.

WOLFE HALL

founded in 1867, hence about the oldest in Denver, is a boarding and day school for young women and girls, admirably and healthfully located on Capitol Hill. The school consists of three graded departments, Primary, intermediate and Academic, each exceptionally equipped to give the best of training. Special attention is given when desired to those preparing for college, but at all times a general and practical education is given to all.

Instruction of the highest order is afforded in all branches of music and art by carefully selected and competent instructors. Special courses in elocution, physical culture and the domestic sciences may be had.

When two from the same family attend a reduction in fees is made. Applications for admission and requests for information addressed to the Principal of Wolfe Hall will be promptly answered.

As the fall term opens September 17 and the school is rapidly filling, applications should not be delayed.

DENVER CONSERVATORY OF MUSIC

is one of the city's real institutions which by twenty-five years of successful history, due to the untiring energy of its owner and Dean, Mr. Oliver B. Howells, has earned the prestige it holds today in the foremost ranks, as one of the most successful and up-to-date schools of music in the entire West.

With the completion of the new home of the Conservatory on Corona and Colfax avenues, affording more room and greater facilities, the coming season will open with still greater promise of the high standard being maintained. For the benefit of students from a distance, pleasant rooms and excellent board may be engaged for the session at very reasonable rates.

The work of the school is divided in four courses, the Elementary, Teachers', Graduate and Post Graduate courses. Those not wishing to graduate or take a full course may select such branches as suit their taste or convenience with as many lessons a week as desired. Instructions are given in voice culture, piano or upon any instrument individually or in orchestral, quartette and ensemble playing.

THE WOLCOTT SCHOOL

Is an old school in a new country—Eastern equipment in a Western city. One using the proper methods to give that intellectual and moral training that raises the ideal of life. It is an institution under individual manage-

ment not for mere experiments, but for development founded upon experience and suited to the capabilities and dispositions of the pupils.

With the forty-seven academic courses it is almost a university in scope even if preparatory in purpose. There is a kindergarten and a graded department leading to the academic. There are twenty-five teachers in the faculty and only native teachers instruct in foreign languages. There is a music department and art studio and laboratories serve the science departments.

The school is original in the extent to which it has safeguarded the physical health and development of its pupils. It has a fully equipped gymnasium, bowling alleys, Swedish apparatus, swimming pool, girls riding club, sports field and a field and a theatre of its own.

BARNES COMMERCIAL SCHOOL

Was organized and incorporated in 1904. Its growth has been gradual and steady until in eight years over five thousand students have attended its day and evening sessions.

The school has a remarkable record for success in placing students in desirable positions and the rapid growth made is due in a large measure to the attention which has been given to this department of the work.

Besides Bookkeeping, Penmanship, Stenography, Typewriting, Banking, Letter Writing and Commercial Law, class work in English and Arithmetic is given for those whose former schooling is deficient in those branches.

"Don't" shoe with calks unless absolutely necessary.

"Don't" leave the grain bin where the horse can get to it, should he become untied.

"Don't" allow the horse to stand in a draught.

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THE BIG STORE

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Introductory offer--With each order we will give absolutely free of charge ONE SET OF BEAUTIFUL WHISKEY GLASSES.

ONE FULL GALLON

Pure, rich and mellow, straight 100% Whiskey expresse to any point charges prepaid, \$3.55.

This is equal to any \$5 Whiskey in the market. The oldest mail order house in the west.

Established 1866. References, Denver Banks.

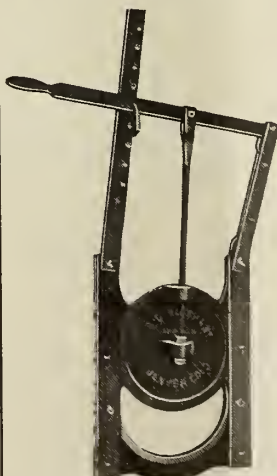
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Goods shipped in plain packages. Send for our list catalogue.



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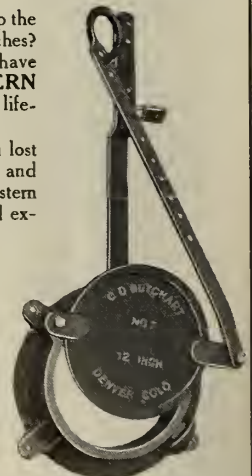


Does it pay to be always patching up the wooden gates in your lateral ditches? This patching up and replacing may have cost more than **NORTHWESTERN IRON HEADGATES** that last a lifetime without repairs.

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Catalogue free.

GIBSON FRUIT CO. IS MAKING A FINE RECORD.

Among the leading handlers of Colorado and other western fruits in Chicago and in other consuming and distributing centers is the Gibson Fruit Co.

Mr. N. G. Gibson, head of the corporation, advises that his company has just closed a very successful season distributing peaches from Arkansas, Oklahoma and other sections of the Southwest, as well as a liberal shares of stock from other Southern growing sections.

Because the Southern and Eastern crop is now about over, the Gibson Fruit Co. say they are in position to distribute a number of cars of Western Peaches among the same trade in the same markets where they have sold peaches from other districts earlier in the season.

Colorado peaches, apples and other fruits have been extensively handled by the Chicago firm for years past, and they enjoy an enviable reputation for securing top-notch averages. The fact that this concern has sold such a large volume and secured such favorable prices in the past leaves one in no doubt as to how they will take care of any shipments placed in their care.

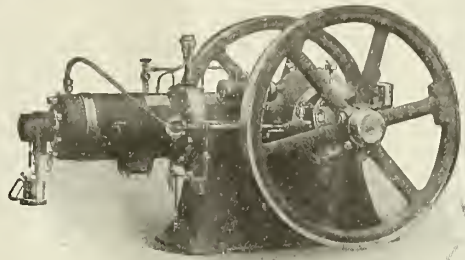
Look up their ad on another page and write them before making final disposition of your entire supply.

BIG BORE COMPLETED UNDER THE COLORADO RIVER.

The Herculean and hazardous feat of boring a huge tunnel under the Colorado River has been accomplished. Reports received by the Reclamation Service announce that the top drift of the Yuma tunnel penetrated the Californian bank on the morning of May 3, making connection with the shaft on that side and completing the crossing of the stream. The Yuma siphon or tunnel which is one of the most dangerous and difficult engineering structures undertaken by the Reclamation Service is 1,000 feet long with an internal diameter of 15 feet. It crosses the turbulent Colorado River 100 feet below the surface of the stream and penetrates for the entire distance a soft and pervious sandstone formation. Its construction required the use of compressed air methods similar to those employed on the Hudson River tubcs. All work of this character is regarded as dangerous and usually exacts a heavy toll of human life. The Government, however, has been peculiarly fortunate in this respect as up to date there has been but one fatality on the work.

This siphon is a unique and spectacular feature of the Yuma irrigation project which will reclaim 100,000 acres of the arid land in the delta of the American Nile. It will carry under the river an enormous amount of water from the main canal on the California side to the canal system in Arizona from which it will be supplied to 90,000 acres.

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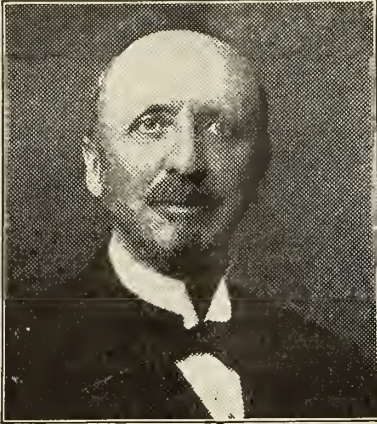
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**Candidate for Democratic Nomination
for Justice of the Supreme Court
Primary Election Sept. 10th**

When Judge John R. Dixon assumed office, the docket and records were far behind. Now the work of the County Court of Denver, the busiest in the State, requiring an office force of 20 employes, is up to date. Expenses were reduced on an average of \$7,000 per annum, compared with 1908. In 3 1-2 years 4,100 civil suits, not including divorce actions, and 3,169 estates valued at ninety million dollars were handled. "Work" is his motto, and if elected he promises to do all in his power to bring the business of the Supreme Court to date.

D. & R. G. HAS STARTED A BIG CAMPAIGN OF IMPROVEMENTS.

Vice President Brown of the Denver & Rio Grande Railroad, has authorized improvements, the cost of which will amount to more than a million dollars. These improvements will consist principally of the substitution of steel and concrete bridges for wooden structures; concrete arches in place of culverts; filling up of high trestles on branch lines; the ballasting of the desert portion of the main line between Westwater and Cisco, Utah; improving and making the necessary grade rectifications between Riverside and Malta on the Second Division in Colorado; the construction of a number of new passing tracks of latest design; the erection of new and modern coal chutes at Alamosa and Grand Junction in Colorado, and at Thistle Junction in Utah; the purchase of new shop tools for the various plants at Denver, Pueblo, Grand Junction, Salt Lake City and other Division points for the more economic and expeditious making of repairs. On account of the unusual length of the new Mallet engines recently ordered, turntables one hundred feet in diameter will be required and they will be installed at Minturn, Colorado, and Thistle Junction, Utah, the former on the west side of Tennessee Pass, where the railroad crosses the great Continental Divide, and the latter at the foot of Soldier Summit, the crossing of the Wasatch Range. These

improvements will start at once and will necessitate the employment of a great number of men for a period of at least twelve months.

SPRAYING FOR SCALE INSECTS.

Farmers and fruit growers troubled by scale are advised by A. L. Lovett, assistant entomologist at the Oregon Agricultural College to spray with lime-sulphur, kerosene emulsion, and whale oil soap, as follows.

"For scale insects of such a type as the San Jose, use the lime-sulphur spray of winter strength," says Mr. Lovett. "For the soft scales, such as occur on the blackberry, and plum, use the kerosene emulsion or whale oil soap. Kerosene emulsion is prepared as follows: Heat a gallon of water (soft if possible) to boiling; shave half a pound of soap into it (whale oil is preferred), and stir till the soap is dissolved. Remove from the fire and add two gallons of kerosene. Agitate vigorously till it is

creamed, which is best done with a hand pump, forcing the solution through the hose and back into the container. For use in the dormant season this should be diluted with seven gallons of water, but for summer spraying, at the time the young emerge, with eleven gallons of water. A pound of whale oil soap to four gallons of water may be used as a summer spray for soft scale.

"For plant lice on roses and garden truck crops any of the tobacco solutions may be used. For plant having a slick foliage, or when the hids are especially bad, there should be added a pound of fish oil soap dissolved in a gallon of hot water to each eight gallons of the spray.

"On fruit trees, as the apple and peach, the spray used in early spring when the buds are starting should be a combination of winter strength lime-sulphur and "Black Leaf 40," using one part of the Black Leaf to 800 of solution. If applied ordinarily the aphids do not become especially bad. Where the trouble is severe the tobacco solution should be used."



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CUTAWAY HARROW**

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PRACTICAL ORCHARD Notes and Comments

Written Right Among the Trees
By CLINTON L. OLIVER, Paonia, Colo.

There isn't very much danger of the orchards on the mesas getting too much water. It seems that water can be applied as fast as the land dries sufficiently to cultivate and it does good too. Some of our orchard has only been watered once and it shows the difference. The apples are smaller than on the ground that has been watered twice and the twice irrigated apples are smaller than those that have been irrigated three times. At this season there is no appreciable difference between the apples that have been thinned and those that have not where the trees are of the same variety and equally loaded to start with. This demonstrates that the difference in the amount of water the trees have had is responsible for the difference in size. The conclusion is; that if the land is well drained it is advisable to irrigate as frequently as possible although it is feasible to grow an excellent crop with three irrigations and good cultivation.

The reports generally are that the crop of "good" apples is lighter this year than last over the country in general. This means fairly good prices for this year. We don't attempt in this department to discuss marketing problems as they are a feature of the fruit business entirely separate from the orchard itself and yet if the marketmen don't find better methods the orchardist will have to take a hand in the future and pay more attention than he has in the past. It isn't enough to grow good fruit; one must have a good price for it. The only thing necessary to get that better price is to knock out some of the loss between grower and consumer. The commission man isn't an evil unless he is crooked but transportation charges might be made to cut some figure.

While the use of bands on the trees to catch the codling moth has been almost discontinued in the past it is again coming into vogue with some orchardists. A neighbor has used them this summer and by going over them every five days all summer he has averaged from 5 to 7 worms under each band. This is certainly a paying proposition when one considers the number of eggs one of these moths would lay when they reach that stage.

Elberta peaches up to August 10th, have stood absolutely still for three or four weeks. Absolutely no growth at all. Some are worrying but there is no use as they do the same thing every year although maybe not to such a great extent as this year. Just wait—they'll grow.

It pays to cultivate the ground in your orchard. To do the best work one must get onto the ground as soon as possible after irrigation. A good mulch helps the ground and keeps the weeds down and lightens your work many times. Of course if you are growing a cover crop you don't cultivate, but you can irrigate oftener.

The writer enjoyed a day with Frank L. Pickett this month. About a year ago I paid a visit to Mr. Pickett's "orchard hospital" at Lakewood near Denver. Over in that country he is the original and only prophet on apples and apple growing, and, well he knows a thing or two about the business too. His trees have had more "things done to them" than nine-tenths of the orchards one visits and the work he has done is truly remarkable. Well, after looking over the Jonathans that used to be Genetons and the Grimes that used to be Scots Winter and a few other features he came to the conclusion that he wasn't the only "grafter" in the apple business.

It is costing on an average of 21 cents apiece to thin our Mo. Pippins, 30 cents for White Winter Pearmain, 25 cents for Jonathan and about 20 cents for Gano. These trees are mostly 14 years old. Multiply this by 80 trees to the acre and the expense for thinning is running \$16 to \$24 per acre. This looks like a lot of money to pay for having your apples pulled or clipped off and thrown on the ground. But listen; suppose you change one box on each tree from a "choice" to a "Fancy" where is the expense? It disappears. What then if you change a tree with ten boxes of choice to ten boxes of fancy? the result will be \$2.00 to \$3.00 per tree to the good. Yet it pays to thin and it isn't too late now to do this to apples. If you have neglected it up to date it will still do good.

The third spraying is costing considerable more money than either the first or the second. One would think that with the apples 1½ inches to 2 inches in diameter they would be easier to see and consequently could be covered with less spray. Not so; it takes more or almost double.

A daily record should be kept of each cow in the stable. In a year's time a dairyman will know by practical demonstration what cows are paying him and those that are not.

Cloyer should be young to make pigs thrive at top notch.

Never salt the horse's fed in the box. Place a big lump where he can reach it, and he will take it when he needs

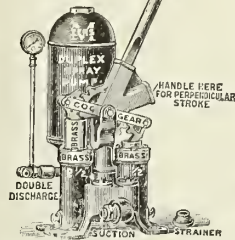
MYERS SPRAY PUMPS ALL KINDS NOZZLES, FITTINGS, Etc.

Take off your hat to the Myers!
BEST PUMP ON EARTH.



Fig. 632

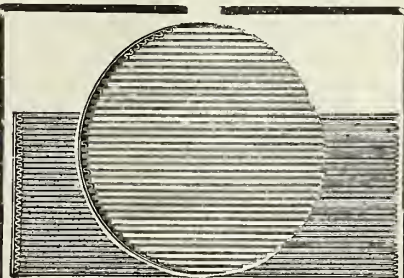
Fig. 1490



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Don't buy until you see a sample of the APPCO line. Write for sample, stating about how many you will use. We make the entire APPCO line in St. Louis and can ship any quantity at once—instanter.

Try the APPCO Dozen Box for shipping fancy apples this year. Ask for our "Fruit Bulletin" which pictures, describes and prices our entire line of Fruit Packers' Specialties. Address,

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255 Bremen Ave., ST. LOUIS, MO.

PERTAINING TO THE HOUSEHOLD

Suggestions and Improvements That Tend to Raise the Standard of Comfort in the Home Will Be Found on this Page. The FRUIT JOURNAL Believes that Nothing Stimulates the "Back to the Land" Movement so Much as These Little Details in the Home

MAKING NATURAL FRUIT JAMS.

That natural fruit jams are far superior to cooked jams is the opinion of Prof. C. I. Lewis of the O. A. C. department of horticulture. He describes his method of preparing them as follows.

"Such fruit as red and black raspberries and strawberries make the most delicious uncooked jam, and one can enjoy a very palatable short-cake in the middle of the winter at very small expense. To prepare this jam, be sure first that your berries are sound. Throw out all soft, mouldy, or in any way decayed fruit. This is imperative. Then mix equal amounts of sugar and fruit, and crush the whole mixture carefully. Be sure that no berries are left whole.

"Before putting into the jars, some people stir the fruit occasionally for several days to be sure that the sugar and fruit become thoroughly mixed. After the fruit and sugar are so mixed, put them into fruit jars but do not seal them. The only covering that should be given them is a little paper to keep out dust. If the jars are sealed, the chances are that the fruit will spoil, but if left unsealed, it can be kept for some time. I have kept it for two years.

"Red and white currants treated this way make a delicious jam. This is somewhat different from that known as sun-dried jam. The sun-dried jam is cooked somewhat. In the natural jam the flavor of the fruit is preserved.

TO MAKE LOGANBERRY JUICE.

Prof. C. I. Lewis of the Oregon Agricultural College, who is responsible for much of the growth in popularity of the loganberry, has an excellent method of preparing the juice so that it will keep through the winter.

"Loganberries make a most delightful beverage," says Prof. Lewis. "To prepare the juice, put the berries on the stove with just enough water to keep the fruit from scorching. Heat slowly, mixing and crushing occasionally with a large spoon. Be sure not to allow the berries to boil; 180 degrees would be, probably, as much heat as necessary. After the berries have softened, put them in an ordinary cloth bag and drain out the juice. The process can be much simplified by a small fruit press.

"In choosing the berries try to get those thoroughly ripe. Add one-third the amount of sugar when the juice is put on the stove, and stir occasionally until it is thoroughly heated, but do not allow it to boil, if it boils the vinous flavor is destroyed, and

the juice drive the cork in slightly the high aroma as well. In bottling and fill the space with paraffin.

"This is a most healthful beverage. Half an inch to an inch in a glass of water will be enough. Some may wish to add more sugar, though the acid flavor is pleasant. It is, I believe, superior to grape juice. The time will come when Oregon will be shipping out train loads of this juice to the east and middle west. It will become a popular drink in regions where it is very warm in summer. It is extremely refreshing and cool, and children may be allowed to drink as much as they wish.

"The loganberry makes one of the finest jellies known, also. Truly our loganberry is coming to its own. With the great demand for canned fruit, a similar demand for the dried, and with the possibilities along the line of juices, syrups and jellies, there is a great future for the loganberry industry."

We do not think much of the watering pot in the garden. Better arrange for the hose and give the ground a thorough soaking, but only when it shows signs of needing it.

The Interstate Commerce Commission has ordered the Pullman company to reduce sleeping car rates. Fifteen years ago this item would not interest many farmers but it will now.

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IRRIGATE TO INCREASE YIELD.

Many Sections of Country Where Method Could Be Profitably Used by Farmers.

In the eastern part of the great plains, where the rainfall is not large, but ordinarily sufficient to mature crops, there are many localities where irrigation could be practically used to raise the yield of field crops or to promote the growth of trees, vegetables, fruits and ornamental plants in orchards and gardens and about the homestead. As the farmers in this region accumulate capital they will undoubtedly resort more and more to irrigation as a means of increasing their income, securing more of the comforts of life and making their home surroundings more attractive.

The same thing is true of the Pacific coast. In the Willamette valley in Oregon, for example, while the annual rainfall is abundant, there is a long dry period in the summer. Many crops which would grow best at this season are greatly hindered by drought. The agricultural experiment station at Corvallis has been studying this problem in co-operation with the department of agriculture and has already demonstrated the usefulness of irrigation for alfalfa, clover, potatoes, and other crops. Business men in Portland, Ore., have become so well convinced that irrigation in western Oregon is profitable, that they are now developing a large irrigation project near Salem. Vast areas in the Sacramento and San Joaquin valleys in California were for many years farmed without irrigation. But after long hesitation and much active opposition the great wheat farmers adopted irrigation as a profitable insurance against drought and, once convinced of its benefit, spent millions of dollars in developing and managing irrigation systems.

Their experience will doubtless be repeated in many regions in the United States as increasing population and more complete utilization of our agricultural lands raise the price of land and extend the market for high-priced crops until the cost of installing and running irrigation plants will be amply repaid by the increased yields per acre which irrigation is sure to bring. In response to considerable present demand for information along this line, and in preparation for the great future of irrigation in the humid region, the irrigation service of the office of experiment stations of the department of agriculture is making a broad study of the irrigations requirements and possibilities of different regions and is seeking to discover the most economical and effective methods for the utilization of available water supplies for this purpose.

A large share of the future agricultural property of the United States will depend on the reclamation and thorough utilization of land through drainage and irrigation. Development in both these lines should go hand in hand.

"Don't" wait until the cow or bull has become ugly before dehorning; do it while they are young.

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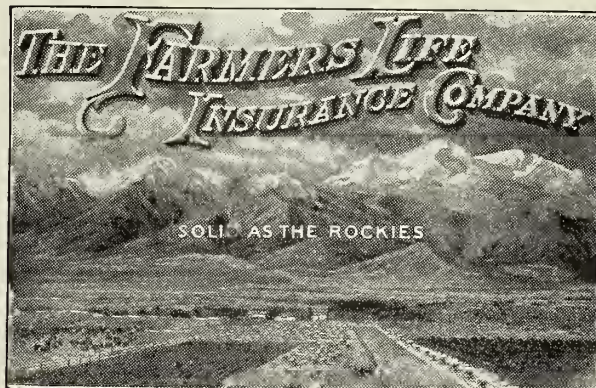
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Buy your engine through a reputable dealer whose place of business is near you. Such a man will take personal interest in having your engine run well and you can, if necessary, get parts quickly.

It does not pay to buy your engines from a comparatively unknown concern a long distance from you. Such people as a rule make their customers pay for their experiments, repair parts cost high, and take a long time to get and they have no personal interest in whether or not you succeed in using the engine properly.

Gasoline as fuel gives the best service for a small engine, but kerosene and other heavy oils are rapidly coming into favor for the larger sizes. An experienced engine salesman will tell you which is the best fuel for your purpose and which will cost you the least.

If you want to drive machinery that takes 10 H. P. get a 12 or 15 horse power engine. Don't load your engine up to the limit and expect it to do good work.

Use good fuel and the very best oil obtainable. It really pays to use a good oil even if it costs twice as much as the cheaper kind. In the first place it will go further and secondly, it keeps the engine from wearing out.

After getting the engine, read the instruction book carefully before trying to operate same. Don't let some one who has another make of engine tell you how to start and run yours as instructions for different kinds of engines differ. Here is where purchasing your engine from a local dealer pays, as the local dealer can personally instruct you in setting up and operating your engine.

The troubles with engines are usually dirty igniter points, stopped up gasoline or water pipes, lack of oil, or the valves are out of adjustment. Any of these troubles are easily remedied by any one with common sense without having to take the engine apart. An imitation expert can always be told by pretending to know exactly what is the matter with the gas engine almost instantly and by the fact that he will immediately want to tear the entire engine apart.

If the engine is to be used in one place, bolt it down to a good foundation. Don't bolt it to a lot of loose timbers set on a dirt floor.

Get a good storage tank for the liquid fuel and put it preferably under ground. Read instructions sent with the engine and see that the tank isn't buried so deep that the engine fuel pump won't draw.

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safe to use as anything that we have ever tried. Don't use too much of it and be sure to keep the chicks in a cool, shady place, for a while at first. Half-grown chickens and turkeys are sometime affected with the disease known as "going light." Large numbers will show the same symptoms at one time. Now, this "going light" is nothing more or less than lice. Examine the birds and if you don't find vermin of some description, it will be very strange. If there are no body or head lice to be found, then hunt for mites in the house.

LICE AND SCALY LEGS.

These are two of the most troublesome pests that poultry-raisers have to contend with. It is a disagreeable task even to write about such things. But we poultry-raisers have to take the "bitter with the sweet." During the summer months a constant war must be waged against lice and mites. Some poultry houses are always clean and free of lice while others are just the opposite. A new house is easier to keep clean than an old one, and a house that is properly constructed is so easily kept clean that there is never any good cause for its being otherwise. Therefore the first step in the right direction is to provide good well-built houses.

Even an old poultry-house need not be a louse trap. The mites attack the fowls when they are on the roosts at night. Before daylight the mites leave the fowls and crawl into the cracks and crevices about the house. Therefore the mites can be treated without handling the fowls. Spray the inside of the house, thoroughly with lime-sulphur mixture, the same as is used for San Jose scale on fruit trees. Kerosene emulsion will also kill lice. If the roosts are movable take them all out and scald the lice with boiling water. Some people paint the roosts with kerosene, but this will sometimes make the fowls' feet get sore. If new roosts are painted with kerosene and let dry a while the mites will not be so troublesome and the fowls' feet won't suffer much from the oil. Use dropping-boards under the roosts and keep the manure off the floor. These boards should be arranged so that the manure can be easily removed. If there are board floors in the houses, see that the cracks between the boards are given the same treatment as the roosts. Lice in floors are hard to exterminate. After the floors are thoroughly cleaned, pour kerosene into all crevices. Walls should be cleaned and then whitewashed or painted. Body lice are more difficult to get rid of than mites. It seems as if some hens are too lazy to use the dust-bath often enough. We tried mixing louse powder with the dust. Some of the hens would not touch it. Leghorn hens are never bothered as much with lice as some others. When lice powder is used on hens it should be thoroughly worked into the feathers. Be careful about using liquid lice killer, especially on chicks. A neighbor lost a lot of chicks that had been saturated with liquid lice-killer. Another put it on the floors of coops in the evening and the fumes

of it killed the chicks. If the work had been done in the morning and the coops thoroughly ventilated instead of being almost airtight, as was the case perhaps, the chicks would not have suffocated. However, it is advisable to be careful. It is safe to say that more chicks die of lice than from any other cause. A very few lice will soon put a chick out of business. The only way to keep hen-hatched chicks free of lice is to keep the setting hens away from the other fowls and have all nest-boxes, nest material etc., treated for lice before they get a start. Here is where the "ounce of prevention" counts. Whenever a hen dies on the nest or leaves it, after sitting some time, the chances are that lice or mites are there by the hundreds. If they can endure the torture and hatch out the chicks, what will their chances be for keeping away from the lice? They come out of the nest with vermin that will increase so rapidly that the young fowls cannot long survive unless relief is given. And it is not a very easy matter to treat a newly-hatched chick, for lice without injuring it. A little olive oil is about as

Scaly Leg.

This is a disease that is very common among chickens and is caused by a parasite. Scales form on the shanks and feet. If it is not checked it may go through the whole flock. It is easily cured by a little systematic work. The houses, including the perches etc., should be cleaned and disinfected the same as for lice. Kerosene will destroy the parasite as quickly as it will kill lice. But pure kerosene must not be used on the scales because it is too severe.

Take a tin can and put into it a mixture of lard and kerosene. Using three parts lard to one part kerosene. Soften the lard, before adding the kerosene, then mix thoroughly. Some people prefer to use olive oil or castor oil instead of lard. The can should be nearly full of the mixture. Immerse the feet and shanks of the fowl in this once a week until cured. Three or four applications will cure any case.

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S. C. BUFF ORPINGTON—My pens have been mated since the 1st of January, with about as fine a lot of pullets and yearling hens as you could get together. Write for mating list; it is free. J. W. BEAR, Warrensburg, Mo. 9-12-s

MAMMOTH BRONZE TURKEYS—Hadley strain. Tom weighs 50 lbs., hens 23 to 30 lbs. Eggs \$10.00 for 12 from great Missouri State prize winners. **INDIAN RUNNER DUCKS**, Blue Ribbon Winners in 1909, 1910, 1911, 1912, fawn and white 260 egg strain. Price of eggs, \$2 for 15; \$3 for 30; \$8 for 100. S. C. Brown Leghorns, pure bred stock, eggs \$1 for 15; \$5 for 100. M. H. Schlotzhamer, Filos Grove, Mo. 11-12

SARVER'S POULTRY FARM, Mt. Moriah, Mo., Breeders of Buff Wyandottes and Narragansett Turkeys. If you wish to know about Eggs for hatching, write us for our mating list. Satisfaction guaranteed. 9-12-s

FOR SALE—Stock from a \$250 pen of Crystal White Orpingtons direct from Kellerstrass, at reasonable prices. Cocks, cockerels, and pullets. Mrs. W. H. Vreehand, Pattonsburg, Mo. 9-12

SUNNY CREST FARM—Offers eggs from their high scoring prize winning pens. S. C. Buff Orpingtons, White Wyandottes, S. S. Hamburgs, White Leghorns, also pure fawn and white India Runned Ducks, \$1.50 per setting. E. D. NEWKIRK, Edina, Mo., R. R. No. 4. 9-12-s

NARRAGANSETT TURKEYS—The Farmer's favorite, 3 farms stock on each not related to the other. Pens, trio or single birds at reasonable prices. Satisfaction guaranteed. George Carver, Mt. Moriah, Mo. 9-12

THE AMERICAN BIRD—Not the eagle, the Barred Plymouth Rock, the staple of the world. Three strains Ostrich Plumes, Ringlets and Blue Bells. The best blood lines in the world. Catalog free. A sweeping show record. J. A. Ayers, La Plata, Mo. 9-12

THE ROSELAWN FARM BREEDER OF S. C. BUFF ORPINGTONS POULTRY AND DUROC JERSEY SWINE—I am offering stock for sale that are first class in every way. I have the show birds this year that I have never had before. I have them Buff from one to the other great size and fine make-up, and I will sell them for the money they are worth. You don't have to go east to buy your show birds. I have them and you won't have to pay from \$50.00 to \$100.00 for them either. Give me a trial and see if I don't treat you right. I have birds from \$2 up, and by inquiring please state just what you want, then I can tell you the price in first letter. JOHN T. STADLER, Box 257Q, Minden, Nebr. 11-12

EGGS—Buff Cochins, Muscovy and Rouen ducks; Toulouse Geese. Garner Bros., Coleridge, Nebraska, 54.

POULTRY

EGGS—From Toulouse and Emden geese, turkeys, Houdans, Leghorns, Rhode Island Reds, Wyandottes, Hamburgs, Orpingtons, games, Plymouth Rocks, Langshans, Cochins, pearl and white Guineas, Bantams, Pekin, Ronen, Muscovys and runner ducks. Hen eggs 15 for \$1; by the hundred, reasonable. Also dogs, rabbits and all kinds of fancy pigeons. Write for free circular. D. L. Bruen, Platte Center, Neb. 2-13

WISCONSIN

THE HENS PROPER BUSINESS IS TO FILL THE EGG BASKET—Average laying record of my S. C. White Orpingtons in the winter month: 23 eggs per hen and month. Bred to standard requirements. Pay only for quality not for breeders name. 15 eggs \$4.00, \$2.50, \$1.50; strictly fresh and packed with care. 11-12 REV. G. DETTMAN, R. R. 6 Appleton, Wis.

MISCELLANEOUS STATES

BRED FOR EGGS AND MEAT, Bellevue strain of White and Cuban Wyandottes, S. C. White Leghorns, and Light Brahmas. Stock for sale. Over 30 years in business. Michael K. Boyer, Box H, Hammonton, Atlantic County, New Jersey. 8-12

S. C. WHITE LEGHORN pullets for sale. April hatch. Celebrated Frantz laying strain. Write for prices. O. G. Dukate, Rocky Ford, Colo. 12-12

Prevention is the Best Cure for Borers

(By Aven Nelson of Wyoming.)

This is the time of year when inquiries are received concerning the best way of getting rid of the borers that attack fruit and shade trees. It may be well again to call attention to the fact that the best remedy for borers is prevention. After the eggs have been laid upon the trees and the larvae have begun to work their way into the bark and sap-wood they are exterminated with difficulty. One must, however, do something or the trees will almost bleed to death. Perhaps the most effective way yet devised is cutting out the affected tissue, removing the worm if possible. If this cannot be done a wire may be thrust into the burrow and twisted and worked around until the larva has been killed. After this, the wound should be cleaned out as well as possible and a coat of good quality of white wash applied.

Preventative measures should be begun earlier in the season and generally consist in protecting the trunk of the tree from the adult insect. The insects lay their eggs in a bark scale or in a freshly made wound in the bark. When the larva hatches it begins to work its way underneath the bark and into the sap-wood. Their presence may usually be detected by the discolored sap which constantly flows from the point of attack. If the insects can be prevented from laying their eggs, the tree will be completely protected. Wire mosquito netting loosely encircling the trunk so as not to touch it anywhere serves this purpose. The wire must be tied at the top to prevent the beetle from getting under it and it must extend into the ground an inch or more. Instead of the wire netting, tar paper or

even newspaper tightly wrapped around the trunk will answer a like purpose. These, however, must be renewed each year. Thorough white-washing gives some protection since the insects will not ordinarily eat through the coat of whitewash. A wash of strong fish-oil soap is more or less effective as a repellent to the beetles.

DAIRY NOTES.

The dairy cow is the farmer's best insurance against hard times.

The cow that is offered for sale is seldom the cow you want to buy.

Feed some ground corn, but do not make it the sole concentrated ration. Oats, wheat, bran, oil meal and shorts should supplement the clover hay.

Warm skim milk for feeding purposes soon pays the cost of a farm separator.

Good pasturage for the calves means a saving of milk, finer calves, and greater dairy profits.

The best dairyman is clean, not because he has to be but because it is second nature for him to be.

Farm fertilizers are valuable and important, but the dairy cow should not be kept for fertilizer alone.

Where a farmer is starting on a new farm where there are only a few acres broken nothing pays better than cows and hogs.

By intelligent breeding and care the majority of the dairy herds could be made to double their present productive capacity.

Too often the dairy, poultry and hog work are side lines on the farm. Make them the main line and they will lead you to profit.

A BOX PRESS THAT MEETS THE REQUIREMENTS.

Not an experiment but with five years extensive use and resulting high endorsements by many practical orchard men and shippers this the Crescent Apple Box made and for sale by C. J. Meller at Canon City, Colo., appears on the market as a veritable boon.

Standing but a few feet high, of the right size to hold the ordinary commercial box, the Press is made as substantial and compact as possible. So constructed that from the handy little nail tray, on one side, everything is convenient for quick work in getting the boxes of fruit properly ready for wagon and market. A left or right handed person can use with equal facility.

One pressure down on the foot treadle will hold the cover tight in proper place while nailed on without splitting as in the old way. Its light weight enables the user to carry it conveniently with one hand to any part of the orchard, thus saving much time and rehandling of boxes and fruit piles. The Presses may be readily adjusted for use in boxing apples, pears, peaches and other fruit packing.

The price is very low compared with the immense saving of time, labor and expense resulting from its use. It is a "multum in parvo" invention and makes friends of economizers wherever used.

Built substantially, it withstands all weather, and, considering its time, labor and expense savings from its use, preventing loss by splintered, split tops, much bruising of fruit, smashing of thumbs and general consequent loss of temper otherwise, is both a high moral and economical factor for every orchard and packer.

IN

UNIVERSITY OF ILLINOIS

OFFICIAL ORGAN OF THE AMERICAN APPLE CONGRESS

THE INTER MOUNTAIN FRUIT JOURNAL

AND INTENSIVE AGRICULTURIST

VOL. VI; NO. 2

SEPTEMBER 1912

10 CENTS A COPY



"When the Sweet Aroma of Ripening Orchards Fills the Air"

20th National Irrigation Congress
Salt Lake City, Utah, October 30 to November 4

Mountain and Plain Festival
Denver, Colorado, October 16-18

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Being a Combination of

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Published Monthly in Behalf of Fruit Growing and Marketing, Intensive Agriculture, Irrigation and Allied Interests in Colorado, Utah, New Mexico, Idaho, Wyoming and the West

VOLUME VI

SEPTEMBER, 1912

NUMBER 2

Interesting Program for the National Irrigation Congress

By ARTHUR HOOKER, Secretary, Salt Lake City

Questions of vast import to horticultural development of the intermountain West are scheduled for discussions to be led by men of national prominence at the Twentieth National

mous Mormon Tabernacle which has a seating capacity of nearly 10,000 and will include addresses of welcome by Governor William Spry and Mayor S. S. Park and responses by officers of the congress.

ward Taylor, state horticultural inspector for Utah, has exercised general supervision over the collection and preparation of the exhibit and his reports to the officers of the Congress

A feature of the opening meeting will be the rendition of the Ode to Irrigation, words by Mrs. Gilbert McClurg of Colorado, and music by Prof. John J. McClellan of Utah, by a chorus of 500 voices under the direction of Prof. McClellan. Other musical numbers will complete the morning program.

Men of national and international prominence will speak on timely topics at the afternoon session. In the evening of the first day will be seen the parade and electrical pageant, participated in by the Queen of Irrigation with her maids of honor, and the Wizard of the Wasatch and attendants. This promises to be the most spectacular production of its kind ever seen in the inter-mountain west.

Economic questions relative to the use of water will be discussed at the morning session Tuesday and the afternoon session will be for the discussion of laws and legislation affecting irrigation and reclamation of land. For Tuesday evening arrangements are being made for illustrated lectures and discussion will be invited through a call of the states of the Union.

Colonization and drainage will be the subjects for the morning session of the third day while the afternoon session Wednesday will be devoted to conference of foreign representatives to the Congress committee meetings and special entertainment features are scheduled for Wednesday evening.

For the last day of the Congress the plan is to make the morning session an "experience meeting" and in the afternoon the various committees will make their reports and present resolutions for discussion and final action of the Congress. The Congress will close with a reception and ball to be given at the Hotel Utah in honor of the officers of the Congress and delegates.

In connection with the Irrigation Congress a comprehensive exhibit of the products of irrigated orchards and farms will be held as a special feature of the Utah state fair which meets during the week of Congress. J. Ed-



MAJOR R. W. YOUNG
Chairman of the Board of Governors



SENATOR FRANCIS J. NEWLANDS
President of the Congress

Irrigation Congress to be held in Salt Lake, September 30 to October 3, according to the tentative program.

Men of national prominence in horticultural lines will be in attendance and the perfected program for the congress will include discussion of matters of vital interest to the fruit growers of Utah, Colorado, Idaho and the coast states.

Senator Francis G. Newlands, president of the Twentieth Congress; Major R. W. Young, chairman of the board of governors and George A. Snow, chairman of the board of control, announce that the general arrangement of the program will be as follows:

First session at 10 o'clock Monday morning, Sept. 30; presentation of the Queen of Irrigation and her attendants and formal opening of the Congress. This meeting will be held in the fa-

indicate that the exhibit will be one of the best and most interesting ever shown in the intermountain states.

IRRIGATION CONGRESS FOLDER.

One of the most important of the national conventions, and one in which the people of the West are particularly interested in, is the National Irrigation Congress, which will meet this year in Salt Lake City from September 30 to October 4th.

In the interest of the Congress the Denver & Rio Grande railroad has prepared a handsomely illustrated folder giving a history of irrigation and a description of many of the irrigated sections in the Rocky Mountain region, which it is distributing to delegates to the Congress and others interested in the general subject of irrigation.

National Irrigation Congress Stimulated Utah Development

By C. R. WILLIAMS, Publicity Manager, Salt Lake City

Development of Utah and the Intermountain West since the organization of the National Irrigation Congress at Salt Lake in September, 1891, has been so rapid that actual increase in production and industry are many months



ARTHUR HOOKER
Secretary of the National Irrigation Congress

ahead of the work of the most diligent statisticians and seemingly extravagant prophecies of a season's production of fruit become conservative reports of the past performances by the time the figures can be verified. The National Irrigation Congress has largely been responsible for this development and has hastened this growth more than any other single agency, and now returns to Salt Lake to celebrate its twenty-first anniversary September 30 to October 3, 1912.

At the time the Congress met first there were only two distinct fruit districts in the state of Utah; one known as the Brigham City district and the other known as the Provo or Utah

county district. Developments in recent years, however, have changed the general classification to an extent that will permit of no closely drawn geographical divisions in the fruit belt of the state. The Brigham City district has been extended to the north and west covering practically all of Cache county and a large area of Box Elder county, including the famous Bear River Valley territory. To the south the Ogden district has grown to such proportions that it merges with the fair orchards of Brigham City and the gardens of Davis county. Salt Lake country has grown likewise until the gap between Davis county and Utah county has been filled and the bounds of what was formerly known as the Provo fruit district have widened to include practically all of Utah county. This development has made the big fruit belt of Utah extend from Cache to Utah counties in an almost unbroken expanse.

In the meantime, the Green River district and other localities have increased their fruit acreages locally and a dozen smaller but relatively important separate districts have sprung up in all parts of the state.

Development along horticultural lines in the proven fruit districts remote from railroad transportation has necessarily been slower but with the building of contemplated lines the Uinta Basin, in the northeastern part of the state, the Emery county district in eastern Utah and other fields will extend their operations along these lines.

For many years the so-called Brigham City fruit district has led in the amount of fruit shipped while Utah county has led in the acreage planted to fruit trees each year. With this condition it is only a matter of time when Utah county's production will head the column. Box Elder county, however, is contesting strongly for the honor of first place in the shipping column and other parts of the state will have no easy task in holding laurels.

The completion of the strawberry irrigation project in Utah county will give a decided stimulus to the planting of orchards throughout the central part of the state, inasmuch as a large proportion of the acreage under this government project is included in the bench lands surrounding Utah lake

History of the Strawberry irrigation enterprise dates back to 1902 when the owners of the dry bench and bottom lands skirting Utah lake organized an association for investigation which revealed the possibility of diverting the waters of strawberry river through the Wasatch range of mountains for irrigation purposes. It was necessary, however, to procure government aid before the project could be financed through the

United States Reclamation service.

The project includes a reservoir impounding 110,000 acre feet of water, held in check by a dam 45 feet high across the Strawberry river. This dam is about 38 miles east of the town of Spanish Fork, Utah. The reservoir is



GEORGE A. SNOW
Chairman of the Board of Control

tapped by a tunnel 19,000 feet long, with a capacity of 500 cubic feet of water per second, which will convey the water under the rim of the Wasatch Mountains to a tributary of the Spanish Fork river. From here it will be diverted to the land by a concrete dam 15 feet high and 70 feet long.

Included in the project in an up-to-date power plant developing 900 K. W. This power will be used to pump water to high land and for general domestic and commercial purposes.

The 60,000 acres of land embraced in the project lie within 75 miles of Salt Lake City. A fair proportion of it is fine fruit land, and the rest is



BUSINESS SECTION OF SALT LAKE CITY



CITY AND COUNTY BUILDING AT SALT LAKE

first-class agricultural land. Construction will be completed in 1913, and the total cost will be about \$3,000,000.

In the planting of orchards in Utah during the last two years with 25-30 per cent in peaches and the remainder to cherry, pears, plums, prunes and apricots in the order named. Reports

of the state horticultural commissioner show that the total number of trees planted approximated \$90,000 for each of the last two years.

This development in Utah will be a matter of interest to the hundreds of fruit growers who will attend the twentieth congress for the sessions will

be held within a few hundred yards of the site of the first irrigation ditch constructed by Anglo-Saxons on the American continent, and, within a few miles of Salt Lake may be seen some of the largest irrigation enterprises to the West furnishing water to vast acreages in fruits.

Apple Growers' Congress Makes Plans for Reorganization

By RODENBAUGH & MORRIS, Special Representatives, Chicago

Reorganization and better co-operation between members and those of other similar organizations was the keynote of the sessions of the American apple growers' Congress that convened at St. Louis on August 22. Several speeches were made, all having as their basis a closer union between kindred interests. Railroad rates, marketing of crops, refrigeration and shipping of apples, closer relations with other fruit associations in all parts of the United States were freely discussed, all resolving themselves into a formal declaration that the congress had not altogether met the purposes of its organization and that its life must be preserved by a more compact and cohesive plant of organization and action. For this reason the date and location of the next annual meeting place was left open for a detailed report from the organization committee appointed, that consists of Senator H. M. Dunlap of Savoy, Ill., Louis Erb of Cedar Gap, Mo.; J. Mack Tanner of Springfield, Ill.; H. C. Irish and J. R. Williams.

The first three members of the committee addressed the convention in advocacy of the ideas that are to be used as a nucleus from which the reorganization committee will work out its recommendations, and addresses were also made by P. M. Tully of St. Louis, K. B. Wilkerson of Mexico, Mo., and Mr. Grigg, a representative of the American Paper Products company.

Old Officers Re-elected.

At the afternoon session the old officers were re-elected and one or two

new positions created. The personnel is: President, J. W. Stanton; vice-president, Louis Erb; secretary, T. C. Wilson; treasurer, Wesley Greene; statistician, L. A. Goodman. Executive committee: J. Mack Tanner, R. A. Simpson, W. T. Flournoy and W. T. Cole. M. H. Dunlap was appointed chairman of the publicity committee. Among those in attendance were:

J. W. Stanton, Louis Erb, M. H. Dunlap, J. Mack Tanner, P. M. Kiely, Hanley G. Richmond, Leaton Irwin, John H. Williams, K. B. Wilkerson, G. I. Hazeltine, H. C. Irish, J. D. Snidkin, A. O. Mattaz, W. T. Perrine, Charles Perrine, J. C. Heaton, R. T. Kingshin, S. Y. Thornton, W. T. Flournoy, A. T. Nelson, D. A. Turner, T. C. Wilson, J. C. Evans, W. P. Greene, C. H. Grigg, R. B. Wallace, W. W. Forsman.

Closer Co-operation.

The Thursday morning session was taken up largely by speechmaking and an interchange of verbal compliments. Senator Dunlap made the longest address, concentrating his attention on the necessity of better and more accurate statistics regarding the apple crops, facilities for marketing, closer co-operation between congress members and those of other organizations, market prices and railroad freight rates. He deplored the tendency of some of the members to devote much time to spraying topics to the exclusion of the former list. He said knowledge of spraying could be acquired by the student in his library, whereas it required co-operation and concentration to discover solutions for and

apply remedies to the other ills of which he complained. He said all well posted growers would admit that intelligent marketing of fruit is seriously interfered with by the host of producers that does not keep posted on trade conditions, merely because it is a little trouble and perhaps sometimes slightly inconvenient.

Louis Erb applauded the things said by Senator Dunlap and added his belief that the congress membership could only be increased and the organization placed on a satisfactory and profitable basis when the members were shown where their membership really meant money and wider opportunities to them. He wanted the congress to become national in scope by working in harmony with other fruit organizations throughout the country. He also advocated hiring an expert as secretary, to be paid a salary commensurate with the duties expected of him.

Failing in Purpose.

J. Mack Tanner said he had thought for some time that the congress had been failing in its original purpose of enabling its members to earn more money through the transportation and marketing of their crops. He said more comprehensive and trustworthy statistics were needed, that the grower might have a safe basis on which to predicate his calculations. He urged closer relations with the railroad carriers, saying they were at all times ready to meet members of the congress half way in "doing the right thing."

P. M. Kiely of St. Louis confined



THREE-YEAR-OLD ORCHARD AT NAMPA, IDAHO, ON THE OREGON SHORT LINE



SUGAR BEETS IN YOUNG ORCHARD AT LOMA, COLORADO

himself to a short talk on statistics, saying they should get down to bed rock on the number of merchantable apples in the country and not merely the number of barrels of apples produced on the trees.

P. Nelson of Lebanon, Mo., deplored what he thought was a general tendency to enlarge statistics, citing

an instance that estimates of apple conditions in the Ozarks were exaggerated and of little value as a working basis to the intelligent orchardist. He also advocated the plan of changing the meeting place each year.

L. Irwin of Quincy, Ill., asserted his belief that members should spend more time each year in investigating

probable prices for fruit than in giving their attention to spraying and similar questions that could easily be learned from the literature of various horticultural societies that could be had for the asking.

Jonathan Crop Short.

K. B. Wilkerson of Mexico, Mo., gave an interesting talk on his many years' experience as a buyer and seller of apples. The remainder of the morning session was taken up with a discussion of apple conditions in Illinois and Missouri, which developed the information that the Jonathan crop is not as heavy as was at first reported, but that central Missouri would produce more apples than in 1911. Some damage was being done by scab, the bulk of the loss being sustained in unsprayed orchards.

The afternoon session originated a lively discussion as to the merits of the box and barrel methods of shipping apples. Louis Erb said he had tried out the box method in shipments to Memphis and other places, and had derived both satisfaction and money from it. He thought it only a question of time when the box method would come into larger use, it being sanitary and convenient, and stimulate a larger consumption of apples in the central west.

President J. W. Stanton, president of both morning and afternoon sessions. The only officer absent was Statistician L. A. Goodman of Kansas City, Mo., which caused the representation of the country crop report to go over until another time.

More Efficient Methods of the Marketing of Products

By HORACE V. BRUCE of New York State Food Investigation Commission

Having investigated the present actual conditions of the supply, marketing and distribution of food to the consumer in New York City, and the other chief centers of population in New York State, the Committee on Markets Prices and Costs, the special sub-division of the State food Investigating Commission, has now reached definite conclusions and formulated them in its report with recommendations for legislative action. To meet the general complaint of the increasing cost of living the Committee's main purpose was to examine how far in the marketing of food commodities prices are raised to the consumer by inadequate and uneconomical facilities and methods of distribution. This involved public hearings with the ample means and opportunities afforded by the authority of the State, a personal examination of the facts and a statistical investigation of prices from the terminal to the consumer. A close comparison was also made between the various modes of marketing food at wholesale and retail by public and private organizations. The variety and universality of the marketing process in New York City afforded a most valuable field for the examination and demanded the greatest share of attention, which it received. The other cities of the State as well as the country districts coming under the reflex of the cities as affected in

the regulation of market prices came within the purview of the Committee and have proportionately received due attention.

The Committee found that the marketing agencies of Greater New York, the second greatest consuming center of the world, are covered by 13 classes of food distributors ranging from the municipal wholesale markets, the wholesale markets conducted by the railway and steamship Lines and the farmers markets, to the corner grocery and pushcart types through the intermediate grades of stores. Among these distributing agencies the Markets Committee reached the conclusion as the result of its minute investigation that the large retail unit or food department store buying direct, receiving direct, and selling direct is the best economic type in point of efficiency minimum of waste, satisfactory distribution and due rewards for management and capital. Towards the development of such stores the Committee believes retailers, wholesalers, and private organizations should move. To compensate for the comparative neglect which the municipal interest of marketing has suffered in comparison with those of transportation, police, streets, docks, water and others the committee recommends that the Charters of the various cities of the State be amended so as to provide for Department of Markets

charged with the economic and sanitary supervision of food supplies used in the Municipalities. The department of Markets, it is further recommended, should be charged with the duty of publishing accurate statements of market needs and prices to be sent to producers of food supplies so that they may be protected from extortion and offered facilities for marketing the committee finds that the primary or wholesale prices should be fixed by systematic auction in lots suitable for purchase by retailers.

Such Auctions should be conducted under the auspices of the city or of a public organization, not for profit, so that this auction in which all parties interested should have a voice would constitute, on primary prices, a producers and consumers market. The system is successfully practised in foreign metropolitan markets. Finally the committee recommends that the railroad and steamship lines entering the cities of the State should be encouraged and required to provide adequate facilities for the prompt deliveries of food products for their sale by auction on the premises for temporary storage, both cold and general, to carry over one or two days supply and for the publication of bulletins showing supplies to arrive.

Adopting as a guiding principle the elimination of all that tends to the unnecessary stoppage in transit, as

multiplied transfers and delays must increase the ultimate cost to the consumer, the Committee expresses itself adversely to the construction of public market structures and terminals that might impose heavy fixed charges on the community and be incapable of changing with altered conditions of population and habits. The history of New York City's markets is given as a warning example. It is pointed out that for the most part the buildings in the wholesale district where the transportation terminals are located on the extreme south westerly edge of Manhattan are old, ill-built or ill-planned and none of them are located on railroad tracks or pier heads. If the matter were in the hands of a powerful commercial agency, the wholesale plant, for food handling in the city would, with two exceptions, be "Scrapped."

The fundamental aim, then, in seeking the reduction of the cost of food is to minimize the cost of distribution. The Committee estimates that the annual food supply of the Greater New York costs at the transportation terminals \$350,000,000 or over, and that it costs in the consumers' kitchen \$500,000,000 or over. The testimony taken at the hearings, the Committee thinks, shows that this addition of about 45 per cent to the price is chiefly made by cost of handling and not by profits. In fact, the evidence showed that the smaller retailers are barely making wages, the corner groceries being generally a mere means of gaining a family livelihood. The suggested substitution of large retail stores capable of supplying 25,000 to 50,000 people and each with cold and general storage facilities would, the Committee finds, bring about a system of food distribution at a cost of 15 per cent without delivery and 20 per cent with delivery as against a cost of 25 per cent to 30 per cent for the present separate wholesale and retail systems without delivery and at a cost of 35 to 40 per cent with delivery. Witnesses before the Committee gave actual figures of operation from which it is inferred that the total cost of wholesaling including profits is probably about 10 per cent and of retailing 33 per cent added in both cases to the first cost. If the plans adopted by most successful agencies for wholesale and retail distribution respectively should be followed in New York City at large, the Committee estimates that the reorganization of the facilities and methods of doing business would result in a saving of \$60,000,000 per annum, or 12 per cent on the present retail prices.

While seeking to minimize the intermediary cost of transportation, the Committee recognizes that a saving from improved facilities is only a part of the problem, and that the real object of the City should be to increase the supply and especially the nearby supply of food products. Not the least valuable portion of the report is that devoted to the market supplies and prices of particular products. The inquiry brought out in a comprehensive form, such as it has not hitherto been possible to secure, important information as to the marketing of milk

butter and eggs, and the effects of the cold storage system. From the sociological point of view many points relating to the side issues which have an important bearing on the main economic problem, since the habits of the people, their preference, customs and idiosyncrasis have all to be taken into account. The influence of the telephone and motor truck upon changing the course of domestic marketing has been immense and experience of store owners and consumers as related by themselves in the testimony recorded by the Committee throws a flood of light upon the subject. Illuminating facts are given about the extension of suburbs and its revival by use of motor trucks giving a longer range of haul to market. That large returns are still possible is shown in the instances quoted, a Woodhaven farmer realizing this July in the Gansevoort Market a gross return of \$45 on a load of radishes, lettuce and small cabbage, the cost of marketing being 26 2-3 per cent; while a Staten Island farmer made \$50 on a one-horse wagon of lettuce and beets at a marketing expense of 17 per cent, and Buffalo farmers bringing in produce within a radius of twenty-five miles net from \$100 to \$150 a load, after spending in the cost of handling 10 per cent for all charges.

The Committee which had as its chairman William Church Osborn consisted of, in addition to the chairman, Hon. Calvin J. Hustin, Commissioner of Agriculture, and Ezra A. Tuttle, and was assisted by Horace V. Bruce, Expert Investigator, and Raymond A. Pearson, Ex-Commissioner of Agriculture.

Queries and Answers

Please answer in "Journal" or in private letter answer how you would treat a young tree that had been barked by rabbit or prairie dog. Answer immediately or in September issue of Journal.

DR. J. M. SMITH, Carrollton, Mo.

Answer: It is difficult to treat young trees successfully that have been barked by prairie-dogs or rabbits. Whether any treatment will succeed or not depends largely on how bad the girdling is. If the bark is taken off clear around the tree so as to expose the wood, the only remedy is to bridge graft. This is done by inserting a scion both above and below the wound and, of course, cannot readily be done except in spring. While this can be done successfully, it is impractical for a young tree and the chances are that it would be more profitable to pull out the tree and reset with new stock.

If the girdling is not, particularly severe, it can be helped by trimming the ragged edges of the bark with a sharp knife; then covering the surface with grafting wax or other material to keep the wood from drying out till new bark grows over and heals the wound.—E. P. Bennett.

R. M. S. Sunnyside, Idaho:

Referring to an inquiry concerning

cut worm injuries and asking for information. The letter came during my absence, which accounts for the delay in my reply.

Cut worm injuries for the year are now past so that an article written at this time would be too late to be of much value to your readers. The moths that are flying about lights in the evening so freely at this time of the year are for the most part the adults of the cut worms, although there are among them a considerable number of beet web-worm moths and other insects. Another year I shall be very willing to write an article on cut worms for the **FRUIT JOURNAL**, if you so desire. It should be published as early as May in order to be of very much value during that year.—C. P. Gillette.

C. P. J., Estancia, New Mexico.

I know nothing of the tree form of a pearl gooseberry. Quite frequently nurserymen propagate and advertise a so-called tree current and gooseberry. These are simply variety of gooseberries worked onto a stock that will give them a more or less tree form. So far as I know these have never been practical in that they are a considerable nuisance to handle, break down easily under load, and in the long run do not produce as many fruits as the bush forms. They also have this disadvantage that if a borer gets into the main stem the whole plant is gone while in the ordinary bush form only one of many stems is lost. It is difficult to give the price of gooseberries as they vary anywhere from 50 cents to \$2.50 for a 24-box crate. There is a fair demand for gooseberries every year, but the demand is quite easily supplied and low prices are not uncommon.—E. P. Bennett.

CLEAN BERRIES.

The matter of cleanliness is a very important factor in berry picking and when enforced by berry patch owners adds materially to financial and healthful results alike. A clean and plump lot of berries are more desirable to the consumer and wholesale merchant alike. Such at least is the testimony of a lady owning a large acreage of raspberries near Denver.

Employing only careful and intelligent pickers who are at all time cleanly in their habits, she not only announces the high gratification of knowing that no infection or disease is ever varied to her fellow beings in the luscious products of her garden but a larger price per crate is more readily obtained. She enforces rules resulting in the fact that each and every box sent from her place is all ready for satisfactory canning by the ultimate purchaser. Nor does that mean half is fit only for jam because of bruised conditions. In fact the plain announcement that a load comes from her place is the precursor of an offer of "top price" by the wholesale merchant.

Her deserved financial success can be easily obtained also by others who will enforce a similar rule with a little more care in personal supervision and elimination of "cheap labor."

THE INTERMOUNTAIN FRUIT JOURNAL

AND INTENSIVE AGRICULTURIST

An Illustrated Monthly Western Country Life Magazine of the Highest Class. Only Periodical Devoted Exclusively to Fruit Growing, Irrigation and the Higher Branches of Agriculture in Colorado, Utah, Idaho, New Mexico, Wyoming, Arizona, and the Irrigated West.

Being a Consolidation of **World-Wide Farming** Magazine of Denver, Colo., with the **Intermountain Fruit Journal**, of the same Volume and Number as Given Below.

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Official Organ of the American Apple Congress.
Clinton L. Oliver, Secretary, Paonia, Colorado.

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The Irrigation Congress

THE announcement that the Twentieth National Irrigation Congress will take place at Salt Lake City the last of this month, marks the opening of another chapter in the history of irrigation development in the West. This is for the reason that just twenty years ago this mighty power of industrial development was organized and the first meeting held at Salt Lake City. Twenty years has seen the greatest era of development along irrigation lines in the West, that the world has seen anywhere. Twenty years ago the irrigated areas of the Western states was confined almost entirely to comparatively small areas that could be watered by gravity flow in the mountainous valleys adjacent to the water courses. Today there are scores of irrigation projects completed and under way, at the hands of both private capital and the government that are bringing water to individual districts over a hundred thousand acres in extent.

In spite of its past accomplishments the coming congress will have an opportunity to deal with some of the greatest questions ever presented for consideration ranging all the way from state rights to waters flowing through its territory down to the best means of building a hedge of safety around irrigation finance and the surest

methods of shutting out "wild cat" and "get-rich-quick" operators from irrigation speculation.

Chairman George S. Snow, of the Utah Board of Control announces that the interest already shown foretells a larger gathering of delegates than has marked any former congress and Salt Lake City is preparing a most unique plan of entertainment which will be especially emblematic of the Inter-mountain Empire.

That Big Apple Crop

OUR contemporary, "The Fruit Grower" has sent out the following bit of information to a number of its subscribers in the principal fruit districts. "Already there is evidence that the apple crop of the country is being over-rated by dealers in hopes that the prices can be driven to rock bottom by the time harvest begins. Dealers are reported as engaging all of the available space in cold storage plants to prevent the storage of fruit by growers." The publishers of "The Fruit Grower" are both practical men of long experience in the fruit game and the information is both timely and important. It does seem that no matter how old and be-whiskered some stunts are, there is always some one every year to try and spring them on the public. We are beginning to think that it would be a good plan for progressive fruit trade papers to keep the government statistics showing the rapidly decreasing volume of production on apples for the United States for the last ten years, standing in type and run it every issue during the fall and winter months. So far as the Intermountain district is concerned, there will be no hardship incurred if the dealers buy up every square foot of storage to be had from Hutchinson, Kansas to Niagara Falls. We don't mind passing out the tip that there will be natural storage's provided by our growers to care for a half of the entire western crop this season. We believe the growers and associations should practice this feature of the game to a greater extent than ever before. If they do, it is quite likely that before March rolls around, there will be a lot of buyers hunting up Western box apples to supply the normal demand for consumption that will not be satisfied with the Eastern product. The **FRUIT JOURNAL** is convinced that their will be a good market to take care of all the apples grown in the Intermountain district word is sent out that our apple will not be sold at a sacrifice during the fall period.

The Apple Congress

THERE are so many preliminary details to be arranged in connection with this year's meeting of the American Apple Congress, that we are unable to make a complete announcement of the event in this number. Sufficient to say that financial support has been promised from Denver and that the tentative date for the meeting has been set for Monday and Tuesday, December 16 and 17. Our editor, Mr. Oliver, who is secretary of the congress, has been

working over-time this month harvesting a crop of some 5,000 boxes of peaches at Paonia, which will be followed by crop of about 15,000 boxes of apples. He has promised, however, to handle the preliminary arrangements of the meeting by correspondence from Panonia and will endeavor to get the bulk of his work of harvesting out of the way before November 1, so that he can come to Denver and open up headquarters for the meeting. Several novel and interesting features have already been planned for the educational as well as the amusement end of the program. Among the important subjects that this season's experience in orcharding has brought out, that will be taken up by papers and in discussion will be "Natural Storages," "Denver, the Storage Center," "Control of the Leaf Roller and San Jose Scale," "Co-operative Marketing." Our growers are urged to write us of other subjects of interest which they wish to have included in the program.

Spokane's Apple Show

THE business men of Spokane and the fruit trade interests of the Northwest are to be congratulated for their energy and sticktuitiveness. Announcement has just been sent out to the press that Spokane will hold its fifty annual apple show some time this fall. Follow their apple show two years ago, a feature of which was transporting an exhibit of 2,000,000 apples to Chicago in connection with the National Land Show, as a result of which the promoters of the event suffered a loss of some \$20,000, the loyal business interests of Spokane got together and repeated on their show last year. With the biggest apple crop in the history of the West in sight this year, it is very opportune to learn that the National Apple Show at Spokane will be repeated this year.

The Intermountain district is interested particularly in this announcement for the reason that Colorado will not hold a national apple show this year. The two apple shows that have been held in Colorado, have educated a corps of our commercial apple growers up to the high standard of the apple show game. With the biggest and cleanest crop in the history of fruit growing in store for Colorado and adjacent states this season, we would like to see a few of our crack exhibitors that we could name, send exhibits to Spokane this season. We would be willing to gamble that they could come home with the prizes in the classes in which they entered. Visitors to the apple show at Denver last year, pronounced the quality and class of the exhibits superior to anything they ever saw on racks at a show anywhere. We hope a few of our exhibitors will take this tip as it will be a fine opportunity to demonstrate that when it comes to commercial fruit growing that Colorado cannot be surpassed.

SCALECIDE IS SURE REMEDY FOR THE LEAF ROLLER.

The phenomenal increase of depredation in the commercial orchards of

the Eastern Slope of Colorado this year by the Leaf Roller, has attracted the attention of horticulturists and insecticide experts all over the country. According to the concensus of opinion here, much of this damage could have been averted if the orchardists had appreciated the seriousness of the menace and taken the proper measure of precaution at the proper season last year. A representative of the **FRUIT JOURNAL** visited the Arkansas valley section, which seemed to have been the scene of the worst operations, several times this season.

According to Captain B. F. Rockafellow, one of the largest growers in the Canon Cit district, the orchards which were worst infected this season, did not use a fall or winter spray on the pest, but depended on the blossom spray to take care of the Leaf Rolier. One of the insecticide experts who has made a study of the Colorado situation is Mr. B. G. Pratt, president of the B. G. Pratt company of New York City, manufacturers of "Scalecide."

He writes us as follows: "We are informed that this dangerous pest is spreading rapidly through the orchard districts of Colorado. Immediate action is necessary to stamp it out. Had the growers realized this a year ago now, they would have saved many thousands of dollars in this year's crop, not to mention the damage done to many orchards. There is no phase of fruit growing, where the old adage, "an ounce of prevention is worth a pound of cure," as it does in fighting insect pests.

"We have made exhaustive tests on this pest, and without self-advertising, can assure the growers that Scalecide is the one sure spray for Leaf Roller. It kills every egg, and is absolutely effective under every condition. It is likewise equally effective for San Jose Scale which is another deadly pest that has made its appearance in a number of sections of Colorado. It is also the cheapest spray in the long run, because of its certain results and because it will go further and last longer than any of the other sprays used in the dormant season."

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Arsenate of Zinc Spray Has Shown Promising Results

By GEORGE P. WELDON, Entomologist, Grand Junction

In the fight against the great horde of chewing insects, the various arsenical sprays play an important part. Among this class of sprays may be mentioned Paris Green, London purple, arsenate of zinc, and sulphide arsenic. Each one of these insecticides is dependent largely upon the arsenic content for its value as an insect destroyer.

In the above list only two kinds are mentioned that are at all generally used at the present time, viz.: Paris green and arsenate of lead. While these two arsenicals must be recognized as exceedingly valuable, they have their weak points and are not so good that something better cannot be found to take their places.

One of the new and promising arsenical sprays is arsenite of zinc. This product was first manufactured by the California Spray-Chemical Co., of Watsonville, California. At the present time other companies are experimenting with it in order to know how it may best be made in order that they may be able to supply the demand if it proves the success at present indicated.

The writer had occasion to experiment with this product in a Western Slope orchard last season, in spraying for the control of the codling-moth; also to make observations where it was used in a score of different orchards.

As a poison, it seems to be slightly more effective than arsenate of lead. There are those who used it last season who feel that it controlled codling-moth much better, and no one seems to doubt but that it is at least as good as the latter product.

Professor S. A. Johnson, in experi-

ments for the control of the bean lady bird beetle, found that arsenite of zinc would poison the beetles readily when arsenite of lead used very strong had no apparent effect on them.

Unfortunately, considerable burning of foliage and fruit was noted in certain orchards sprayed with this product last season, but it could not receive more severe criticism from this standpoint than arsenate of lead, for the latter also burned in certain orchards. It seems true that when spraying with either of these products immediately precedes a shower of rain more or less burning of foliage and possibly fruit will result. Last season the weather was very showery in western Colorado at the time when the first and second applications for codling-moth were being made and no doubt the burning from both of these arsenic sprays should be attributed to that fact.

From the limited amount of work done with arsenite of zinc, it would not be well to recommend its use in place of the long used and reliable arsenate of lead. It seems well, however, to suggest that fruit growers at least give some of this material a proper trial where it is possible to procure it, and especially upon insects that are more or less resistant to the poisoning effects of lead arsenate.

We cannot afford to say that arsenate of lead is good enough while it is possible to find something better. The arsenite of zinc which has been tested from samples gathered by the writer gives a splendid analysis. It is claimed that its cost will be less than that of arsenate of lead,

which is something that will make it appeal to the fruit grower who spends hundreds of dollars annually in spraying.

From the work that has been done in Colorado so far, with this new insecticide, we do not wish to draw many conclusions. Experiments will be continued and it is hoped that many orchardists will also make tests so that definite conclusions may soon be reached. At present, it is only safe to say that arsenite of zinc is exceedingly promising.

WATERPROOFING OF MORTAR AND CEMENT.

(By Ralph L. Parshall, Colorado Agricultural College.)

There are some cases where the waterproofing of concrete is very desirable. The granary may be of importance where the base is in direct contact with the ground. The cellar should be dry. The universal use of concrete has made it possible to construct feeding and watering troughs for the barnyard. Cistern may be required on the farm, not only to keep the water in, but also to keep the water out.

There are several methods used in making concrete and cement mortar more impervious to water by the addition of foreign ingredients.

To increase the water tightness of concrete, especially to lean mixtures, clay may be added. The clay must be free from all vegetable matter and when added must be in a finely powdered state. The amount to be added must vary with the mixture; for ordinary farm work add about two to five per cent of the weight of sand used in the mixture. Mix dry with the cement.

The addition of soap and alum to cement mortar has been found to diminish its permeability, and the following has been found to give good results: "Take one part cement and two and one-half parts of clean, sharp sand, and to every cubic foot of sand add three-fourths pound of powdered alum. This should all be mixed dry. Now add water in which has been dissolved about three-fourth pound of ordinary laundry soap to the gallon, and thoroughly mix." If you find it difficult to dissolve the soap, use hot water. The strength of the mortar will of course be somewhat inferior to that of the pure mixture.

Alum and lye applied to the exterior surface with a calcimining brush has been found effective. Use one pound of lye and three pounds of alum dissolved in two gallons of water.

A very effective method to prevent moisture penetrating through walls that extend beneath the surface of the ground is the application of two coats of coal tar to the exterior surface of the wall, the coating to extend well above the surface of the ground.



HARVESTING APPLES IN A WESTERN COLORADO ORCHARD

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Some Proven Profits in Dairying

By J. B. McNULTY, Colorado Agricultural College

A recent report of the Wisconsin Agricultural College shows that the dairy herds of that station, after standing a cost of \$65.72 for feed, returned an average net profit of nearly \$50 per cow in the year 1910-1911. The cost of maintaining a dairy cow at the same station in 1905-1909 was \$41.05, or approximately \$25 less than in 1910-1911. Notwithstanding this increase in the cost of maintenance, the station here has yielded the above profit the past year.

Contrary to public opinion this herd, like that of all other college herds, has had no special advantages. In fact, from the standpoint of economy of production, station herds have many disadvantages. The limited amount of land available for the maintenance of a station herd often necessitates the purchasing of the larger part of the concentrates of the ration rather than the growing of these or some substitute, and thereby reducing the cost to a minimum. It is understood, of course, that all of the cows in this herd were pure bred. They were bred by the college herd, for the purpose of making exceptional records, in which case these results would be of little interest to the practical breeder of dairy cattle. The writer does not call the attention of

the public to this data because of the fact that it is in any way exceptional, but rather because it is authentic and because the method by which these profits were secured may be practiced by any progressive breeder who will select properly and give a reasonable amount of care and attention to his herd. Doubtless many practical breeders in Wisconsin have equaled, if not surpassed, the work of this dairy herd when the cost of production is considered.

In the above herd one Jersey and one Holstein gave a net profit of \$129.50 and \$127.61 respectively. Only seven of the entire herd returned a profit less than \$40 each, while the lowest returns from any individual cow was \$24.79. The average fat production was 354.77 pounds. This yield was not unusually high, and still when one is reminded that the average dairy cow produces only 150 to 175 pounds of butter fat per year, it is easy to explain why it is possible to make a profit of \$50 per cow with a production of 355 pounds of butter fat, even though the cost of feed be \$65.72 per cow. In addition to the profits made from the sale of butter fat, the sale of the pure bred offspring amounted to approximately \$1,600.

The abnormally high cost of feed

per cow was due in part to the fact that feeds were high in general, and also the fact that the protein came very largely from expensive concentrates. Had alfalfa hay been available as a source of protein at the price ordinarily quoted in Colorado, the cost of producing butter fat could have been reduced appreciably and the profits increased proportionately.

GETTING RID OF ANTS.

The best methods of ridding lawns and houses of ants, which frequently become troublesome pests, are described by the crop pest workers of the Oregon Agricultural College, thus:

"Whenever the ant's nest can be located the best means of destruction is to make a hole in the center of it with a crowbar or similar instrument, pour into it one or two ounces of bisulphide of carbon, tamp the soil back into the hole and throw a heavy blanket over the nest to hold in the fumes of the bisulphide.

"To destroy ants in the house a mixture of three grains of tartar emetic and four ounces of syrup should be smeared over bits of china or chips and placed in the ants' runway. It is especially good as a remedy because it will not kill the ants immediately. They carry the mixture to their nest and feed the larvae upon it, and thus kill out the entire colony."

Montezuma County is the Coming Fruit and Farm Section of the Entire State of Colorado

We have just secured a large tract of land in Montezuma County, in what is known as the Mancos Valley, four and one-half miles southwest of the town of Mancos, with an abundance of never-failing irrigation water. This land lies perfect for irrigation, practically level. There is no chance of seep and the soil is a deep, red fruit soil. We are splitting this land in any size tracts that the purchaser wants and are selling it on reasonable time, at prices never heard of before for this character of land and water from \$75.00 to \$125.00 per acre.

If you are in Denver and can come to my office and see the display that we have here from Montezuma County and from this tract of land, you will be surprised. We are threshing oats at the present time that runs 90 bushels per acre, on this land and other crops are in proportion. Potatoes do better on this soil than any place in the state. The fruit that is grown in this valley cannot be beat for quality and quantity. The

climate is ideal for fruit and it is a beautiful place to live. This land will be worth several hundred dollars per acre when this valley is developed and here is a chance of a life time to get in on the ground floor of something that is tangible. This country has never had a failure of crops. They always get the water and the climate is ideal for farming. Above all, it is a beautiful country and an ideal place for a home. There is every thing in this valley that one can ask; the very best of all kinds of crops grow here.

Mancos is a beautiful little town, modern in every respect. Let us tell you more about it. Come and see the stuff that is raised here. Let us send you there to look for yourself. This is one place that will make you lots of money, if you invest, but you will have to act quick.

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Improvement of the Country Roads

Good roads are essential to the success of the farmer the world over. Poor roads are very costly; they cause the speedy wearing out of wagons, more profit and more comfort. Good roads are not expensive; all roads can be improved at small cost in money, time and labor.

The split log drag has come into use in roadwork quite extensively in recent years, and it is sure to be more in evidence in the next few years. It is the cheapest and best tool for improving a county road yet devised, and it is also very useful on a dry land farm for levelling after the harrow, and every farmer should have one and occasionally run it over the road near his farm.

It is by far the most important implement yet devised for maintenance of earth roads. The drag, besides evening out the rough places in the roads, packs the material of the surface and in reality converts it into a layer of brick which with each successive use of the tool becomes thicker and therefore resists the traffic to a greater degree.

The implement is built of two parallel timbers either, as originally built, two halves of a 10 or 12-inch log, or two rectangular pieces about three inches thick by 10 inches high, placed 30 inches apart and offset 18 inches, the length of the parallel timbers being either seven or eight feet. These timbers are securely braced and bolted, and shod with strap steel which should be a quarter of an inch thick and two or three inches wide, to form cutting edges. The steel on the front log should be half an inch lower at the ditch end of the drag than at the other end, the road end being just flush with the bottom of the front log. The steel on the rear timber should be even with the bottom of the wood the full length, but can be

omitted entirely if necessary, although it is best to use it, as it protects the timber.

The United States Department of Agriculture furnishes a description of the drag in the Farmers' Bulletin No. 221, which is sent gratis to those who are interested. They do not advise the steel on the loss except on the down end of the forward log for half its width, but I have found that the steel shod tool does better work unless the roads are in first-class condition to start with.

The implement is used after every rain, just as the roads begin to dry out. The horses are hitched to the drag at about one-third the length of the chain from the ditch end of the tool, so that the implement will operate at an angle, allowing the material to constantly work towards the center of the road.

In laying out and grading up a road the principle thing, of course, is to get the center higher than the sides of the roadway so that the water will find its way to the side ditches quicker than it will start down the center of the road. If the water can be quickly drained off the road surface the road will be cut up very much less by traffic after rains and dry out in half the time required on roads not properly rounded up. Besides maintaining this rounded surface the drag keeps packing the road material to such an extent that the ruts will be much shallower when it does cut, and the service of the dirt road to the people will be extended over pretty much the entire year.

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**NEW SEED AND NURSERY CO.
STARTS BUSINESS IN DENVER.**

The many friends of Mr. C. R. Root, who was president and one of the organizers of the first national apple show in Denver three years ago, and who has been the manager for the Denver branch of Barteldes Seed company for the past fourteen years, will be pleased to learn that he is connected with The Colorado Seed and Nursery company which has just opened headquarters at 1515 Champa street, Denver, Colorado. His associates are Mr. William F. Horlacher and Mr. Lewis Malone. Both of whom likewise were previously connected with the Barteldes company. In their announcement to the trade recently they state: "We all leave the old company with the best of feeling, believing however, that the time is at hand to develop a business that will be of mutual interest to customers and ourselves. With our long experience in this field, we believe we know and can serve the wants of our patrons with particular advantage to them. Our aim will always be to give the best goods obtainable at a fair price." The company carries a full line of vegetable, flower and field seeds, flowering bulbs, plants, shrubs, fruit and ornamental trees, birds and aquarium stock.

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EXPERIMENTS.**

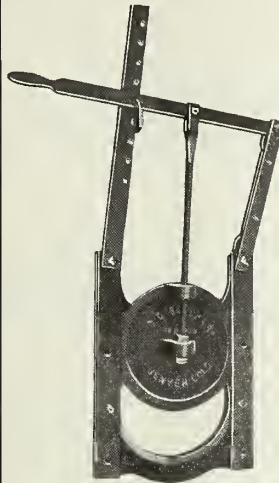
The office of experiment stations of the department of agriculture has recently received a report from Italy of experiments for the prevention of the rusts of wheat and beans by the application of considerable quantities of iron sulphate to the soil.

In the experiments iron sulphate was added to the soil at the rate of 160 pounds per acre for wheat and 240 pounds for beans, after which the seed was planted. No difference could be noted for the wheat the following season as there was but little rust in the vicinity, but there was a considerable increase in weight of both the bean seed and plants. This is attributed to the use of the iron sulphate which induced a much more vigorous growth. It is concluded that the application of iron sulphate before planting may be of use in preventing rusts in various crops through the general increase in the vigor of plants to resist the attack of fungi.

Sugar Beets.

Another Italian report received was that of experiments on the effect of time of planting of sugar beets on the flowering. Sowing of six varieties of sugar beets at intervals from November 14 to June 16 indicated a decisive effect of the time of sowing on the tendency to premature flowering, but no relation between the number of plants flowering the first year and the yield secured. Of the beets sown November 15 and December 23, 55 and 65 per cent, respectively, flowered during the first season, but after that time the percentage decreased steadily until of those sown March 14, only about one per cent flowered and of those sown April 26 or later none flowered the first season.

Patch Up ^{or} Get a New One

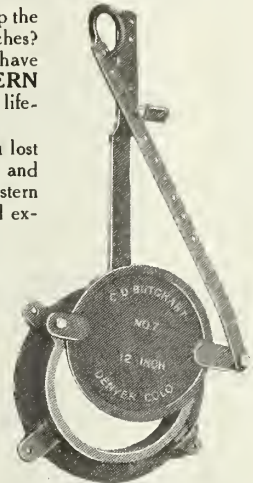


Does it pay to be always patching up the wooden gates in your lateral ditches? This patching up and replacing may have cost more than **NORTHWESTERN IRON HEADGATES** that last a lifetime without repairs.

How much time and water have you lost on account of wooden gates sticking, and being hard to regulate? Northwestern Headgates can be easily, quickly and exactly regulated; they cannot stick.

Wooden gates generally leak, and leaks often mean washouts. Northwestern Headgates are absolutely water-tight.

Northwestern Headgates are made in all sizes, in many different patterns, and for all pressures. Instead of patching up wooden gates, it will pay you to replace them with **NORTHWESTERN IRON HEADGATES.**



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For Colorado, New Mexico and Southern Wyoming
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Please send me pamphlet explaining your policies. Payable to wife or children, or for my own old age, or Corporation and partnership. ‡

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STREET

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‡Draw line under plan desired.

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"The City of Magnificent Destiny at the Junction of the Grand and Gunnison Rivers"

It is TODAY the "Metropolis of the Western Slope," a district which NOW has more acres of commercial orchards—set and bearing within a radius of 50 miles, than several FRUIT STATES in the Northwest. Feeds the territory tributary to TWO GREAT GOVERNMENT RECLAMATION PROJECTS, i. e.—the Gunnison Tunnel Project of 147,000 acres, located in Delta and Montrose counties, to the southeast, and the Grand Valley Project of 65,000 acres, contiguous to the city.

☐ Has more miles of paved streets and electric street railway than any other city of its size in the state.

☐ Splendid schools, fine churches and no saloons.

☐ A mountain water system costing \$500,000 has just been installed.

☐ Has just been granted a reduced freight rate, opening up wonderful opportunities for manufacturing and wholesale enterprises.

DIRECTOR OF PUBLICITY, BOARD OF CITY COMMISSIONERS

The Story of the Oriole Orchard In Colorado

By FRANK L. PICKETT, Lakewood, Colorado

Being the rambling account of a Dry Goods Salesman that became enamoured of the easy life and great profits to be attained on a fruit ranch in the West; some of the trials and triumphs, sunshine and sorrow, in the early period of development of Commercial Orcharding in Colorado. A long course in Horticulture in the University of Experience.

The next few years in the orchard gave no chance for crowing either as to crop or returns and more attention was being given to business than fruit growing and even yet the orchard was bedevilled with fillers in the vain hope that again might come a bumper crop on a top market.

During one of these years there was another plum crop but in marked contrast to that one which came so near to being the death of us. This last crop in size of fruit was much like wild plums, not over one half of which would pack but had to find a market in handle baskets.

Once more the crop was dumped on the Denver market and again a case of heart failure. Had a consistent effort been made to find an outside market, going direct to the retailer, every pound of these cheap plums could have been sold at a fair profit.

During that same year, there was a good crop of apples but an untimely snow in early October caught part and so we came through as usual—looking to business for the wherewithal to keep the grocery and coal man coming.

In years following, we had another

crop which was sold to in advance on the trees at a very fair price, but our luck held good and on August 7th came a deluge of soft hail which did not hurt the trees but spoiled the perfect crop of Transparent and Wealthy and only left the Romes and Bens and the latter so specked as to be third rate. Of course, we had to compromise on our price for our buyer had other orchards bought near at hand. Our best asset from the crop was the satisfaction of not having to do the work. The plums however, were not hurt and brought the contract price and we wound up the season with a few hundred dollars to the good. Aside from this was another asset (then unrealized) which was the first experience at selling direct. Our buyer had bitten off more than he could chew and to help him out, an apple selling trip was made and first taste had of Rome Beauty and Northwestern Greening sales at \$2.00 a box.

This next winter, found the writer at many times in pretty sober reflection for the orchard as a luxury was too expensive and as a plaything cost too much hard work and finally we came out of the trance and prepared

to take up apple growing as a business.

The first move was to cut all the surface or top roots of the plums, get our teamster in with his perchurons, hitch on with a long chain four to six feet from the ground and out come the fillers. The next job was to clear out the brush and clear off the ground. Then came 100 loads of straw, chaff spoiled hay, horse litter and dairy manure. The regular team work began in May and lasted until August—three big horses working on extra heavy disks, one of which was an extension head running far under the trees. It all cost money and took a certain amount of nerve but when the next fall came, it was seen that the orchard was under control. The next year apple crop was all lost in the big freeze of March 30th—which took the fruit in the bud—but even then the Rome Beauty blossomed from side buds and made a fair crop. It was during this year that the Bens were top worked over into Jonathans getting a most splendid stand.

Manure and litter of all sorts was still being piled onto the ground and the usual heavy team work done. Any tree showing signs of root trouble

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The Globe Printing Co.

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Phone Champa 730 Denver

was taken out also any tree which showed less than 90 per cent of a top, it made a ragged looking orchard, but it seems to have been the right thing to do. It was "root hog or die."

This rigorous system still continues: No tree unless a good one; Heavy mulching; Thorough team work; Only two irrigations per year, one of these November first. Pruning more and more severe. Three sprayings and a conscientious thinning. This last year's crop was good enough to "sell land in Mexico."

We have gone through our first National Apple Show and not without honor. The orchard is now on the apple map and the owner no longer obliged to accept sympathy from grieving friends who have always taken it for granted that "some folks are just naturally batty." Three more crops "in a row" and ours is easy street but for this last, we may yet have to wait.

In taking stock of the orchard as a piece of business down to date, admission must be made of a very great failure and success is yet to come. Still, in taking stock the orchard must have full credit for the one big storm. In other words, it is not 15 but practically speaking 10 years of age. Also is may be reasonably claimed that a liberal share of non success has been due, pure and simple, to weather. The pioneers of our neighborhood tell of their first 17 years in orchard beginning as lacking in both hail and spring freezing. Yet when the hoodoo man finally came there resulted three hail storms and three blossom-time blizzards, one of which was severe enough to kill the grafting and every newly planted apple and all of this during a period of eight years.

We had been and are going through a bad cycle—the "lean years"—but just as sure as the sun shines, we will have—sooner or later—the same number of fat years and when they come, we hope to be here to get ours. So far as can be learned from extensive reading and liberal travel research, there is no fruit country on earth but sooner or later comes to some sort of hard knocks except as may be found in the flowery pages of the professional land boomer. When it comes to a consideration of personal sins as regards our first orchard work, no attempt will be made to dodge the issue—for it was simply awful.

Had it been possible at the very start to employ the services of a skilled expert, a fee of \$1,000 might have been paid and on this a dividend of 200 per cent been realized for \$3,000 has practically been "thrown to the birds." Varieties alone was a disaster. Quality of trees almost as bad and trying to secure an ideal apple orchard with fillers simply an impossibility.

The book will never be written which can work along other than general lines but the law of "thou shalt not" will finally be read and accepted and in this alone a saving of years to the planter. Many problems however, must be worked out by the planter who must be pupil and teacher in his own school. Local or neighborhood researches must come along of themselves and these special experiences

To Destroy Aphis, Thrips, Etc.

Without Injury to Foliage Spray with

"Black Leaf 40"

Sulphate of Nicotine

"Black Leaf 40" is highly recommended by experiment stations and spraying experts throughout the entire United States.

Owing to the large dilution, neither foliage nor fruit is stained.

Also "Black Leaf 40" is perfectly soluble in water—no clogging of nozzles.

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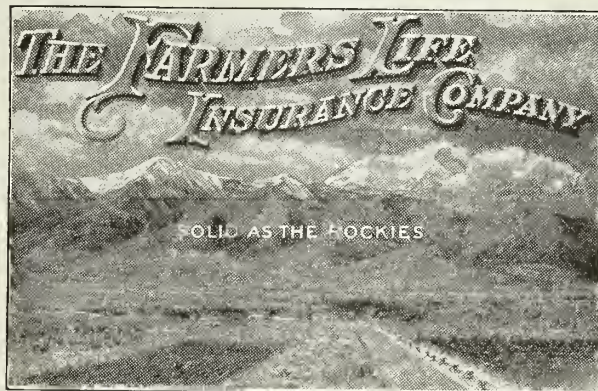
10½-lb. can, \$12.50—Makes 1000 gallons, "five hundredths of 1 per cent Nicotine"
2½-lb. can, 3.25—Makes 240 gallons, "five hundredths of 1 per cent Nicotine"
½-lb. can, .85—Makes 47 gallons, "five hundredths of 1 per cent Nicotine"

These prices prevail at ALL agencies in railroad towns throughout the United States. If you cannot thus obtain "Black Leaf 40," send us postoffice money order and we will ship you by express, prepaid.

The Kentucky Tobacco Product Co.

Incorporated

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is organized to do business with the farmers and stock-raisers of the United States. We are going to sell a limited amount of our Capital Stock to a few of the leading farmers and drovers in every agricultural county in this country. When our Capital Stock

is all placed we will have about Seven Thousand Stockholders and over TWO MILLION Dollars Capital and Surplus. Life Insurance Stock is a safe investment—legal requirements make it so. The older companies are paying enormous dividends. For full information fill in name and address and mail to

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TREES

MISSOURI GROWN
Plant DELICIOUS apples. They bring the top prices. A full line of the finest up-to-the-minute sorts.

SUNNY SLOPE NURSERY HAMILTON MO.

are an intimate part of the grower himself who personally becomes a part of the general plan of the scheme of things. As an instance in point, it has been learned in the Oriole Orchard that Jonathans may be grown which will win in a National Show but to do this is to forget the wife and children while the crop is growing. Its too exacting for the average grower. Again as to Rome, we have an apple which simply NEVER FAILS and while shy on color is good enough to sell readily at a good price. But here is the joker: When grown on its own stock it simply refuses to make wood. In finding a mate for this weak sister and by the proper union get Ben Davis bulk returns has been the work of years. This union seems to have been found but it will take three years more of observations to gain courage for "Eureka."

It is hoped and expected that the \$1,000 per acre crop will be harvested some one good year but in the meantime, we have no grouch for we are getting wages of which the outsider has no conception. Of course we have been an awful fool, for we might have gotten the money but the fun would have been missed and there you are.

We have had to learn to take medicine and we are getting no younger but as the enterprise grows into a profession there comes an ever widening acquaintance among "the good fellows" who in other districts and in their own orchards are learning how. As the years come on this learning how will meet due credit and our occupation—the growing of super fancy apples—be accepted as the very highest type of skilled production.

A BIG BOOST FOR THE COUNTY FAIR.

President W. W. Finley of the Southern railway is an advocate of the county fair, because, he says, "the county fair can be made a most important factor in the progress and development of the locality in which it is held. The county fair becomes a most successful institution for agricultural education. The visitor sees what his neighbors are doing and he can talk with and learn from the men who have attained the best results, and learn how they did it.

Home Profession for Young Ranchers

Scarcity of farm labor is the most serious problem the farm owner of today has to face. If his own sons were content to remain on the farms instead of seeking occupations in nearby cities, his problem would be solved. The farmer boy is apt to regard the life of a farmer as a humdrum existence, offering slight opportunities for the excitement, amusement and even recompense that the young man craves.

The farmer boy doesn't want to spend his life following the plow, hoeing corn, milking cows and digging potatoes. When you come to consider the matter, those are not very attractive occupations and they don't lead to much. It is not to be wondered at that fully seventy-five per cent of the boys brought up on farms eventually find their way to the cities.

But what does the city offer the farmer boy? As a rule, he is equipped with but a meager country school education. He is not prepared for the city work that pays the best. His splendid health and strength, acquired in the exercise of his farm duties, make his services valuable in the laborious occupations in factories, mills, mines and in other classes of heavy work, but those occupations, while offering plenty of hard work, do not pay well, neither do they offer much in the way of excitement or amusement. Therefore, most farmer boys that go to the cities face discouragement and disappointment.

If those same boys could be given a trade which would afford them the variety they desire, they could be kept contented on the farms to assist when their services are most needed and at the same time be enabled to earn through the side occupation the extra money that attracts the majority of them away from the farms.

A new profession has recently sprung into existence through the existence through the extensive advertising of the large powder companies. It is agricultural blasting. Dynamite has been extensively used for a number of years for clearing land of stumps and boulders. In very recent years, it has been discovered that it is also an effective and economic agency for the

construction of ditches, in the drainage of swamps, for the planting of trees, the rejuvenation of run-down orchards, the regeneration of partially exhausted soils and the subsoiling of ground underlaid with hardpan and compact soils that render it less productive than it otherwise could be made.

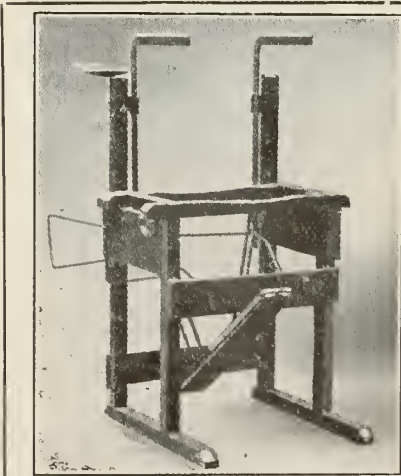
It is astonishing what a demand there is among farmers and fruit growers for the services of agricultural blasters. The powder company which first awakened an interest in the use of dynamite in agriculture receives, on an average, more than



FOUR-YEAR-OLD TREE "PLANTED WITH DYNAMITE"

three hundred inquiries per day from farmers asking for enlightenment on this subject. The company has a system of referring these inquiries to independent blasters, who offer their services to the farmers interested. We are informed by the powder company that there are not one-tenth enough blasters throughout the country to take care of the proffered work.

The use of dynamite in agricultural pursuits is very simple and easily learned. Subsoiling and tree planting are the largest fields for exploitation



The Crescent Apple Box Press

"A Time and Money-saving Machine!"

The Orchardist's Friend. The Cheapest, Lightest and Most Durable Machine on the Market. Its utility has been proven during the past five years. Its use easily saves one man's time and wages daily during the packing season. The boxing is also done with less injury to the fruit.

Price
\$7.50

f.o.b. Canon City,
Colorado. Agents
wanted. Write to

One pressure down on the foot treadle will hold the cover tight for nailing. No split covers. Nails handy on a tray. Light weight makes it handy to carry to any part of orchard.

The CRESCENT Press is so made that it is easily adjusted for boxing Peaches, Pears or other fruit packages.

C. J. Meller Owner and Manufacturer
Canon City, Colorado

These two classes of work are so simple that a man can learn to handle them in an hour. The question may be asked, "If it is so simple as that, why would a farmer employ a professional to do the work?" Simply because he is afraid to use dynamite himself. There is something in the word itself that inspires terror, yet properly handled it is no more dangerous than gunpowder, blasting powder, acetylene gas, gasoline, and many other things which farmers very commonly use but which they do not fear because they have become accustomed to them.

In order to show the ease with which blasting contracts may be obtained from farm owners, we will tell the story of a young man that called at the office of a manufacturer of dynamite recently stating that he would like to take up agricultural blasting as a trade but that he did not feel there was any work to be had in that line in his particular locality. Fields always look greener far from home. This man felt that he would have to go off somewhere a thousand miles or more in order to obtain blasting work. He was told that as much of that kind of work could be developed right in



FOUR-YEAR-OLD TREE "PLANTED WITHOUT DYNAMITE"

his home community as could be found anywhere else. To test it, he said, "Well, I will take an automobile and go out on a two days' trip, distributing farming with dynamite literature and talking to farmers and will then return and report results."

He found that he would be unable to use an automobile because of bad roads, so he took a horse and wagon. Instead of remaining out two days, he was gone just about six hours. He went less than eighteen miles from home and the next day returned to the office of the dynamite company all excitement and proclaimed that he had secured so much blasting work to do that he was actually compelled to run away from the locality to avoid taking more business than he could handle. In his little trip he had secured contracts to blast out six acres of stumps, to clear three acres of boulders, and to plant three hundred trees.

The few farmers he saw said he was

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We Buy and Sell

Odd Lots of Stocks

Insurance and Any Commercial Stocks

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Denver Mortgage & Investment Co.
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A BANK ACCOUNT GUARDS AGAINST THE INVASION OF FINANCIAL TROUBLES.

OUR BANK BEING A NATIONAL BANK, PLACES US UNDER GOVERNMENT SUPERVISION, AND GUARANTEES SAFETY TO EVERY DEPOSITOR. WE REFER THOSE WHO HAVE NOT DEALT WITH US TO THOSE WHO HAVE.

Make OUR Bank YOUR Bank

THE MESA COUNTY NATIONAL BANK

"MESA COUNTY'S OLDEST BUSINESS HOUSE"

ORSON P. ADAMS, President.
W. P. ELA, Vice-President.

W. REX GRAHAM, Cashier.
DAN T. HILL, Assistant Cashier.

Canon Block, Cor. 4th and Main Grand Junction, Colo.

just the man they were looking for to do that work and told him they knew of neighboring farmers who were also looking for someone for the same purpose. He didn't wait to see the neighbors but came back to town to purchase blasting equipment and get help.

Opportunities similar to this exist practically everywhere in the United States. The farmers are looking for the man that can handle their blasting contracts. Who is better qualified to do it than the young farmer? His neighbors know him, have confidence in him and will gladly employ him. He can work at the new occupation during seasons of the year when his father doesn't require his assistance in planting and harvesting. The work pays well, is not dangerous when instructions are followed, and offers opportunities for the excitement, variety and financial rewards that the young man on the farm feels to be necessary to his contented existence.

PROMPT LOADING AND UNLOADING OF CARS.

"It is considered by railroad officials and wholesale dealers who are in a position to know, and we also believe, judging from the commercial conditions and reports of crops generally, that the volume of traffic which will be offered to the carriers during the coming fall and winter, will tax to the utmost their transportation facilities, and as you are especially interested in the efficiency of the service to be rendered by the carriers, your attention is called to the prompt loading and unloading of cars," says the Western Fruit Jobbers association to its members.

"Perishable freight during the fall and winter must be loaded in refrigerator cars for proper protection of the commodity. Every time the loading or unloading of a car is delayed the available supply of cars is reduced, and no shipper has the right to complain that he is not furnished enough cars if he has by his own acts needlessly and wrongfully reduced the available supply of cars."

"You have shown your willingness to co-operate with the carriers on a number of subjects, in order to secure efficient service, and the carriers have also shown their willingness to co-operate with you. Here is a matter that you can heartily and energetically co-operate to the very great gain of both."

"You know in the past that there has been numerous instances where apples have been picked and have been frozen while waiting on the depot platforms for cars, and a number of cars of potatoes have been lost in the same way. Therefore, this subject should be given close attention, in order to reduce your losses and the losses of the growers and shippers caused by the shortage of car equipment.

If you have cause for complaint against transportation companies for not furnishing sufficient cars to handle your business, the traffic department of this association will gladly investigate and give you every assistance possible."

OUR MAN IN EUROPE

It will be of interest to Western fruit growers in general, and operators in Boxed Apples in particular, to learn that Mr. W. T. Seibels, until lately connected in an executive capacity with THE PACKER, and who was one of the highest paid writers on marketing subjects in the country, is now in Europe where he will be located in charge of our foreign apple business. He is actually selling fruit already.

Because of our widened operations it was necessary for us to secure the best talent money could hire to take charge of our export trade. Those who know Mr. Seibels, and he enjoys a wide acquaintance with Western growers and shippers, will readily concede his fitness for the position of Foreign Representative to look after selling apples or other fruits. Not only is he a man of action, but he combines the rare qualities of the practical student of marketing affairs with those of the hustler. For nearly 10 years he has been a consistent booster of boxed apples and other Western fruits, and no little of their fame is due to his clever tongue and pen.

Perhaps it would not be out of place to state in this connection that Mr. Seibels is the author of a 300-page book lately published which treats thoroughly of the practical side of marketing. It is called "Produce Markets and Marketing," and is being used as a text in several colleges and universities for horticultural and agricultural students.

Mr. Seibels' work in the foreign field is supplemental to our selling organization on this side of the water. He will take the same painstaking efforts in distributing abroad which has made "Gibson service" the standard for selling boxed apples and other Western fruits in domestic markets.

By reason of our early entry into the Western fruit industry and literally helping to nurse it through its infancy and later growth, and because of our long record for satisfactory results to growers and associations whose shipments we've marketed, we feel justified in joining others in saying our service is par excellent, especially with the addition of an export man to our staff whose ability, energy and integrity are well enough known in trade circles to make comment from us unnecessary.

If you're looking for RESULTS in the way of selling your apples or other fruits get in touch with us. We can sell either in this country or abroad to the VERY BEST advantage. Should you prefer to store apples and hold for later sale we can name you the most favorable rates consistent with good service in the West or in East, and look after every detail of storing and selling.

Keep us in mind. If you don't need us today you may tomorrow or soon after.

GIBSON FRUIT COMPANY

69 W. South Water St., Chicago, Illinois



*Western
Slope
Marble &
Granite
Company*

Monuments Made in Any Design or Material and Shipped Anywhere. Satisfaction Guaranteed. Prices Reasonable.
J. B. Mathews, Proprietor
Grand Junction, Colo.

PRACTICAL ORCHARD Notes and Comments

Written Right Among the Trees
By CLINTON L. OLIVER, Paonia, Colo.

One prominent manufacturer of Spray Chemicals in an interview with the writer, advanced some new ideas and theories that are going to make a wonderful change in the fruit business if they prove to be founded on good principals and work out. He says that he considers that it will be only a short time until dormant sprays will be used that will retard the blooming period two weeks. This done and the necessity for orchard heating will be lessened to a great degree. His company is working on experiments and with almost assured success. The frost periods usually come at a time when two weeks retarding of the bloom would have meant a complete saving of the crop. This is something for every grower to watch and good advice would be to watch **THE FRUIT JOURNAL** closely for reports on the success of these experiments as they will be made as soon as determined.

Next year we are going to try a new system for this territory in the spraying line. A stationary plant will be installed and the orchard piped. There will be plenty of valves for hose connections. We will use long lines of hose and the men will be enabled to spray continuously. While the installation at first will be slightly in excess of a wagon outfit, the fact that we will do away with the horses and driver and lose no time in going to fill the tank means that the difference in cost will be overcome the first year and will make us a big saving each year thereafter. When we install the plant illustrated articles will be run in this department giving full details on cost of construction and operation tables will be compiled during the season to show the relative expense compared with the wagon outfit.

The manufacturers of "Zinc Arsenite" have taken on their own shoulders all blame for the burning of the leaves on trees sprayed with this chemical combination during the past season of spraying for the codling moth. We are glad to hear this. Many of our neighbors have used this preparation this season with good results so far as killing the worms is concerned, but the leaves looked mighty bad where they were burned. The zinc combination kills quicker than lead and prevents the apples from getting blemished with stings to such a great extent. This department hopes to report that the danger can be done away with.

Our prophecy last month that there was very little to worry about in regard to the size of the peaches is proving to be good. At Palisade, Clifton, Hotchkiss, other points, and here at Paonia the quality and size is all that the heart could wish. While we

have shipped little at this writing and have no line on prices they are reported to be very good in almost all markets. Of course the crop is large and when it gets on the markets there may be a slump but none is in sight now.

Oh! those props. It grieves one to look at some of the orchards this season and see the trees propped up so that the props look like a forest. What will the harvest be? It may be good this year, but the next and the next. The writer believes that it is injurious to let a tree bear so heavily that it has to be propped up. No props in our orchard this year—the results are being watched closely and will be recorded in this department when finally determined.

One orchardist at this point spent over \$900 thinning about thirty acres of orchard. On thirty-three acres we spent over \$400 and are not through yet. After the season is over this department will contain a detailed account of the years' work giving the figures on expense and returns. Then and then only can our readers judge as to whether it pays or not to grow fruit in Colorado and at the same time do all the things that are necessary and considered proper.

Just at the time of writing this note we are confronted with the necessity of the orchardists having storage cellars or common storages for temporary storage of apples. If we are to raise large crops we must prepare to protect the fruit and our own interests just as much at the harvest time as we are during the frost and codling moth periods. It is important isn't it.

Results this year have shown that with the proper effort sufficient help can be brought to the fruit districts to handle any crop that may be grown.

Pretty large apple crop this year. That is true, but remember that we have "Inter-Mountain Quality" to back us up.

APPLES WITHOUT CORES.

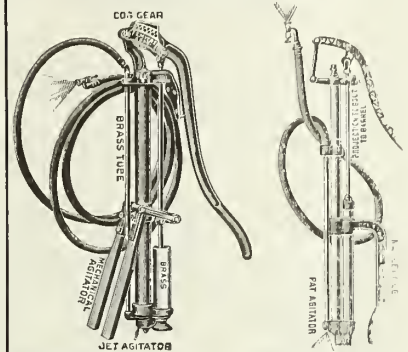
There will be no core to throw away after one has eaten an apple, if Frank Rodgers, a fruit grower of Georgetown, Delaware, succeeds in experiments he has under way. He owns a tree that has produced now for two years seedless and coreless apples.

The fruit is of the usual size, and very highly flavored. He is grafting some of the twigs into other trees in his orchard, and hopes in the course of a few years to make his fortune.

Corn makes fat and heat. Oats, wheat, bran and middlings make eggs.

MYERS SPRAY PUMPS

Bucket, Barrel or Power
For Fall Spraying

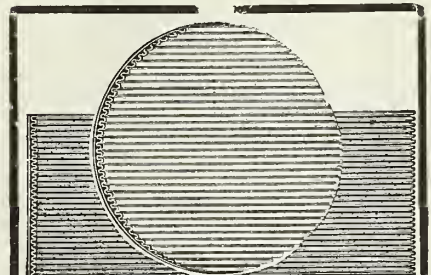


Spray your orchards, vineyards, etc., this fall. Use a MYERS OUTFIT—Bucket, Barrel or Power—to do so. Results are satisfactory.

Our Catalog—Up-to-date dealers are glad to supply it, or we will mail you a copy direct. It's time to spray—ask or write today.

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PERTAINING TO THE HOUSEHOLD

Suggestions and Improvements That Tend to Raise the Standard of Comfort in the Home Will Be Found on this Page. The FRUIT JOURNAL Believes that Nothing Stimulates the "Back to the Land" Movement so Much as These Little Details in the Home

GIVE THE BOY A CHANCE.

"If he wants a College education enough to earn part expenses let him try."

"Just two kinds of boys attend who are sent." So spoke the president of an agricultural college. "With the former the faculty have no trouble. Such boys mean business and, as a rule, they make their mark in the world."

"This thought should be of great assistance to the farmer confronted with the question: Shall I send my son to college? College may be the making or the marring of a career—so may staying upon the farm. Every normal father desires the welfare of his children. How decide? Watch the boy! Give him a chance in the direction that his taste naturally lies. Many a boy cut out to be a merchant fails because his parents won't give him a chance. Many a boy fails as a farmer because he should have been a blacksmith or a lawyer. His heart is not in the farm, therefore he can not succeed. Every normal boy is by nature better equipped for some one thing than for anything else. Here is the father's cue. If the son has a mania for making things, cultivate and educate that mania.

"The boy will largely train himself up to a certain point. Then if he wants a college education enough to

work his way more or less he may safely be trusted to make a start. If he is half-hearted about being sent, it is not safe to send him. The safest college for such a boy is the agricultural college because he will there associate largely with farmer's sons, and be in contact with farm subjects. Should he return to the farm he will not have departed so far from the farmers' line of work as he would had he been sent to a different kind of college."

At a Western Agricultural College last year there were 253 students who earned every cent of their expenses, 160 more who worked for half the money they spent, and 243 others who earned some part of the money for their college course.

For the boy who wishes to go into the business world, there are both two and four year courses in the school of commerce; for the boy who would like to become a blacksmith or a carpenter there are special courses in forge work and carpentry in the school of engineering; for the boy who has an aptitude for electricity, surveying, mining, or road building there are also special engineering courses.

Farmer's sons and those from the fruit and cattle lands, however, are offered a wide choice of agricultural branches of training, in which they can prepare themselves either for special work in some one line, or for general farming, or horticulture.

TEACH BOYS AND GIRLS GARDENING.

School gardens at ten centers in Saint Paul this last summer gave profitable employment to 874 boys and girls. They raised 8,740 bunches of carrots, nearly as many head of lettuce, in addition to 5,000 quarts of string beans and 4,000 bunches of young beets and other vegetables as well as flowers.

Under the direction of a professional gardener the children began work April 15, and harvested their crop a few days ago. One little girl had 38 ripe tomatoes to take home to her folks, while all the pupils had big crops. During the entire time from spading to harvest, through weed picking time there was an average attendance of 94 per cent and the plots of those children who left the city were at once taken by others for whom there was no ground at the spring allotment.

No other city carries out such complete work for children of the fourth grade and efforts are under way so that every child who goes through the grades of Saint Paul will know something of gardening.

The children had their crop for their work and in addition learned much about plants and had healthful outdoor exercise.

WIFE WILL RUN CAMPAIGN.

Women may not vote in Minnesota but they may run their husbands campaigns and thus gain experiences in running one of their own in the future. Under the recent primary law of Minnesota each candidate must have a committee to spend what money is permitted for stamps, and other things needed to get voters.

Nels J. Bothne, candidate for judge in the sixteenth district, named his wife as his committee, and she files her report every two weeks as required of each of the committee managing the present campaigns.

Free! Send your name and address and that of Five of your friends in different towns and receive

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Get a can today—25c, 50c, \$1.00 and \$2.00 sizes. Sold by all druggists. Used on horses and other animals.

GERMS ON THE FARM.

"Teach your pupils at school to try to inculcate the doctrine at home that dirt means filth, and filth means abnormal kinds of germs," said Prof. T. D. Beckwith, head of the bacteriology department at the Oregon Agricultural College, in an address before the teachers in the summer session classes.

"Germs which cause milk to sour, bacteria which dispose of filth and aid in making fertile soil, and microbes which cause disease were shown through a powerful microscope magnifying 1,400,000 times, and the professor explained their action on food and soil. The bacteria which cause the souring of milk were shown, 15,000 of which placed in a line make just an inch.

"Germs are alive. It is safe to say the ordinary human being voids thirty-three-million - million germs a day, most of them by way of the feces," said Prof. Beckwith. "Since a cow is so much larger, how much greater a number of germs it throws off each day.

"What do you think of the farmer who keeps his cow in a dark, muddy, wet stable dripping with manure, or in summer in the dry season allows her to accumulate an armor of manure? Every bit of that filth is full of germs which, if they get into the milk, produce abnormal changes, some of them breeding disease.

"The farmer sits down under such a cow, without cleaning it, and milks into a wide-mouthed pail into which at every breath of air, there drop particles containing germs. Each germ makes two every twenty minutes—that is, they multiply to eight times their number every hour at ordinary temperature. You can see what it means to allow the milk to cool slowly instead of cooling it artificially at once.

"If children drink milk from untested cows which have bovine tuberculosis, the germs do not pass out, but remain in the body, and by slow change in twenty or twenty-five years become human tuberculosis. All dairy animals should be tested, so that we may know that there is no tuberculosis. You teachers can do a great deal by teaching your pupils the importance of these things."

The past week witnessed startling accounts in the newspapers of hens with abnormal laying qualities. One hen, down in Texas, the property of a baseball fan, is reported to be laying eggs perfectly round in shape and with distinct markings similar to the stitches on a baseball. Another hen has been given beer as a portion of her daily ration and in return is laying two eggs a day. Such is one of the evils of strong drink. A third hen, belonging to a poultryman who was getting a great number of eggs from a few hens was accidentally killed for dinner and when cut open had 12 fully-developed eggs, with the shells on, in her. It is reported that his hens are all laying 12 eggs a day—some days. The dispatch does not state, however, what the cook who cut the hen open had been drinking.

Winter Flowering Bulbs



Our New Catalog of Fall Bulbs is now ready and sent free on application.

Oxalis, Freesias, Chinese Lilies, Roman Hyacinths, etc., started this month will be in bloom for Christmas. Hardy Lilies, Dutch Hyacinths, Tulips and Daffodils will give best results next spring, if planted in early fall. See our liberal offers on back cover of our new Fall Bulb Catalog.

The Barteldes Seed Co.

Denver, Colorado



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Send for
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Fall Bulletin
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No. 1—IMFJ
This Handsome
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Made to Sell for \$12

These coats are made of good lustrous caracul cloth, full-length — semi-fitting style — with two seams in back, faced with caracul cloth and lined throughout with a good quality mercerized sateen. These coats are plain tailored and made with large shawl collar, turn back three-inch cuffs, and are a brilliant inky black color. This is a perfect fitting garment, well made and tailored in such a way that it will hold its shape for several years. Trimmed with three elegant jewel-set buttons.

You Get a Good Idea of the Style From the Illustration

It Shows How This Garment Will Look When You Wear It

In sizes 16 and 18 for misses and little women, 34 to 42 for women. Order at once and you get a \$12 coat for only

\$6.75



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prevent damage to eggs, garden truck, fruits, live stock on road to market. Make any wagon a spring wagon. Soon save cost—produce brings bigger prices—wagon lasts longer—horses benefited—thousands in use. "My wagon rides like auto" says one. Get a pair at dealers. If not at dealer's write us. Insist on Harvey's. 40 sizes—fit any wagon—sustain any load to 10,000 lbs. Catalog and fistful of proofs free. HARVEY SPRING CO., 834-17th St., Racine, Wis.



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Gathers, Apples, Peaches, Etc., as carefully as by hand with less work. Saves climbing trees. No fruit out of reach. No wire to injure fruit or tangle in branches. Fruit drops into cloth bag, which can be filled before lowering. Ask your hardware dealer or send to us. Price complete, except long handle (a fish pole will do), 50c, postage paid. Your money back if not O. K. Circular sent on request.

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APPLES—SPRAYED AND UNSPRAYED.

For the purpose of showing the farmer and fruit grower how he might save that part of the apple crop which is usually sacrificed to insects and fungi, most excellent experiments were made during one entire season by the Kansas College of Agriculture, the college men going into the field and personally carrying on the work of spraying. The results of the spraying were uniformly good, and the owners of the sprayed orchards were well pleased.

The following splendid results of this work are valuable to farmers and fruit growers in every other state in the union as well as Kansas, for they demonstrate beyond a doubt the helpfulness of spraying.

Commercial results from seven widely separated orchards, including both commercial and home types and composed of the varieties of apples recognized as standard in Kansas, carefully sprayed showed an average gain of four bushels in actual yield of merchantable fruit per tree, or 37 per cent compared with untreated parts of the same orchard.

Not only was the actual and relative amount of merchantable fruit materially increased, but the average percentage of number 1's and number 2's, which are the high priced grades, was also increased by 15 per cent and 6.6 per cent, respectively.

The average net profit from spraying was shown to be \$1.62 per tree, or \$97.20 per acre when the fruit was sold as "orchard run," and to be almost doubled when properly graded and marketed.

All seriously injurious insects and fungous diseases have been markedly reduced and most of them have been made almost negligible.

Undoubtedly more striking results than the above are made every year in western irrigated districts.

IMPORTANT RULING ON HOMESTEAD ENTRIES.

The Secretary of the Interior has put into effect a number of important modifications of the regulation governing the assignments of homestead entries within irrigation projects.

A settler is now permitted to assign to any part of a farm unit with the approval of the Project Engineer upon the filing with the local Land Office of a plat of amended farm unit approved by the engineer with the other papers. When one-half of the irrigable area has been reclaimed the entryman may make proof of reclamation without regard to the number of payments of the building charge which have been made and will receive evidence of the acceptance of such proof. Provision is made for recording mortgages which will facilitate the making of loans and at the same time protect the money lenders. It is believed that the new regulations will result in a great improvement of the conditions on many of the Government projects where the settlers have been severely handicapped through lack of funds by reason of inability to borrow money on.

THE BEST LINIMENT OR PAIN KILLER FOR THE HUMAN BODY

Gombault's Caustic Balsam

IT HAS NO EQUAL

For the Human Body

—It is penetrating, soothing and healing and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

A Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Diphtheria, Sore Lungs, Rheumatism and all Stiff Joints

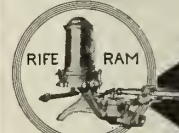
REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."
OTTO A. BEYER.

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Increase Value of Your Orchard

Lying above irrigation ditches. Pump a big supply of water to any height with Rife Rams without expense or bother. Cost little to install—nothing to operate.



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Pump water automatically day and night

Raise water 30 feet for every foot of fall. Pump automatically—winter and summer. Fully guaranteed.

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Absolute protection against gnawers and borers. Prevent trees from becoming skinned and bruised by cultivator or lawn mower. Made of elm veneer, chemically treated. Easily put on and will last until tree is beyond needing protection. Don't wait until some of your trees are killed—order Hawkeye Protectors now. Regular size 10 inches wide, 20 inches high. Price in lots of 100—1 cent apiece, in lots of 1000—1/2 cent apiece. Special sizes made to order. Write for circular and samples.

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POULTRY GROWING



Contributions to this department are always welcome and signed articles are solicited. Send the editor little expressions of your own experience. They are valuable to other Poultry Growers.

Address Communications to Editor—Intermountain Fruit Journal and Intensive Agriculturist

PUREBREDS FOR THE FARMER.

By Michael K. Boyer, Hammonton, New Jersey.

There was a time when it was almost next to impossible to get the farmer to invest in purebred poultry. "Chickens are chickens" seemed to be the rule, and "chickens" it was.

But conditions on the farm are changing, and in nothing has there been such an improvement as in the poultry line.

Instead of "chickens" being the playthings for women and children, or as a means of earning a little pin money, the poultry department is considered to be one of the most important adjuncts to farm operations.

The farmer has become wise to the fact that it is possible to have winter eggs, which no longer is an idle dream, as was the belief in the days of our forefathers. The farmer, too, has discovered that it is economy to have commodious, comfortable winter houses, and that for success there must not be a single mongrel permitted on the place. He has even gone a step farther, and invested in incubators and brooders that he may devote a part of the winter months to profit instead of comparative idleness.

In short, he has in operation a complete poultry plant, and it has proved to be the best crop on the farm. That is the revelation of today, and the farmer makes the most of it for the reason that he has the proper facilities.

The purebreds of the present day are so superior in utility that one seldom comes across a flock of crossbreds, and the one that keeps mongrels is not of the class that is making a success.

The fanciers of today deserve the credit for this change. It was to their skill, that health, ruggedness and practical qualifications became a part of the make-up of their breeds. So sharp has become competition in this line that the breeders of different varieties are working for egg records and meat supplies in preference to show room requirements. Even the American standard of Perfection has modified the laws of breeding so that utility will not be sacrificed. Truly we have entered an era when poultry becomes the food fowl instead of the show bird.

It has been proved that, properly bred, pure bloods are more prolific layers, giving a more uniform size and color to the eggs, and the young stock mature more uniformly and give better carcasses, and utilize the food consumed to better advantage, than is the case with either crossbreds or mongrels.

A mongrel is a conglomeration of different bloods, followed by continued haphazard mixture. It is possible to grade up a flock of mongrel hens by using purebred males; but it is not possible to go a step forward—in fact

it will be two steps backward—to use a dunghill male on even purebred hens. The influence of the sire is two-thirds of the dam.

Only a short while ago the writer was called to inspect a poultry plant on what was otherwise one of the finest farms he ever saw. Everything—buildings, stock, utensils, etc., were up-to-date. But down in one corner of that farm there were finely constructed houses filled to overflowing with dunghill hens. Is it any wonder that they did not pay for their feed? A dunghill hen is as hearty an eater as a purebred, but she cannot properly utilize that food. She has not the ability. Three hundred head of mongrels on that farm did not give more than two dozen eggs a day.

Could we prescribe a remedy? We did. Butcher every hen on the place and invest the proceeds in as many

purebreds as the money will buy. Better have but 50 good fowls than 300 mongrels.

The farmer must book himself on the subject. There are scores of good works published, and a number of practical journals issued. Besides, the United States Government is continually issuing free bulletins. It is up to the farmer to grasp the opportunity, and it is gratifying to know that he is gradually getting on the right side.

Sunflower seeds being very nitrogenous and rich in fats, not more than a quart should be fed to 30 fowls, twice a week.

In our forefathers' days, if the Christmas turkey weighed from 14 to 16 pounds, it was considered above the average; today we would credit such weights as good only for pullets.

Medium-sized but plump turkeys are marketable all the year round, so that at any time when there is a surplus they may be sold at fair prices, but to secure the best prices they must be young, and in good marketable condition, not too fat and not too large.

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FINE LAND VERY CHEAP—Beautiful 40 acres, all in high state of cultivation, only 5 miles southwest of Denver P. O. On main Morrison road, best old water right, all fenced, gentle south slope, fine farms all around. Price only \$125 acre; terms.

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COLORADO

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WYCOFF STRAIN—S. C. White Leghorns, Pullets and Cockerels for sale. Eggs \$1.50 for 15, \$6.00 a hundred. Baby chicks 15 cents a piece. J. L. HEATON, Boulder, Colo. 1-13

S. C. WHITE LEGHORNS—Carefully selected eggs for hatchlings at \$4.00 per 100. Write for prices on baby chicks. O. G. Dukate, Rocky Ford, Colo. 12-12-s

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THE S. C. BUFF ORPINGTON FARM has for sale 50 Cock and Cockerels; 50 Hens; 50 Pullets that are good shape, also color. Taken 1st, 2nd, 3rd and 4th prizes at Nebraska show, also 1st at Denver. John T. Stadler, Minden, Neb. 11-12

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MAMMOTH BRONZE TURKEYS—Hadley strain. Tom weighs 50 lbs., hens 23 to 30 lbs. Eggs \$10.00 for 12 from great Missouri State prize winners. INDIAN RUNNER DUCKS, Blue Ribbon Winners in 1909, 1910, 1911, 1912, fawn and white 260 egg strain. Price of eggs, \$2 for 15; \$3 for 30; \$8 for 100. S. C. Brown Leghorns, pure bred stock, eggs \$1 for 15; \$5 for 100. M. H. Schlotzhamer, Pilos Grove, Mo. 11-12

MAMMOTH BRONZE TURKEYS—That are Mammoth, Chrystal White Orpingtons that are white. S. C. Brown Leghorns and B. P. Rocks, all from prize winners. My entire flock of B. P. Rocks for sale cheap. Also prize winning young turkeys and Poland China Hogs. MRS. ALICE CURNUTT, Rt. 9, Box C, Montserrat, Mo. 11-12

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EGGS—Buff Cochins, Muscovy and Rouen ducks; Toulouse Geese. Garner Bros., Coleridge, Nebraska. 54.

And when the flies begin to swarm, Use Radium Spray and they do no harm.

UTAH

CRYSTAL WHITE ORPINGTONS—Kellerstrass Strain. Our birds are winners at the three leading fall fairs. Stock and eggs for sale at all times. Charles McClure, Tremonton, Utah. 9-12

WASHINGTON

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BLACK LANGSHANS, Pacific Coast Champions. Won 53 ribbons, 3 silver cups. Portland, Pendleton, Spokane, Walla Walla and Colfax shows acknowledged best winter layers bred. To weigh, lay and pay. Eggs \$2.50 per 15. M. E. Tavlör, Winona, Wash. 1-13

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THE HENS PROPER BUSINESS IS TO FILL THE EGG BASKET—Average laying record of my S. C. White Orpingtons in the winter month: 23 eggs per hen and month. Bred to standard requirements. Pay only for quality not for breeders name. 15 eggs \$4.00, \$2.50, \$1.50; strictly fresh and packed with care. 11-12 REV. G. DETTMAN, R. R. 6 Appleton, Wis.

MISCELLANEOUS STATES

FOR SALE—Single Comb Ancona Cockerels, Winners of First Prizes at Salem State Fair, 1910; at Portland, 1910; at Salem State Fair, 1911, and at Marion county poultry show, 1911. Eggs and D. O. Chicks in season. R. Wooley, 1709 Ferry street, Salem, Oregon. 11-12-s

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Bellevue strain of White and Columbian Wyandottes, S. C. White Leghorns, and Light Brahmans. Stock for sale. Over 30 years in business. Michael K. Boyer, Box H, Hammonton, Atlantic County, New Jersey. to f.

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EGGS—From Toulouse and Emden geese, turkeys, Houdans, Leghorns, Rhode Island Reds, Wyandottes, Hamburgs, Orpingtons, games, Plymouth Rocks, Langshans, Cochins, pearl and white Guineas, Bantams, Pekin, Ronen, Muscovys and runner ducks. Hen eggs 15 for \$1; by the hundred, reasonable. Also dogs, rabbits and all kinds of fancy pigeons. Write for free circular. D. L. Bruen, Platte Center, Neb. 2-13

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LEARN TO METALIZE—Flowers, insects, etc., for jewelry and to transfer photos to watch cases, chinaware and sofa pillow. Several fine formulas. Booklet free. A. P. Benson, Box 33, Stewartville, Minn. 9-12

Colorado Improvements on Rio Grande to Cost \$2,000,000

Announcement has just been made by President Bush and Vice-President Brown that at a recent meeting of the Board of Directors of the Denver & Rio Grande Railroad company, New York city, it was decided to standard gauge the present narrow gauge line over Marshall Pass between Salida and Montrose, Colo. This involves widening the gauge from three feet to four feet eight and a half inches for a distance of 136 miles at a cost of approximately \$2,000,000.00.

From 1883 to 1890 Transcontinental trains of the Denver & Rio Grande were operated over Marshall Pass, but in the year last mentioned the standard gauge line by way of Tennessee Pass and Glenwood Springs to Grand Junction was constructed, and since then through trains have been operated over the latter route and the Marshall Pass narrow gauge line has been reserved especially for tourists and sightseers and such level freight as originated in, the narrow gauge territory.

The Marshall Pass route, famed the world over for its scenic attractions, crosses the Continental Divide at an altitude of 10,856 feet, and the new standard gauge line will cross at the same elevation and preserve the many scenic attractions of the old route.

Marshall Pass, by reason of being the first, is perhaps the best known crossing of the Continental Divide. This comparatively low pass was discovered in 1871 by Lieutenant W. L. Marshall, at that time attached to the Geological Survey, now Brigadier General of the United States army, retired, and a resident of Washington, D. C. The pass was named after Lieutenant Marshall.

The decision of the directors to appropriate so large a sum of money was arrived at in order to properly take care of the rapidly increasing Transcontinental Traffic augmented by the opening of the Western Pacific railway, the Pacific coast extension of the Denver & Rio Grande, as well as to take care of the enormous tonnage in fruit, coal, grain, cattle and ore traffic being developed on the Western Slope of the Rocky Mountains in Colorado, and thereby increase the road's transportation facilities by having two standard gauge lines through the Rocky Mountains.

A large engineering force is now in the field, making surveys and rectify-

ing the alignment of such portions of the narrow gauge as are unsuitable for standard gauge operation on account of the curvature. These surveys are being rapidly made, and when completed contract will be let for the new work. An order will be placed in the very near future for a large number of heavy steel bridges, which will be required to take the place of the present structures, which are adapted for narrow gauge equipment.

It is anticipated that the work will be completed within the next twelve months, in ample time to move the 1913 fruit and potato crops of the Uncompahgre and North Fork Valleys in Colorado.

When the new Marshall Pass line is completed the Denver & Rio Grande will have two standard gauge main lines through the Rocky Mountains between Denver and Salt Lake City, one by way of Tennessee Pass, Glenwood Springs and Grand Junction, and the other over Marshall Pass through way of Montrose, Delta and Grand Now, however, if this is done the w-Junction.

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THE INTER MOUNTAIN FRUIT JOURNAL

AND INTENSIVE AGRICULTURIST

VOL. VI; NO. 3

OCTOBER 1912

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VOLUME VI

OCTOBER 1912

NUMBER 3

Some of the Beneficial Results of Improved Country Roads

In order to meet a popular demand for information on the subject of good roads, the Department of Agriculture will in a couple of weeks issue as Farmers' Bulletin 505, a report prepared by the office of public roads entitled, "Benefits of Improved Roads."

The various benefits of good roads may be grouped under two main subdivisions, dealing, respectively, with economic benefits and matters for a period of years that the advantages of improved public roads have been repeatedly proved beyond argument. There is no case, says the bulletin, where any community has ever regretted the improvement of its roads. When good roads reduce the cost of hauling, adjacent land becomes more valuable; there is a corresponding tendency of population to increase, and, in its turn, this tendency strengthens the demand for more good roads; social conditions improve; and the life of the community is influenced in numerous ways. Where there are good roads the farm increases in value partly because the cost of hauling is decreased. The reduction may be largely due to increased speed in hauling, to increased load, or to both.

The bulletin in referring to the farmer in Sullivan county, Tenn., in 1908, who had to haul barbed wire

from Bristol to Kingsport, a distance of 23 miles. He found that with a two-horse team his maximum load was 500 pounds, and that three days were necessary to make one round trip. To haul one ton, therefore, required 12 days and, at \$3 a day for the man and team, the cost was \$30. This was before Sullivan county issued bonds for road improvement. Under the bond issue, the road from Bristol to Kingsport was improved, so that the same team can now readily draw a ton to the load and make one round trip in two days at a cost of only \$6. In Madison county, Tenn., before the roads were improved one bale of cotton was a load for a two-horse team on some of the roads. There are now 192 miles of improved roads in the county, and ten bales is not an uncommon load for two horses.

The bulletin in referring to the increase in farm values due to improved roads, cites another case of a farmer in Lee county, Va., who owned 100 acres between Ben Hur and Jonesville, which he offered to sell for \$1,800. In 1908 this road was improved, and although the farmer fought the improvement he has since refused \$3,000 for his farm. Along this same road a tract of 188 acres was supposed to have been sold for \$6,000. The purchaser refused the

contract, however, and the owner threatened to sue him. After the road improvement, and without any improvements upon the land, the same farm was sold to the original purchaser for \$9,000.

The people in rural communities are now beginning to realize the necessity for better schools. The place of the one-room school is being taken by larger consolidated schools throughout those portions of the country where conditions make it practicable to convey children to school at public expense. The presence of poor roads probably often prevents an economic consolidation of the small schools into a large, strong, graded school with high-school courses, superintended by a competent principal and body of teachers.

Few rural people would care to return to the days before rural delivery was established, but that same system is often seriously embarrassed through poor roads. In many instances the postoffice department has found it necessary to discontinue rural routes because of the impassable condition of the roads. On the other hand where there are good roads the carriers often ride on motorcycles, which means more prompt service and earlier deliveries.



A TWO-YEAR-OLD ORCHARD AT ONTARIO, OREGON, ON THE OREGON SHORT LINE

Many Questions to Come Before Spokane Apple Show

By W. T. DAY, Chairman of Apple Show Board

The fifth National Apple Show in Spokane this fall is expected to accomplish one thing in particular which will be of great value to the growers throughout the northwest. This will be the launching of a thoroughly organized movement to solve the problem of distribution.

To secure the result a conference of growers, city and country bankers, transportation men and business men will be held in Spokane during the apple show, November 11 to 18. The Northwest as an apple-producing district has gained the favorable attention and recognition of the world. It is now incumbent on us to go still farther.

What we propose is a conference during the apple show to be participated in by the growers, city and country bankers, transportation men and business men to try to throw some light on the question of distribution. Competent authorities declare there is no danger of over-production of apples. But we must get a system of distribution perfected, and if the apple show can be of service in this regard it will be performing a great work.

The orchardists and buyers themselves have no fear of over-production and men who are informed as to conditions hold the same opinion. The conference planned should be of great value to the apple industry of the Northwest. It will bring together men representing all phases of the work, and the problems of distribution and financing should be clarified to a great extent as a result.

The trustees have determined to place the apple show on a permanent footing, and have named a board of governors containing representative men of every apple district in the Northwest, as well as Governors Marion E. Hay of Washington, Oswald West of Oregon, James H. Hawley of Idaho and Edwin L. Morris of Montana, and the lieutenant governor of British Columbia.

H. C. Sampson, a man widely known throughout the Northwest, has been elected vice-president and general manager of the show, and has started active preparations for the event. Mr. Sampson has attained marked success as a business man and is thoroughly conversant with the Northwest apple industry.

Leading business men of Spokane have rallied substantially to the cause of the apple show, and during the last few days have pledged an additional \$8,000, thus insuring a \$42,000 show for this fall.

Two days conference will be devoted to orchard problems, including choice of site, preparation and planting, choice of varieties, cultivation of orchard, pruning, spraying and harvesting. Wednesday's conference will be on storage; Thursday's on by-products; Friday's on marketing and distribution; Saturday morning will be given to financing, and Saturday afternoon to "what to grow between the rows."

In the storage conference, the dis-



HOLSTEINS BEING FED ON ALFALFA, NEAR PUEBLO, COLORADO

Cut by Courtesy of the D. & R. G. Railroad

cussion will be on the question whether it shall be storage on the farm, at the initial shipping point, at an intermediate point such as Spokane, or in the east; also whether it should be "cooler" or "cold" storage. The matter of ownership of storage plants—whether by growers, commission man or under a leasing system—also will be given attention.

The marketing feature will be given great prominence in the conferences. Heads of Growers' unions, transportation officials and bankers will discuss this question in all its phases.

One expert of national prominence will discuss the subject of the effect of the Panama canal on the fruit industry in the Pacific northwest.

The daily conference will be opened with an hour and a half program of talks, after which general discussion will be engaged in by all.

Mr. Sampson has visited many of the apple districts in the Northwest during the last two weeks and has found a hearty response to the conference plan, not only on the part of the growers but the railway traffic managers as well.

Government Announces Improvements for the Uncompahgre Valley Project

The secretary of the interior has authorized the Reclamation service to complete the West Canal system, reconstruct the South Canal inlet, South Canal flume and structures on the Loutsenheizer canal, and to purchase the necessary right of way for the completion of the East canal, Uncompahgre Valley irrigation project in Delta and Montezuma counties. This work is necessary for the permanent and proper consolidation of the system and the extension of the canals to new lands under the project. The total expenditures involved is estimated at \$113,275.

The secretary of the interior has authorized the Reclamation Service to construct protective works at the head of the Montrose & Delta canal, Uncompahgre irrigation project, Colorado. The headworks of this canal, as acquired by the government were of temporary character, construction of timber which was becoming unsafe from decay. The maintenance of the required flow through these gates and the upper end of the canal for a distance of several hundred feet was difficult because of the great amount

of gravel and silt which had filled up the river bed immediately in front of the intake and the large quantity of this material which found its way into the canal through the gates. There was also danger that the channel of the Uncompahgre river would shift, leaving the headworks high and dry.

About a year ago a comprehensive plan for the removal of these difficulties was decided upon. This included the construction of a levee or training dike about 1,700 feet long to prevent change of channel; permanent concrete headworks to replace the existing timber structure; the enlargement of the first 400 feet of the canal into a concrete walled channel large enough for the full flow of the river, and the construction of a concrete sluiceway and a new intake for the canal at the lower end of this channel, the object being to provide a settling channel from which gravel and silt can be sluiced at times of high water.

The dike, the sluiceway and the new canal intake were constructed during the winter of 1911-12, and it is

now proposed to complete the work by the construction of the permanent channel intake and the retaining walls on both sides of the channel. It will also be necessary to drive a line of sheet piling about 600 feet long to protect the existing work.

THE GRAPE GROWING INDUSTRY IN TEXAS.

(By E. E. Clark, Hamlin, Texas.)

When the eye of the patriot scans the wide horizon of his country's resources, he sees much to provoke a feeling of exultation and joy and hope. The variety of resources within the boundaries of our vast territory is, indeed, wonderful.

Just now we are witnessing a magnificent procession moving toward the southwest, with a settlement in Texas as their proud destiny. The great Kansas City Mexico & Orient railroad from Kansas City, intersecting Texas, to Fort Topolobampo on the Pacific ocean, is opening up for settlement one of the most fertile sections of the West and especially, a district which is ideally adapted to the infant industry of grape culture.

Fort Stockton, the county seat of Pecos county, though an old fort, is a comparatively new town, being about two years old with a population of about 1,560, enjoys the distinction of being the commercial center for the thousands of acres of irrigated grape land of the lower Pecos valley. This section is favored with high altitude—3,050 feet—dry atmosphere, long warm summers, mild winters and a plentitude of water for irrigation which makes the grape crop a sure one every year. Some of the vineyards of Fort Stockton are six or seven years old and proved such a large profit earning industry, netting from \$250 to \$400 per acre annually, that even now, over a 1,000 acres of grapes are in cultivation, some yielding a large crop even the second year after setting. A large commercial crop will be harvested next year. A wine and grape juice manufactory is being installed and with her close proximity to the Eastern markets and the fact that grapes are six weeks earlier than California grapes, Fort Stockton bids fair to possess the vineyards of the United States. Not only do grapes thrive in this section but such fruits as apples, pears, peaches, figs, etc. Alfalfa is the principal hay crop and produces enormously.

The good housewife may just as well quit raising poultry now, for a Russian professor recently made the statement that the next great feat of chemistry will be the making of eggs from air. "An egg," he said, "is a complex compound of nitrogen, oxygen, sulphur and hydrogen. The chemical process of the hen will be imitated in the laboratory in the undertaking. Formerly we were able to do very little with the uncombined nitrogen in the atmosphere. Now that we are able to harness it the possibilities are wonderful.

"Don't" allow the horse to drink too much water at one time.

Conservation of Water In Row Irrigation Is Important

By PROF. E. B. HOUSE, Colorado Experiment Station

The difficulty that every farmer experiences in ordinary row irrigation is to so control his supply that the water flows down each row at the same rate and with sufficient velocity so that when the water reaches the lower end of the row the upper end has had time to be sufficiently moistened for the water to reach the roots of the plants. In order to accomplish this, every field should have a ditch running along its highest part, properly laid out. This will be best accomplished by making openings through the side of this ditch through which the water runs into the rows, level; that is to say, fixing them so that when a dam is put in, which brings the water over the bank and forces it through the openings, the water will run through each opening with the same velocity and therefore have the same head. It will, therefore, be a paying proposition to make these openings permanent.

A box made of lumber or concrete with openings in the side, each section set level, with a drop at the end of each section so that by placing the dam at the end of the section, the same quantity of water is discharged through each opening and finds its way to each row and is sent down each with the same velocity and the same quantity of water is supplied to each row. This quantity can be regulated by increasing or decreasing the head on each opening, and with this arrangement it will be found that labor, time and water will be saved.

Another thing, after an irrigation by means of the row method, many farmers have found it advisable and profitable to harrow across the rows. This fills the ditches and the ground that is saturated with loose earth which forms a "dust mulch" and thereby prevents excessive evaporation from the rows, while if this is not done the bottom and sides of the ditches take on a crust, the particles become packed together and excessive evaporation takes place, or the next irrigation it will be necessary to again run the cultivator through the rows in order to form the ditches for another application of water, and by the time this second irrigation occurs the plants will be so far advanced that it will be impossible to harrow a second time, but the first harrowing can be done with very little damage to the crop, in fact it is a benefit to the crop even though some of the plants are destroyed.

Tillage gives such measures of aeration of the soil as shall develop plant food. Chemical action liberates plant food by dissolving the inorganic elements and forming solutions containing plant food. The more complete the aeration of the soil the stronger the solution of plant food contained in soil moisture. Our scientific experimenters have demonstrated that the larger the amount of plant food available, the less soil moisture required

to produce a pound of dry matter. In other words a tree can grow and bear fruit in a well aerated soil with less soil moisture than is required to produce the same results with the tree feeding on a soil less effectively cultivated. Aeration therefore sets free increased quantities of plant food and enables the tree to get along with less water. A pint of very rich soup is more nourishing than a quart of thin gruel.

The average planter will perhaps irrigate his orchard three times or four times in a season. Each irrigation is preceded by running a corrugator or some other method of opening furrows. This requires a team once over, after men have been employed to spread the water; within forty-eight hours some efficient tool must be run to get the soil under cultivation or the land will crust, bake, crack open and soon be in worse condition than before. To get the soil back in as good a state of tillage as before the watering, we find ourselves compelled to cover it two or three times, usually once with the Planet Junior and then each way with some implement like the Acme pulverizer or the Tower cultivator.

Three and possibly four team operations will be needed with each irrigation to recover the loose, lively, mellow soil condition in which we had the soil before watering, therefore three periods of irrigation will mean covering the field nine times with a team. In our experience add these nine cultivations to seven to nine regular cultivations and we have sixteen to eighteen cultivations, which following a winter and spring rainfall such as we have had this season will, in suitable soil, go a long way towards conserving moisture for the summer.

There seems to be no question but what a tree that is efficiently and thoroughly cultivated finds more favorable conditions for vigorous growth and fruitfulness than the orchard that is sometimes too wet, sometimes too dry, and handled in the manner oftentimes noted. This applies to young orchards. This method is not applicable in the same degree with the older or bearing orchards since an orchard aged sixteen to twenty years needs probably seven or eight times as much moisture as the orchard up to the age of five years.

To maintain soil fertility requires cover crops. To grow a crop of clover, vetch, or alfalfa in the orchard and thus keep its fertility at the highest standard required for productiveness will doubtless require from one to two inches of water instead of five-eighths afforded by some of our systems. It is hardly practicable to maintain the same high state of tillage in the old orchard that can be given in the young, and water must either be stored in the sub-soil or applied at suitable times by sufficient irrigation to maintain an ample supply of soil moisture in the aged bearing orchard.



TEMPLE AND TABERNACLE OF THE MORMON CHURCH AT SALT LAKE CITY

Queries and Answers



Coventry, Colorado.

Dear Sir: I have an orchard of about 14 acres consisting largely of apple trees. About two acres peach and less area in cherry, plum, prune and pear. The greater part of the trees were set four years ago, spring of 1908, on new sage brush mesa soil. Raised vegetable crops among trees first three seasons. Did not crop any of the ground last year, have some cabbage on small portion this season; have cultivated with a Clark Cutaway harrow altogether last season, present season plowed apple section with turning plow and followed with cutaway and common harrow. Have not kept ground entirely free from weeds. Have been thinking of sowing some crop to turn under as fertilizer, although soil is reasonably rich and trees have made good growth each year. I write to ask you for information as to best crop to sow for the purpose and best means and tools to use in getting the crop well turned under and worked into the soil. Also the proper implement to use as a marker for making furrows for irrigating in order to get furrows close enough to the tree sows without hurting the branches, trees are headed pretty low and branches have considerable spread even now. Thanking you in advance for any advice, I am very truly yours,—W. P. Johnson.

Answer:—The subject of the best crop to use for supplying vegetable matter to our soils in young orchards is one that has many sides. We think there is no doubt that in most of our orchards, particularly where the land has not been in alfalfa, a cover crop of some legume is very desirable. Just what cover crops shall be used and how this shall be handled must depend on the soil, age of trees, and other factors. For the young orchard, we believe that the best system is to grow which ever leguminous crop can best be grown in the district between the trees during the latter part of the growing season.

Where the seed can be started and a crop grown successfully, red clover is probably as good as anything, though Canada peas, soy beans, vetch, crimson clover, etc. are all good where the conditions are right to produce plants of growth. We think the crop should be grown in the latter part of the season because the tree needs all the plant food available during the early growing season. Normally, a young orchard tree should begin growing in April or early May, as it should make the larger part of the growth before the 1st of July. If the seed is sown in early spring for a cover crop, the young plants soon begin to take this plant food and are apt to materially cut down the growth of the trees. This taking up of plant food by outside plants is desirable the latter part of the season, for we always have a tendency where clean cultivation is given and plenty of wa-

ter to keep our trees growing too long, and as a result they are apt to go into the winter with immature wood.

In many cases, we think that the best practice is to sow this cover crop in drills, leaving an open space from three to five feet either side of the tree row. The cover crop is of two-fold advantage. It adds vegetable fiber to the soil, which makes the soil more active and easier to irrigate and if left on the ground in the winter protects the soil from the drying and freezing and holds the snow and leaves from drifting. Many of our growers object to leaving the crop on the ground in the winter, as they think that fall plowing is necessary in the orchard in order to have the ground in condition to irrigate. This is true to a certain extent, but in few cases, we believe, is there any real difficulty in irrigating orchards that are plowed in the spring. If the land lacks slope, it simply means that the irrigating furrow must be deeper and the furrows need not be so close together, as, of course, the flatter the ground the more water will be taken up as the water advances across the field.

There are several tools that are satisfactory for making irrigation furrows and I do not know that there is anyone that is particularly better than the others. Any implement that will make a clean, smooth furrow without injuring the trees will do the work. As we said before, the size and depth of this furrow must depend entirely on the contour of the land.

Of course, flooding is always undesirable. We believe that in most cases the furrows are made closer together than is really necessary and in all cases the furrow need not be closer than three or four feet from the tree row when the trees have been set three or more years.

E. R. BENNETT.

Please tell me when is the best time to cover raspberry and other plants for winter and how it is done?—W. B., Exbert, Wyo.

Answer:—Raspberries and such shrubs that require winter protection should be covered with a layer of earth to a depth of six inches. The plants can usually be bent over to a horizontal position by removing a shovelful of dirt from one side, then bending the plant over carefully. The tips are held down until the dirt is thrown over the canes, then the plant will retain the horizontal position. Strawberries should be covered with straw or native hay when the ground freezes. This covering can be removed in the spring or raked between the rows and left to keep the fruit clean and to keep down the weeds. It also helps retain the moisture.—T. S. P., Wyoming Expt. Sta.

Denver, Colorado.

Dear Sirs:—Would you kindly send me full particulars of the Apple Show here this year, if there is going to be one; when it is going to be held, etc?—Albert F. Tengwald.

Answer:—There will be no apple show held in Colorado this year. Last year's event met with a deficit that precluded a repetition of the event. However, efforts are under way looking toward holding the annual meeting of The American Apple Congress in Denver sometime in December, probably on December 16 and 17.—C. H. Smith.

Holly, Colo.

Gentlemen:—Kindly give the best method to control the sugar beet nematode?—A. C. R.

Answer:—Foreign tests have shown that in combating the beet nematode, there could be rotation of crops so that no two which are favorable to the pest should be planted within four years; the fertilizers used should be adapted to the need of the soil, plowing should be shallow, avoidance of carrying infection by feet or tools; the removal of harboring weeds and the growing of trap plants.—R. Mitchell, Washington, D. C.

MILK AND CREAM CONTESTS.

There is nothing that will appeal to the spirit of the American so quickly as a contest, whether it be in the arena, on the diamond, the football field or in the pursuit for a livelihood. Prominent dairymen have found in this spirit a means of improving the dairy output through milk and cream contests. On February 14-24, 1906, during the National Dairy Show in Chicago, the first milk and cream contest was made. From that date rapid progress in the movement has been made, and in the six years from

February, 1906 to February of this year, forty such contests have been held under the direction of the Dairy Division, Bureau of Animal Industry, Department of Agriculture. These public exhibitions and the meetings held in connection therewith have proved to be of great educational value to the dairy interests of the country, and they have given a decided impetus to the movement for the improvement of the milk supply, especially in the large cities.

Two things are very noticeable in going over the scores of contests which have been held in the same place for two years in succession. The first is that dairymen who compete for two successive years almost always do better in a second contest than they do in their first attempt, showing very plainly that they have received valuable suggestions as to the production of sanitary milk. The second is that dairymen who have had previous experience in these competitions nearly always do better than those who are competing for the first time. In the Maryland State Dairymen's Association contest for 1911, ten men who had previous experience in preparing milk for contests averaged over nine points better on the score card than those men who were competing for the first time. At the Illinois State fair in 1911, those who had competed the year previous bettered their former scores by over five points and averaged over 15 points more than the dairymen who were competing for the first time.

The Department of Agriculture will shortly issue a circular—No. 205 of the Bureau of Animal Industry—on this subject. This circular tells how to conduct the contests and how to prepare samples for competition. It should be in the hands of every live dairyman.

Another one of Dr. Wiley's opponents has quit the service. Dr. F. L. Dunlap of the bureau of chemistry, Department of Agriculture, tendered his resignation this week to Secretary Wilson. In his letter he stated that he was resigning to go with the Victor Chemical company of Chicago at a higher salary than the government was paying him.

TEACH YOUR BOYS AND GIRLS TO EXCEL.

Teach your boys and girls to be not like father and mother, but to be greater than father or mother, or any of those in the neighborhood who may be examples. If your boy wishes to be a doctor, inculcate in him an ambition to be a better doctor than your family doctor. Send him to a medical school. If your boy wishes to be a lawyer, inculcate in him an ambition to be a better lawyer than any lawyer in his community or in the state. Send him to a law school. If your girl wishes to be a teacher, inculcate in her an ambition to be a better teacher than any of those who have taught her. Send her to a teachers' college. If your boy wishes to be a farmer inculcate in him an ambition to be a better farmer than in his father or any of those in his neighborhood. If possible, give him an opportunity to study the science of agriculture and make of him, if possible, an expert. Send him to an agricultural college, and, if possible, in his younger days have him taught in the rural and in the high school a knowledge of the elementary branches of agriculture. If your boy is to be a lawyer or doctor, you give him special training for his life work. Why should the boy who wishes to be a farmer be handicapped through life by having only a rudimentary knowledge of the science he has chosen as his profession? Think it over.

The Department of Agriculture has a Little Stories for Busy Farmers division, which is a very good thing. The Little Stories are not fairy tales nor even original stories; they are short accounts of the pick of the practical farm experiments made by the different government agriculturists all over the United States. Each story book contains about eight little stories, and a new book is gotten out about every month, and called an Experiment Station Farmers' Bulletin. It takes five minutes to read one of the stories. It costs nothing but a request to get the Little Stories—to your congressman or senator or the secretary of agriculture.



A PROSPEROUS RANCH HOME IN DELTA COUNTY

THE INTERMOUNTAIN FRUIT JOURNAL

AND INTENSIVE AGRICULTURIST

An Illustrated Monthly Western Country Life Magazine of the Highest Class. Only Periodical Devoted Exclusively to Fruit Growing, Irrigation and the Higher Branches of Agriculture in Colorado, Utah, Idaho, New Mexico, Wyoming, Arizona, and the Irrigated West.

Being a Consolidation of **World-Wide Farming** Magazine of Denver, Colo., with the **Intermountain Fruit Journal**, of the same Volume and Number as Given Below.

Alfred Patek, Publisher and Owner
Clyde H. Smith, Advertising Mgr.

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Fruitland Publicity and Colonization Department, 1520 Champa Street, Denver.—Maintained for the benefit of homeseekers and investors desiring reliable and accurate information on any Western districts. Our services are free.

Official Organ of the American Apple Congress.
Clinton L. Oliver, Secretary, Paonia, Colorado.

Entered as Second-Class Matter at the Postoffice at Grand Junction, Colorado, under the Act of March 3, 1879.



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Association of American Advertisers
No. 2420 Whitehall Bldg. N. Y. City

The Peach Proposition.

WE have too much respect for the unforeseen circumstances or conditions at the time of marketing, to make any definite prophesy of what the future has in store for the peach proposition in the Intermountain district. This is the "open season" for remedies and cures that will render commercial peach growing a safe and profitable occupation to the grower. There are, however, a few circumstances connected with our experience the past season that we believe may be taken as straws in indication of the general trend of events. It is generally conceded that never in the history of peach growing in the United States, has there ever been such a uniformly, abnormal crop in all districts as this season. From Texas to Michigan, and the Virginias to California, there were peaches in abundance. From the time the first shipments from Texas and Georgia hit the markets there was a constant unloading of carloads and trainloads of peaches of all varieties and quality into every known market of the country. The result was, so far as western peaches were concerned, that by the time they reached the markets, they found them "glutted." Their merited, superior flavor and quality, were no inducement,

when every one was "stale" on peaches and their canning was provided for. While there was yet an extensive demand for peaches, still it was only on condition that the prices were cut ridiculously. Another factor was that a number of individual associations, attempting to market to the best interests of their growers, did not consult each other as to the possible consumption of the several markets, with the result that the best known markets were over-supplied. We know of a particular instance, where one small association in Colorado last year consigned all of its peaches to one house in one of the large markets, that every one else was afraid of, with the result that they obtained slightly better results than some of the other associations did elsewhere. This year, on the strength of these results, they obtained contracts for over six hundred cars of peaches, all of which were shipped into this one market in two weeks time, in addition to the volume of shipment into that market from all other sources. Their disappointment this year, can be readily imagined. Such mistakes must be overcome.

"The Magic of the West."

OF TENTIMES a photograph will depict a conception of concrete facts that pages of descriptive matter would fail to impress on the mind of the reader. The subject for the front cover page of THE FRUIT JOURNAL this month is an apt illustration of this fact. With the further knowledge that "What man has done, man may do," we call the attention of our Eastern friends to the real facts of the matter, in that when it comes to the possibilities of the West, that our greatest difficulty is to get the truth believed. Mr. W. Harrison, the owner of the Merrivale Orchards near Clifton, Colorado, is a man with previous experience along horticultural lines, as we understand, having formerly lived in England. That his faith in the West has been borne out through accomplishment, is evidenced from this scene of his country home. It is of interest in this connection to note that one of his best sources of profit in connection with fruit has been poultry culture. He is a fancier of some note at the Colorado poultry exhibits and all in all is one of the solid, progressive type of men that are banded together in the great and glorious task of "The Winning of the West."

It has never been the intention of the FRUIT JOURNAL by statement or inference to lead men into its field of effort through promises of reward without every day toil. The proposition of putting water on land is a simple question on the written page. It is also refreshing in the shade of your porch to read of the bright sunshine and turquoise skies. But to manipulate and control these wonderful elements to commercial profit, raises just as much perspiration in Colorado as Virginia or Vermont. The results, we hold, are more productive and profitable, but the effort is just as wearisome to the toiler. We want sincere, earnest and persistent men but not dreamers and drones. When the drud-

gery of running the ditches and laterals to carry the water on the land is completed, and the water in the furrows, weeds grow just as prolific as the most profitable crops that may be sown and harvested.

Selection of Varieties

AT a recent meeting of the Wyoming State Horticultural Society it was decided that an official list be prepared of the fruits of the best commercial varieties particularly adapted to the various sections of the state. This is a very important question in the furtherance of the best interests of commercial production. This list is to be a permanent list, to which shall be added from year to year such varieties as shall be proven of sufficient commercial value to warrant their addition to the recognized list. To begin with the list is not to include more than three varieties of any one fruit, with the exception of apples, which shall comprise not more than three varieties for any given season of the year, as summer, fall and winter varieties.

Experience has taught those interested in the development of commercial orcharding in the West, that it is much easier to sell in advance of delivery, solid train loads of straight varieties than to place single carloads of mixed varieties. At a horticultural meeting at Palisade last winter, John F. Moore, at that time manager of the Grand Junction Fruit Growers, the largest co-operative fruit marketing organization in the Intermountain district, made the statement that his selection of varieties for planting any sized tract from ten up to forty acres, would be half Jonathans, and the balance equally divided between Winesap and Gano. This selection might be varied from slightly without serious error, but for any one grower no greater selection than three varieties should be chosen for his individual planting in our estimation and it should not vary materially to the bulk of varieties planted in his district.

Free Advertising

IT is not impossible yet to find a business man, occasionally, who will question the value of advertising. What amuses us, though, is that these same business men never raise this question of doubt when there is an opportunity to get some free advertising for themselves or their pet hobby. But the thought that inspired this comment was not a critical one. This summer when it became apparent that the fruit districts were going to have to call in a vast army of labor to assist in handling the enormous crop of peaches that would have to be moved in the course of several weeks' time, it was natural that the newspapers of the state should carry the glad tidings all over the country. Solely as a result of this free publicity, instead of being short-handed the various fruit associations of the Western Slope have had to put on extra stenographers to stop the influx of seekers for positions in the orchards. The flow of language that was used to announce the attractions

of this form of labor, proved the effectiveness of advertising, free and otherwise. It is curious how prone some men are to snap judgment on subjects of which at times they possess scarcely a speaking acquaintance.

**AGRICULTURE AT THE
HYGIENIC CONGRESS.**

(By Richard Hamilton Byrd.)

Of the numerous addresses delivered at the Hygienic Congress in session in Washington, one by Dr. Jacques Bertillon, the world-famous student of vital statistics, of Paris, attracted considerable attention. Dr. Bertillon, a brother of the originator of the famous criminal measurement and identification system, is chief of the bureau of municipal statistics of Paris. The title of his address was "Mortality and Causes of Death by Occupations," in which was presented the results of a task which Dr. Bertillon has completed of tabulating various occupations and professions with respect to degrees of frequency of various causes of deaths in each. He made 729 sub-groups of professions and occupations and classified them into three general groups.

Dr. Bertillon found that with farmers (agriculturists, horticulturists, foresters), all causes of death are rare; that they are the most healthfully occupied class of workers. The least healthy persons are those engaged as wine merchants, brewers, and handlers of liquor.

Prof. De Vries, of the Amsterdam Botanical Garden, who startled the Congress last week with his theory of increasing vegetable life of the world, has been called the "successor of Darwin," by reason of his plan for the origin of new species by the theory of gradual variation. Prof. De Vries puts that theory into practice by producing plants that show more development year by year. Under his skillful guidance, a daisy increases the number of its petals from 20 to 200, and he coolly claims that the same thing can be one with all forms of plant life—with grain for instance. If the theory works out as he says in practice the bumper crop of this year will pale into insignificance.

Box Labels

FOR APPLES, PEACHES & PEARS

Add selling value to your pack. Identifies you with the consumer. Puts on the finishing touch. Special designs to order.

Stock Labels

We have three or four stock designs of each kind that range in price from \$5.00 to \$10.00 per M. These are especially attractive to the new grower who does not care to go to the expense of a special label.

The Denver Lithographing Company

Color and Commercial Lithographers

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Send attached coupon for samples.

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I am interested in box labels for.....

Please send samples of ^{stock} designs and prices. Will re-
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**FRUIT AND IRRIGATION IN DELTA COUNTY
This is the Money Making Combination**

That we are now prepared to offer you on the Escalante Redlands Mesa in Delta County, the premier fruit and agricultural county of the West.

TERMS: Water right; \$10 an acre cash, \$10 an acre in twelve months, without interest; \$40 in five years at 6% interest.

Government Land at a cost of 25c per acre for filing on the land and \$1 per acre at time of obtaining patent.

"I saw a wonderful country; that part of Colorado is as near perfect as nature and the hand of man can make it." JAMES R. GARFIELD, Former Secretary of the Interior.

This project is fully financed and will be rapidly pushed to completion. There are 14,000 acres of irrigable land in the project, lying within seven to 18 miles of Delta, a large fruit shipping point directly on the Denver and Rio Grande railroad's transcontinental line. For detailed information and affidavits of owners, address the

SAM FARMER ESCALANTE IRRIGATION CO.
DELTA, COLORADO

1721 STOUT STREET

DENVER, COLORADO



An Analysis of the Leaf Roller and Method of Control

By B. G. PRATT, Chemist of New York

It has been my pleasure and privilege to visit recently some of the principal fruit sections in Colorado, personally examining many of the orchards, and their beauty, productiveness and freedom from many of the diseases and insects which attack eastern orchards, is remarkable. At the same time there are many indications that the western fruit growers will soon have to take up dormant spraying as a part of regular orchard work. This they should do as a matter of insurance. If generally practiced it would in some instances save one or two sprayings in summer time.

The different species of aphids seems to be about the worst pest outside of the codling moth. But the Leaf Roller is making its appearance in many places, and the woolly or root aphid is certainly a menace and no doubt many growers do not recognize the damage it is doing, attributing the decline of the trees to alkali or "poisoned root." Fortunately the San Jose scale is present in only a few orchards and it may be that it will require some such scourge to force the grower to realize the real value of a winter spray—I hope not.

While I am informed that Lime Sulphur has proven more effective

against San Jose Scale in Colorado than in the east—it does not take care of the Leaf Roller and aphids, which can be controlled in the egg state by the use of Scalecide which practically

cleans a tree of all scale—the eggs and larvae of any insect hibernating on the trees, as well as the spores of any fungi that can be reached in the dormant season, minimizing the work of summer spraying. It does not cost you as much to spray your orchard with Scalecide as it does with Lime Sulphur at \$8.00 per barrel. We will take pleasure in proving this statement—you are probably paying more.

Returning to subject of aphids which should so vitally interest every Colo-



EGG MASSES OF THE LEAF-ROLLER ON THE BARK OF AN APPLE TREE

Photo by Colorado Agricultural College

Come to the Famous Grand Valley

PALISADE, THE HOME of the PEACH

People are attracted to Palisade by the favorable elements which nature has provided; the mild winter climate, location, soil for growing the choicest of fruits and abundant water for Irrigation with an ideal ditch system to deliver the same and mountain water for domestic use.

We can sell or exchange raw lands or full bearing orchards, with or without modern homes which have all the adjacent advantages of churches of different denominations and the best of grade and High Schools.

This section offers splendid opportunities to realize a handsome profit on investments made now.

Our estimated crop for 1912 is 1800 to 2000 carloads of peaches, apples, pears, and semi-tropical fruits.

For complete information and literature, write

R. H. BANCROFT & CO.

PALISADE, COLO.



Save Water by using Lennon Steel Flumes

NO CROSS BARS

Our smooth steel flumes do not leak, are cheaper than wood, have no cross bars on the small sizes to catch floating weeds and do not require an expert to erect.

Manufactured By

The Colorado Ingot-Iron Pipe and Flume Company

Colorado Springs, Colorado

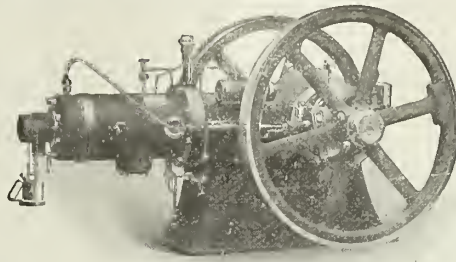
rado fruit grower, allow me to make a suggestion which should greatly reduce the ravages of this insect—if it does not control it completely. Spray your trees thoroughly in the spring before the leaves come out with Scalecide and as soon thereafter as practical band your trees with Tanglefoot or some similar preparation which will prevent the ants from going up into the trees—depositing the eggs of the aphids which they have kept hidden in the ground during the winter. If the trees are small or have a smooth bark on the trunk, a band of brown paper should be first tied around the trees and the Tanglefoot applied to this and not to the bark.

For the woolly aphid—spray with Scalecide any time in the fall or spring when the temperature is not below 35 or 40 to take care of the eggs of the aphid that is in the trees. In the spring, as soon as the ground is in condition to work, draw the dirt away from the roots, say for one to two feet around the trees and saturate the ground with Scalecide diluted one to 15 or one to 20, then replace the dirt. You cannot use enough to hurt an apple or pear tree, but we have never tested its work on the peach or the plum, one application at the roots should last for several years.

For the Leaf Roller the spraying of the trees with Scalecide one to 15 or 20 is all that is necessary, the weaker strength is just as effective as the stronger, but the spraying has to be more thorough—the stronger though will guard against some of the mistakes of the sprayer. The Leaf Roller is rather a new pest—many fruit growers not knowing it when they see it. The egg masses found on the trees are rather oblong, one-eighth to three-sixteenths inches wide, three-sixteenths to one-fourth inches long, of a greenish brown color only slightly raised and look something like a little blister on the bark—but each contains from 50 to 75 eggs that hatch out early in the spring just as the first leaves and buds make their appearance—the tiny worm (for such it is), goes to work voraciously on both bud and leaf—growing to one-half or three-quarters of an inch long when it rolls itself in a leaf and soon thereafter turns into the moth that lays the egg. After the eggs hatch the egg mass has a light grayish color and is full of little pin pricks that show where the worm comes from.

Judges of the National Apple Show in Spokane, November 11 to 17, will be Professor Close of the pomological division of the United States department of agriculture, chairman; C. J. Sinsel, Boise, Idaho; James Gibb, Kelowna, B. C.; Professor W. S. Thornber, chief horticulturist Lewiston-Clarkston School of Horticulture, and Professor Albert Dickens, head of the horticulture department, University of Kansas. At least two judges will pass on every exhibit this year, eliminating the dissatisfaction caused by having one man judge alone on the exhibits.

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The Bear River Valley, Utah, is a Very Rich District

By J. R. PARRY, JR., of the Fruit Journal Staff

The natural resources of Tremonton and Bear River Valley of Eastern Box Elder County are not confined to the products of the animal, vegetable and mineral kingdom, but they are blessed with the environments which go to make life worth living. This valley which is located in the eastern part of Box Elder County has a very healthful climate, clear skies, pure water, geological formations of untold wonder and grandeur, as well as numerous pleasure spots, which all combine to make for health, wealth and happiness.

In spite of the fact that nearly all of her resources are in their infancy of development, there yet remains untold wealth for the husbandman, who will engage in the furthering of the resources, which just now silently awaits investigation, as well as the hand of man and capital to develop them.

To a greater extent than is generally known, Northern Utah is an agricultural section of growing favor. And especially true is this of the Bear River Valley section less than 100 miles due north of Salt Lake City. The valleys of Cache County and East Box Elder county which are divided by a few hills, present to the settler and homeseeker, hundreds of opportunities for the securing of farms and ranches, both large and small, which are either producing or in such a condition as to permit the owner

to carry out every phase of modern development. To the success of these undertakings, irrigation, of which Utah is conceded the American parent, together with modern ideas in agriculture and horticulture, are the opening keys.

Mining is indeed a valuable industry, but agriculture ranks first in Utah and should always do so. Of Utah and every other successful state, agriculture has from the earliest of days been a substantial resource. It has been said and the lines contain more than an ounce of truth that "from agriculture comes the only substantial basis for the building of any commonwealth.

Like in other states, certain districts of Utah are favorable for certain products such as fruits, or berries, tomatoes and melons. Speaking of melons, which are grown with great success in Colorado, in Utah it attains perfection in productiveness and flavor in several districts.

It was in Box Elder County that the U. S. Government recently selected a plat of fertile virgin soil, and in co-laboration with the Utah Experiment Station, for the special experiment on cultivating melons. Here and in Cache County to the east of Box Elder, sweet potatoes are grown with remarkable success. The California grapes also flourish here.

Within the valleys in mention are commercial orchards and fields of

grains and grasses that would excel any that the state of Delaware can produce, where farming and horticulture are carried on very extensively —yet like the eastern state better than 5-7 of the district is given up to soil cultivation. Here the quality is most assuredly raised in all the fields of endeavor and the demand is in excess of the quantity raised.

As said before, Utah is the American Parent of Irrigation and the northern counties were among the first to practice this method of farming. Of late years, these scientific methods practiced by the early settlers have been adopted by the colleges of agriculture and experiment stations, and through applying just so much water to irrigate so much land, astounding results have been accomplished.

It is no longer a marvel to find a crop producing from five to seven hundred bushels of first quality of potatoes to the acre, or over 100 bushels of oats or 900 bushels of onions to the same size parcel of ground. Other crops of grain and vegetables as well as fruit show similar results. Strawberries yield enormous returns. Alfalfa (lucerne) runs 6 to 8 tons while sugar beets run 12 to 22 tons to the acre.

Sugar beets are contracted for at a specified price before planting. The Sugar Beet companies furnish the seed, instruct the farmer on the



DIVERSIFIED FARMING SCENE NEAR AZTEC, NEW MEXICO, ON THE D. & R. G.

right methods of planting, etc., even as to the harvesting and shipping to market. They pay cash of \$4.50 to \$4.75 a ton on delivery at the car or factory respectively as the case may be. Very little hand work is required to make a bumper crop on well prepared land, for today sowing and cultivating is mostly executed by horse drawn machines. If the farmer follows directions, he scarcely ever fails. 20 tons to the acre is regarded as a very good yield.

As for alfalfa when once established, it is said to yield for 20 years without replanting. Dry farming in Northern Utah is winning much favor. The state has provided four special experimental "dry farms" where the best methods are put into practice and shown to be advantageous to the individual farmers seeking these advantages.

Lands under irrigation cost all the way from \$50 to \$500 per acre according to the location and improvements. The higher priced lands referred to of course is quoted on fruit lands in bearing. Most any amount of good farm land with water, can be purchased at \$75 to \$150 per acre and sometimes less. At this quotation, generally fine buildings and fences and other improvements are on the property. Dry farms are listed at \$5.00 per acre and upward.

All the hardy fruits such as apples, pears, peaches, prunes, etc. flourish here in the two valleys and as the adaptability of the county has been demonstrated, commercial orchards have been planted and fruit growers are just beginning to realize and fully appreciate how well adapted the valleys of Northern Utah are for fruit culture, if cultivated on an extensive scale. Carloads of fruits and particularly apples are exported from this region every year. Trees rarely bloom until 10 days after trees are in bloom in other sections of the state, therefore, it is safe to say that in this district fruit has not been injured by frost in ten years. Fruit shipped from Box Elder and Cache Counties bring top notch prices.

Evidences in the awakening that is taking place to a greater degree in fruit culture is manifest everywhere. In the past four years it has been more manifest than ever before. Proper methods of pruning, spraying and cultivation are being applied, which insures the permanent production of a high class fruit.

Fruit growers, railroad companies, and dealers are spending a great deal of effort and money to increase the efficiency for handling fruit shipments. Each year sees the system becoming more perfect. Inasmuch as Brigham City, seventeen miles from Tremonton has two canning factories, and Ogden 39 miles to the south has 17 canning factories, there is little wonder but that Tremonton and Bear River Valley should do well financially in selling its crops of smaller fruits to the factories.

A large cider mill at Tremonton, said to be one of the largest in the state handles all the available apples it can procure.

Few towns in the state of Utah

are as wide awake as Tremonton. Its growing population, is migrating there from Oklahoma, Colorado, New Mexico, Kansas, Nebraska and Iowa. As for the last named state, there is no question but that Iowa citizens are in greatest numbers.

Many miles of side walk grace the thoroughfares of Tremonton lining its avenues of business blocks and residences with walk ways that are seldom found in towns so young as it is. Fine telephone service and both motor and steam lines connect it with Ogden and Brigham City to the south and the principal places in the state of Idaho but a few miles to the north. High school and graded school facilities are of the very best. Responsible help is in great demand. A letter to the secretary of the Commercial Club of Tremonton will secure literature and further information desired.

Another Report on the Leaf Roller Pest in Colorado

By Allan Bell, Canon City, Colorado

We were hit hard with the Leaf Roller this year. The worms hatched out before the buds opened and ate the incipient buds from behind in the

closed cluster. The ranchmen at once applied arsenite of lead, paris green and black leaf. These poisons were again applied in various ways at intervals closely following each other. (Lime sulphur had been applied for two years without results on the eggs). The results of these poisons were not satisfactory. The foliage was partially saved by these rigorous sprayings for where that was neglected the trees were entirely denuded of foliage, yet our crop was destroyed. Poisons will not protect from the Leaf Roller, lime sulphur is useless, Scalecide will eliminate it.

The Washington Agricultural Department placed Mr. Gill in the field early in March to experiment, among other things he used in my orchard Scalecide. This was applied one to 15 in March while the trees were dormant and before the eggs hatched, where it reached the eggs it was effective in preventing hatching.

The Washington Department will issue in Bulletin Mr. Gill's experiments which should be in the hands of apple growers. The Leaf Roller must be fought in the egg state or fruit will certainly go and possibly trees also. I shall use Scalecide extensively next spring so it takes the place of lime sulphur and also kills the Leaf Roller.

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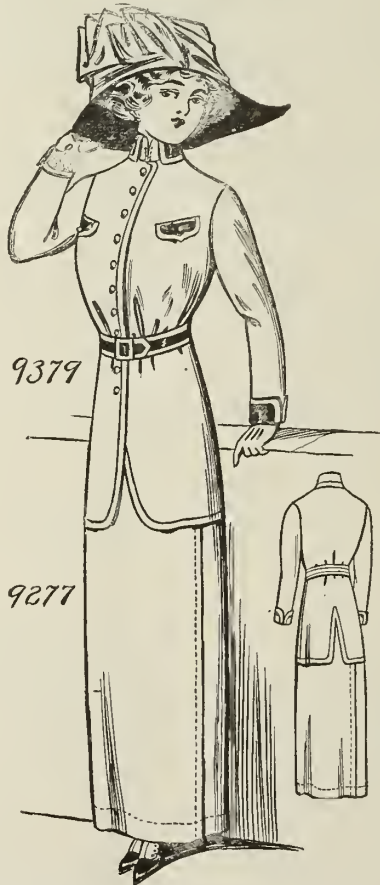
9388

9388. A Simple But Pleasing Negligee, Ladies' Dressing or House Sack.

Scotch flannel in a pretty shade of pink was used for this design. The free edges of collar and cuffs are finished with embroidery in self color. The design is suitable for silk, crepe, flannel, or flannelette. The pattern is cut in six sizes: 32, 34, 36, 38, 40 and 42 bust measure. It requires two and one-half yards of 44-inch material for a 36-inch size. A pattern of this illustration mailed to any address on receipt of 10 cents in silver or stamps.

mixtures, corduroy or velvet may be used. The plaited skirt is jointed to an underwaist. The fronts of the blouse are slightly double breasted. The pattern is cut in four sizes: 8, 10, 12 and 14 years. It requires four yards of 36-inch material for an 8-year size.

A pattern of this illustration mailed to any address on receipt of 10 cents in silver or stamps.



9379

9277

9277-9279. A Stylish Design of Beautiful Simplicity.

Blue serge with facings of black satin was used to make this suit. It is composed of a blouse coat with added peplum and a two-piece skirt. Patterns 9277 and 9379 furnish the models. Black velvet with facings of white would look well in this style. The coat pattern is cut in five sizes: 34, 36, 38, 40 and 42 inches bust measure. The skirt is cut in five sizes: 22, 24, 26, 28 and 30 inches waist measure. It requires five and one-half yards of 44-inch material to make the entire suit for a medium size.

This illustration mailed to any address on receipt of 10 cents for each pattern in silver or stamps.

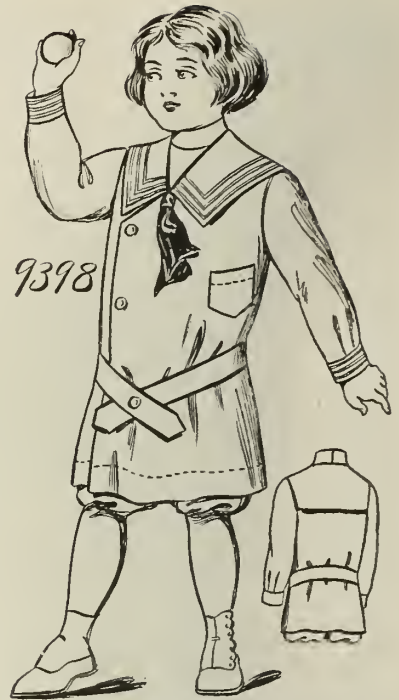


9396

9396. A Popular and Becoming Style for Mother's Girl, Norfolk Dress.

A charming and serviceable school dress may be developed from this design. Galatea, serge, cashmere, woolen

Bulletin 150 of the Colorado Experiment station on the Measurement and Division of Water, by Professor L. G. Carpenter, contains much valuable information for those who are interested in irrigation matters. Copies can be had on request by addressing Director of Experiment Station, Fort Collins, Colorado.



9398

9398. A Practical Suit For the Boy. Boy's Russian Suit With Knickerbockers.

Blue corduroy was used for this design with soutache braid for trimming. The dainty collar and neat sleeve are very pleasing. The trousers are the regulation knickerbockers. The pattern is cut in four sizes: 3, 4, 5 and 6 years. It requires three and one-quarter yards of 44-inch material for a 6-year size.

A pattern of this illustration mailed to any address on receipt of 10 cents in silver or stamps.



9087

9087. A Nutty Little Top Garment. Girl's Box Coat.

This style is simple and easily made, and very becoming to little girls. It is slightly open at the throat, and finished with a rolling collar, cut in points over the fronts. The sleeve in "mannish" style has deep square cuffs. The pockets may be omitted. The pattern is cut in five sizes: 2, 4, 6, 8 and 10 years. It requires two and three-quarters yards of 44-inch material for the 10-year size.

**UNCLE SAM WANTS
FARMERS IN THE WEST.**

Uncle Sam wants 500 men to take up homes on the irrigation projects he has been building in the West. More than 800,000 acres are receiving water from the government ditches, and late reports from the field indicate that bumper crops have rewarded the farmer in practically all sections of the irrigated West. The crop yields on the projects of the Reclamation Service are truly remarkable in view of the fact that much of the land is practically new and many of the farmers were unfamiliar with irrigation methods until they acquired these farms.

A surprising feature that impresses visitors to these lands is the modern conditions that already surround the settler on many of the projects. Rural telephones, centralized graded schools, good transportation facilities, and towns at short intervals are some of the things that rob life on these new lands of many of the trials of pioneering.

The available lands are all in the Northwest, mainly in Montana, South Dakota, Wyoming and Idaho. This is the best season of the year to make a personal inspection of the farms, and different railroads offer low round trip rates to various sections. Residence does not have to be established for six months after filing, and the act of June 6, 1912, reduces the required residence from five to three years. Payments for water right are divided into ten annual installments, and if necessary five months leave of absence each year is permitted, so that it is practical for a man with from \$1,000 to \$2,000 capital to acquire one of those desirable farms and make it pay. Booklets and information will be furnished on request by the Statistician of the Reclamation Service at Washington, D. C.

Just at the present time we have many inquiries from all parts of the country as to the coming apple crop. A few years ago, owing to the climatic conditions and bad management, the crop of apples throughout the United States fell off considerably until apple growing seems to be to many people who did not understand it a sort of gold mine, and one hears of extraordinary prices being paid in some favorite locality that in a year or two, supposing he wanted to sell his property, would be glad to take considerably less than he gave for it.

Geese do not relish tall woody grasses, which have become tough. In a wild state they devour large quantities of roots of grasses and aquatic plants, which they dig from the banks and borders of streams and wash from earth in the shallow water. Domestic geese generally feed upon pastures, preferring moist rich localities where the grass is kept short and sweet by constantly feeding and rapid growth.

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Health and Comfort in Ranch Home

By Miss SARA P. DETWEILER, D. O., Lethbridge, Canada

The old adage "an ounce of prevention is worth a pound of cure" is verified in the subject of health. Two of the most inexpensive means to be used toward this end are fresh air and proper digestion.

Residents of the country sometimes get the idea that because their work frequently takes them out doors for a few moments at a time, they do not require to attend to the ventilation of the house, but this is not the case. Never neglect to get a good circulation of fresh air through the rooms you live in three or four times a day, and by all means have the sleeping rooms well ventilated—windows wide open in the summer and always part way open in cold weather. These individuals who are afraid of fresh air in their sleeping rooms deprive themselves of the very first principle of health. Have fresh air, but avoid draughts. If you have two windows, have both open; if but one window, open it and leave the door ajar, being careful to place the bed where there will be no draught. But should you be so situated that you cannot leave the door open then open the window from both top and bottom, as this will assure a better circulation of air. A hundred times rather spend a little more on fuel if necessary than have doctor bills to pay. You should consider it a misdemeanor for any of your family to sleep in a tightly closed room.

If your house has a verandah, make a living room out of it for the summer; if no verandah, put down a wooden floor or a few old rugs on the ground at a convenient and shady place outside the house and practically live there. You can do your sewing, mending, washing, preparing of vegetables, and even washing of dishes there. It may require a few more steps to carry things out, but it will also save much of cleaning up in the house, and the improvement in health will repay you 20-fold.

But in this outdoor living room you must have a screen fitted over a frame which will rest on a table or other flat surface under which you can place any vegetables, fruits, etc. that you may wish to leave set for a

time, to prevent flies from lighting on the same. Shun the fly as you would your worst enemy, as it is a disease carrier. I wish to mention here that it is the strictest economy to get screens for your doors and windows, so you will be able to keep your house free from flies.

"WHAT IS FARM MANAGEMENT?"

This is the title of Bulletin 359 of the Bureau of Plant Industry soon to be issued by the Department of Agriculture. The bulletin was prepared by Prof. W. J. Spillman, agriculturist in charge of the office of Farm Management. It discusses the principal problems under investigation and the methods adopted.

The bulletin discusses one subject which is not being given most serious consideration by economists—that of tenant farming. On this subject Professor Spillman says:

"The lack of further opportunity for taking up desirable public lands in our Western states and the conse-

quent general rise in the price of farm lands practically all over the country has resulted in an increase in tenant farming. It can hardly be doubted that tenant farming will further increase in this country and that ultimately the land will largely be owned by the wealthier classes and be farmed by tenants with moderate capital. It is to be hoped that the work which the National government and the states are now doing for the benefit of the farming classes will ultimately enable a larger percentage of farmers to own the land they farm; but the problems relating to tenant farming are not only important at the present time, but are likely to become more so. We are now paying special attention to two phases of the subject at the present time. One of these relates to the amount of working capital required to conduct a farm properly, especially with a view to maintaining the fertility of the soil, and the possibility of inducing the landlord to furnish this capital where the tenant is unable to do so. The other relates to the details of the contract between landlord and tenant."

The bulletin is full of good reading and there is no doubt of its being extremely popular with both farmer and agricultural instructor.



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AGRICULTURAL EXPORTS
WILL SOON CEASE.

According to Dr. Jokichino Emori of Japan, a delegate to the eighth International Congress of Applied Chemistry, who, together with other delegates paid a call on the president, the time is not far distant when America will be unable to send her agricultural products to other lands.

Although the vast expense of farming land in the United States has been able to produce enough food products to fill the demand," he said, "and at the same time export much to Europe, the time will come that the United States will use all of its products.

"All over the world it is said that the United States wastes land and I am sure that the assertion is true in many respects. Japan is small and its population is large, therefore, the feeding of the populace is of most importance. Japanese are noted for the small variety of food they require, but nevertheless a certain quantity, though small is required.

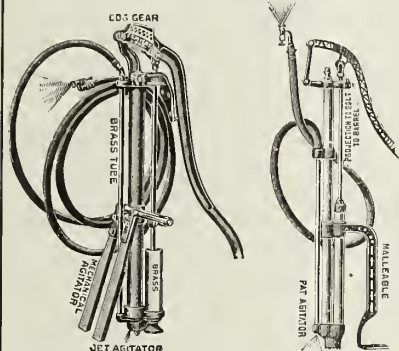
"In Japan," continued Dr. Emori, "we have reached the point where only the use of the most scientific methods will make our agricultural products come anywhere near fulfilling the demand. We have studied conditions in France where soil which has been worked for hundreds of years is still producing. In America the vast expanse of land has made the farmers careless, and the result is that much of the land has been wasted. There is no question, however, but that a great portion of the 'wasted' land in America can be reclaimed. Chemistry embodies the study of the natural resources of any land. The conservation of moisture or any of the necessary features of land is a subject in which the chemist is vitally interested."

The drift of the country population to the city is to be deplored, continues the bulletin, and a way to explain this drift is often sought. While it is not clearly established that good roads alone can turn the tide, it is clearly established that in seeking reasons for the movement the student of social economics must take into consideration the presence of poor roads as one of the effective causes of the depletion of country population.

Of Value to Horsemen.—Do you turn your horses out for the winter? If so, we want to call your attention to a very important matter. Horses which have been used steadily at work, either on the farm or road, have quite likely had some strains whereby lameness or enlargements have been caused. Or perhaps new life is needed to be infused into their legs. Gombault's Caustic Balsam applied as per directions, just as you are turning the horses out, will be of great benefit; and this is the time when it can be used very successfully. One great advantage in using this remedy is that after it is applied it needs no care or attention, but does its work well and at a time when the horse is having a rest. Of course it can be used with equal success while horses are in the stable, but many people in turning their horses out would use Caustic Balsam if they were reminded of it, and this article is given as a reminder.

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Construction is Begun on Big Irrigation Project in the Grand Valley

The acting secretary of the interior has approved the contract with the Grand Valley Water Users' Association, relating to the construction of the Grand Valley reclamation project, Colorado, and authorized the beginning of construction work. This approval was made upon the express condition that the government shall not be bound by the contract unless certain amendments to the articles of incorporation of the Grand Valley Water Users' Association are made at the regular annual meeting beginning on the second Tuesday in January, 1913.

This marks the close of a long struggle of the citizens of that section for the extension of one of the richest horticultural districts of the world by government reclamation. Owing to the fact that the main canal must pass for several miles through

a section covered with fine orchards, portions of which will be destroyed, many obstacles have been encountered in securing rights of way. Numerous investigations were made, and several alternative plans studied before final agreement as to terms and location were made.

The project contemplates the irrigation of about 53,000 acres of land in Mesa county, Colorado. The work involves the construction of a diversion dam in Grand river, about 60 miles of main canal, and a series of short tunnel in the first few miles of canal having an aggregate length of about 20,000 feet. It is probable that considerable power can be developed at drops in the canal, and used to pump water to lands lying too high to be served by the gravity ditches.

Creating Good Market for Agricultural Securities at a Low Interest Rate

A warning to the American people that the great benefits of co-operative credit may be turned into a national calamity if speculation is not guarded against by wisely considered legislation and strict government supervision has been sent by Ambassador Myron T. Herrick to the State Department, in connection with the report which he is making as a basis for President Taft's effort to establish co-operative credit in the United States for the benefit of the American farmer.

"I realize," writes Ambassador Herrick, "that the agitation of the financial phase of the agricultural question has undoubtedly brought many people into the field who only see here an opportunity for creating a security which will have a wide market. Of course we can not prohibit them from entering this field and organizing under present laws, but I would urge that a timely reminder be given to the people, recalling the infinite harm that came to our country from the exploitation of Europe in our early days of railroad building, with railway securities of unlimited issue, unchecked by any state restrictions.

There was also the land-mortgage craze of some 25 or 30 years ago, conducted with unbridled license. There were, indeed, in that movement certain companies, honest and well meaning but lacking in judgment. Others, however, counted upon the cupidity of the public and victimized the investor to such an extent that land mortgages have been a stench in the nostrils of the investor ever since.

"The plan which I am now at work upon by direction of President Taft is of the greatest magnitude. It affects every individual in the United

States. It is essential that the government, both federal and state, assume due responsibility and thus prevent a recurrence of these errors of the past. This field must not be permitted to be overrun by irresponsible people without check of legislation.

"The study which we have made of the co-operative and mortgage systems of Europe has demonstrated beyond question that these organizations, with or without state aid, but all inspected and carefully guarded by the state, have resulted in financing, in the most satisfactory way, the agricultural interests of all Europe. It has demonstrated as well that these systems may be adopted in the United States and that we may even, with the experiments of Europe to guide us, vastly improve upon the European systems and do for the American farmer what has been done for the European farmer—create a ready market for agricultural securities at low rates of interest and with unburdensome amortization and thus afford a natural increase and, in some cases, double the production of his soil."

At the Hygienic Congress held in Washington the last two weeks in September the Bureau of Animal Industry of the Department of Agriculture displayed a glass refrigerator containing whole quarters of beef and carcasses of hogs with visible lesions of tuberculosis.

SPECIAL PROPOSITION TO EXPERIENCED NURSERY SALESMEN—We are looking for live men to take entire charge of our selling in a number of choice Western fruit states. If you are open for a fine opportunity, write us for particulars today. The Denver Nursery Co., 4100 W. 46th Ave., Denver, Colo.



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Every fruit farm should have a big, strong, brave dog to keep away the two and four legged pests night and day. Collies are tireless playmates for boys and FEARLESS PROTECTORS of girls. They are large, strong, beautiful, graceful, alert, brave, gentle, healthy, rugged and hardy. Ours are white, country grown (on an island) pedigree stock, that requires no artificial heat in the winter. Best shepards in the world. A female will raise over \$150.00 worth of puppies in a year. A Christmas present that will give daily satisfaction for years. Can ship anywhere in America.

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Scientists tell us, are dirt diseases, and that the germs are breathed into the system. No wonder that janitors and housewives head the list with these dread diseases! Eliminate the home of the germs through the use of the BO BECK Vacuum Cleaner. A child can run it. We also have electric machines.

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In addition, we are so confident of this machine that on receipt of \$12.50, we will ship this machine at once, with the understanding that, after TEN DAYS' thorough testing it, you may return the machine at our expense, if it is not satisfactory, and your money will be refunded. Address all orders and remittances to

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Denver, Colorado



Important Amendment of the Reclamation Act

The president recently signed one of the most important of the amendments of the Reclamation Act. The latter has been on the statute books for ten years. About \$75,000,000 have been expended in building works which, although not yet completed, are already furnishing water to about 15,000 farms. One of the difficulties experienced by the settlers upon the public lands reclaimed under the terms of this act, has been that they could not obtain patent to the land until the water provided under the terms of the act has been paid for and thus they could not use the land as the basis for borrowing money to improve their farms and enable them to get a start.

The recent amendment provides that the settlers may obtain patent to the land upon compliance with the provision of law applicable to such lands as to residence, reclamation and cultivation. In other words, if they have lived upon the land for three years, have reclaimed at least one-half of the irrigable area and have kept up the charges, patent can issue and thus the entryman will be in a position to borrow money upon the lands.

While this is the primary object of the law, there are also even more far reaching provisions, the most important and radical of which is the absolute limitation of water rights obtained under the Reclamation Act to not to exceed 160 acres. Under the law as it formerly stood, it might be possible for a man or corporation to purchase several reclamation units and combine the farms into a considerable holding. Now, however, if this is done the water right will be forfeited and provision is made that any excess land over 160 acres which is acquired in good faith by descent, by law, or by foreclosure of the lien may be held for two years and no longer, and the excess holding shall be forfeited to the United States. This prevents consolidation of lands irrigated by works built by the government and while it may work a hardship in some cases, it is believed will result beneficially. No large owner can thus enjoy the liberality of the government.

Attempts have been made in the past to evade the 160-acre limitation by subdividing the lands, putting the title in the name of near relatives, but it is probable that under the wording of this act such attempts to evade the letter of the law may jeopardize the ownership of the property to an extent at least to prevent any considerable evasion of the intent.

Another provision which will greatly aid to the convenience of the water users is that permitting payment to be made directly to the local office of the reclamation service, instead of requiring payments to be made at the remote land offices involving in some cases expensive journeys. This also reduces the cost of accounting, as only actual records could be kept, and that upon the project itself, cutting out the records which formerly have been maintained in the land office.

"Don't" fence your farms with barb wire, if you can afford a better way.

Mayer Honorbilt Shoes are first in style and unapproached in quality. The superiority of Mayer Honorbilt Shoes for men, women and children is established beyond question. At the price they cannot be equalled by any other shoes in America.

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MICHIGAN TO SHIP

APPLES TO ENGLAND.

Great Britain is being canvassed as a possible market for Michigan apples by John I. Gibson, secretary of the Western Michigan Development bureau, and, as a result an "experimental shipment of 100 car loads will be sent across the Atlantic ocean after the coming apple harvest.

The consignment will be shipped to J. & H. Goodwin, of Manchester, Eng., the sale having been announced by Mr. Gibson. Heretofore, the western Michigan apples have been sold almost exclusively on the Chicago market. The newer field that is opening up may mean a higher price to the Michigan farmers.

Mr. Gibson states that the British consumers prefer the red apples, although the greenings sell fairly well. Northern Spies, Baldwins, Macintoshes, Kings and Jonathans find ready sale.

One of the "findings" of his investigations is that the Michigan apple grower should specialize on a single brand, which would permit standardizing. He recommends that all of the Michigan apples should be packed in barrels, as the British consumer prefers this package to boxes. He would have them labeled bearing the Michigan mark. The apples, too, should be packed with "cushions," and the guarantee of the brand should be made by the Western Michigan Development bureau, he thinks.

Mr. Gibson states that Nova Scotia apples enjoy great favor on the British market just now, but that while they are good as to color and flavor, they are much smaller than the Michigan fruit.

CULTIVATION DOES MUCH TO
CONTROL SURFACE ALKALI.

Often alkali is only slightly in excess and that excess left by evaporation on top of the ground as the soil water has arisen and evaporated.

In such situations control of soil conditions can often be regained by cultivation without resort to more expensive methods. Included with cultivation there should be some leveling of the surface, otherwise the alkali will gain ascendancy in the low spots.

A level surface is desirable for every reason and especially where wide drills are used or they will skip the low spots and in any case the depth of the seeding will be uneven.

Even level-looking prairie land will vary in elevation and pay for a little grading, even where irrigation is not contemplated, if the leveling process be done cheaply in combination with necessary harrowing and the retention of a dust mulch.

Fall or early plowing, while desirable, allows the alkali to rise to the surface again before seeding time and exert its caustic effects on the stems of the young plants when they sprout before they become strong and more resistant.

Underground the little rootlets are in a strongly saline solution quite unsuited to their needs and the plant perishes, whereas if it could gain some initial strength it would be likely to succeed in establishing itself and producing a crop.

Cultivation, so to speak, up to the last minute before planting keeps the salts well mixed with the soil, allowing the crop to mix itself. The surface is absorbent to showers,

which lessen the proportion of alkali in the soil soup on which plants feed, and they will become strong and perhaps grow the largest crop upon the farm where subsoil water conditions are favorable.

There are, of course, lands where the water table rises and swamps everything by midsummer by irrigation in higher lands, but there are also many which furnish water for a maximum crop.

Winter Flowering Bulbs



Our New Catalog of Fall Bulbs is now ready and sent free on application.

Oxalis, Freesias, Chinese Lilies, Roman Hyacinths, etc., started this month will be in bloom for Christmas. Hardy Lilies, Dutch Hyacinths, Tulips and Daffodils will give best results next spring, if planted in early fall. See our liberal offers on back cover of our new Fall Bulb Catalog.

The Barteldes Seed Co.

Denver, Colorado

Does Whisky Do Your Thinking?

The Gatlin Treatment Cures the Liquor Habit in Three Days Under Contract—No Hypodermic Injections or Other Disagreeable Features

DRINKING LIQUOR has never yet made any man famous—but it HAS made many a man INFAMOUS. If you desire to succeed in business; if you would GO UP instead of DOWN; if you value your MENTAL and PHYSICAL health; if you care to prevent "FAILURE" being connected with your name, you MUST STOP drinking liquor—at once.

The Gatlin Treatment

Eradicates the Liquor Craving in Three Days

There are no hypodermic injections, no "strong" drugs, no disagreeable features. The Gatlin treatment removes the CAUSE of drunkenness—stored up alcoholic poison in the system,—that is why it cures in three days—a longer period would be superfluous and wasted. Craving, desire, physical and NERVE-NECESSITY for liquor are but EFFECTS of the poison in the system and disappear immediately with the CAUSE. Where the EFFECTS are smothered up by hypodermic injections of SUBSTITUTIVE STIMULANTS, from three to six weeks' time is required, and but ONE chance in FIVE of permanent sobriety.

Each patient is accepted for treatment at the Gatlin Institute under a plain, legal contract to do away with liquor craving in THREE DAYS, or the full fee paid shall be refunded at the end of the third day and treatment shall cost NOTHING. In other words, any expression of dissatisfaction with either the cure effected or with the treatment on leaving the institute, will mean that the fee paid will at once be returned.

The Gatlin Home Treatment for those who cannot conveniently come to the institute for three days, carries practically the same contract to cure, the only change being one to protect us against unscrupulous persons.

Gatlin Institute

Call or write for books of particulars, copies of contracts and other information—1425 Cleveland Place, just opposite the Carnegie library, Denver, Colo.
Tel. phone Main 4099.

PERTAINING TO THE HOUSEHOLD

Suggestions and Improvements That Tend to Raise the Standard of Comfort in the Home Will Be Found on this Page. The FRUIT JOURNAL Believes that Nothing Stimulates the "Back to the Land" Movement so Much as These Little Details in the Home

INFLUENCING A BOY'S LIFE.

Reform School Expert from East Talks to O. A. C. Summer Session Teachers.

"How far is the bad physical or mental life of a boy or girl a force pushing them into an unfortunate life?" asked J. Adams Puffer, expert in problems of delinquency and reform, in a lecture before the teachers of the summer session at the Oregon Agricultural college.

"I believe that, with few exceptions, it is the environment which is the greatest force in producing either good citizens or criminals," he continued. "With right environment anyone can change their own personality entirely within a year. Although all are born with certain qualifications or the lack of them, there are four things which can be inculcated in every boy and girl: obedience, prudence, honesty and industry."

Mr. Puffer gave interesting statistics from studies made while he was in charge of an Eastern reform school. Of 100 boys there were 15 below the average in height, weight and lung capacity, compared with boys outside. There were three above in school, 11 at grade and 38 a grade or two behind, while 48 were three or more grades behind. Three years of proper care, food and training worked wonders, a large number doing exceedingly well, and but 20 being advanced, when they became of age, to other penal institutions.

A MONUMENT TO EVE.

While we are talking about monuments and memorials, what's the matter with a monument to Eve?

By all accounts, Eve was a great woman. She was our universal ancestor. None of the genealogists ever get any farther back than Eve. And Eve was a suffragist. She was an equal partner with the "head of the house" (let us call him so by courtesy anyway) in the fruit orchard known as Eden. If Adam couldn't feel like trying the qualities of the apple—or lemon, as some believe it to have been (while the Californians declare it was an orange), Eve invented the initiative to meet the occasion, and so became the first Progressive.

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What though both Adam and Eve suffered the "recall" in consequence? Eve still deserves a monument at the hands of her descendants, for the habit of eating fruit has survived to this day, and who would be willing now to forego the benefits of the great discovery of Eve's that fruit—whether apples, lemons, oranges, figs or what not—are good for the system and beneficial to the complexion, besides adding to the family expense account unless grown in your own back yard?

Perhaps we have not shown Eve so much honor as she deserves because the earlier chroniclers did not dress up their facts with as much wealth of descriptive laudation as marks the effusions on the society page of the journals of today. It is not too late to honor Eve. Why not have Congress erect a monument to her fame?

ALLOWING TOMATO TO RUN.

It is best to allow late tomato vines to lie on the ground and spread at will, claims one raiser. Each plant thus allowed freedom to vine will cover many square feet of soil, but it will bear more fruit of better flavor than tomato vines trained to stakes.

The branches of the vines on the ground take root at many points for supplying greater amount of nourishment. The greater amount of foliage a tomato plant bears, the more fruit it is able to produce. Tomatoes ripening in the shade of foliage are of as good color and flavor as those ripening in the sun.

KEEP CALVES WELL BEDDED.

The stomach of the little calf is very sensitive and easily ruined. Nothing will do it quicker than keeping the animal confined in a wet, dirty pen. Clean the calf pen often and bed it with a liberal supply of dry straw oftener. It is no little labor to keep a stall where several calves run clean and dry, but there is no other way if you want to raise good calves. Eternal vigilance is the price of everything good in the stock line.

Clover is better than any other hay for fowls for the reason that it possesses egg making nutriment, as well as fibre to separate the particles of grain. It is not bulk (mere quantity) that is needed, but coarse fibre to separate the concentrated feed in the stomach, so that the gastric juices can circulate through the mass.

The good dairy cow usually is wide in the forehead, the face dished between the eyes with a strong under jaw.

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Forty-sixth Year

A BOARDING AND DAY SCHOOL FOR GIRLS

Is delightfully situated in the finest residence district of Capitol Hill. The school offers either college preparatory course or more varied courses for those girls who, on leaving school, enter at once into the active duties of life. Opportunity is also given to students to specialize in music and art. For further information and catalog address

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ARE YOU FAT ?



I Was
ONCE

I Reduced
Myself

I was Fat, Uncomfortable, Looked Old, Felt Miserable, suffered with Rheumatism, Asthma, Neuralgia. When I worked or walked, I puffed like a Porpoise. I took every advertised medicine I could find. I starved, sweated, exercised, doctored and changed climate, but I ruined my digestion, felt like an invalid, but still gained in weight. There was not a single plan or drug that I heard of that I did not try. I failed to reduce my weight. I dropped society, as I did not care to be the butt of all the jokes. It was embarrassing to have my friends tell me I was getting stout, as no one knew it better than myself.

Something Had to Be Done

I began to study the cause of FAT. When I discovered the cause I found the remedy. The French Method gave me an insight. I improved on that—removed the objectionable features, added more pleasant ones, and then I tried my plan on myself for a week. It worked like magic. I could have

Screamed With Joy

at the end of the first week, when the scales told me I had lost ten pounds by my simple, easy, harmless, drugless method. It was a pleasure then to continue until I regained my normal self in size. I feel fifteen years younger. I look fifteen years younger. My double chin has entirely disappeared. I can walk or work now. I can climb a mountain. I am normal in size. I can weigh just what I want to weigh. I am master of my own body now. I did not starve, but ate all I wanted to. I did not take sweat baths. I did not Drug. I used no electricity, or harmful exercise, but I found the Simple, Safe, Common Sense WAY of reducing my weight and I applied it. I have tried it on others. My doctor says I am a perfect picture of health now. I am no longer ailing. I am now a happy, healthy woman. Now I am going to help others to be happy. I have written a book on the subject. If you are fat, I want you to have it. It will tell you all about my Harmless, Drugless Method. To all who send me their name and address I mail it FREE, as long as the present supply lasts. It will save you Money, save you from Harmful Drugs, save you from Starvation Diets, Harmful Exercises, possibly save YOUR LIFE. It is yours for the asking without a penny. Just send your name and address. A postal card will do and I'll be glad to send it so that you can quickly learn how to reduce yourself and be as happy as I am. Write today, as this advertisement may not appear again in this paper.

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Littleton Creamery Co.
Denver, Colo.

FILLING THE SOIL.

Corn is ready to be cut for silage when the grain is in the dent and glazed, but ear still be broken with thumb nail, says the dairy department of Missouri university. At this stage under normal conditions the two or three bottom leaves will be turning brown and the shuck will be turning yellow at the end. There is greater danger of putting up silage too dry rather than too moist. In a stave silo the stave should be tightened up to exclude the air and generally loosened a little after the silage swells the staves. The inside wall of a concrete silo should be washed with a thin mixture of cement and water every two or three years. This fills the pores and keeps the air from the silage.

It will take at least six teams to keep the average silage cutter busy. Corn should not be cut down too far ahead or it will dry out too much. Two men should work in the silo distributing the silage with forks. Where a silage distributor is used one man is sufficient. They should keep the silage higher at the walls than in the center and should continually tramp the silage next to the walls. The tramping is especially to keep out the air. When possible allow the machine to stand two or three days and refill to make use of all the capacity. Finish filling the silo by running in a load of grass or weeds. This will rot and seal the top and prevent having to throw out the same amount of spoiled silage.

The silage should feel wet after it is out in the silo. If the cork is very mature when cut and is therefore too dry add water. A small stream may be run into the blower from a barrel or tank. It is especially important that the silage be well tramped. The blower should be run a few minutes every morning in order to clear the atmosphere before anyone enters the silo.

The above instructions cover the important points in filling a silo. For further information write to the dairy department, University of Missouri, Columbia, Missouri.

MUCH LAND UNDEVELOPED.

In view of such figures as these, one is tempted to ask why there is any cry of a land famine? The government is still giving away land for nothing, and in some localities it is giving the homesteader 320 acres, while in others it has reduced the period of time required to get title to a homestead to three years.

Undoubtedly the rush to Canada is largely misguided. It has been induced by active advertising on the part of Canada, and by more liberal regulations for the taking up of lands. Many Americans who have precipitately crossed the border are likely to come back again as soon as they can do so without loss, and they will be the better for their experience. Moreover, they will have learned that the distant fields always look greenest, and that Uncle Sam still has as good lands as are being given away by any other government.

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Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address The Lawrence-Williams Co., Cleveland, O.

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Our old reliable 2-star Whiskey, pure, sweet and smooth. Good for either medical or sideboard use, and satisfaction guaranteed.
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POULTRY

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POULTRY NOTES.

(By Michael K. Boyer.)

Unlike the goose the turkey never ducks his head to enter a place. It is said of a goose that she will duck her head even when going under the tallest arch. An old time sportsman says that he used to trap wild turkeys in what was called a turkey pen. This was made of fence rails, and the earth removed from the outside to the depth of two feet, the earth on the inside being a few inches higher. This trap was baited with a trailing of corn for some distance outside to the inside of the pen. The turkey would walk in following the bait, but once in he could not get out without lowering the head. He said he caught flocks of these game birds, never knew one to escape from the trap after once entering.

Charcoal should be freely used in the poultry yard. Pounded fine and mixed with the soft feed fed to fowls, As it acts upon the blood it acts and cleanses the system of impurities upon the life of the fowl. When the blood is thick and clotty, a dull, sick chicken will soon follow. Thin blood means vigorous circulation, and on a good circulation of the blood health largely depends. If your fowls lack activity, they need something to stir the blood of its sluggishness. It is best to keep the charcoal in a dry place, and when needed grind or pound some fine and mix with soft food.

Referring to green bones, for poultry feeding, it has been proved by analysis that they contain in abundance the ingredients which go to make up the growing chick, and in close proportion the different parts of the complete egg. The lean meat and gristle form the white of the egg and about 16 per cent of the yolk. The marrow and other fat on the bones supply the remainder of the yolk. The lime phosphates in the bones yield all the necessary lime salts for the shell and the requisite phosphates for the interior of the egg.

When the Pilgrim fathers first reached the New England shores in 1629, the woods of that section were alive with wild turkeys. Although this fowl was exclusively found in North America in its wild state, the earlier naturalists supposed it to come from the East Indies and Africa, and that it originated in Turkey, from which it received its name.

The poulturer to be successful must have a knowledge of what to feed. For flesh, albumen, etc., he must give nitrogenous foods. Fat requires a carbonaceous diet. The nitrogenous foods are meat, beans, clover, and, to

a certain extent, the grains. The carbonaceous foods are corn, fat meat grease, rice, etc. This shows that finely cut clover hay, scalded, given in the morning, with a tablespoonful of meat in winter, is better for egg production than grains. All foods, however, contain fat, and also the less corn or heating wood is required.

It is claimed that in 100 pounds of oats there are 15 pounds of flesh-forming food, six of fat, 47 of starch, two of bone forming feed and 20 of husk or fibre. In oatmeal there are 18 of flesh formers, same of fat, 63 of starch, some of bone formers, and two of husk or fibre. For the purpose of comparing with wheat, we give the analysis of the latter, which has 12 pounds of flesh formers, three of fat or oil, 70 of starch, same of bone makers, and one of fibre.

Boiled white or Irish potatoes may be given sparingly, but never boiled sweets. We made an experiment with the latter some years ago, and were surprised to see how quickly the

fowls would overfatten. On the other hand, we found that raw potatoes of any kind, when cut in half and given the fowls to pick to pieces, not only acted as an excellent substitute for green food, but gave a variety to the bill of fare that proved valuable.

An expert poultryman says that when he feeds ground oats he first scalds with boiling water, and mixes rather dry so the ball will fall to pieces when thrown on the feeding board or in the trough. He never puts enough water in the food so as to have the balls glisten in the light, or to make a sticky, porridgy mass which clings about the beaks of the fowls and gives them infinite annoyance, besides often causes diarrhoeas. In mixing he always uses his hands so that the mass can be squeezed into balls.

Sunflower seed acts both as a food and medicine. It is a grain rich in oil, which produces a redness to the comb and a luster to the feathers. The seeds should never be dried in the heads, but always shelled as soon as ripe, spread out on a dry floor where air and light will reach it, thus allowing it to dry before becoming musty.

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NEW RULING OF TRACTS UNDER PUBLIC LAND SURVEYS.

First Assistant Secretary of the Interior Adams, has signed certain regulations regarding the method of making sub-divisions of tracts heretofore surveyed under the public land survey system where found necessary for economical irrigation or to segregate lands which are to be reserved or appropriated under the provisions of the Reclamation Act, such surveys to be made under the direction of the director of the Reclamation service.

These regulations will eventually provide for restoring to entry considerable tracts which under previous regulations was not possible without prohibitive expense. Heretofore it was necessary to make an elaborate and extensive survey in order to release part of a public land sub-division from withdrawals needed for reservoir sites, etc.

The present regulations will permit an ordinary survey at comparatively small expense and will make it possible to open to entry considerable areas which it would otherwise be necessary to hold withdrawn for reclamation purposes.

It is the intention of the Reclamation Service to gradually delimit in this manner all the withdrawals which can now be definitely outlined and thereafter to release the lands not needed for reclamation purposes. In future as soon as it becomes practicable with each such reservation, appropriate surveys for restorations will be made.

'DON'TS' IN THE PROPER CARE OF LIVE STOCK.

"Don't" wait until the horse's shoulders are sore before properly fitting the collar

"Don't" put chains behind the horses to keep them from backing out of the stall.

YUMA PROJECT WITHSTOOD

SEVERE FLOOD TESTS IN JUNE.

The Colorado River went on its annual rampage during June, the crest reaching Yuma, Arizona, on June 22. At that time the height of water in the river above Laguna dam was 155.5, and was necessary to sand-bag the top of the regulators and the sluice gates to prevent their being overtopped. The discharge of the river at Yuma during the month varied from a minimum of 57,100 to 144,000 second-feet, the mean flow being 107,500 second-feet.

The flood was a severe test to the levee system, and the Government officials were very much gratified at the outcome. The dikes demonstrated their ability to carry water at considerably higher elevation than those for which they were designed. The only menace to be anticipated from the levee in their present condition is caving banks, and it is expected to correct the difficulty at low stages of the river by placing permeable dikes.

The levee system of the Yuma irrigation project is believed to be one of the finest in the world, the engineers benefitting by the experience of the men in charge of the work protecting the lower Mississippi Valley. They were built five feet above the highest known water mark. The unusually high floods of the past three years have been so successfully withstood by dam and levees that no serious future difficulty is anticipated.

On June 29 the siphon under the Colorado River at Yuma was put in operation. The scoop wheel and the Rollins pump which had been furnishing water for a portion of the lands below Yuma has been shut down permanently.

WORK ON GRAND VALLEY PROJECT SHOULD BEGIN SOON.

Secretary D. W. Aupperle of the Grand Valley Water Users' association has returned from Washington bringing with him a written letter from Secretary Fisher in which he promises that the department of the interior will take action in the high line canal construction work as soon as the articles of incorporation of the association are changed to conform with the contract between the government of the association under which the canal is to be constructed. The articles provide that payments shall be made equally by all land under the canal. The contracts provide for "equitable" so that fertile land will pay more than poor land. This is eminently fair but at the time of the acceptance of the articles they were in accord with the ruling of the department.

In the letter Secretary Fisher allows the "department" to act in case he is not present. According to present plans Secretary Fisher may be in Honolulu when the articles of incorporation have been amended. His letter thus leaves the way clear for Assistant Secretary Adams to go ahead with the work.

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NOVEMBER 1912

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VOLUME VI

NOVEMBER 1912

NUMBER 4

Panama Canal and Its Effect on Markets for Western Fruit

By W. N. WHITE of New York City

I have had lots of correspondence from southern California as to the great benefits some of them expect to get when the Panama canal is opened; that they would ship their fruit through there and they would no longer be under the thumb of the railways. I have heard the same thing stated this side of the Cascades in Washington and also in many parts of Oregon; in fact, it was only a short time ago I saw a newspaper report about a certain gentleman from Brooklyn being out to Seattle, backed, so it said, by New York money, to erect a wharf in Seattle and establish a line of steamers from Seattle to New York, and the said gentleman was going to carry Washington farmers' fruit from New York to Europe for less than one-third of the present railway rate. Should this letter meet the eye of the backers in question they will know I wrote to them concerning this foolish statement. Fruit does not grow in the town of Seattle or in the town of San Francisco. It is quite true the railway rates the other side of the Rockies, whether it is 2,500 miles or 3,500 miles, are all charged at the same rate, for the simple reason that the railways are masters and do as they please with everybody. The man in Colorado has to pay as much for

the haul that is only two-thirds of the distance as the man who has to pay from southern California or the Northwest.

Now, to get the fruit from this side of the Cascades in Washington to Seattle and take it to the docks and put it on board the steamers to take the fruit sixty to two hundred miles to San Francisco and put it on board the steamer at San Francisco will not cost less than one-third of the present rate to New York. We are paying this today for fruit to be shipped to the Orient. So much for such foolish statements that the steamers from Seattle or elsewhere are going to bring goods to New York for one-third of the present rate. I have shown above where that one-third is eaten up in bringing them to the steamers. And now the steamers from Seattle, Portland or San Francisco to carry perishable fruit through the canal to New York can only do this by refrigeration, and the cost attached to placing this kind of machinery on board the steamers and bringing them through the canal, twenty-one days' voyage, will cost considerably more than the two-thirds left from the railway rate, the present rate being 1c per pound, or \$20 per ton, by rail. Two-thirds would be 65c per 100 pounds, and we dare make the statement that there is no

steamer today carrying goods in refrigerator for twenty-one days at 65c per 100 pounds. It is well known that the railways can afford to lower their rates, and instead of charging \$20 per ton for this class of goods traveling fourth class, were they to charge \$15 per ton no steamer could live at the business, even if it carried it as ordinary freight.

It is quite true a little traffic in dried fruit can be carried through the Panama canal, as that does not require refrigeration, but no green fruit can be carried through the canal unless under refrigeration, and no steamer was ever built that can refrigerate as cheaply as the railways. Dried fruit could be put in four or five large steamers. That dried fruit is not worth the trouble of this great nation to have to go to the Hague tribunal for breaking its word.

A volume of the Farmers' Bulletin on Experiment Station Work—No. 514—may be expected from the press of the Department of Agriculture very shortly. This bulletin will contain articles on Improved Varieties of Timothy; Hardy Alfalfa; Harvesting Soy Beans; Soy Beans for Silage; Fat in Milk of Cows at Times of Calving and Clean Cream.



BIRDSEYE VIEW OF THE MOULTON ORCHARD AT WEISER, IDAHO—ON THE OREGON SHORT LINE



A THRIFTY YOUNG APPLE ORCHARD AT BROGAN, ORE.—ON THE OREGON SHORT LINE

Marketing and Its Relation to the High Cost of Living

By GEORGE C. RICHARDSON, Kansas City, Missouri

The biggest and most absorbing question before the people of this nation today is the cost of living. Empires and kingdoms have been wrecked and overthrown by it. The contributing cause is the drift from the country to the cities, despite the fact and in face of higher prices for farm products paid by the consumer, which should and does result in higher profits to the farmers. On this subject the greatest of living historians, Dr. Ferrero, said:

"The malady of which the Roman empire died was just exactly this excess of urbanism. The pressure toward populous centers went on from year to year till one day the empire realized that it was overflowing with beggars, with loafers and tramps; with masons, stucco workers, sculptors, painters, with dancers, actors, singers—all the artisans of pleasure and luxury. But in the country, which had to feed all these men gathered together to idle or work in the cities, there was want of men to till the ground. . . . While the cities decorated themselves with magnificent monuments, the empire was menaced with finding itself in want of bread and soldiers." Granting the unlikelihood of such a catastrophe as that which befell the Roman empire overtaking modern civilization, Dr. Ferrero says it is not because the germs of the disease which destroyed the ancient world do not exist in ours also. He continues: "Many symptoms prove this to us. Among them I may mention one, the gravest felt by everyone, even though few have yet seen in it the analogy and the re-

semblance to the historical disaster that befell the Roman empire, the increased cost of living.

"From one end of Europe and America to the other this is the universal lament of men and women who must live in cities. Rents, bread, milk, meat, vegetables, eggs, clothes, everything costs more. Governments are besieged with requests, threats and prayers to provide for the case, but they do not know how.

"In no country is this condition more apparent and more interesting than in the United States. What nation of the globe might more easily be borne along by the marvelous abundance of its resources. Moreover in no country of Europe are the wails over costliness so loud and so common as in the United States. Why? Because in America the disproportion between the progress of the field and that of the cities, between that of the industries and that of agriculture is still greater than in Europe." This is the condition described now by the greatest living historian with his finger pointing to the most splendid civilization of the past destroyed by the high cost of living.

In our own country Congress and Legislatures have appointed committees to inquire into, investigate and hold courts of inquiry. Senate committees have called before them many so-called trusts; the courts have dissolved many combinations of wealth and capital, only to result in many integral parts more costly to operate, while the cry of "High Cost of Living" still prevails. After all, statistics show

that the unequal proportion of urban to rural population is primarily the cause.

A great and good work is going on to alleviate certain conditions, to reduce the cost of production, as well as the cost of distribution. There is a general awakening in every state in the Union to increase our acreage yield. This sentiment is stimulated by the untiring work of our splendid agricultural schools and experiment stations in teaching students in the work of plant breeding, in animal husbandry, to the end and purpose that two blades of grass may be made to grow where one now grows. To accomplish this purpose, bulletins are published so that every farmer, fruit grower or stock raiser can secure advanced and progressive information on subjects relating to any particular work.

The apple grower is informed what kinds of soils are best adapted for certain varieties of apples, as it is a settled fact that we must have soil adaptability as well as climatic conditions to grow apples in a high state of perfection. Again there are lessons to be learned in tree structure, methods of pruning and when to spray—how to spray and what to spray for—in the control of insect enemies and fungus diseases. It is stated upon good authority that no less than twenty-five millions of dollars are annually lost by the work of the codling moth alone. There has been considerable information on the subject of proper grading and packing as well as evaporating and making cider, but not enough for the good of the apple growing indus-

try and to the advantage of the grower or consumer.

It can easily be pointed out that if all orchards were planted on congenial soils, properly maintained and cared for, and the apples were grown, gathered and packed along progressive and up-to-date lines, the cost of production would be greatly lessened, as well as the cost of distribution materially lowered, so that the consumer could be reached with choice, delectable fruit at a great saving and at the same time the producer and distributor would make their usual margin of profits. A large part of the apples grown lately in the United States are not produced by specialists. If apple growing were a highly specialized business and apples graded and packed according to standards advocated and recognized, there would be eliminated certain middlemen. As it is we must recognize the usefulness of the huckster and peddler, who buys, overhauls and distributes improperly graded and packed apples and it is questionable as to the influence this class of goods have. No doubt they have a depressing effect on the market for the better standard grades, resulting in lower values, reducing the cost of all grades to the consumer and a corresponding reduction to the grower in values. However, the greatest loss is the resultant effects of the loss of consumption, as there is hardly a reasonable limit to the amount of first class apples that can be grown and sold. The evaporator and cider mills should be the consumer of all inferior grown apples and the amount of this class of apples can be reduced to a small percentage by up-to-date

growing methods. If practiced and followed up by the producer until this change comes, we will continue to recognize the middleman. Under conditions as they now exist, or no matter how carefully the fruits may be grown and packed in the future, the commission merchant's, broker's and exporter's services will be wanted above all others and they will perform a better service than could be done were it possible for the producer and consumer to deal directly.

The long training, knowledge of the market and its wants and requirements, facilities provided and capital employed to conduct a business at distances from points of production, would make it almost a physical impossibility for the producer to take over the work of these middlemen. It is a separate expert business that requires accurate and intimate knowledge of market conditions to prevent overstocked and glutted conditions of various kinds and classes of perishable commodities.

Both the consumer and producer lose sight of things that very often enter into the cost of a commodity—such as shrinkage, interest on investment and many other items, all of which make a seemingly wide margin between what the producer receives and the consumer pays, and the middleman is charged with having received unreasonable profits.

We know there has been in the past, and in isolated cases, what may be called unconscionable combines and I believe today there are some things on which the retailer receives an unreasonable profit. I will mention apples, for one. I know that in Kansas

City the retailers as a class will not sell apples unless they can make 100 per cent, while they will handle potatoes on a 25 per cent margin over what they pay for them. Both are a staple and if anything the potatoes are more perishable and not so convenient to handle.

During the past twenty-five years much has been done by co-operation among producers, and a great good and benefit has been accomplished by these organizations. So far they have never been able to deal directly with the consumer to any advantage and still recognize the service of the middleman.

The distributing and marketing problems and the growing of products for the market require and demand men of an entirely different training. At the same period the growers were getting together, the men who do the marketing also organized leagues and associations to correct abuses of the trade and by organized effort to obtain just and equitable freight rates, stop over and reconsigning privileges, standards of weights and measures and favorable legislation, national and municipal, and above all to offer the service of a class of men of moral and financial standing that the growers can depend upon and in whom they can have confidence, thereby establishing a closer relationship for the mutual benefit of grower and distributor.

I contend that a class of middlemen that have a high standard of business ethics are just as important a factor as the producer and entitled to a reasonable and just compensation commensurate with the service rendered.

Relation of Cultivation and Drainage to Irrigation

Irrigation does not offer complete immunity against crop failure, as some people seem to think. It has been clearly demonstrated that farming is not made simpler by reason of irrigation. On the contrary it has often been made more complicated. The idea that all one has to do to grow crops in the arid and semi-arid districts is to apply as much water as can possibly be obtained is an egregious error. Water can never take the place of cultivation and fertilization. While moisture is absolutely necessary for plant growth there are other essentials that play as important parts in their development. Plants must breathe and plants must eat and plants must have sanitary environments. Plant physiology teaches us that oxygen is necessary to the life of plant rootlets since the cells of newly formed roots are filled with living cells which consist of a transparent jelly-like substance called protoplasm which manifest the various phenomena of life. Protoplasm may exist in an active state when the plant is growing and while in this state it requires both food and oxygen, and without it cannot live. The presence of oxygen in the soil is indispensable to the life of all upland plants and a method of irrigation that abandons things is suicidal. The soil must be ventilated. A crust

on the surface of the soil, such as always follows irrigation by flooding, is a great hindrance to its proper ventilation. The irrigation farmer who fails to follow each flooding of

his land by things, as soon as the drying out of the soils will permit it, commits an error that in time will bear heavily upon him by at least partial crop failure.



FARMYARD SCENE OF A THRIFTY COLORADO FARMER

Another fatal mistake being made by the irrigation farmer is the neglect of drainage. Drainage is as necessary to the perfect development of the plant as irrigation. The irrigation farmers of the lower Rio Grande valley have been taught this by the evils resulting from the wants of drainage to carry off the surplus water after flooding. They were rather slow in realizing the needs of drainage, but it has impressed itself upon

them very forcefully. A careless use of irrigation water is largely responsible for the appearance of alkali in the Rio Grande valley. Alkali will never be a hindrance in the valley where a system of drainage is installed. To avoid the appearance of alkali should not be the prime object of drainage. A system of irrigation without drainage tends to raise the water table and plants suffer as a result of the soil becoming water-

clogged, making it impossible for the roots to obtain oxygen and the plants are drowned. The position of the water table is important. Where it lies deeply, plant roots may delve to a considerable depth without injury. But where it is shallow the plants cannot perfect a complete and sturdy root system. Drainage will lower the water system and increase the space for a more perfect development of plant root system.

Pure Culture Is Requisite for Making of Good Vinegar

By WALTER G. SACKETT, Bacteriologist, Colorado Experiment Station

The Bacteriological Laboratory of the Colorado Experiment Station is now able to supply pure cultures for vinegar making at 50 cents per set to those who care to give them a trial. Full printed directions for their use are included. No guarantee, either expressed or implied, goes with the cultures, since it is not the purpose of the Experiment Station to exploit these products, but rather to distribute them at the cost of production for experimental purposes. Inasmuch as one of the cultures is to be added to the sweet cider, they should be obtained a few days, not longer, before the cider is to be made.

Requests for cultures should be addressed to the Bacteriological Laboratory of the Colorado Experiment Station, Fort Collins, Colorado, and should be accompanied by a remittance of fifty cents. (50c.)

In driving through the fruit growing sections of Colorado, one cannot fail to be impressed with the quantities of peaches and apples which go to waste annually, and more particularly during the season when prices are low, owing to an over-production. Such a practice would be condemned, most certainly, by any commercial firm, and rightfully so, as a most extravagant waste and far removed from any principle of scientific management. Talk to any captain of industry, and he will invariably tell you that the largest profits in his business accrue from the complete utilization of the waste products.

If this is true in other lines of commercial activity, is it not equally true for the fruit grower and farmer? It cannot be otherwise. With a comparatively small investment, this refuse fruit could be turned into a marketable product, vinegar, for which we pay 40 cents per gallon in the retail market, and even at that price we often obtain a very inferior article with no assurance of its being pure cider vinegar.

Successful vinegar making has come to be regarded, by those who profess to know, as being as much of an art as any of the fermentation industries; yet, we continue to try to make vinegar at home by the same uncertain and unscientific methods that have been employed for hundreds of years. It is not at all uncommon to hear the complaint that certain cider will not make vinegar. This failure may be due to a variety of causes, such as unsuitable temperature, lack of sufficient sugar in the cider, vinegar diseases, dirty barrels, etc., but equally important, if not more important than

any of these, is the absolute necessity of the presence of the proper micro-organisms to convert the cider into vinegar. This last factor in vinegar making is too often lost sight of, and to it alone, many failures are directly traceable.

In producing cider vinegar of superior quality, two distinct changes must take place in the sweet cider before vinegar is formed; first, the sugar must be converted into alcohol and carbon dioxide gas, resulting in the formation of hard cider; second, the alcohol formed in this manner must next be oxidized into acetic or vinegar acid. Both of these fermentations are accompanied by microscopic plants; the former by a yeast and the

latter by an acetic acid germ. Now, under conditions of successful vinegar manufacture, these micro-organisms are either supplied by the air or they are added in a pure state by the vinegar maker in forms known as "pure cultures." It goes without saying that when we trust the air for these starters, we are very apt to get many undesirable and even detrimental forms, which will result in log grade vinegar of inferior quality and flavor. On the other hand if pure cultures which have been shown experimentally to be particularly adapted to vinegar making, are employed, a high grade product of extra quality is practically assured, provided the other necessary precautions are taken.

The Propagation of a Hardy Alfalfa

By HAMILTON BYRD, Washington, D. C.

Many growers of alfalfa have in the past few years registered complaints with their experiment stations and with the Department of Agriculture that their alfalfa is not producing what it did in former years. These complaints are made in regard to both hay and seed production. Investigation seems to verify the truth of the claims. One of the causes for general complaint in regard to alfalfa production is lack of vigor and vitality in the strains commonly grown. These common types originally came from South America and were in turn introduced into that

country by the Spaniards during their early conquests. Most of our ordinary alfalfa can be traced to this origin.

The Colorado station has conducted alfalfa improvement experiments since 1904. One of the results of these experiments has been to show the lack of hardiness in the southern alfalfa types.

In one experiment the most promising plants of Turkestan alfalfa were selected and saved for seed. These with about 50 other varieties or strains furnished the seed for the test. Dur-



A COMMERCIAL ORCHARD IN THE DELTA COUNTY DISTRICT OF COLORADO
Cut by Courtesy of Sam Farmer Company

ing the following winter over one-half the plants in all the plats seeded with Arabian and North African seed were dead, apparently from winter killing, while the plats seeded with seed from Spain, Mexico, and South America had many dead plants and a good many partially killed crowns. The same was true in the native American plats. The plants were often found with just a few stems with life enough to start growth in the spring. But in the Turkestan plats and the plats sown with the northern strains of seed there seemed to be no loss whatever from winter killing.

It was observed that there was a marked difference between the type of the crown or the stooling habits of the hardy and non-hardy strains. The non-hardy type has a compacted upright growing crown with comparatively few buds or shoots below the surface of the soil. The buds are thus exposed to freezing, thawing, and drying out, which eventually weakens and kills alfalfa in the dry sections. The hardy type is characterized by a more spreading crown with numerous buds and shoots springing from the crown below the surface of the soil. These underground shoots in some of the best plants of this type have been found several inches below the surface of the soil. The bud areas in this type of plant are thus protected by the soil from drying or freezing.

It was also found that there is a tendency for the underground shoots to take root at some distance from the old center crown. This has been found in some cases where the old plant has

died, but was surrounded by a ring of healthy secondary crowns formed by the underground shoots that have taken root and formed independent plants. Thus the hardy type will maintain a permanent stand of plants, while the non-hardy type, which has the upright compacted crown with the buds exposed, has scarcely any tendency to take root from the crowns. This will result in serious injury, in time weakening and eventually destroying the plant. Thus the stand of plants in the non-hardy type is bound to become thin. The Colorado station has found both in the field and in the nursery that the relation of the stooling habit in alfalfa to the vigor and vitality of the plant is very marked, and the conclusion is that a hardy, desirable hay-producing alfalfa, with good seed-yielding tendencies, is within easy reach by means of systematic seed breeding.

Types of alfalfa which are both hardy and have excellent stooling habits are the Grimm, Baltic and Turkestan. These have been tested in Minnesota, and in North and South Dakota and the results have been the same so far as the spreading crowns with underground root stocks and shoots with buds which are protected by soil from winter freezing are concerned.

See our big special combination offer of The FRUIT JOURNAL, The Farm Journal and The Garden Gold Book, all for \$1.25. Full announcement on another page.

**GOVERNMENT WILL HOLD AN
AUCTION AT POWELL, WYO.**

The Reclamation service will hold an auction sale of town lots in the government townsite of Powell, Wyoming, on December 2, 1912, and will sell to the highest bidder about 14 blocks of business, residence, and acre lots.

Powell, Wyoming, is centrally located in the Shoshone irrigation project on the line of the C. B. & Q. railway. It is advantageously situated, and in the near future will be connected with the new line from Seattle to Galveston. Surrounding the town are 30,000 acres of fertile land now occupied and in cultivation by the new settlers on the project. Approximately 50,000 acres additional will be irrigated in the near future, insuring a permanent trade for the stores and professional people. Good openings will be found here for many lines of business. Both the town and country are growing rapidly. A very large crop was handled this year, and the farmers are more prosperous than ever before.

Among the lots to be sold are a number of acre plots which are adapted to truck farming. The growing demand for these lots on all government townsites is evidence of the fact that a family can be supported from the crops grown on an acre or two of land if properly tilled.

These lots may be purchased on easy terms and long time, and the prices are very low. Particulars may be obtained by addressing the Project Engineer, Powell, Wyoming.

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LOS ANGELES

An Ocean to Ocean Highway to Be Constructed Before 1915

Interest in the proposed highway to extend from New York to San Francisco, plans for which were outlined recently by Carl G. Fisher of Indianapolis, is now at its height. Pledges for the fund of \$10,000,000 which will be necessary to defray the expenses of making the road are pouring in from all sides, and present indications are that the entire sum will be pledged by January 1. Steps will be taken shortly for the appointment and organization of a national committee which will take complete charge of the work, and just as soon as the plans of this body are completed and the entire amount needed is pledged, contracts will be closed with the various counties through which the road will pass for the actual work of building the road. It is fully expected that by May 1, 1915, the ocean to ocean highway will be a reality.

This is the biggest project ever undertaken in the automobile world. The original plans, which are the result of months of study on the part of Carl G. Fisher and James A. Allison, president and secretary respectively of the Prest-O-Lite company and the Indianapolis Motor speedway, have been carefully examined by leading manufacturers and financiers all over the country, and have been endorsed by them as being safe, sound and entirely possible of execution. Within thirty minutes after the project was explained by Mr. Fisher at a banquet in Indianapolis recently, a sum of over \$300,000 had been pledged by the automobile manufacturers and dealers of the Hoosier capital alone. Those connected with the automobile industry in other cities and states have not been slow in responding and the temporary committee composed of Carl G. Fisher and James A. Allison, which is now in charge of the business details of the project, reports that there is no apparent reason why the enterprise should not be carried to a successful completion. Bonded trust companies will be appointed to receive pledge payments as they are made and not a dollar of this money is to be spent until the entire fund of \$10,000,000 or

more is guaranteed. In case that for any reason whatsoever the ocean to ocean highway project should fail to be realized, the money already contributed will be returned to the original donors with 3 per cent interest added. All expenses incidental to the promotion of the plan are to be met by Mr. Allison and Mr. Fisher personally, up to the point where the venture is either a success or a failure.

One thing which stands out prominently in connection with the ocean to ocean highway, and differentiates it from other good road movements started in the past, is the fact that the expenses for the building of the road will be borne entirely by automobile and accessory manufacturers, dealers and owners. Manufacturers and dealers will pledge themselves to contribute to the fund being raised for this purpose, the assessment being one-third of one per cent of their gross earnings for five years, as will be decided later by the national committee. Automobile

owners are given a chance to contribute to the fund by taking out memberships in the Ocean-to-Ocean Highway Association, these memberships to cost \$5, \$100 or \$1,000.

In this way the road can be built without expense to the general tax payers of the country. Politics have been entirely eliminated from the scheme and there will be no political disputes or wrangles to interfere with the progress of the road. Crushed rock and other material necessary for the building of the highway will be delivered to the points where it is to be used. Contracts will be closed with the counties through which the road passes, these counties to take charge of the construction work under the supervising of United States government.

It has been figured that this plan of handling the purchase of material and the labor incidental to building the road will result in a gigantic saving as contrasted with the ordinary methods of road contracting. Taking as a basis the best rock roads in northern Indiana and northern Ohio, the ocean to ocean highway, which will cost \$10,000,000, will in reality be worth \$25,000,000, since a private contractor's profit, usually from \$800 to \$1,000 a mile, will be saved.

Scientific Inoculation of the Soil for the Production of Vetches

By HAMILTON BYRD
Washington, D. C.

Soon the Department of Agriculture will add another to the many Farmers' Bulletins already issued — Farmers' Bulletin 515 on Vetches, by C. V. Piper and Roland McKee of the Bureau of Plant Industry. There is an insistent demand for annual winter legumes, especially in regions where short rotations are preferred, or where clover or alfalfa do not thrive well, or where both these conditions prevail, says Dr. B. T. Galloway, chief of the bureau in his letter of transmittal of the manuscript. In the Middle Atlantic states the need is well filled by crimson clover. Outside this region the vetches have thus far been found more satisfactory. The more general culture of hairy vetches has been much hampered by the fact that the commercial seed is comparatively expensive, a condition which can be remedied by the

farmer growing his own seed, as pointed out in the bulletin. Commercial seed of hairy vetch has been much adulterated in recent years, but with the descriptions and illustrations in the bulletin there should be little difficulty in determining the presence of foreign seeds.

The bulletin discusses in detail the various varieties of vetch, their cultivation and uses in crop rotation. Particular emphasis is paid to hairy vetch because it succeeds well wherever common vetch does and can be grown much farther northward, withstanding well the winters of Eastern Washington, Michigan, New York, and even of New England. The proved superiority of New England home-grown seed as compared to the imported is, perhaps, due to increased hardiness. Success has been had with

Apple Growers and Associations

Still have an opportunity to avoid having to force their apples on an overstocked market. Present prices for apples will scarcely net growers returns to cover cost of box materials and picking

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it in nearly every state of the Union, but it is likely to become of importance mainly where alfalfa and red clover do not succeed or do not meet the requirement of a short rotation.

Inoculation of the soil when hairy vetch is planted for the first time is a matter of prime importance, as failures due to a lack of the proper germs in the soil are a common experience. The surest method is to bring soil from an old field of vetch, either hairy or common, and scatter over the field at the rate of 300 pounds to the acre and immediately harrow it in. Where soil is not available, the artificial cultures may be used, but in this event only a small field should be planted, as the cultures do not always succeed, and the risk is too great to warrant a farmer in planting a large field on land not inoculated. A partially inoculated field often has a spotted appearance when young, the healthy plants being green and the inoculated ones yellow. If such a spotted field is planted again the following season it is practically certain that all the plants will be inoculated.

Without doubt hairy vetch would be far more extensively employed as a crop if the seed were cheaper. The seed has been grown in small quantities in Washington, Oregon, Michigan, Maryland, Ohio, Connecticut, and other northern states, but in the south it seldom sets a large number of pods; fair success has been had in Mississippi. At the station in that state hairy vetch was harvested from the same piece of land five years in succession without resowing, enough seed shattering during harvest to produce a perfect stand. The only treatment has been to plow the land after harvesting the vetch and then sow to cowpeas. The cowpeas were cut for hay, after which the vetch quickly made a stand.



WATERSHED SCENE ON THE CONTINENTAL DIVIDE IN COLORADO

The scientists of the department believe this plan is adapted to all the states south of the Ohio and Potomac rivers. Northward the season is too short for the cowpeas, but long enough to grow a hay crop of millet.

Farmers' Bulletin 515 is full of

good, live suggestions to farmers who would like to grow vetch, but meet with some obstacle. It is well illustrated and should be on the bookshelf of every agriculturist. A copy may be obtained either from Secretary Wilson or of members of Congress.

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Politics and Business

IT HAS been the policy of the FRUIT JOURNAL to carefully avoid all discussion of partisan politics in its editorial columns, but we cannot refrain from congratulating the public that the "open season" for political job hunters is over, from President down to Dog Catcher. By this we do not mean, necessarily, to criticize the patriotic motives of any of the candidates but more particularly the annoying conditions attendant with the ante-election period. This is evident from the fact that already financial and business conditions have shown a distinct improvement. This is probably due in part to the wonderful stimulus given to business development through the bumper crop reports that are emanating from the Department of Agriculture at Washington. The announcement given out in the press of the country following the election of Woodrow Wilson to the presidency, to the effect, that insofar as he was able to influence legislation, that "Big Business" need have no fear of any radical reduction of the tariff at the coming session of Congress, also, has doubtless lent much confidence to the manufacturing interests of the country. Taken all in all, it would seem that the coming year ought to be one

of unprecedented prosperity for the nation at large. And by way of reflection, there is little doubt but that the presidential election of 1912 will go down in history as one of the hardest contested campaigns since the adoption of the constitution. A peculiar feature in connection is that notwithstanding Mr. Wilson's overwhelming majority in the electoral college, yet he fell short of Mr. Bryan's record on the popular vote. Also it might be noted that while Mr. Taft received a popular vote of nearly one-half that polled by Mr. Roosevelt, yet his electoral vote was not one-eighth that of the Rough Rider. And now that all of the freak election bets, including that one of the man jumping off the gable-roof of his house, have been paid, we can settle down to the quiet, routine of life.

Crop Rotation

ONE of the most important principles of successful farming, if any consideration is to be given to "life" of the farm itself, is crop rotation. It is a peculiar analogy that here in the West, where from the very nature of things, crop rotation should have been given serious attention long ago, it is least heeded. Our Western soils, particularly in the arid regions, are either of granite or volcanic rock formation. According to our geologists, these soils seem to hold an abundance of potash, a reasonable amount of phosphates, limited amount of nitrates, an abundance of lime but a great deficiency of organic matter, commonly known as humus. Here are the elemental essentials which we must have for productivity. They constitute the soil barometer, since a lessened amount of any one of these requisites will be immediately reflected in decreased volume of production of crops. It should be an evident fact that constant cropping without replacing any of the elements of vegetable vitality will most seriously affect the crop culture.

It is nevertheless true that our ranchers and growers are often unappreciative of the sacrifice that they make to their ranches for present productiveness. The seriousness of this question may be better appreciated when we stop to realize that even in growing crops that tend to store what little humus we have with nitrogen, we accomplish but little more than to maintain the past average of humus content. By this we mean such common legume crops as alfalfa, clover, beans, peas, alsike and vetches. Read what the Agronomist of one of our eastern university experiment stations has to say on this subject and then consider the immediate importance of the practice of crop rotation:

"From the numerous writings on the addition of humus to the soil, one is likely to conclude that he can, within a very few years build up a large humus content in his soil. On the contrary, it can be seen by the following figures that this is not an easy thing to do. It has been found that not over ten per cent of the organic matter plowed under can be figured on as being converted into humus. The surface eight inches of the aver-

age clay loam weighs approximately about 2,000,000 pounds. Taking the humus content as five per cent you would have 100,000 pounds to the acre. If the farmer should even turn under four tons of organic matter per acre annually, it would take a very long time to build up a large humus content.

"Fifty years would be a short time in which to accumulate humus to any extent, and even a longer time would be required if one removes the crop from time to time. From these figures one should not conclude that the addition of humus to the soil is not highly desirable, for it is. It can be seen, however, that at most we can do but little more within our short lives than to maintain the humus at a constant percentage by frequent green manuring.

Thanksgiving Reminders

THERE is something satisfying to the heart to read the annual, somewhat stereotyped proclamation of the President announcing the date of Thanksgiving Day. To many of us, the crisp, frosty days of November, with its dead leaves and ripened fruits, are the most beautiful of the year. Perhaps it is because nature has posted her notices of providence and foresight against the unproductive period of winter. Leastways, we have noted that the minds of men are more responsive to the spirit of charity at Thanksgiving Time than in the hustle and bustle of Seedtime and Harvest. It is therefore well and good, that the custom of our land prescribes that our President set forth at this time the fitness of our meeting together in the spirit of thanksgiving.

Not the least good accomplished is that many men are drawn in the portals of the church that do not often darken its door. Not that they do not practice the true principles of Christianity but that, perhaps, through a false modesty as to their religious proclivity, they follow the teaching of the Bible which behooves, in the practice of Charity, to let not the right hand know what the left hand does. This characteristic of certain men reminds us of the observations of the preacher at the fire, who remarked that if the public would respond when the church bells rang as they did to a fire bell, that the salvation of the world would be a matter of short accomplishment. It is also likely that many of us look forward to the amusements and sports of winter with a zest and avidity that we cannot arouse in the heat of summer. For the joy of living, gives us the fall and early winter. Not mid-winter with its snowy blanket and bleak, frigid days. For then we are brought to realize too sharply, the presence and havoc of poverty in our midst. Perhaps it is well that we pause and consider our cause for gratefulness and thanksgiving before we get far into the "long night," when we might be led to forget our gratitude.

Alkali spots in a field will grow worse when left alone and be bettered by cultivation and the consequent growth of plants.

"COLORADO BEN."

Ben Davis was a handsome youth, but
dry as any chip,
For nature gave him gaudy clothes,
but let the flavor slip;
And underneath his brilliant coat, he
wore a pumpkin heart,
A painted turnip, dry as bran, he
went into the mart—
A hypocrite—a Pharisee—a fraud in
royal guise,
Without a single drop of juice—a liar
of great size.

And those who bit his bloodless flesh
were prompt with gibe and curse,
They came with solid chunks of prose
—the poets threw their verse.
Ben Davis heard their stinging words,
they rankled in his mind,
They cut him to his mealy heart; they
forced him on to find
Some place where better quality might
grow beneath his vest;
He followed Greeley's old advice, and
took himself "out West."

On Colorado's sunny plains, where
clouds are seldom seen,
Beside an irrigating ditch, he donned
his coat of green,
The blood grew redder in his cheek,
and, in the warm sunshine
Of mountain air, his flesh absorbed
the flavor of the vine,
Ben Davis, Colorado Ben—apologies
are due
From one who has, in former days,
hurled ragged verse at you,

Wise hogs would hardly eat you for
the second time back East,
But westward ho, with Baldwin you
are reckoned at the least,
You "grew up with the country" where
are mellow fruits—and men,
Now go ahead, good luck, old boy.
Oh, Colorado Ben.

—R. N. Yorker.

Requests are being received daily
for literature concerning the Live
Stock Department of the Panama-Pa-
cific International Exposition in 1915
in many languages. In Brazil, Uru-
guay and Argentine the Live Stock
Societies are making preparations for
a large attendance and in participa-
tion in some of the meetings that will
be held during the progress of the live
stock show. Proper translations are
being made and this information will
be sent to those countries at an early
date.

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Sand-Clay Roads May Be Developed With a Very Small Expenditure

"To the farmer better roads frequently mean the difference between affluence and bankruptcy," said Prof. Ernest Flagg Ayres, highway engineer of the Oregon Agricultural College in a lecture to the summer students.

"A Wisconsin farmer held 1,000 bushels of potatoes in his cellar, waiting for a good price. He was offered 92 cents in March, but they must be delivered in town, and the roads were so bad he could not haul over them. When he finally got them to market his potatoes brought him 30 cents a bushel. The bad roads cost him \$620, and now he is an ardent booster for any movement promising relief.

"While the farmer receives as great financial from good roads as anyone, he has the added social benefits. Under present conditions it is often impossible for his children to go to school regularly, his family to go to church except when the roads are dried out, his doctor to reach him in time to be of most help, or his mail to be delivered regularly. With better roads this can all be changed, and graded schools and larger churches always follow these improvements.

"It is not necessary that a great deal of money be spent on our highways, but what is invested should be

used carefully and intelligently. A few dollars spent at the right time

will save repairs costing hundreds, and most of the roads where there is no heavy through travel may be improved in this way."

Mr. Ayres then described the process of building sand-clay roads: the initial grading with a proper crown and drainage ditches; the distribution



Great New Everbearing Macatawa Blackberry

Next year you should grow berries. It's the thing that pays in commercial fields and in gardens. And to make your work count for the most, grow the heaviest yielders, the biggest, meatiest, best-flavored berries.

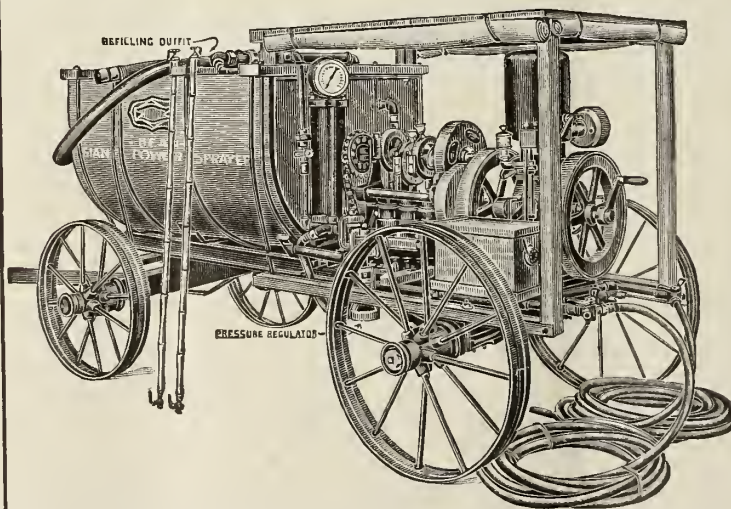
Macatawa Blackberry has all these qualities—and more. It's a brand-new sort, a cross of Eldorado Blackberry and true Giant Himalaya Berry. The berries are extraordinarily large—3½ inches around one way, by 3¼ inches the other. They begin to ripen July 1; the big pickings come just after July 1, and you get ripe berries till frost. Berries are sweet, even when green, free from core and seeds, meaty and altogether delicious, wonderfully good to look at, and just as good to handle, to ship and to eat—high-priced and profitable.

Plants Begin Bearing the First Year and yield immense crops afterwards. They are absolutely hardy in 40 degrees below zero. Macatawa plants \$1 each, or six for \$5. Only six to one person. **Send Today for the 1913 Berrydate Berry Book.** Full of valuable berry information. Contains true descriptions of the Macatawa Blackberry, of Himalaya Berry and many other profitable berries you ought to grow in your garden or fields. Let me have a card for the book today.

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Berry Specialist

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BEAN POWER SPRAYERS



Strong Durable Efficient

Besides embodying all the better features of other outfits, *Bean Power Sprayers* have many exclusive features that every fruit grower ought to know about.

Among these features might be mentioned:

The Bean Pressure Regulator which affords an even high pressure and saves one-fourth to one-third the gasoline and the same proportion of wear and tear on engine and pump.

Porcelain-Lined Cylinders, which cannot be injured by acids or sprays and never wear out.

Underneath Suction, which makes priming unnecessary, increases capacity, and saves replacing cracked hose.

Bean Patented Non-corrosive Valves—Steel Frames Instead of Wood—Bean Patented Cut-off and Air Suction in Tank, which does away with the necessity of pulling out the suction hose—and a simple, get-at-able construction that means ease and economy of operation.

Send for Free Catalog

The Bean catalog, illustrating and describing the entire Bean line of hand and power sprayers and pump accessories will be mailed free upon request.

Bean Spray Pump Co.

Oldest and Largest Spray Pump Factory in United States
231 W. Julian St., San Jose, Cal.

Eastern Factory
Berea, Ohio

and packing of the clay, spreading of the sand, and ploughing and harrowing it in lightly on top. This type of road has given excellent satisfaction in the Southern and Middle-Western states, but little work of the sort has been done as yet in the Pacific Northwest. It has proved successful in soils and climatic conditions similar to those found in Oregon, and there is no question as to its value for out rural highways.

"The saving in expense over other forms of road is no main item," continued Prof. Ayres. "The average cost for sand-clay roads is but \$723 a mile for the 24,601 miles in the United States, compared with a cost of \$4,989 a mile for macadam. In other words, about seven miles of good sand-clay road can be built for the same money as one mile of plain or water-bound macadam. The cost of maintenance is less than for any other form of improvement except the earth road, and horses and automobiles alike prefer it to any of the hard surface roads.

"The road must first be graded and drained carefully, and should be crowned about one inch to the foot and smooth as a rag. It can be greatly improved by adding sand even if no grading has been done, but the expense will be much greater. The sand must be sharp and coarse, but need not be as clean as is required for concrete. It should be brought and piled along the shoulders of the road in dry weather when teaming is cheaper, though construction can not begin until the rains soften the clay. The cheapest way is to spread the sand 4 to 6 inches deep over the wet clay and let the traffic mix the materials. Economy is the only argument for this, and as more sand is usually required to fill the ruts and holes formed by the heavier teams, even this advantage is sometimes lost. The road is almost impassable to heavy loads until the sand and clay are thoroughly mixed.

"A better way is to spread the sand evenly to a width of 12 or 16 feet, mixing well with plough and harrow. A depth of 6 inches is enough for light travel, and a foot for heavy loads. The road drag should be used often to maintain the crown and fill ruts which will form in the first few months. If the road does not compare favorably with gravel or macadam as soon as the sand is added to the clay, it should not be considered a failure. Its construction is a gradual process, and the surface will not be at its best in less than six months. If it gets muddy, add more sand; if it is too dry and dusty, more clay is needed. All that is required for maintenance is the addition of a little more sand to the clay each year, and the occasional use of a drag."

Cost of Improvements and Drag.

Four miles is about the extent of the section which a man and a drag should be asked to handle. This amount of road can be gone over two round trips in a day after every good rain, and can be kept in excellent shape by the treatment. If this can be done to any dirt road six times in the season for at an expense of \$25

or \$30 for four miles of road for the year) an almost unbelievable improvement will be shown.

Drags can be bought for something like \$10 each, or they can be made for a little less, perhaps. Then a mile of road can be maintained at an expense to the district (or individual) for not more than \$7.50 a year. I submit, therefore, is the drag not worthy of a trial by every community? There is no implement which can compare with its efficiency as a maintenance tool for earth roads, no matter what the price may be.

This is not theory with me. I have successfully used both the log and timber drags. The Spokane County Good Roads Association has been pro-

moting the use of this useful tool for a year, and the results secured through its use in this and surrounding counties can be verified by any person who is skeptical about my claims for the simple split-log drag.

For a very long period of years to come the big percentage of farm to market highways will be dirt roads, and the drag is a simple and inexpensive solution of the maintenance of such type of roads.

We hope some of our peach growers will not be too hasty in tearing out their peach orchards this year. In our minds the chief trouble is in the distribution which is a defect that can be overcome.



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YOU ARE SAYING TO YOURSELF—

"If I only knew of something to stop that Backache—help my Rheumatism—cure my Neuralgia, I would send and get it at once."

Get It. Gombault's Caustic Balsam will give you immediate Relief. A Marvelous Human Flesh Healer and a never failing remedy for every known pain that can be relieved or cured by external applications. Thousands testify to the wonderful healing and curing powers of this great French Remedy. A Liniment that will soothe, heal and cure your every day pains, wounds and bruises.

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It Helps Nature to Heal and Cure. Penetrates, acts quickly, yet is perfectly harmless. Kills all Germs and prevents Blood Poison. Nothing so good known as an application for Sores, Wounds, Felons, Exterior Cancers, Burns, Carbuncles and Swellings.

"I had a bad hand with four running sores on it. The more I doctored the worse it got. I used Caustic Balsam and never needed a doctor after that."
—Ed. Rosenberg, St. Ansgat, Ia.

Mrs. James McKenzie, Edina, Mo., says: "Just ten applications of Caustic Balsam relieved me of goitre. My husband also cured eczema with it, and we use it for corns, bunions, colds, sore throat and pain in the chest."

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Dr. Higley, Whitewater, Wis., writes: "I have been using Caustic Balsam for ten years for different ailments. It has never failed me yet."

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THE LAWRENCE WILLIAMS CO., Cleveland, Ohio

Fine Orchards in the Payette District

By E. F. STEPHENS, Nampa, Idaho

During a recent trip from Fayette to New Plymouth in company with Mr. E. C. S. Brainard, a fine opportunity was afforded to study the orchards of the Fayette-Fruitland district.

On the route we passed the forty-acre black raspberry plantation of Mr. M. S. Sherman. This gentleman has developed machinery with which are cut the canes loaded with ripening fruit. The fruit then dries on the canes, which are pitched on racks, hauled in and threshed. The dried product sells for \$250 to \$300 per acre. Mr. Sherman has a similar ranch near Twin Falls, Idaho, where the fruit ripens about three weeks later. This enables him to ship the needed machinery to Twin Falls after harvesting his crop at Fayette.

The apple orchards along the way are very heavily laden. The packing of Jonathan apples opened the 17th of the month at the plant of Sargent & Burnett near Fruitland. The products of this orchard will be mostly marketed in Germany this season, at a price that is expected to return \$1,000 per acre. The first and second grades are wrapped in soft paper on the center of which, printed in red ink, the firm name appears—"Sargent & Burnett, Red Apple Ranch, Fruitland, Idaho. Each apple is placed in such manner that the firm name shows uppermost when the box is opened. Such apples as are not

suitable for first and second grades and are of fair size, are sold to the evaporator nearby for \$6 per ton. Small apples go to their own vinegar factory, in which they ultimately return sixteen to twenty cents per box.

At the B. F. Tussing orchard we found them getting up an exhibit for the Fayette fair. Two years ago an average of 1,209 boxes of apples to the acre was packed in this orchard. This crop was sold for \$1,469.56 per acre, with net returns over all expense of growing and packing, of almost 1,000 per acre. In 1911 the net

profit was over \$500 per acre. This season it is estimated that the crop is equal in quantity to that of 1910, but having been contracted at \$1.10 per box for first and second grades in all varieties it will not net quite as much per acre as the 1910 crop.

Up to September 17, two hundred and fifty cars of fruit has been shipped from Fayette this season. When the winter apples are finally marketed, a goodly sum of money will have been placed in circulation.

Our cover page for October, "The Magic of the West," has created considerable kindly comment amongst our readers. We thought it was quite an interesting subject when we decided to use it.



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Save Water by using Lennon Steel Flumes

NO CROSS BARS

Our smooth steel flumes do not leak, are cheaper than wood, have no cross bars on the small sizes to catch floating weeds and do not require an expert to erect.

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The Colorado Ingot-Iron Pipe
and Flume Company

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Are you
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Leaf Rollers?

If so, an application of

Target Brand Scale Destroyer

in the Spring, just before the buds begin to swell, will completely control them, as well as San Jose scale, etc.

Write to Entomological Department, Fort Collins, Colorado, for Bulletin on Leaf-Roller Issued by Them.

Target Brand Scale Destroyer is guaranteed to be positively the highest grade soluble oil on the market.

Write for folder on Leaf-Roller and name of nearest dealer.

Horticultural Chemical Co.
Philadelphia, Pa.

SUCCESSOR TO DR. WILEY.

In all probability Dr. Carl L. Alsberg, now the chemical biologist of the poisonous plant laboratory of the Bureau of Plant Industry in the Department of Agriculture, will be the successor of Dr. Harvey W. Wiley as chief of the Bureau of Chemistry. While it is understood that his appointment has been decided upon by President Taft, no announcement will be formally made until after the election.

Dr. Alsberg is thirty-five years old and had a splendid reputation among scientists both in and out of the government service. He is a graduate of Columbia university and the College of Physicians and Surgeons. He also had a special course of training in chemistry in German universities. Dr. Alsberg was highly recommended to the President by scientists throughout the country.

WRITES ON BOGUS PEDIGREES.

"Bogus Pedigrees" is the title of a particularly interesting article by Prof. E. L. Potter of the Oregon Agricultural College, secretary of the State Board of Stallion Registration in "The Oregon Countryman" for February, just off the press. It describes the four classes of fraudulent pedigrees for horses; those issued by associations or companies without recognized standing; those issued by recognized associations upon misrepresentation from the owner; pedigree correct in themselves but belonging to a horse which has died, for which a "grade" has been substituted; and pedigrees in which the age or description has been changed to make them fit another horse. Sometimes, when an imported horse is sold, his foreign certificate is used, and his American certificate retained for use in selling a grade, or vice versa.

"Most of the bogus certificates now current in Oregon are of the class issued by unrecognized associations. The following is a list of such associations," says Prof. Potter, "as far as they are known to the writer: American Horse Breeders' Trotting Ass'n., 161 High St., Boston, Mass.; American Horse Registry Ass'n., N. J. Harri, Des Moines, Iowa, Secretary; American Iceland Pony Club, Geo. H. Simpson, Wheaton, Ill., Secretary; American Percheron Registry Ass'n., S. M. Heberling, La Grange, Ill., Secretary; Belgium American Draft Horse Registry, A. J. Meyers, Lovington, Ill., Secretary; Coach and Draft Horse Ass'n., of America, Frederick Wightman; La Crosse, Wis., Secretary; Hartman Stock Farm Registry Record Co., Adam Krum, Columbus, Ohio, Secretary; International Consolidated Record Ass'n., H. A. Jones, Penn Yan, N. Y.; Morrison's International Roadster, Des Moines, Iowa; National Percheron Horse Breeders' Ass'n., D. E. Phillips, address unknown; the National Standard Pacing and Trotting Horse Breeders' Ass'n., Thos. C. Parsons, 1023-5 Williamson Bldg., Cleveland, Ohio, Registrar; The American Jack Register, W. L. Clough, Cedar Rapids, Iowa; The Stannard Jack and Jennet Registry of America, Kansas City, Mo.; U. S. Horse Register, J.

E. Ragsdale, Gibson City, Ill., Secretary."

Prof. Potter says that some of the horses registered by these associations are really pure bred, but that it is not usually the case. There may

not be certificates from all these associations in this state the ones common being the Hartman Stock Farm Record Co., The American Draft Horse Registry, and the American Percheron Registry Association.

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The Gatlin Treatment Cures the Liquor Habit in Three Days Under Contract—No Hypodermic Injections or Other Disagreeable Features

DRINKING LIQUOR has never yet made any man famous—but it HAS made many a man INFAMOUS. If you desire to succeed in business; if you would GO UP instead of DOWN; if you value your MENTAL and PHYSICAL health; if you care to prevent "FAILURE" being connected with your name, you MUST STOP drinking liquor—at once.

The Gatlin Treatment

Eradicates the Liquor Craving in Three Days

There are no hypodermic injections, no "strong" drugs, no disagreeable features. The Gatlin treatment removes the CAUSE of drunkenness—stored up alcoholic poison in the system,—that is why it cures in three days—a longer period would be superfluous and wasted. Craving, desire, physical and NERVE-NECESSITY for liquor are but EFFECTS of the poison in the system and disappear immediately with the CAUSE. Where the EFFECTS are smothered up by hypodermic injections of SUBSTITUTIVE STIMULANTS, from three to six weeks' time is required, and but ONE chance in FIVE of permanent sobriety.

Each patient is accepted for treatment at the Gatlin Institute under a plain, legal contract to do away with liquor craving in THREE DAYS, or the full fee paid shall be refunded at the end of the third day and treatment shall cost NOTHING. In other words, any expression of dissatisfaction with either the cure effected or with the treatment on leaving the institute, will mean that the fee paid will at once be returned.

The Gatlin Home Treatment for those who cannot conveniently come to the institute for three days, carries practically the same contract to cure, the only change being one to protect us against unscrupulous persons.

Gatlin Institute

Call or write for books of particulars, copies of contracts and other information—1425 Cleveland Place, just opposite the Carnegie library, Denver, Colo.
Telephone Main 4099.

Some Sidelights on the Fruit Markets

By W. N. WHITE of New York City

In your issue of today we notice under "West Side Notes" the following statement: "Hundreds of tons of peaches will rot on the ground of the Porterville district of California this year, due to the lack of interest of buyers for packing houses," etc., etc. On another page we notice your market prices for peaches in New York from various states South Carolina and Georgia 25c to \$1.50 per carrier, Arkansas 65c to \$1.37, and looking at the fact that the arrivals of peaches on the New York market now for some time have been in the neighborhood of 100 cars per day, representing between 7,000,000 and 8,000,000 peaches, or two peaches for every man, woman and child in Greater New York. One can easily understand how hundreds of tons of peaches are rotting in California, as they would not pay freight, and of the hundred cars of peaches per day that are coming here, the railroads are certainly getting more than twice as much as the grower, \$200 per car being charged for the journey of two to two and a half days.

Statements are being continually made of bumper crops and that trade is extraordinarily good, farmers buying automobiles, land booming and many such like statements, but few people stop to consider what is the amount the grower receives for producing these crops. Here, in 1912,

America has the greatest crop of peaches in her history and yet they are rotting on the ground. It is a case of over-production.

Peaches in 1909, 35,000,000 bushels; this year hundreds, I may say thousands of tons useless.

BEET WEBWORM IS SUBJECT OF BULLETIN.

The sugar beet webworm is the subject of a bulletin just issued by the department of agriculture. It says:

The injury caused by this pest has varied greatly from year to year. During some seasons little noticeable damage has occurred, while on a few occasions the infested acreage has been extensive and the losses serious. As an example it may be mentioned that in 1910 practically 4,000 acres of beets grown for one of the sugar factories in the Arkansas valley, Colorado, were attacked. The serious nature of this outbreak was not realized until too late, and although strenuous efforts were made to control the "worms," the loss resulting was estimated at 20,000 tons of beets, which would have been worth approximately \$100,000 to the growers. Such severe losses are exceptional.

It is impossible to state definitely the damage to sugar beets that an infestation of webworms may cause,

as this may vary from almost no perceptible loss to the complete destruction of the infested plants, the extent of the injury depending on the number of webworms present, the size of the infested beets, and various other factors, such as climatic conditions, and fertility, and water supply. Small beets may be killed outright, while large beets may be completely stripped of foliage. With large beets new leaves will usually be put out promptly and their apparent recovery will take place quickly, especially if they are irrigated as soon as possible after the defoliation. Although new leaves are soon put out, defoliation retards the growth of the beet roots.

The bulletin contains complete information concerning the webworm, with detailed directions for the application of both preventative and exterminative substances.

In the five months ending with September 27, 659,000 flies were killed in the fly-swatting campaign put in operation by a Washington newspaper. These if placed body to body, would make a line 144 miles long. If measured they would fill 544 gallon buckets, or 68 bushel baskets or 17.3 barrels. If stacked one on the other, they would form a shaft 25 feet high with a four-foot square base.

The domestic hen—all breeds—is descended from the wild Jungle Fowl of India. And a good many scrub hens are not much of an improvement on their original ancestor. Why not cut off the heads of such poor stock before they themselves eat them off?

What Constitutes a Good Sprayer?



- High Pressure—to throw a strong, fine spray.
- A Pump—of sufficient capacity under slow speed.
- An Agitator—to keep mixture well stirred so that it cannot clog pipes and nozzles.
- Some Method of Cleaning the strainer.

Insist on This Trade Mark

Ask any fruit farmer with experience. He will tell you that the most annoying thing is to find pump suction or nozzles clogged when he has a tank full of spray mixture in the orchard and must clean out before his sprayer will work.

Fig. 165

Here WE Come In:—

Automatic Brushes with Mechanical Agitators furnished with Empire King Barrel Pump and Watson-Ospraymo Potato Sprayer, also with all LEADER Gasoline Engine machines.

The prices are *not* too high for efficiency, durability, capacity and satisfaction. Are you interested? A postal will bring you into touch with our nearest agency.

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A Simple Method of Drying Apples

By PROF. B. C. BRADFORD, Oregon Agricultural College

Most of the apple drying in Oregon is done in prune dryers, probably because these are available. In New York state, where apple drying is done extensively, evaporators much like the hop kilns here are used. In fact, some apples are dried in hop dryers in Oregon. Prune dryers are fairly well adapted to this work, and has the advantage of being available for drying several crops.

The best fruit is peeled, cored and put on trays. An experienced operator with a hand machine will pare 50 bushels a day if the fruit is not too small. It is usually exposed then to the fumes of sulphur for a few minutes to bleach it, or keep it from turning dark. It is important that it be bleached as soon as possible after paring and slicing. A simple form of bleacher is a tight compartment with cleats to accommodate a number of trays at a time, at the bottom of which a pan of sulphur is burned. The fruit should not come nearer than two feet to the sulphur. Trays with wooden slats are preferable as galvanized wire is affected by sulphur fumes. If the fruit is handled in bulk a box with a series of inclined planes placed one above the other and sloping in opposite directions is used. The fruit is thrown in at the top and slides down these planes, exposed constantly to the fumes of sulphur, and

collects at the bottom whence it is removed from time to time. Care must be exercised lest too much sulphur be absorbed by the fruit, a condition forbidden by law. The time required for sulphuring is variously estimated at from 20 minutes to an hour and a half, depending on the amount of sulphur used. Ten pounds of sulphur to a ton of fruit is, perhaps, a good estimate of the amount required.

Slicing usually follows, but may precede the bleaching. Slices are cut a quarter of an inch thick and whenever possible should be at right angles to the hole whence the core was removed. The proportion of rings governs the grading of the fruit to a considerable extent.

In kiln evaporators the fruit is spread some eight inches deep. This is, of course, impossible when trays are used. The general practice in New York evaporators is to start the fruit at 150 degrees, finishing at 125 degrees. In prune dryers this is necessarily reversed, and a higher temperature is frequently maintained. In kilns the fruit is turned from time to time to prevent it from sticking to the slats. When one lot has been removed, the floor is treated with tallow to further prevent sticking. A good kiln usually dries a lot of sliced fruit in 10 to 14 hours; in prune dryers in Oregon 24 hours is the most common period for drying.

The fruit should dry until there is little or no visible moisture on the surface. A test sometimes employed is the squeezing of a number of slices together in the hand. Properly dried slices will separate at once upon being released. After it is taken from the drier the fruit should be allowed to "sweat" on a clean floor, as prunes are shoveled over from time to time. This makes the fruit more uniform as to moisture.

Most of the dried apples in Oregon are sold in sacks. If one is drying on a large scale, however, it will be found advantageous to pack in an attractive manner in 25 and 50-pound boxes, or in one-pound cartons, as large operators in other regions do.

Reports from experienced Oregon apple dryers indicate that a bushel of green apples will produce 8 to 12 pounds of dried fruit, the amount varying with the method of drying and the variety used. King, Baldwin and Northern Spy are generally considered good apples for drying. Opinions as to the Ben Davis vary. Summer apples in general lack the firmness required in a good drying apple, although the Duchess of Oldenburg is considered good. Though it is reasonable to suppose a good eating apple will make the best dried apple, at present the market does not discriminate, and seedlings are frequently employed. The grading is usually based upon whiteness, cleanliness, and general attractiveness, and proportion of slices in rings.

The drying of apples is discussed in much greater detail in Farmers' Bulletin 291, from which much of this


matter has been taken. It can be secured by writing members of Congress or the Secretary of Agriculture, Washington, D. C.

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GROWING ORCHARD

COVER CROPS.

The importance of the growing of cover crops in orchards is emphasized in a recent bulletin on orchard irrigation issued by the Oregon Agricultural college.

"Cover crops add humus and fibre to the soil," says the bulletin, "The fibre adds to the moisture-holding capacity of the light soils and makes the heavier types more friable, and more easily handled. Any soil of high clay or silt content and low in organic matter is not only difficult to handle with respect to cultivation, but also as to irrigation.

"This type of soil takes up water very slowly. Percolation is so slow that a large number of furrows are necessary if a sufficient amount of water is to be supplied. Thus a greater surface for evaporation is exposed, and such soils bake and crack badly on drying out. A good cover crop, either natural or sown, if plowed under early in the spring, will aid greatly in overcoming these difficulties."

In experiments it was noticed that when there had been a late irrigation a good natural cover grew up, of chickweed, alfalfa and various grasses. In one orchard cover crops of vetch and rye and of barley, sown early in September after late irrigations, started readily and made fine growth. An early cover group of this nature not only adds its own fibre to the soil, but prevents the leaves from blowing away, thus keeping them where they

will be of benefit. Those cover crops which get a good start early in the fall make the best kind of protection for the soil during the winter.

A JUBILEE STOCK SHOW.

The big National Western Stock Show to be held in Denver the week of January 20-25 is to be made a jubilee affair in celebration of the wonderful agricultural prosperity that has come over the West during the past year. In every branch of agriculture there has been large crops and good markets. Cattle, sheep, hogs and horses have never been in greater demand and never have there been larger hay and grain crops. The show will reflect this condition and the annual exhibition is likely to prove a great advertisement of the resources and prosperity of the West. Every section of the West will be represented in the exhibits and plans are being made for the most remarkable exposition ever held. Every department of the show has been enlarged and the only trouble of the management is to find room for the many exhibits that are coming.

Wouldn't this have been a fine year to have held another National Apple show in Colorado? It would have been a treat to see some of the exhibits that our growers could have prepared this year.

THE FRUIT JOURNAL, one year for \$1. Special departments for every member of the family.

WELL KNOWN SEPARATOR MEN LEAVE SHARPLES FOR EMPIRE.

On October 31st, last, a considerable number of well known officers and employes of the Sharples Separator company left the employ of that concern and joined the EMPIRE CREAM SEPARATOR COMPANY of Bloomfield, N. J. Almost without exception the individual members of this body of men, trained in the cream separator business, now occupy with the EMPIRE concern the same position formerly held with the Sharples company.

The following gentlemen, widely known to farmers, dairymen and local dealers throughout the country, are among those who made the change: J. H. Colville, General Manager; J. E. Stolwell, Manager of the Chicago Office; J. B. Decker, Credit Manager of the Chicago Office; N. N. Spear, Advertising Manager; L. N. Somes, Manager of the Dallas, Texas, Office; E. H. Fralick, Manager of the Portland, Ore., Office; Z. L. Wright, Southern Sales Manager; F. W. Knight, Eastern Trade Manager; H. E. McWhinney, Assistant Manager of the Chicago Office and Sales Manager for Kansas, Nebraska, Colorado and Wyoming; Geo. P. Buttel, Sales Manager for Minnesota, Montana, North and South Dakota; E. S. Van Norwick, Sales Manager for Iowa and Wisconsin; H. L. Smith, Sales Manager for Indiana and Michigan; E. M. Zentmeyer, Sales Manager for Illinois and Missouri.

A number of traveling men and other employes have also made the change. Those who have made the change state that they had excellent reasons for so doing and that their expectations, based on their new association with the Empire Cream Separator company, have already been more than realized.

See our big special combination offer of The FRUIT JOURNAL, The Farm Journal and The Garden Gold Book, all for \$1.25. Full announcement on another page.

There are a Great Many Orchards in this Country, but Not on Orchard Land

There is but a very small per cent of the orchards in the United States which are planted on real orchard land. The percentage of failures is very small where the orchard is planted on real orchard land, and there is but a limited amount of real orchard land in the United States. Where you find the real orchard land; where it is genuine fruit soil, with abundance of never-failing, perpetual irrigation water; where the climatic conditions are such that a crop is assured every year; where your orchard is protected from early and late frosts, this land is naturally worth from \$500 to \$1000 an acre, because, when planted to orchards and properly cared for, with the orchards in bearing, it will pay interest on \$2500 per acre. Now, this big interest is what makes people plant orchards on non-orchard land, because, if they get a crop every three or four years, they figure they are making money because their land was cheap.

We have found a place where land is cheap—real orchard land. That is in Montezuma County. It is an undeveloped country as yet, but is being developed now and will soon come into its own. There is more genuine orchard land in Montezuma County—in the Mancos and Cortez valleys—to the square mile than in any other county in the West. This land is deep, red, fruit soil, protected by tall, towering mountains on all sides, from the winds, and the early and late frosts. We get an even temperature. It is far enough south, being next to the New Mexico line, that we have an ideal climate. The elevation is just right—averaging between 4000 and 7000 feet—to insure a crop every year, of the most deliciously flavored, the most highly colored and beautiful fruit that we have ever produced in the state of Colorado, or

in the West. This country will be known in a few years as the fruit country of the West. We can sell you land now in this valley at \$100 per acre, deep, red soil, with a perpetual water right; all ready to be put into fruit; now in cultivation; close to a railroad; close to good, up-to-date, modern towns; where there is an abundance of timber, coal and pure mountain water, and the most beautiful and delightful climate you ever saw. This land is limited. It will go fast. You have the opportunity now; you will not have this opportunity next spring. We have just got out a new booklet, telling about this country in full, with a map of the county. If you want it, you may have it for the asking. There are a few more left. We can sell this land on payments, and it will double and double and double in value and will commence increasing in value next year. Now is the time to get this land. This is the place to go to live. We not only raise fruit in this country; it is a great stock country. There is an abundance of grass in the foothills and mountains adjoining the valleys. The valley soil raises the biggest crops of grain produced in the West and the vegetables cannot be excelled. Let me hear from you. Let me tell you about this wonderful country. Get in on the ground floor and buy a tract of this land and watch it grow in value. We have the largest and best tract of land in the Mancos valley today, without a question the cream of the county. We have bought this tract of land and are splitting it into any size tract you want. We are selling it far below what it is worth, because we bought it cheap. Now is the time for you to make money in this country.

L. J. Mountz & Co., 1743 Champa St., Denver, Colo.

Gospel of a "Higher Horticulture"

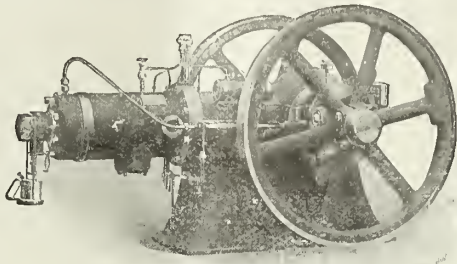
"Dr. Charles E. Bessey of the University of Nebraska has for so many years been one of the most enthusiastic promoters of that which pertains to the horticultural and flori-cultural development of his state that anything that he writes receives the closest attention from those who know him best," says the Wyoming Farm Bulletin. He has recently written for the official organ of his state Horticultural Society an article on "Wild Fruits Which Ought to Be Cultivated." There are so many things of interest in this article that I am inclined to quote herewith a few paragraphs.

"But, my brothers, I want to set before you an ideal higher than that involved in mere money return for our lives. We sell our labor in these as we go through life. What do we get in return? It is really worth while for us to sell our labor, our strength, our youth, our lives, for money? Do not think I affect to despise money, for I do not, and wish I had more of it, but no man should be contented to look back on a life which has brought him only money, wealth, a fortune. And you, fellow workers, in the Lord's vineyard, should feel the necessity of a greater return than this. All through the ages there have been men of our profession who have felt a great desire to add to the riches of the vineyard, and orchards and gardens it may be one additional variety, and these men we honor, and the world honors. And I may say here that it should be the ambition of every grower of fruits to leave the world richer by at least one new fruit than when he began his work. Just as the right minded farmer wishes to leave his farm to his children richer and better than when he began to work on it, so the fruit grower should wish to add his contribution to the list of fruits that the world may enjoy.

"So I am preaching the gospel of a higher horticulture than that which has to do with its commercial aspects alone. Let these receive full attention at your hands. Push this work with all the vigor of good and efficient business men, but let me urge you to consider also that higher attainment which is concerned with the betterment of the world. I preach to you the gospel of making a better world of fruits for the future. Let us be helpers. Let us add to the good fruits of the world. Let us leave better gardens, vineyards and orchards of fruits than we found. Let us hand down to our children more and better fruits than were handed to us."

"Alfalfa, the Relation of Type to Hardiness," is the title of Bulletin 181 of the Colorado Experiment Station, written by P. K. Blinn, the alfalfa specialist. The bulletin gives the results of Mr. Blinn's experiments with more than 60 varieties of this important forage plant, and deals especially with the good qualities of the Grimm and Baltic types. A card addressed to the Experiment Station, Fort Collins, Colorado, will bring you a copy as long as the edition holds out.

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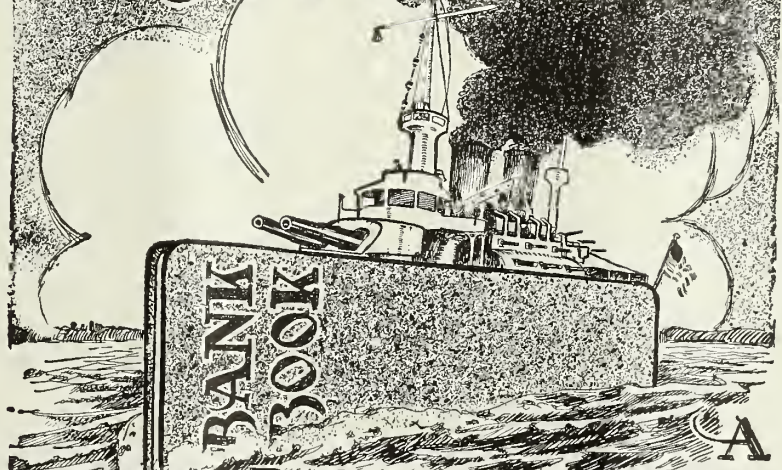
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Germany As An Export Market for American Apples

By GENERAL WILLIAM DAWSON, JR.
Vice-Consul at Frankfort

American apples find high favor in Frankfort, the best known being those grown in New York, Pennsylvania, and Ohio, and embracing Baldwins, Greenings, and Kings. Western apples do not seem to be so well known, although where introduced their reputation is very high.

Wholesale dealers prefer to obtain their supplies of American apples from importers in Hamburg and Bremen. Where apples are not carefully packed for through shipment they can be resorted at port of arrival and re-packed for shipment to inland points, insuring a minimum loss on account of spoiling.

Attempts were made by a leading Frankfort commission man to supply the local trade by importing direct from the United States, but this gentleman states that he has not imported direct since 1908, as better results are obtained at slightly higher cost by dealing through Hamburg and Bremen. However, he is willing to attempt again to import direct from the United States to Frankfort on a strict commission basis, the risk for a local firm, not knowing whether apples will be carefully packed or not, being too great to place orders at own liability. Even on a commission basis he would have apples examined at port of arrival in order to have them sold there unless in good condition.

Apple prices vary largely according to quality and from year to year according to crop. Whereas the wholesaler may pay 20 or 30 marks (\$4.76 to \$7.14) per 100 German pounds (110 American pounds) for American apples, German apples (eating) cost 10 to 20 marks (\$2.38 to \$4.75.) American apples for which the wholesaler pays \$7.14 per 100 German pounds would retail to the consumer at 45 pfennigs (10.7 cents) per German pound. The retail price of American apples ranges from 40 pfennigs (9.5 cents) to 1 mark (23.8 cents) per German pound according to quality and season. Of course, most American apples which find their way to Frankfort are of superior quality.

Prospects are for a good apple crop in Germany, which means that prices will be low and much fruit will be consumed. This does not mean, however, that there will be no demand for fine American apples, particularly later in the season after the German supply is exhausted. Wholesale dealers state, however, that on account of good crops in Germany and other countries imports of American apples will not be large this year.

Imports of American fresh apples into Germany during the calendar years of 1910 and 1911, according to official statistics were, in American pounds, as follows: From the United States for 1910, 11,265,540; in 1911, 24,320,560; from Canada for 1910, 334,620; for 1911, 15,043,160.

Whereas about five-sixths of the apples from other countries were imported between September 1 and November 30, nearly one-half of the American ap-

ples imported in 1911 were entered during December. Apples unpacked or only in sacks of at least 110.23 American pounds are free of duty from September 1 to November 30, and pay a duty of 47.6 cents per 220.46 pounds during the remainder of the year. Apples otherwise packed pay a duty of 76 cents per 220.46 pounds if in a single covering and \$1.19 if in more than one covering.

Imports of American apples show considerable fluctuation from year to year, depending on the crop here and in the United States.

"Don't" try to doctor a glandered horse.

Protect Your Trees

DON'T take chances with your young trees. One rabbit will kill many in a single night. Mice and cut worms will damage and destroy them if you don't protect them. Get dollars' worth of protection at a fraction of a cent cost by using

Hawkeye Tree Protectors

Absolute protection against gnawers and borers. Prevent trees from becoming skinned and bruised by cultivator or lawn mower. Made of elm veneer, chemically treated. Easily put on and will last until tree is beyond needing protection. Don't wait until some of your trees are killed—order Hawkeye Protectors now. Regular size 10 inches wide, 20 inches high. Price in lots of 100—1 cent apiece, in lots of 1000— $\frac{1}{2}$ cent apiece. Special sizes made to order. Write for circular and samples.

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PERTAINING TO THE HOUSEHOLD

Suggestions and Improvements That Tend to Raise the Standard of Comfort in the Home Will Be Found on this Page. The FRUIT JOURNAL Believes that Nothing Stimulates the "Back to the Land" Movement so Much as These Little Details in the Home

RURAL SCHOOL VISITOR FOR THE COLORADO AGRICULTURAL COLLEGE.

Two years ago at the annual meeting of the County Superintendents held at Grand Junction, a resolution was passed unanimously favoring an appropriation for a Rural School Visitor at the State Agricultural College. Provisions for carrying out this resolution were made by the Eighteenth General Assembly, and the executive committee of the state board of Agriculture has employed Superintendent C. G. Sargent of Mesa County for this important work.

For a month or six weeks, Mr. Sargent will have his headquarters at Grand Junction, after that at the Agricultural College. In taking up this important work for the rural schools, it is not the desire of the State Board of Agriculture or the Faculty at the College to in any way interfere with the work of county superintendents, but to co-operate with them in a strong effort to strengthen the rural schools. It is our desire to work through the county superintendents and with such teachers as they recommend and along such lines as meet their approval.

Mr. Sargent brings to his work a great deal of experience. He has been intimately connected with what we may call the rural problem. He has made a very comprehensive study of the work done in other states and is intimately acquainted with what has been done in the state. Back of him will be all the facilities of the college and it will be our aim to help each school solve its own problems and make it of greater service to its community.

Mr. Sargent will give his attention especially to vocational training and will assist in the introduction of agriculture, domestic science and manual training, but wherever the college, through him, can assist in beautifying the school grounds, in promoting play ground movements, and social activities that aim to better the conditions of the community, it is ready to do so.

YOUR OWN ELECTRIC LIGHT AND POWER PLANT.

The general opinion that only those living in the city or along the transmission line of an electric light and power company can have electric lights in their home and power for the operation of small machinery about the farm, is to be a consideration of the past.

The subject of the individual light and power plant has been and is receiving the special attention of the large manufacturing companies of electrical machinery. This demand has

resulted from the increasing needs of the agricultural districts, and today the individual plant is available to the farmer of moderate means, and he may enjoy the same privilege and pleasures that his city neighbor does.

Several of the manufacturing companies are placing these small units upon the market at a moderate cost, and they are so simple and easily operated that the ordinary difficulties arising from their use does not require the man with a technical training.

The equipment consists of a low voltage generator, which insures safety, storage batteries, gas or oil engine which use low grade fuel, thus reducing the cost of operation. The cost of these plants will depend upon the number of lights which will be required in the system.

It will probably not be long until the individual lighting plant will be as common as the automobile. This department will be glad to give any information or assistance desired by any contemplating the installation of a small lighting system.

WHAT ARE THE BEES WORTH?

It has been estimated that the annual production of honey in the United States amounts to the value of \$20,000,000. But officials of the Bureau of Entomology, however, state that the production of honey is not the most valuable service that bees render, since their work in fertilizing the blossoms of fruit trees is worth many times \$20,000,000 every year. Suppose, for instance, that there were no bees or other insects obtainable to move from flower to flower, carrying with them the pollen of one to the other, and thus fertilizing it, would not the farmer have a most difficult task if he should be required to hand-pollinate the blossoms on his growing crops?

In many of the hot houses where garden truck is grown for the fancy winter trade, it has been found necessary to keep a hive of bees, simply for the purpose of pollinating the flowers and thus causing the "fruit" to set.

On a ration of wheat bran, corn chop, alfalfa hay, and silage the Oklahoma station found the cost of milk per gallon was 11.2 cents. When on a ration similar to the above, with the addition of cottonseed meal, the cost of milk was 10.9 cents per gallon, but the quantity was slightly decreased. In another test of the cost of milk production on a ration of bran, corn chop, cottonseed meal, and alfalfa hay the cost was 11.7 cents per gallon. On a similar ration, with silage as a supplement, the cost was 10.4 cents per gallon, and the yield was slightly increased.

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Gathers, Apples, Peaches, Etc., as carefully as by hand, with less work. Saves climbing ladder. No fruit out of reach. No wire to injure fruit or tangle in branches. Fruit drops into cloth bag, which can be filled before lowering. Ask your hardware dealer or send to us.

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POULTRY GROWING



Contributions to this department are always welcome and signed articles are solicited. Send the editor little expressions of your own experience. They are valuable to other Poultry Growers.

Address Communications to Editor—Intermountain Fruit Journal and Intensive Agriculturist

MINDFUL OF SMALL MATTERS.

By Michael A. Boyer.

As a rule, beginners are not mindful of the small details, and this fact has probably led up to more disaster than anything that we could name. The poultry business will not suffer leaks. At the end of the first year the average beginner classes himself as an expert, and maps out a course entirely different from that followed by the practical man who has spent years of hard work and study. He will theoretically lay the foundation for an income which the expert has never been able to attain. It is not necessary to dwell upon the results.

Why is that the fowls in the yards of successful poultry men show that healthy, pink condition? It is due to their constant watch, and promptly nipping in the bud "the first symptoms" of ill health. The beginner aims to acquire the art of poultry doctoring—the expert exercises his wits in the art of prevention.

The expert does everything in a systematic way, is regular in all his duties, never postpones any duty, is constantly looking ahead, and stays ahead in his work. He makes repairs before they become dangerous leaks, and in a rather slow but careful tread goes about his work that he may do all things well.

To the amateur, especially if his living does not solely rely upon his labors, looks upon the mindfulness of these small matters as trifle, but sooner or later he finds out that they mean maintaining good health, good condition, and good returns.

It is not such a severe task to drive out a small army of lice, but when every crack and crevice in the poultry house is filled to overflowing it becomes hard work and work that is not always completely satisfactory.

Allowing dirt and filth to accumulate, is not only a breeder of lice but also disease.

Allowing piles of wood and rubbish to heap up near the buildings, affords a safe hiding place for rats, minks, weasles, and other poultry enemies.

Allowing houses to remain open at night, nothing secure, affords a strong temptation to midnight "poultry raisers."

The price of roofing may be saved for the time being by not repairing the holes here and there, and some labor may be avoided by allowing the cracks in the walls, but when the rains come down, and the drafts of cold air blow through, there may have to be double the amount of labor spent to save the afflicted stock. For surely such conditions must have their dire results.

How revolting is a hen house where the manure is allowed to pile in pyramids under the roosts, where

cobwebs form draperies, where lice and mites find roosting places. Can such a condition speak well for the enterprise of the man in charge?

If idleness, shiftlessness and uncleanliness were roads to wealth what a large array of rich men we would have. He who is a shiftless business man, a poor manager, one of those forgetful, inactive kind, the poultry business is one of the worst businesses for him.

If a gradual growth is made, the start being limited, all the details watched and the lesson studied well, the business is surely started on a firm foundation. Anything else makes a risk.

PRAIRIE DOGS.

Three species of prairie-dogs are found in Colorado and one is as destructive as the other. Their food habits vary with their environments. If they inhabit grazing lands, they are destructive to grass; if they inhabit farming lands they feed upon grains and vegetables; if in fruit sections, they destroy the trees by burrowing down by the roots.

Probably the worst pest is the plains prairie dog, *Cynomys ludovicianus*, on account of its wide distribution throughout the dry land sections of the state where they cannot be controlled by irrigation.

Late fall or early spring is the best time of the year to poison these rodents, but on bright, sunny days one can poison them successfully in some localities all through the winter months.

The new pest law makes it imperative that you exterminate these pests on your lands. A copy of this pest law, together with the latest methods of controlling prairie-dogs, will be

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mailed free on request. Now is the time to get busy.

Write us for information. We are at your service. We are also prepared to furnish the poisoned grain ready to use, at cost, which is 15c per quart, besides express charges and container which are paid by the purchaser. The estimated number of prairie-dog burrows to an acre is twenty-five, which, no doubt, is a good average. At this rate, the cost of the grain would be only about 5c per acre, as one quart will treat between seventy-five or eighty holes.

MOLASSES OF VALUE IN INSECTICIDES.

Foreign experiments recently reported to the Department of Agriculture show that with the grape root-worm, the use of molasses-arsenate of lead mixture—six pounds of arsenate of lead, two gallons of molasses and 100 gallons of water—gives superior results, since the inability to cover all the foliage with the spray is balanced by the habit of the beetles seeking the sweet and also the insects are killed instead of being driven to other vines as appears to be the case with other mixtures.

The behavior of the rose chafer toward arsenate of lead alone or with Bordeaux mixture is similar to that of the root worm. The use of molasses with arsenate of lead in Bordeaux mixture gave the same results as when the arsenate of lead and Bordeaux were used alone.

This would certainly have been a big year for that big apple storage warehouse in Denver, if it had been built. We hope to see it installed before another year.

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Three years ago the crop of apples in the country was about 25,000,000 barrels, last year it increased to 30,000,000; this year I think it will be in the neighborhood of 45,000,000 barrels, although some pencilers have put it to 50,000,000. I believe mine is a more conservative view. Many people in the West are puzzling their brains as to what results will be. They are just beginning to know that a barrel of apples from Western New York can be brought to New York city for 25c, whereas the same barrel of apples coming west of the Rockies cost \$1.60 in freight, a price which many of the Eastern growers will only be too glad to take for their barrel of apples this year.

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A number of farmers have been successful in growing soy beans for silage, supplementing corn silage. The advantage of such a combination lies in the fact that soy beans are nitrogen gatherers, and hence are richer in nitrogen than corn. A combination of corn and soy bean silage therefore makes a more evenly balanced feed than corn silage alone. It should not be inferred that a mixture of the two crops will make it unnecessary or unprofitable to feed grain in the ration; but in practice it has been found possible to reduce the amount of grain fed to dairy cows and maintain the milk flow if a portion of the ensilage consists of soy bean fodder. The digestibility of soy beans compares favorably with that of alfalfa and clover. Ensilage made from corn and soy beans has been found more digestible than that made from dent corn alone. The corn and soy beans may be grown for silage separately or in mixture. Many farmers follow and advocate the latter practice, but it has been found at the Cornell experiment station that the beans are apt to be crowded out in the competition with corn when the two are grown together.

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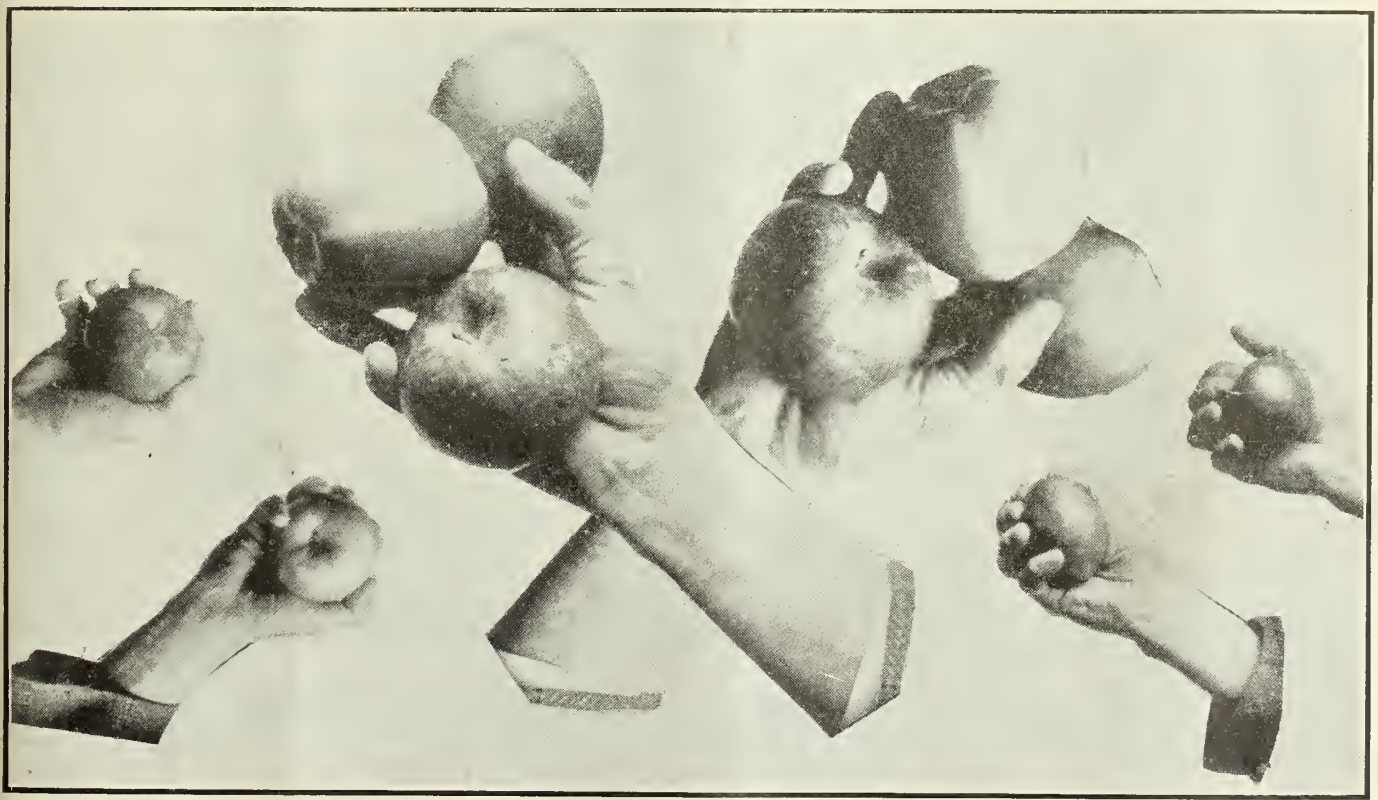
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VOL. VI; NO. 5

DECEMBER 1912

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OUR MESSAGE TO GROWERS:



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Leading Features, January issue {
“The Central Selling Agency”
“What Fruit Really Brought”

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Great Montezuma Valley is Proving a Big Fruit District

By L. J. MOUNTZ

MONTEZUMA is forging ahead and it looks like there will be quite an increase in population in the county within the next year, as a great many new people are going in and making their homes there. It is one of the few places where you can buy fruit land at grain land prices. It is said to be one of the most fertile, most productive fruit counties in the state. Mr. Vincent says that fruit culture in the Montezuma Valley is going to be one of the big industries of the West, in time to come.

Trees mature rapidly in this county. Three-year-old apple trees frequently bear some fruit at four and five years of age they bear enough fruit to partly pay for the care of the orchard; at six and seven years they bear sufficient fruit to pay all expenses and leave some profit for the grower, and at eight years the grower can reasonably expect to receive a profit of from \$100 to \$150 per acre. From that on, the yearly profit increases very rapidly. From this, one must not think that it is necessary to wait all these years for returns on an investment in fruit land, for such is not the case. As soon as the orchard is planted the land begins to enhance in value. It advances \$1 per acre per tree each year. If 50 trees to the acre are planted, the land is worth \$50 per acre more as soon as the trees are set one year, the second year the land is worth \$100 more per acre, the third year \$150, and so on. This is a valuation placed on trees in all fruit countries in the West, and it is one that is noticeably conservative.

The leading varieties of apples grown in this valley are: Rome Beauty, Jonathan, Wine Sap, Gano, Grimes' Golden and the Thunderbolt. This latter apple is strictly a Montezuma Valley production. It is a large, round apple, deep red, dotted with very small gray specks. It will keep one year in cold storage and there are good prospects that it will surpass all other winter commercial apples.

Colorado, heretofore famous for her rich deposits of gold, silver and other precious metals, is now the banner apple state, not only of the West, but of the nation. Her apples have a distinctly Colorado flavor—a trade mark she puts on all her fruits and products. These apples are in a grade of their own—they are different, and they come in competition with no other apples, because there are none like them. The flavor of Colorado apples proclaim the value of irrigation, their tenderness and juiciness is emblematic of true fruit soil, their brilliant color and surpassing keeping qualities are due to a correct altitude, perpetual sunshine while the fruit is growing and ripening, sufficient water at the proper time, and a mineral soil—a combination of essentials that can be found only in the fertile valleys of the "Rockies."

And now, to return home, all we have said about Colorado's mountain fruit valleys is true of Montezuma Valley. It is a mountain valley, has the true fruit soil, the altitude is exactly right to produce apples that keep, the sun shines, the water is used when it is needed. Colorado apples are the best grown in the United States, and Montezuma Valley apples are the best grown in Colorado. Our

house cleared \$475 from three-fourths of an acre of summer apples. In 1909, Mr. O'Rourke picked 1,000 boxes of apples from one and three-fourths acres of apple orchard of mixed varieties which netted him \$1 per box. Peaches, pears, cherries, plums, grapes and all kinds of small fruit have been thoroughly tested, with most satisfactory results.

Fruit and potatoes are the two most profitable crops, but wheat, oats, corn



PACKING SCENE IN MONTEZUMA VALLEY ORCHARD

fruit has been awarded many national and state premiums.

Some idea of the profits to be derived from growing can be had from the following figures: Mr. W. T. Bozman, manager of the McElmo orchard, shipped nine car loads of apples to Denver that netted him \$1.70 per box. These apples had the disadvantage of being mixed varieties. Ten-year-old trees in this orchard averaged 15 boxes to the tree—though 25 boxes were picked from a number of the latter. This makes, allowing 50 trees to the acre, which is the proper number, a net profit of \$1,020 per acre from ten-year-old trees. In 1908, Mr. Garling-

and alfalfa are a success in every sense. Hay and alfalfa are extensively grown.

The county first gained notice through its excellence as a stock country. The summer range is practically unlimited and there is an abundance of feed and forage in the lower lands in winter.

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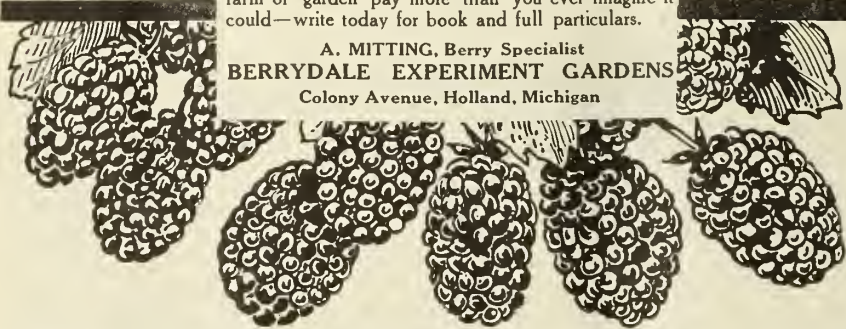
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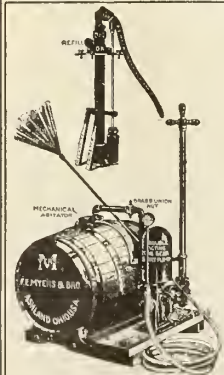
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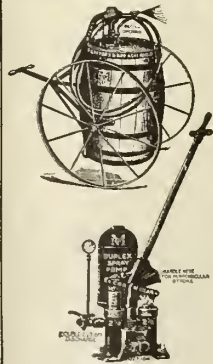


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in Colorado, Utah, New
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VOLUME VI

DECEMBER 1912

NUMBER 5

"Get Together and Stay Together"—Our Slogan

By R. E. TURPIN

Everywhere now in the intermountain fruit-growing states the problem of marketing is the foremost issue. Discussion of this question assumed a much greater activity last season; it is coming on now in a big wave of interest and energy. In a short time the period of the annual meetings of the association will be at hand and whatever changes are to be made for the coming season will be largely determined.

The great need, then, is to take careful thought, to consider well the various plans proposed, and try to find the best course for the growers concerned. In this and succeeding issues the Fruit Journal will attempt to cover this question as fully as possible.

From every side and with an ominous emphasis never heard before, comes the message to the fruit-grower: Get together. The message comes not in the form of a suggestion, nor as a proposal from one man to another, nor from one association to another: this message is the voice of inexcusable conditions and it comes in the form of a command.

Some of us may still think getting together is a matter of option; not so. To fail to do so is like breaking a law: a matter of penalty. The fruit-growers of the intermountain west are in a nation-wide business. They come in contact with organizations of national scope, with which they can not evenly deal unless they, the fruit-growers, are well organized and on as wide a basis as is practically possible.

The first step in this direction is that there be a fruit-growers' association in every fruit-growing district in the large territory concerned. The larger organization will be no stronger than its constituent parts; therefore in order that the larger organization hold together when the great tests come, the local associations composing it must be strong ones.

This means that, in the fruit-growing districts affected, that all local growers' interests be bound together in one common purpose, preferably in one association. If in one given district there is more than one association, then these several associations should proceed at once to draw together so that in such matters as a uniform grading, uniform inspection, sale of product, they can act as one. Neither the ambition of any man or set of men should prevent the growers from insisting on such a merging of local interests.

Their battle for a fair return for what they grow is not with one another; they do not sell their fruit to one another, nor buy of one another; their struggle is with forces wholly outside of their territory. This being the fact, why not do away with local competition; quit paying out money to support a rivalry that necessarily means less money for your fruit.

Once a single association has been established in a given district, or several antagonistic associations have agreed to act together, then the individual members should, without exception, stick to their organization.

Sticking to an organization does not mean, as has been contended, to restrain and cramp a member's individuality, or to set a limit on the advance of his opinions. On the contrary, it means to afford a real machinery, an adequate platform, for the presentation of his opinions. To the organization, in meeting assembled, he present his ideas—with all the force there is in him. Those who have other opinions, or who differ with him, present their views—with all their might.

Finally, there is a vote.

One idea or one set of ideas is adopted.

That idea or set of ideas should be binding on each member for the ensuing year. It does not mean that those whose policies have failed to carry must give them up; at the next annual meeting they may again be brought up and pressed for adoption. It just means to fight your battles inside of the organization and at the time fixed for such contests—the annual meeting.

During the period between annual meetings the members of an association should abide by its rules and regulations—without a single exception. Many of the rules from which we suffer can be traced to the fact that in each association there are growers who, for some transient advantage, will, after they have been taken care of in the way of a large advance of supplies, desert their fellows and open a hole for attack on the whole body.

Seen in the right light such a practice is absolutely unfair. Most of the growers who do it have not thought of what a blow it is to an organization when they, trading on the absence of individual competition and price-cutting which their association has established, sell their crop, or part of their crop, to some tramp buyer.

More and more the growers who, through thick and thin are loyal to the association, see that the prime necessity for an organization worth the name is strict compliance to rules and regulations. They feel that those who habitually break over the lines at critical times are better outside of the organization than inside. They want to work only with those whom they can depend upon. In fact, if the fruit-grower is to obtain what is coming to him out of the gross proceeds he will do so only through organization that stands like a stone wall. Under this necessity the day is at hand when an inflexible law of an association will be that all members must stick to the organization throughout the season.

At the annual meetings of the associations this winter, the need of such a binding agreement on the part of the members should be presented and fully discussed. After it has been thus laid before the meeting—including what lack of close co-operation has cost the grower this season—most of the members will realize the importance of standing shoulder to shoulder as never before. Those who do not see the importance of complying with the regulations should remain out of the association for the season. They will help their fellow-growers more by doing this than they will by staying in part of the time and getting out the rest of the time. Nor should any one take offense at the adoption of such a course by an association, for it does not arise from the desire of the majority to dictate to the minority, or to the individual. It is a condition of modern commerce that dictates thorough and strict organization.

Once the local association has, by the mutual agreement of its members, been tightened up so that what rules it adopts are carried out, the next step is that the natural group of such associations—those, to wit, handling the same general varieties of fruit, having the same style of pack, and occupying a territory geographically connected—unite under one selling agency. First, all the interests in a county drawn together and acting as

one; then the counties with the same product to market coming together under one selling head.

To accomplish this third step, the prejudices that narrowness and suspicion always try to invoke must be cast aside. The fear that one district will get some advantage must be overlooked for the great general benefits to be obtained.

The manager of one of the associations in one of the Western Slope fruit counties of Colorado had about concluded the sale of a large amount of extra fancy Jonathan apples. But at the last moment the buyer wired that an association manager in an adjacent county, which raised equally good Jonathans, had offered him Jonathans at 15 cents a box less.

The deal fell through. The buyer went to the other county; rival associations had given him 15 cents a box more profit. The grower paid the bill.

This is but one instance of many during the selling season.

Another kind of a case: a manager in one of these counties had a good customer down in Texas. He was buying outright and that had been his practice for some seasons. This year, after he had taken a number of cars, he wired that the manager of an association in a neighboring Western Slope county was consigning apples to him. Of course, he didn't want to buy any more. This manager, if he wanted to send any more apples down there, would have to consign. So these two associations had worked to bring about a practice which the grower greatly desires to have discontinued—that of consignment.

Let us get together, then, growers, first in one strong local organization, then in a group of such organizations under a central selling agency.

The leading article in the next number of the Fruit Journal will deal with details as to how such an organization may be worked out, with some of the advantages to be derived therefrom.

of the non-irrigated land at present not under cultivation in the Grand Valley. Just below these high lands to be irrigated are the immense profitable peach, apple and pear orchards which have made Colorado famous. Some of this land has paid returns as high as \$500 per acre in a single season, and the apparent willingness of the orchardists already in the Grand Valley to take the risk of what appears to be high irrigation charges led the government officials to recommend construction in spite of the high cost.

This project illustrates also the huge amount of red tape which must be unwound to permit work to go on. Twenty-two years ago the government engineers first made a favorable report upon this project, and all lands comprised within the proposed district were withdrawn from entry immediately upon the passage of the Reclamation Act. President Roosevelt originally ordered a start to be made upon the canal and Secretary Garfield had actually obeyed the order when the change of administrations occurred. Secretary Ballinger succeeded in tying up the work during his entire term of office and it was not until the advent of Secretary Fisher that the red tape began again to unravel.

It is anticipated that five years will be required for the completion of tunnels and canals.

Tunneling to Myriad Fruit Farms in the Valley of the Grand River

By LOUIS MEYER, Clifton, Colo.



SHOWING GRAND RIVER AND MOUNTAINS THROUGH WHICH TUNNEL WILL BE BORED FOR THE GRAND VALLEY PROJECT

Photo by M. Jones

An undertaking altogether unique is that which was formally inaugurated by the United States Reclamation Service when the first shovelful of earth was turned on what is known as the Grand Valley (Colorado irrigation ber 22.

project), on the morning of October 22. Secretary of the Interior Walter I. Fisher of the Department of Interior was scheduled to be present, but political engagements prevented this and elaborate ceremonies were carried out by prominent residents of Grand Junction and of the state of Colorado.

In this project the government is undertaking to reclaim desert land at a cost of approximately \$90 per acre, which is the maximum cost estimate of any project now being carried out by the United States government. At first thought this estimate would deter any prospective homeseeker from taking up government land, with the hope of making it profitable, but the

marvelous returns from orchards already under cultivation in that section led the Board of Army Engineers, Secretary Fisher and President Taft to recommend the construction of the needed tunnels and canals despite its great cost.

The engineers estimate that the project, when completed, will cost in the neighborhood of \$5,000,000, which must be distributed over an area of 52,000 acres. Half the land is under private ownership, and these individuals have agreed to guarantee that the land under the proposed system shall be taken up, and furthermore that the government be repaid for the entire sum invested.

The government now has a large force of men and teams at work on the tunnel through the mountain which will tap the Grand river. This tunnel will be about 7,500 feet in length. The canals will extend for a distance of 50 miles and will take in practically all

CHRYSANTHEMUM

SHOW A SUCCESS.

An annual affair at the greenhouses of the Department of Agriculture is the chrysanthemum show. Each year some new varieties are shown, attracting considerable attention, while the older and better known sorts always have their admirers. But the little pompons and singles have almost as many adherents as their larger brothers. These smaller flowers of the daisy family have been cultivated into many curious shades and markings. One of the unnamed seedlings is a white flower freckled with pink. There were yellows and pinks and reds and buffs, solid and mixed hues, and of varied form and size. One large white and particularly robust flower was the center of attention, particularly because it was named Christy Mathewson. Then there was the Mrs. Taft, Mrs. Roosevelt and others equally well known.

MORE DOUBLE TRACK ON THE RIO GRANDE RAILROAD

Contract for 17 miles of second track, extending from Tucker to Thistle, Utah, has just been awarded the Utah Construction company of Ogden, Utah. This, when completed, will, in connection with the nine-mile track recently awarded the Kilpatrick Brothers, make a continuous stretch of 50 miles of double track, insuring prompt handling of the immense coal and coke tonnage from the Utah fields to the smelters and reduction plants in Salt Lake City, Butte, Mont., Ely, Nevada, and the commercial trade on the Pacific coast.

There is a very great activity along the entire line of the Denver & Rio Grande.

A Discussion of the Fruit Growers' Balance Sheet

By E. P. TAYLOR, Consulting Horticulturist

Here is a tonic for you, brother grower. The study and aggressive optimism of E. P. Taylor is surely a great asset of the Western Slope of Colorado. Not ignoring nor minimizing the present slack conditions of the industry, he yet, in the following article points the unshaken and unshakable bases for dynamic confidence in fruit-growing in the Intermountain states. There is nothing so costly as discouragement; it is the worst sort of dissipation. There is, therefore, an inspired timeliness in the sane comments of Mr. Taylor on our situation. It will benefit many of us to take home what he says and to have it handy so as to re-read when another batch of returns has come in.

In a year of large production and low prices as the one we are just passing through the fruit-grower is in danger of underestimating the advantages of his industry. It is natural that his dollar a box apples should loom up in most discouraging proportions. His conclusions and plans for the future will be more rational if he does not allow the present cloud of low fruit prices to obscure the vision of 45-cent potatoes or of 15-cent corn and low beef and pork prices such as the country has also passed through not many years ago.

Optimism should be tempered with good judgment. We should not deceive ourselves by thinking that because we are fruit growers in one of the best fruit districts in the United States that we are never to get any bumps. There are certainly no branches of agriculture exempt from chances and conditions beyond our control nor are there any vocations more substantial or fundamentally safe in the long run than horticulture.

The business man at intervals frames a balance sheet to show himself or others the state of his affairs. For some of us it would be embarrassing to exhibit our bank balances for this year though if we take the balance for a period of years and include the advantages of health, community life, education, climate, home building, etc., I believe that Western Slope fruit-growers will find progress rather than retrogression and that their field of labor still holds its place as one of the most inviting agricultural pursuits in the state.

The Liabilities.

In considering the liabilities of the industry we must first include the capital invested. Without a doubt many people have engaged in fruit-growing in Western Colorado with insufficient working capital and upon an inflated land valuation. I do not believe that the failures have resulted from over inflated land valuation so much, however, as from insufficient initial payment on the land and an interest item too large for the rancher to meet in the face of years of partial failures from frost or low fruit prices. I have noticed that many of the growers who are losing their grip in the fruit game are those who became over-enthusiastic at the time of the purchase of their land and undertook propositions far beyond their means.

Cost of production must be considered as a liability. We have, it must be admitted, a high cost of production to meet. Cost of labor is high and it is likely will continue so. Cost of orchard machinery and orchard supplies such as boxes, paper, arsenate of lead, lime-sulphur mixtures, etc., is high though being reduced by home manufacturing plants or by purchase of



E. P. TAYLOR, CONSULTING HORTICULTURIST

supplies in quantity through co-operative organizations. Likewise we must expect to be obliged to meet an increased cost of production incident to irrigation. Included in the cost of production should be added interest at a higher rate than charged in eastern states, taxes, insurance, water assessments, a comparatively high cost of living, and other fixed overhead charges. The above items likewise apply to inter crops grown in young orchards and to the growing of subsidiary crops upon the orchard ranch.

High transportation charge must not be overlooked as a permanent disadvantage. Our freight and express rates, though relatively high as compared with eastern territory nearer the congested centers of population are really low when we compare them with the transportation charges levied upon Pacific coast and Northwest shippers. Although one of our drawbacks, it cannot be considered an insurmountable one under proper orchard management.

In spite of a comparatively low aver-

age of years in which damaging frosts have occurred in the fruit districts of Western Colorado and notwithstanding the remarkable progress made in this territory in orchard heating, the conservative orchardist must make allowance for at least partial failure of crop from spring frosts in some years, and very rarely damage from frosts in the fall or winter injury to peaches or some varieties of young apples. He must make allowance for years of low price due to larger production of fruit throughout the country as we are experiencing this year.

The Assets.

Practically a full crop of all kinds of fruit was harvested on the Western Slope this year.

The final returns from this year's fruit sales are not yet known owing to considerable apples being still in the cellars or in storage unsold. The story of the peach deal has already been chronicled along with the balance of the more important tragedies of the year. Pears brought a good price again and I believe that the majority of Colorado pear growers have realized a nice profit on their crops. Plums, prunes and cherries are a minor consideration in Western Colorado and this year brought low prices.

Apples of extra fancy quality and of desirable kinds have been sold at a figure in most cases leaving the grower a profit after all expenses have been paid. Although a year of low apple prices, extra fancy apples of our best sorts have sold readily, some for as much as \$2.50 per box. It has been the low grades and the common sorts such as Ben Davis that have been a drag on this year's market. As the apples that are still in storage are kinds that keep well and since the later apple markets stand a good chance of an advance, it is yet possible that the apple market will break much more than even and with the help of the pears more than offset the loss on peaches. This is the experience of but one year. If we take the past five years of Western Colorado fruit growing a good profit will be shown—not so good as we hope to be able to show in the next five years but nevertheless, a most creditable one.

The returns from secondary crops grown between the tree rows, such as cantaloupes, potatoes, beans, tomatoes, corn, vegetables and small fruits for the past five years have been sufficient to encourage future plantings and the small tracts of grain and alfalfa grown on our fruit ranches have always been profitable.

The present valuation of full bearing orchards is probably no more than five years ago, in fact, probably a little less. The same may be said of unimproved fruit land. The slight decrease in valuation is of sufficient consequence to affect only those who have bought upon inflated valuations. Fully 50 per cent of the orchards of Western Colorado are still too young to have borne any fruit. During the past five years, therefore, the bearing orchards have been in many cases footing the bill for the care of the young orchards during their nonproductive period. Intercropping has to some extent lightened the load but it will be a burden that will be relieved

as these many young orchards come into bearing.

In spite of a heavy crop for this year, most varieties seem liberally set with fruit buds for next year and with a satisfactory growth of wood in bearing orchards, they are capable of increased yields.

If the orchard has had a cover crop of clover, alfalfa, peas, oats or rye, turned under, or if barnyard manure has been applied, an asset will have been added in stored plant food and in improved mechanical condition of soil which will be reflected in future crops.

If the grower has used good judgment in planting only fancy market varieties in the young orchards now ready to bear and has improved the poor varieties in his old orchard by top working, then he has added to the value of his property and so increased his assets. This weeding out of poor varieties has been going on in Western Colorado on a broad scale for years, many overcrowded old orchards have been thinned out and new orchards have been planted with greater spaces between trees. All are sure to bring their reward.

An item not to be overlooked by our fruit growers as a permanent asset is our remarkable freedom from fungi. Practically no serious fungous diseases are present on either tree or fruit. Our dry atmosphere is probably the everlasting asset responsible for this condition. No one can fully appreciate this advantage without making a visit to the orchards of humid regions, there to see the effects of scab, fruit blotch, sooty fungous, and other diseases not to say anything of the curculio, canker worm and the hordes of insect pests unknown to Colorado.

True, it is possible to control these fungous diseases but only by the most heroic spraying campaigns and often at the great risk of russetting the fruit or burning the foliage with their Bordeaux mixture or summer lime-sulphur compounds.

Likewise due to our dry atmosphere we have less waste in harvesting our hay and other crops and a slower rate of depreciation of farm buildings, fences, implements and tools, than do humid regions with rains and rusts. We also require less expensive buildings to house our implements and live stock, hay, ranch and orchard crops, and with our mild temperatures require less feed to carry our ranch live stock through the winter.

We have much to learn as to proper methods of orchard care, fruit handling and marketing. We may consider that our realization of the complexity and extent of the problem is a great step forward. This year's undersized fruit, due in part to insufficient thinning, is of great value and should, and undoubtedly will, spur orchardists on in their thinning work for next year. It is absolutely necessary that we increase the size of our fancy fruit above what it was this year.

We have learned that judicious and intelligent pruning also increases the size of fruit as well as its color, and equipped with this knowledge more and better pruning will be done.

If we could look back ten years or even five years and witness the slipshod spraying operations that were be-

ing carried on in our orchards, we would not wonder why the codling moth was threatening the fruit industry almost to a point to completely discourage all apple growers. It is true that fruit growers in Colorado have made remarkable progress in the science of spraying and are surpassed in this respect by no section in the United States. We may say without danger of contradiction that in no state in the Union are fruit growers better informed of the insect pests they have in their orchards nor in the ways of combatting them.

We have learned much in matters of irrigation and are now in better position to give our orchards enough water without giving them too much. We are in better position than ever to adopt precautions to prevent seepage as well as to undertake the reclamation of land by drainage.

We have come to appreciate the value of cover crops in our bearing orchards without losing sight of the fact that our younger orchards must be constantly cultivated.

At last we have begun to make definite progress in the method of fruit packing. No step has been needed more and no effort is more likely to be crowned with profitable results.

Likewise we have recent added advantages of artificial storage and of many modern structures for common storage upon our own grounds, we have new manufacturing plants for the utilization of our orchard byproducts, canning factories for the handling of our fruits and orchard intercrops.

Of recent years we have reached a period where a certain amount of diversification of crops is considered wise and our ranches are more liberally stocked with poultry, bees, hogs, and other live stock. We are also beginning to appreciate that efficiency and economy in orchard management is essential.

It may be said that our systems of marketing and distribution of fruit have been perfectly worked out. It cannot be denied, however, that our older fruit growers' associations have wrought miracles for the fruit growers' benefit and are today the bulwark of the fruit situation. Our co-operative fruit growers' organizations must be the avenues through which our greatest progress in fruit packing and selling must come. Some growers are prone to lay all blame for low prices of fruit to their association without looking beyond to find the natural conditions that are actually responsible, or perhaps without looking within to find that their own methods and fruit are of poor grade and really to blame for the meager returns. If selling methods are to be improved we must permit these organizations to make them. It has required years of faithful service and thought to build them up. They are the most powerful instruments available to the fruit grower and consequently among our most valuable assets today.

We must not overlook the fact that the future of Western fruit upon eastern or foreign markets rests upon quality. We must offset our increased cost of production resulting from high priced labor, cost of irrigation and high transportation charges by raising more fruit per acre, by

having more regular crops, by the production of an apple, a peach or a pear that will ship farther, keep longer, be freer from insects or blemish, be more tantalizingly appetizing by virtue of its color, lustre, aroma and flavor than any other apple, peach or pear shipped from any section of the globe in competition.

This is not only possible but ultimately inevitable with the advantages surrounding the mountain valley fruit districts of Western Colorado.

Lastly, as beneficial assets in the fruit growers' favor are his advantages of delightful social life in a thickly settled community where his youths may have the advantages of consolidated schools, where he and his family may have the benefit of churches and religious work, where telephones, electric lights, daily rural mail services are at his command, where electric trolleys and sprinkled auto courses pass his door, where the highest type of American citizenship are included in his nearby neighbors, where he has the advantage of an unsurpassed climate and an outdoor vocation conducive to perfect health and where, as he walks through his orchard, he can gaze upon such inspiring scenery as the lofty peaks and majestic mesas of the Western Rockies.

With these advantages, comforts and future prospects can we not afford to forget an occasional year of adverse conditions, count our blessings and redouble our efforts?

IS YOUR ASSOCIATION GETTING IN ON THIS BIG FOREIGN BOX TRADE?

During the apple marketing season of 1911-12 there were exported from New York 456,278 boxes of apples and from Boston 130,757 boxes. Nearly three-fourths of the total number of boxes went to Liverpool and London. The 1911-12 season from the boxed apple standpoint was not nearly as good as the preceding season, when the shipments amounted to 1,106,610 boxes.

MADISON SQUARE GARDEN SHOW OF THE ROCKIES.

The event that is looked forward to with the most interest at the present time is the big Championship Poultry show, to be held in the Auditorium, Denver, January 13th to 18th, 1913.

The committees in charge of the various important features report that the coming show will be head and shoulders over anything ever before attempted.

There will be a spirited egg laying contest among the different breeds; a contest for the best dozen eggs, with a sweepstake prize over all breeds; and, best of all, the assurance that the exhibitor will have his birds where they will be seen by the men and women who are interested in poultry more than anything else.

After considerable effort, the show management advises us they have secured a fine moving picture display, among the special features being a realistic reproduction of the Oregon State Experimental farm, which will be shown twice daily.

The members and friends of the Colorado Poultry Fanciers' association, who are backing this fine enterprise, will be glad to welcome all poultry raisers at the Thirteenth Annual Championship show.

THE FRUIT JOURNAL, one year for \$1. Special departments for every member of the family.

25,000 Miles for a Pound Peach for Our Peach Growers

Even this year, of excessive production and disjointed distribution, the large peach—the extra—where marketed by an efficient association, brought a profitable price. But keeping peaches up to size is a problem as trees grow older. That the Department of Agriculture at Washington is aware of this problem and is searching the world over to meet the needs of the peach grower is evidenced by the fact that the Department has just started their agricultural explorer, Frank N. Meyer, on a 25,000-mile journey for a peach which, according to reports, weighs one pound.

The peach is worthy of the effort, according to stories that have crept into coast areas of Manchuria and Eastern China.

The peach is described by travelers who have seen and tasted it as the biggest and most marvelous combination of external beauty and internal lusciousness. Three pounds is the apocryphal limit ascribed to the fruit by irresponsible natives of the wilds of West China. Mr. Meyer in a report to the Department promises a peach that will weigh at least a pound and is as large as a muskmelon. This wonderful peach grows in the province of Shantung.

It is known to the Chinese as the Feit Ching or Feit Tau. No specimens have ever been brought to the coast of China. Mr. Meyer did bring back with him from a previous journey several scions of the Feit Ching peach and a number of seeds. The scions failed to produce when grafted upon American grown seedling stocks. They had failed to withstand transportation. The Department experimenters took a chance with the seeds and have grown several trees at the experiment station at Fayetteville, N. C.

None of them has yet fruited and it is the belief of the experts that nothing extraordinary will be developed from the seedlings. Like other fruits, the seedling peach only develops desirable fruitings in rare instances. According to Luther Burbank, hardly more than one desirable seedling out of a planting of 100,000 seeds is to be expected by the arboriculturist.

The 25,000-mile journey of Mr. Meyer began a fortnight ago when he sailed for London for a conference with notable European agriculturalists before he takes the final dive into the Orient. It is not only the Feit Ching peach which is sounding the call of the East for the American explorer. Under the direction of the Bureau of Plant Industry Mr. Meyer is inaugurating a three-years' sojourn in the wilds of Southeastern Russia and Western China for the purpose of studying suitable crops of all sorts for growth and development in those sections of the United States where the limit of frostless days is not more than 85 or 90 per annum. Not one branch of the activities of the Department of Agriculture but all branches of its work will be observed by Mr. Meyer. Fruits, vegetables, cereals and also trees especially suited for the development of windbreaks in the windswept areas of the great plains regions will be observed by him.

At the last session of Congress an appropriation of \$50,000 was made for

the establishment at Mandam, N. D., of a governmental experiment station for just this particular class of vegetation. Quick growing crops of all sorts will be observed and shade trees and ornamental plants which can be transported and transplanted to the United States will be examined.

Mr. Meyer is accompanied by no American assistant. He will, upon his arrival in Southeastern Russia, organize his own caravan. He carries with him materials for the packing and preservation of the scions of trees and for the carrying home of roots and seeds of other plant organisms.

Interpreters will be engaged for the various stages of the long journey and coolie carriers and camel drivers will make up the remainder of his party. He expects to arrive at his starting point east of the Black sea about mid-winter. From then on he will be, for the greater portion of his time, out of the sight of a European face and for the next three years he will devote all his time to the study of the plant life of the Oriental regions. He expects to return to the United States late in 1915; but wherever possible during his long sojourn specimens for American experimentation will be despatched to the Department, and he will send in from time to time detailed reports of his progress.

The Department of Agriculture is indebted to the researches of Mr. Meyer for the famous Tamopau persimmon now being successfully developed in North Carolina. Unlike the peach the persimmon scion is capable of ready transportation. The Tamopau, a product of Central China, is a truly "puckerless persimmon." Grafted upon the common Virginia persimmon stock it grows to rapid maturity in the United States. The fruit is nearly twice the size of the Japanese variety, of a radiant orange color and wholly without seeds.

Another transplanted product of undoubted commercial value which Mr. Meyer brought back with him from China, is the wood oil nut, from which is being manufactured drying oil and varnish of the highest quality, heretofore a necessary importation, but which the Department of Agriculture has recently proved to be both ready of acclimation and reaching the fullest capacity of productivity under American conditions. The first wood nut oil trees were planted in the United States in 1907. Already the industry is on a profitable basis. The trees will grow all over southwestern sections of the United States, from the Sacramento valley to Texas. It can also be grown in Florida.

Among the ornamental trees brought in by Mr. Meyer is the globular topped willow, considered by landscape artists the most beautiful decorative tree in existence. It is one of the hardiest of deciduous trees and can be grown in any section of this country or Europe.

Mr. Meyer, before his departure, expressed the belief that this time he would manage to bring home the Feit Ching. "It will be the triumph of my trip," said he to Dr. Fairchild, chief of the division of foreign agricultural products at the Bureau of Plant Industry. "I think I have solved the problem of transporting the scions intact. I will make every effort to make a success of that one thing and if I can bring home this wonderful addition to the fruits of America I will be satisfied with the three-year journey."

HOW TO SAMPLE SOIL.

Do you know absolutely what the soil of your farm or orchard contains? If not, how do you know, except by guess work, what fertilizer it needs, and what crops will grow best there?

The man who does not know these things is unlikely to make the maximum success of his farming. His only excuse is that he does not know how to find out these things. For this reason the department of agronomy has prepared printed directions for soil sampling at the Oregon Agricultural College, and any farmer who will send samples, taken according to these directions, to Prof. H. D. Scudder, soils specialist of the experiment station, will receive a report containing information of vital importance to his farm.

"Take samples from an open field and avoid paths, gopher holes, etc., from which modified and not typical samples are likely to be obtained," says Prof. Scudder. "Select an average spot, pull up the plants growing on it, brush aside half decayed vegetable matter and bore or dig a verticle hole to where the soil changes tint, or, if no change is seen, to the depth of cultivation. Get a sample of the soil to this depth from several places in the field, mix well on cloth or coarse paper (avoid jute bagging).

"In the same manner get an average sample of the subsoil, taken below the surface sample to the depth of approximately two feet. Put it in a separate bag and label that also. Dig or bore to a depth of three or four feet, and if hard pan or any other peculiarity in structure is noted, send a properly labeled sample. If solid rock is found, state at what average depth it occurs and send a small sample.

"Send a letter by mail with as complete a history of the field as possible, the name of the nearest town, the probable selling price of the land, the elevation above the nearest river, the direction and grade of slopes. Tell how long it has been cropped and what has been raised on the land, what the yields were and whether fertilizers have been applied. If there are any peculiarities which may have a bearing on the agricultural qualities of the soil they should be mentioned in the letter. The samples should be expressed prepaid, to the experiment station soils department."

REDUCING COST OF PRODUCTION.

"An important means of reducing the cost of production," said Prof. W. J. Spillman of the Department of Agriculture, recently, "is the full utilization of equipment, since it reduces the amount of equipment necessary. The average farm horse in the northern states works only three hours a day. This is because the system of management on the average farm is so poorly planned that at certain times the work is very heavy, while at other times there is nothing to do. It is necessary to keep horses enough to meet the needs of the farm when the work is heaviest, but at other times these horses are idle. The average cost of horse labor on the farm under these conditions is about 10 cents an hour. With a well-planned cropping system that distributes the farm labor equally throughout the season it is possible to get six hours' labor per day out of the horses. When this is done the cost of horse labor per hour is reduced to 5 cents.

"Many a \$12 plow is used to plow not more than 10 acres a year. At this rate the cost per acre for the use of the plow is about 19 cents. When the same plow is used to plow 40 acres a year, the plow cost per acre is reduced to about 5 cents, or less than one-third what it is when the plow is used on only 10 acres. Approximately the same thing is true of all other items of equipment. For the reason that the equipment must be sufficient to do a great deal of work in rush periods the amount of equipment on poorly managed farms must be much larger than on well managed farms where there are no rush seasons. On the latter type of farms the work is well distributed, so that no great amount of it must be done at the same time, thus making possible a minimum of equipment.

"These examples are given merely as arguments for well planned systems of farming. Of the great strictly farm management problems that we now have before us is that of working out such systems for all sections of the country, for farms of all sizes and types."

"Don't" water horses at public watering troughs.



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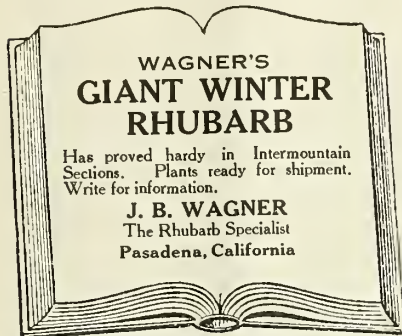
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Figure on Your Cover Crop Now

The fruit grower who has been producing clean cultivation should figure



on a cover crop for the coming season. It will surely result in more vigorous trees, larger fruit. Mr. R. S. Herrick, now of the Iowa Agricultural college, late of the Colorado Experiment station, made some thorough investigations in Colorado orchards in regard to the benefit from cover crops. The following advice from him, if followed by the grower, will be worth a good deal more than a dollar a line.

(By R. S. Herrick, Iowa Agricultural College.)

There are 38 different chemical elements which are used to make up the growth of a plant. The following nine are very essential for the proper development of the orchard plant: Carbon, hydrogen, oxygen, nitrogen, sulphur, phosphorus, potassium, calcium and iron. The three most important of these, and which are sometimes absent in available form, are nitrogen, phosphorus and potassium. A certain amount of nitrogen is required for the vigorous growth of the plant and is used principally in the formation of the woody part of the plant. Phosphorus is not as essential in fruit growing as it is in the growing of grains, as it is used to make up a large per cent of the seed but is, however, essential to aid the proper ripening of the fruit. Potassium aids in the proper coloring of the fruit and goes to make up a large per cent of the ash of both the fruit and of the fruit wood.

Many of our orchard soils are rich chemically in nitrogen, phosphorus and potassium, but oftentimes these elements are not available for the plant on account of the poor physical

condition of the soil; we mean that it lacks humus. By humus we mean the complete decay of organic matter which can be obtained by the plowing under of some green manure crop such as alfalfa, clover, vetch, oats, rye, etc.

In the East where experiments have been run with clean cultivation versus sod for orchard soils, the results were found to be in favor of the clean cultivation. Clean cultivation versus a rotational shade crop has been tried in Colorado and the results were in favor of the shade crop rotation. In the East, cover crops are used, which means the sowing of the seed in late summer and the plowing under of the green manure crop the next spring or in the early summer. Our conditions are such that this method does not work well, the greatest trouble being that the spring plowing under of a great mass of green material interferes greatly with the first summer irrigation, as it sometimes causes the soil to puddle and thereby causing the leaves to turn yellow. By shade crops is meant the sowing of the seed in the spring of the year, thus shading the soil during the summer from the sun, and the plowing under of the green crop either the following fall or the next fall, depending on whether an annual, biennial or perennial crop is grown.

Nearly all the Colorado orchard soils are very poor in humus content and this is the principal reason why they are so poor physically, that is, they are hard to work when it comes to irrigation and cultivation. Such soils do not take water readily nor do they hold it after they have been irrigated. Humus in the soil will do away to a large extent with these troubles and can be obtained by the plowing under of barnyard manure.

(Continued on page 17.)

Weather Cottages



Sometimes known as the "Swiss Barometer" is very sensitive to changes in the atmosphere. It is so adjusted that with the approach of fair weather the male figure is drawn back into the house, and the female figure carried out, but an approaching storm reverses the position of figures, the male coming outside and the female going in. They are made in different styles and sizes, out of fancy wood with thermometer.

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AND INTENSIVE AGRICULTURIST

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Being a Consolidation of **World-Wide Farming Magazine** of Denver, Colo., with the **Intermountain Fruit Journal**, of the same Volume and Number as Given Below.

INTERMOUNTAIN FRUIT JOURNAL CORPORATION, OWNER
ALFRED PATEK, Publisher R. E. TURPIN, Editor-in-Chief

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Official Organ of the American Apple Congress.
Clinton L. Oliver, Secretary, Paonia, Colorado.

Entered as Second-Class Matter at the Postoffice at Grand Junction, Colorado, under the Act of March 3, 1879.



Vol. VI DECEMBER 1912 No. 5

Announcement

I HAVE arranged with Mr. R. E. Turpin of Grand Junction, to take complete editorial charge of the Intermountain Fruit Journal, beginning with this issue. I believe the fruit growers of the entire West will agree with me that no better selection could possibly have been made. Mr. Turpin is not alone a successful fruit grower, but every important movement for the betterment of conditions in the fruit growing and marketing field has had his most cordial and active support, and in many instances has been inaugurated on his initiative. He is a well trained newspaper man and will bring to his task all the resourcefulness and talent which have been rounded out by his varied experiences.

ALFRED PATEK, Publisher

Aggressive, Definite Purpose

THE FRUIT JOURNAL has a definite, aggressive purpose—to be the militant organ of the fruit-growers of the intermountain states. Its aim is to become so in a sense not accomplished by any other such publication in the United States, with something of the faith of a crusader, in the belief that here a great work may be done.

Within the field of its chosen effort the Fruit Journal feels that there is a vast potential strength, a force that sleeps not, realizing its great power. The unit of this dormant strength is the individual fruit-grower. The

watchword that will awake this strength to a great efficiency is "organize."

When on one side one beholds the well-organized forces with whom the grower must deal, the regular and well-attended meetings of such bodies; and when one, turning to the other side, sees scarcely a district where the growers are acting as a unit—the need of a campaign for organization of the growers is well apparent. Whenever an illustration as an argument can be found to support and drive home this campaign the Fruit Journal will present them. Wherever, in any district, the campaign wins and antagonizing growers' associations merge their interests into one, that fact will be recorded in full detail and the results reported. Already there is a noticeable movement in this direction, not only to unify hitherto contending forces in separate districts, but also to reunite contiguous districts into co-operative action. It is the right way. Districts, naturally related, should draw together into a group for harmonious action along all lines of mutual advantage to the members of the groups. Such a union creates a new strength, both for aggression and defense, a strength that finally comes back to each individual grower of the body in the way of better results.

These groups should be drawn together into a large body. Where the large problems affecting the industry may be taken up, discussed and acted upon in a manner that will bring the weight of a vast body of growers behind them. In no other way will the growers win their share of the gross proceeds from the sale of their fruit—only by organization. Join the campaign in your district in behalf of strong organization.

Greater Efficiency

GREATER efficiency in all fruit-growing methods will be an active policy of the Fruit Journal for the coming year. Some of the important questions which we expect to present with the best information obtainable are:

What is the best plan for selling fruit?

What is the best way to advertise fruit?

What is the best basis for organizing a fruit growers' association?

Is there a prospect of conquering codling moth?

What is the best remedy for woolly aphis on apple tree roots?

What San Jose scale has done elsewhere; forewarned is forearmed.

What are the latest tendencies and demands of the trade as to the apple pack?

What increase of apple production may we expect in the next five years?

THE MIDWINTER SHOW.

National Western Stock Show to Be Larger and Better Than Ever.

The dates for the Eighth Annual National Stock Show at Denver have been fixed for January 20 to 25 inclusive, and plans for the big event are already well under way. There

will be several new features in the show this winter, including a new department for industrial exhibits and the enlarging of the old feed and forage section to include all kinds of farm crop exhibits, and hereafter this will be known as the "Agricultural Section."

"The people seem determined to turn the exhibition into a regular exposition," said Secretary Johnson. "We started as a simple stock show and the live stock exhibits will still continue to be the principal feature, but the demand for opportunity to exhibit agricultural products and machinery and industrial exhibits has become so strong that to the extent of our space we will yield to this demand. There is more interest in every part of the next show than we ever had before at this time. The Poultry Show, the Horse Show and the Stock Show in every part will be larger and of higher quality than ever before, and we expect this show to be a record-breaker in every way."

The premium list, with over \$30,000 of premiums offered, is now out, and preparations are being made all over the west for the big midwinter event in Denver. The railroads will make special low rates.

Departing from the usual plan, there will be erected at San Francisco in 1915 a modern creamery which will be one of the group of live stock buildings. This will enable exhibitors and visitors to follow the milk from the milking barn through its various treatments into manufactured products.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, etc., of Intermountain Fruit Journal and Intensive Agriculturist, published monthly at Grand Junction, Colo., required by the Act of August 24, 1912:

Editor—R. E. Turpin, Grand Junction, Colo.

Managing Editor—R. E. Turpin, Grand Junction, Colo.

Business Manager—I. C. Weil, Denver, Colo.

Publisher—Alfred Patek, Denver, Colo.

Owners—(If a corporation, give names and addresses of stockholders holding 1 per cent or more of total amount of stock):

Intermountain Fruit Journal Corporation, Alfred Patek

(Known bondholders, mortgagors and other security holders holding 1 per cent or more of total amount of bonds, mortgages, or other securities):

None.

ALFRED PATEK,
Publisher.

Signature of Editor, Publisher, Business Manager or Owner.

Sworn to and subscribed before me this 10th day of December, 1912.

ARTILLA T. GUE,

Notary Public in and for the City and County of Denver, State of Colorado. My commission expires Sept. 18, 1916. (SEAL)



The Association of American Advertisers has examined and certified to the circulation of this publication. The figures of circulation contained in the Association's report only are guaranteed.

Association of American Advertisers
No. 2420 Whitehall Bldg. N. Y. City

Figure on Your Cover Crop Now

(Continued from page 15.)

but on account of the scarcity of it the orchardists will have to rely to a great extent on the growing and the plowing under of a shade crop.

Shade crops are divided into two classes, viz: leguminous or non-leguminous. The legumes are plants like the alfalfa, clovers, etc.; the non-legumes are the grains, like oats, rye, barley, etc. For orchard soils which possess a hard under soil there is no plant like alfalfa. This is not hard to handle if it is not allowed to go to seed and is plowed under in the fall of the second year. It is well to sow oats, about one-half bushel to the acre, with the alfalfa for a nurse crop. The oats should be cut before they go to seed and they can be harvested for feed. Alfalfa can be sown later than clover with good results but, as a rule, it is better to sow all shade crops in the orchard as early in the spring as possible. Mammoth red clover makes a very good orchard shade crop, but sometimes it is hard to get the clover to grow well at first unless it has the proper amount of moisture. This is one reason why clover is not always a success in peach orchards, as sometimes the clover requires more water than is good for the peach trees. In growing anything in the orchard, one must remember that the trees are the first consideration and the crop of second importance. For this reason, do not over-irrigate the trees in order to get a good stand of clover, etc. Winter vetch makes a good shade crop provided it is plowed under in the fall of the same year that it is planted, as it goes to seed the second year in mid-summer and then dies. Field peas can be used in the higher altitudes if sowed very early in the spring. The field peas should be disced under before they go to seed. For peaches in bearing follow the field peas with rye or bald barley and plow the rye or bald barley under in the fall. Sweet clover should be treated about the same as winter vetch.

At present there is no system worked out in regard to what kind of shade crops to grow or what kind of rotation to follow in the management of orchard shade crops but no doubt there is a very great need for the use of them in a great many of our Colorado orchards.

Box Labels

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Will be known in a reasonable length of time as one of the biggest fruit producing sections in the world. Time is money. Do not let another year go by before you get an investment in this country, because if you want to go into the fruit business, get your trees in this spring. They will double the value of your land in another year. You can buy fruit land with a full water right for \$50 per acre, in Montezuma County; the very best improved for \$100 per acre—it can't be beat any place on earth; deep, red soil; sheltered land with the right elevation for fruit; surrounded by mountains—the prettiest valleys in the state, with the best water rights any one could wish for. This land will double in value. If you cannot come in there right now, buy it and leave it lie for a year or so; if you wait another year you won't have an opportunity to buy this land at any reasonable price.

Things are Just Getting Started Now

Now is the time to buy, whether you can move on it for a year or not. Of course, it would be better for you to plant your orchard as soon as possible. Let us furnish you with maps and prospectus of the county, affidavits and pictures of the few orchards that have been

there. On some of the old cattle ranches, we can show you orchards that have produced for eighteen years, and have never had a failure. They have had no care, but produce the largest and best colored and the best flavored fruit in the state. We can sell you this land on long time payments. The increase in value will make you this land free in a couple of years, and if you want a home and a place to live, you can't beat Montezuma county, no matter where you go nor how hard you try.

It is the Finest Climate

and the most home-like country; you can raise everything that grows in this Western climate. They can't beat us on any article that grows in Colorado; we do not make specialties of anything, as they do in other parts of the state, but we raise an abundance of all kinds of crops. In addition to this, we have a great mountain range, with all kinds of heavy grasses in abundance, all around us, and we have coal, timber and the finest mountain water that can be had and lots of it. We have good towns, but few people for the amount of country that we have to develop. What people we have are good American people and good citizens.

L. J. Mountz and Company

1743 Champa Street

Denver, Colo.

BIG CELEBRATION MARKS COMPLETION GRAND SIPHON AT YUMA.

A three-days celebration, unique and original, was held at Yuma, Arizona, November 18-20, to commemorate the completion of the enormous siphon which is now carrying the waters of the Colorado river to the main canal on the Arizona side of the valley.

This huge bore, 15 feet in diameter and 1,000 feet long, passes under the Colorado river. Flowing through it is a portion of the stream which has been diverted into a canal on the California side by the Laguna dam, 12 miles above. The volume of water passing through the siphon is calculated at 1,400 second feet, or 3,769,920 gallons per minute.

Up to the present season all the irrigation at Yuma has been done by pumps lifting water from the river. This method has been expensive and the development of nearly 100,000 acres of very fertile land has been held in check. With the assurance of an abundant supply of gravity canals the valley has taken on new life and is getting ready for an era of progress and development. Yuma will offer her visitors an abundance of tropical fruits and flowers, and a hospitable welcome on this occasion.

SEEKING GOOD ROADS DATA.

Senator Bonathan Bourne, jr., chairman of the Senate Postoffice committee and a member of the joint committee of Congress appointed to study the subject of federal aid in the construction of highways, is busy during his recess obtaining data from each of the states regarding road laws, progress of highway improvement, and the views of governors regarding plans for federal co-operation. By gathering this data during the recess the work of the committee will be greatly facilitated when a meeting is held in December.

Senator Bourne is also taking the same initial steps he took in his study of the parcels post problem, namely, through our ambassadors and ministers, endeavoring to obtain information from other countries as to their methods adopted and results obtained.

AUTOS MAY SUPPLANT THE RURAL MAIL WAGON.

The little mail wagon is doomed to go the way of all other slow-moving contrivances. It's too slow for twentieth century people. Our mail must be delivered more quickly, we want what we want when we want it, not the day after or even the hour after.

The auto is the logical successor of this little mail wagon, and it's coming fast. It is already in use in some sections with perfect satisfaction and now Uncle Sam is sitting up and taking notice of the demand for its extension.

Some enterprising congressman has started a movement by introducing a bill to establish an experimental auto-post rural service on certain routes to be selected by the postmaster general. One of the conditions is that the routes selected for the experiment

shall embrace only well graded and macadamized roads. The auto-coaches are to be equipped for carrying mail, merchandise, baggage and passengers, the capacity to be at least ten passengers, and fifteen hundred pounds of baggage or merchandise. The round-trip fare to any point on the route is to be 10 cents for adults and 5 cents for children. The speed capacity of

the auto-coach to be not less than 100 miles a day.

Now that the presidential campaign is over, we hope to see business conditions get back into their normal stride.

THE FRUIT JOURNAL, one year for \$1. Special departments for every member of the family.

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Western Peach Crosses the Ocean to Find Market

A proposal to ship so perishable a product as a peach from the far west in the United States to England would, a few years ago, have been greeted with derision. That it was done this year, and successfully and profitably done, shows how the progress of one decade exceeds the expectations of the preceding period.

Wenatchee, Washington, shipped the peaches. It is estimated that they will bring the growers concerned about 20 cents a standard box more than the market price in this country.

A former fruit grower in Colorado, now living in London, has sent the Fruit Journal the following account of the invasion of England by the Western Elberta:

Increasingly, by the aid of modern means of transport and the continual improvement in the methods of food preservation, the resources of the new world are being made to minister to the wants of the old, turning what were once the luxuries of life into almost commonplace necessities. We are all familiar with the American apple, and expect to be able to purchase it from any fruiterer. Yet it was once an innovation. And now comes the American peach, which, while there is no possibility of its revolutionizing the market, promises to prolong the peach season, and to make the enjoyment of this delicious fruit possible to those

people who find the normal price of the English varieties somewhat above their means.

The new source of supply is the Wenatchee valley, in the state of Washington. A consignment of about 50,000 of these peaches arrived this week, and Convent-garden is watching with interest the result of what is looked on as something of a commercial experiment. Wenatchee valley is on the Pacific coast. It already exports apples largely to this country, and the climate is admirably suited to the outdoor growth of peaches. The fruit sent over this week is of the Elberta variety.

What has been interesting Covent-garden dealers has been the successful manner in which the transit of the fruit has been accomplished. Peaches are very fragile, and easily spoiled, but these survived the journey of many thousands of miles uninjured, and were to be seen at the market yesterday looking as fresh as if they had just come off the trees. This little triumph of transportation was achieved by packing the peaches in small boxes, each peach wrapped in paper, and keeping them in a freezing atmosphere during the long express train journey and on the voyage.

English Superiority.

A Daily Telegraph representative had a conversation with a fruit dealer regarding the prospect of this latest form of American invasion. The fruit had already had a good sale, he said, and would become more popular as its advent became generally known, particularly with hotels and restaurants, for the preparation of those dishes in which peaches form an important part. In the autumn the market has to depend very largely on the English outdoor peach, a good supply of which is always rendered questionable by our uncertain climate, and the present wholesale price of good fruit is from 6s to 10s per dozen (from \$1.44 to \$2.40 per dozen.) In quality, however, the English product is far superior to its rival, and our informant expressed the opinion that, while the American peach promised to open up a new branch of the trade, it would never be regarded as likely to displace, or injure, the business done in the home-grown article. It is an import which will render it possible for those people who cannot afford the higher class English article to buy and enjoy excellent fresh peaches, he said, but the fact that they will have to come by express delivery will make it impossible for us to buy Wenatchee valley peaches by the pound, as we do the apples.

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"IT IS BETTER TO TAKE A POLICY IN THE NORTHWESTERN,
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Please send me pamphlet explaining your policies. Payable to wife or children, or for my own old age, or Corporation and partnership.‡

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STREET

CITY AND STATE

‡Draw line under plan desired.



HARVEST SCENE IN THE UNCOMPAHGRE VALLEY IN COLORADO
Cut by Courtesy of the D. & R. G. Railroad

Delta County Raw Land Proposition

By A. W. SOWERS

Colorado is destined to become one of the greatest agricultural and fruit raising sections in the world. This fact is admitted by reliable authorities on the subject. Already Colorado produces more than \$100,000,000 annually from the soil.

Where, then, are the localities in Colorado where the best results are be-

ing obtained at this time on the farms, and where are the sections that have the most encouraging future possibilities?

Of course, water is the great essential for farming in Colorado. There are sections with plenty of good land, but lacking in a sufficient supply of water for irrigation. Care, then,

should be exercised in selecting land with good and sufficient water rights. This fundamental rule observed, the farmer is ready to go to work building a home in the country that will make him independent and comfortable in a few years.

For those who are seeking a home in Colorado, or for the Colorado farmer who desires to move from the locality in which he is now located, special mention is made of Delta and Montrose counties. Here lies a great garden spot. And in this fertile section, abundantly favored by Nature, is a district that offers wonderful opportunities for the farmer seeking a new home where he can enjoy the fruits of his labors to the greatest measure.

The Escalante Redlands Mesa is the name of that district. Located in the southwestern part of Delta county, and the northwestern part of Montrose county, its climate is marked by cool summers and mild winters. Its soil is particularly adapted to the raising of apples, peaches, potatoes and alfalfa. What more can be said in so few words? Land that is capable of producing those crops must have the best soil in the world.

Here is a great opportunity for the homesteader. The land belongs to the government and can be taken up under the United States Desert Act at a price of \$1.25 an acre. The Sam Farmer Escalante Irrigation company is constructing an irrigation system for the purpose of supplying this land with water. Sam Farmer is the head of this organization. He is known as one of the best agriculturists on the Western slope. He has lived in that



Save Water by using Lennon Steel Flumes NO CROSS BARS

Our smooth steel flumes do not leak, are cheaper than wood, have no cross bars on the small sizes to catch floating weeds and do not require an expert to erect.

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Are you
troubled with

Leaf Rollers?

If so, an application of

Target Brand Scale Destroyer

in the Spring, just before the buds begin to swell, will completely control them, as well as San Jose scale, etc.

Write to Entomological Department, Fort Collins, Colorado, for Bulletin on Leaf-Roller Issued by Them.

Target Brand Scale Destroyer is guaranteed to be positively the highest grade soluble oil on the market.

Write for folder on Leaf-Roller and name of nearest dealer.

Horticultural Chemical Co.
Philadelphia, Pa.

section for many years and everybody over there knows him. He is devoting his energies toward increasing the rural population of Delta and Montrose counties.

Land under the Sam Farmer project can be taken up at a first cost of 25 cents an acre at the time of filing. This money is payable to the federal government. The final payment of \$1 per acre must be made upon making final proof and the obtaining of a government patent. The settler need not wait five years to prove up. Upon delivery of water to the land, with one-eighth of it placed under cultivation, a government patent may be obtained by making the final payment of \$1 per acre.

The terms of the water contract are considered reasonable. The water costs \$60 per acre, but the terms of payment are such that it is said the land will more than pay its own way.

Ten dollars per acre is the amount asked for the first payment upon signing the contract for water. At the end of a year another payment of \$10 per acre is due. There is no interest to be paid on this second payment. Five years' time is then given in which to pay the balance, with interest at the legal rate of 6 per cent.

This is considered one of the best land opportunities open in Colorado. It lies in the heart of the best fruit raising section of the Western slope. Bearing orchard land in the immediate vicinity is now valued at from \$1,000 to \$1,500 per acre. Fortunes have been made in this locality on land purchased in the same manner. The settler has six years in which to make his payments. Long before the end of that period his farm should be self-supporting.

Purchased at such a low figure, there is every reason why the land should be greatly increased in value by the time it is paid for under the payment system.

In other words, the man with a small amount of money to pay down and start himself in the Escalante district, turns his footsteps along the road of prosperity and independence. Delta and Montrose counties are banner fruit raising counties in Colorado. Their fame in this respect is world-wide. Prospective settlers can easily inform themselves accurately about the Escalante project, and they will do well to obtain this information before they settle elsewhere.

CONVENTION CALL.

The twenty-first annual convention of the National League of Commission Merchants of the United States will be held in Cincinnati, Ohio, at the Hotel Sinton, January 8th to 10th, inclusive, for the election of its officers, and for consideration and discussion upon all problems affecting transportation and marketing of fruits, vegetables, butter, eggs, poultry, etc.

The scope of the league's operations and representation extending to 29 of the largest and most important cities and marketing centers of the United States, would naturally make the discussions at this annual meeting of vital interest to all sections of the country. Therefore, its sessions are open to the public.

A cordial invitation is hereby tendered to produce growers and shippers, representatives of the press, including trade and agricultural papers, railroad representatives, manufacturers of produce packages, and weights and measures officials.

As organization and co-operation are the greatest factors tending to protection and upbuilding of such industries, it naturally emphasizes the importance of the twenty-first annual convention for which this call is issued, and to which all interested will be heartily welcome.

J. H. SHREVE,

Secretary.

Attest:

G. W. KIMBALL.

NEW PLAN FOR INCREASING YIELDS.

At a meeting in Washington, Prof. Hugo de Vries, director of the botanical gardens of Amsterdam, Holland, presented a new theory for increasing the yield of vegetation per acre. "Some means must be found," he said "of obtaining a greater yield from each acre than is possible today, for with the increasing population of the world and the rapid exhaustion of the fields, the great scientific world must come to the rescue to save the world of the future from starvation. Science has done much to aid in this, but the work which has been accomplished so far is but the laying of a foundation for the work which must follow.

"What are now needed are entirely new forms of plant life, as the present possibilities of selecting and combining the best strains are being rapidly exhausted. Experiments are now laying a firm foundation for producing new forms of plant life. I have nothing better than a theory at present, but I hope to prove it practicable. What I propose to do is to study each form of plant life, and find ways in which nature combines the best in strains to reach the perfect production. Then, by experiments which would be made to produce the very

highest life, it may be possible to breed a plant which will produce much more than the form of life nature achieves."

Prof. de Vries is called the "father" of modern thought in plant and animal breeding, and is a recognized authority on such matters.

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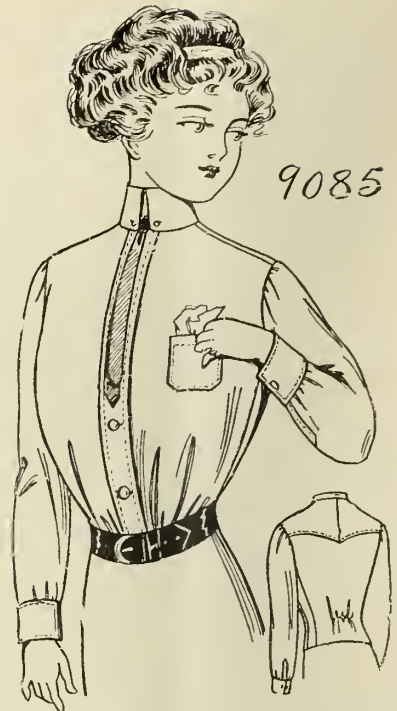
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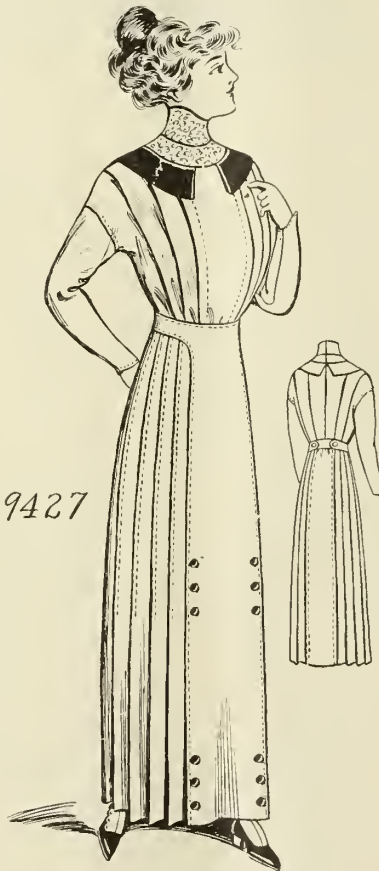
9085. A New Design.
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Ladies' Dress.

Blue velvet, with trimming of blue satin, and self covered buttons, was used for this design. The yoke is of shadow lace, the long shoulder forms a cap over the upper part of the arm. The skirt has a panel in front and back, and the sides are plaited. The Bertha may be omitted. The pattern is cut in five sizes: 34, 36, 38, 40 and 42 inches bust measure. It requires six and one-half yards of 44-inch material for a 36-inch size.



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Coat for Misses and Small Women
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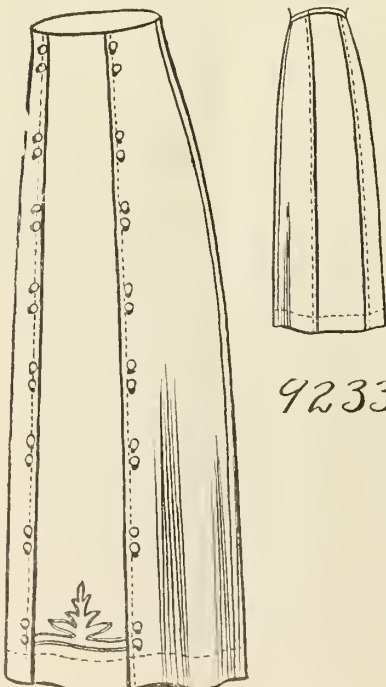


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9233. A Splendid Stylish Design.
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Special for This Month

Send \$1.00 for one year's subscription to the Fruit Journal and you may have free of charge your choice of five patterns. It is not necessary to pick all five in one month.

BEWARE OF THE PACKAGE SEEDS.

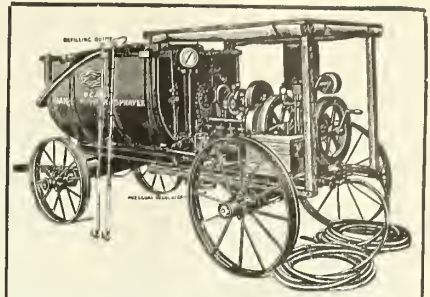
This is not planting time, but a word mentioned now may save money in the spring to the people who are interested in the home vegetable garden, for most of the seeds used by them in planting the gardens are bought in packets either from local stores where box seeds are offered for sale, or they are ordered by mail after consulting the catalogue of a favorite seedsman. Box seeds are put up in showy packets, lithographed in colors, and packed in boxes containing collections of all the common kinds and varieties of vegetables.

During the years 1907, 1908, 1909, and 1910 box seeds were purchased

and tested for germination by the Department of Agriculture, and last year seeds were bought from firms whose principal business is filling mail orders from catalogues. The average germination of all the packets of box seeds was 60.5 per cent, and the average germination of the mail-order seeds was 777.5 per cent. Of the 12,454 packets of box seeds, 658, or approximately 3.5 per cent failed to germinate. Of the 5,117 packets of mail-order seeds, 74, or approximately 1.2 per cent, germinated 10 per cent or less, and 51, or approximately 0.85 per cent failed to germinate.

There is doubtless an economic reason for the higher average quality of the seeds sold by mail-order houses as compared with the seeds sent out by many of the houses selling box seeds, explain officials of the Department of Agriculture. It is possible for a new firm or one without reputation to purchase a large quantity of seeds, put them up in showy packets and boxes, and by means of attractive prices dispose of them to local merchants either on commission or by sale outright. Mail-order houses, on the other hand, are dependent for their trade on proportionately few new customers each year, their business being based largely on the satisfactory quality of their seeds which purchasers have used in previous years.

It is considered by the department that the sale of packeted vegetable seeds will not be on a proper basis until each packet is labeled with the percentage of live seed which it contains. This practice would do away with the trade in seeds of low vitality and at the same time give the purchaser the information to which he is entitled and without which he can not use to the best advantage the seeds he buys.



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CO-OPERATIVE PLAN TO CUT FOOD COST.

The Fruit Journal will aim to keep its readers posted in co-operative experiments. Establishment of curb markets in every borough in Allegheny county, the opening of co-operative stores, shipment of butter, eggs and vegetables by parcels post, beginning January 1, when the new parcels post law becomes effective, and the shipment of fruits and vegetables from Florida in winter direct from producer to consumer, are matters which the Marketing club of Pittsburg has under consideration.

At a well attended meeting 500 women present indorsed the proposed farmers' market to be built on the wharf at Duquesne Way. They also took steps to organize a co-operative buying association, to be organized under the laws of Pennsylvania. The stock is to be sold at the rate of \$5 a share, and not more than 20 shares can be held by a single individual.

An egg to belong to the strictly fresh egg class should not be over three days old in summer weather, and a week old during winter. But in either case they may be kept in a cool temperature. Heat very quickly stales eggs. Crates of eggs allowed to remain in the hot sun for several hours will quickly change their condition.

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SPRAYED ORCHARD NEAR BOISE IDAHO ON THE OREGON SHORT LINE RAILROAD

Arrowrock Dam in Idaho Is a Fine and Wonderful Government Project

An important event in connection with the great work of desert reclamation with the government's carrying on in the West occurred recently in a remote section of the Boise Canyon in southern Idaho, in the striking of bed rock for the foundation of Arrowrock dam. This will be one of the largest structures of the reclamation service, and the highest dam in the world. It will be 351 feet high, 1,060 feet long on top, and 270 feet thick at the bottom. It will cover an acre at its foundation. Five hundred and fifty cubic yards of masonry will be required for its construction, and special machinery has been manufactured to handle the materials.

The construction of this dam was authorized on January 6, 1911, and immediately a roadway was completed from Boise, a new mill installed, and other preliminary work commenced. The diamond drills went down 90 feet below the river bed before striking bed rock, and for months the work of preparing the bed and walls for placing the great structure has been actively pushed.

In order to take care of the river during construction a tunnel was driven through the lava bench at the south end of the dam site. It is 500 feet long, 35 feet wide, and 25 feet high, the arched top having a ten foot rise. It is big enough to carry the river and its flood waters in ordinary years, and for five years the Boise River will flow through this new channel, until the huge dam which will hold back the flood and excess waters is completed.

Power for construction purposes is furnished by the Government power house at the Boise Diversion Dam, 12 miles above Boise, where 2,000

horse power is developed and energy transmitted electrically to the dam site.

Another interesting feature in connection with the work is the railroad 21 miles long extending from Boise to the dam. This is the only government owned and operated railroad in the United States, and over it thousands of men and hundreds of thousands of tons of materials will be carried during the construction period.

Aside from being the highest dam in the world the Arrowrock dam is of special interest as playing a most important part in the reclamation of one of the richest agricultural and horticultural sections in the United States. When completed the Boise irrigation system will furnish water to approximately 250,000 acres. The lands are generally smooth, with gentle slopes. The soil is volcanic ash, free from rocks, easily worked, and rich in the necessary plant foods. The climate is delightful, the mean winter temperature at Boise being about the same as that at Fredericksburg, Virginia, although the temperature occasionally falls below zero for a day or two. The summers are long and warm, and with irrigation promote rapid vegetable growth. The lands produce from five to eleven tons of alfalfa per acre each year, four to six tons of clover, fifty bushels of wheat, and seventy-five bushels of oats. The surrounding mountain furnishes large areas of grazing lands, and alfalfa for winter feeding is always in demand. But it is for its fine fruits that the section is chiefly famous, its apples, pears, and prunes commanding the highest prices in eastern markets.

We wonder how many new fruit growers' associations will be organized this winter in the fruit districts. It doesn't seem likely that Paonia will be afflicted with any more as there are already five at that point. What the demand can be for such an excessive number as this is more than we can figure. There are three important associations there and they should be able to take care of all the fruit shipped from that station.

THE FRUIT JOURNAL, one year for \$1. Special departments for every member of the family.

Use Caution—Don't be Defrauded!

The great popularity and the heavy demand for the famous Martha Washington Comfort Shoes made only by the F. Mayer Boot & Shoe Co. of Milwaukee, have caused dishonest dealers to sell cheap and inferior imitations to their customers when the genuine Martha Washington was wanted and asked for.

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No Buttons—No Laces



**CORN SILAGE AND
ROOTS FOR STEERS.**

The South Dakota station has submitted a report to the Department of Agriculture of two experiments in feeding corn silage to steers. The object of these experiments was to determine the value of silage as a sole ration for wintering steers; and also as a roughage, when fed with grain, for fattening operations. It was also desired to determine the value of different root crops when added to the grain ration for fattening steers.

In the first experiment 20 head of yearling steers were divided into five different lots of four heads each and fed for 90 days on the following rations: Lot 1, silage from green corn cut when in the dent stage; lot 2, one-half as much silage as was consumed by lot 1 and all the hay they would eat; lot 3, silage from corn fodder cut at same time as for lot 1 but put into silo ten weeks after it was cut; lot 4, millet hay cut when green and before seed matured; lot 5, corn fodder from the field.

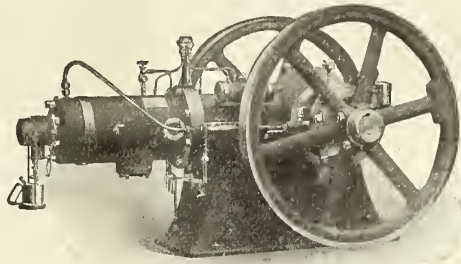
In the other experiment 24 head of yearling steers were divided into six different lots of four head each and fed for 120 days. One-tenth as much oil meal, by weight, as shelled corn was fed to each lot daily, and in addition the following: Lot 1, silage; lot 2, one-half as much silage as lot 1 and what hay they would eat; lot 3, sugar beets and hay; lot 4, mangel-wurzel beets and hay; lot 5, stock beets and hay; lot 6, hay.

The results showed that common millet hay of the fox-tail type was a comparatively poor feed as a sole ration, for wintering steers, as there was practically no gain made during the 90-day feeding period. No bad results were received by feeding steers all the corn silage they would eat without other grain or roughage. The steers were not as fat as they would have been had they received a full grain ration and evidently much of this gain can be credited to growth. Neither corn fodder from the field or fodder silage or a one-half ration of silage and hay proved as valuable for wintering steers as first-class corn silage, as it required more pounds of dry matter for a pound of gain than with silage lot.

In the other experiment when silage or roots were fed with shelled corn and wild hay there was a larger gain than with the lot that did not receive these succulent feeds. For fattening steers, hay with silage proved to be better than hay or silage alone as a roughage. Results showed that the mangel-wurzel beet was the best of the three kinds fed. As a feed it was more palatable than other varieties and less corn was required by this lot for a pound of gain than for any other lot.

The B. G. Pratt Chemical company of New York are installing a "service department," which will handle all kinds of fruit growers' supplies, machinery and insecticides. This ought to prove a great asset to their trade in the years to come.

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Address Communications to Editor—Intermountain Fruit Journal and Intensive Agriculturist

M. M. Hastings of the Bureau of Animal Industry, estimates that for every dollar's worth of eggs produced there is a loss of 17 cents, as follows: From dirty eggs, 2 cents; breakage, 2 cents; chick development, 5 cents; shrunken or held eggs, 5 cents; rotten eggs, 2½ cents; moldy and bad flavored eggs, ½ cent. Such conditions affect the trade in several ways. There is first the producer, who suffers probably the most of all. The price he receives for his product is calculated to cover at least a large proportion of shrinkage which the commission man counts on at certain seasons of the year. Again, the shipping of these worthless eggs costs the handlers the expense of transportation and also a very heavy expense by way of the employ of expert candlers to cull out the bad and grade the remainder. The consumer, of course, suffers as well by paying a higher price than he would have been called upon to pay had there been no shrinkage. Besides this direct loss, there is a loss which is less tangible, but none the less real, that is the loss due to curtailed consumption. People do not like to buy bad eggs, and if such are served to them they are inclined next time to buy something else. This cuts down the demand and lowers the price.

Under present conditions the farmer who markets good eggs to the storekeeper gets the same price as the farmer who brings in the bad eggs. This state of affairs does not tend to encourage the honest producer, nor does it strengthen the bond of union that exists, or should exist, between the producer, the wholesaler and the consumer. There is, therefore, a great need for a better and more rational system of marketing eggs.

It is, of course, apparent that the adoption of an economic system of marketing eggs will not solve all the perplexing problems of poultry management. Careful consideration must always be given to methods of caring for and feeding the flock.

In this connection a chart just published by the Department of Agriculture, and exhibited at the recent sessions of the Hygienic Congress, is most interesting. These charts have been published with the intention of distributing them to gatherings of farmers—at institutes, from demonstration trains, etc.

Rules.

Farmers are urged to adhere strictly to the following rules in handling their poultry and eggs:

1. Keep the nests clean, provide one nest for every four hens.
2. Gather the eggs twice daily.
3. Keep the eggs in a cool, dry room or cellar.
4. Market the eggs at least twice a week.

5. Sell, kill, or confine all male birds as soon as the hatching season is over.

Notice.

Information on the care of poultry and eggs may be had by writing to the Bureau of Animal Industry, U. S. Department of Agriculture, Washington, D. C.

WILL CARRY SCIENCE TO FARMERS' HOMES.

Intermountain growers and farmers should appeal to their senators and congressmen to get behind Senator Hoke Smith of Georgia, who announces his purpose of devoting much time to the approaching short session of Congress to promoting the action the house bill pending in the Senate for the extension of the experiment work of the various state agricultural colleges of the country.

The purpose of the bill is to permit the colleges to establish an agency in each county of all the states, which would carry to the homes of the farmers the knowledge collected in the state institutions.

Mr. Smith would have the experiments made upon the private farms themselves, and he says the bill would authorize such practice.

The measure provides an annual appropriation of \$3,000,000. It passed the House last session, but failed in the Senate.

SEVENTY-TWO CENTS A DOZEN.

In New York City last week eggs sold for 72 cents a dozen—the highest price paid in recent years. Elsewhere in the country the eggs are selling anywhere from 40 to 60 cents a dozen. According to Dr. Harry M. Lamon, the government hen expert, the hen, herself, is chiefly responsible for the high price, because when a hen moults she does not lay. "It's the time when the hens are expending all their energy in throwing off old feathers," he stated, "and taking on new ones, and they haven't any time for egg-laying. The high prices now paid for eggs will fall when the moulting season is over."

Here is a novel way for preventing fence flying: Take good strong string, and tie a knot about three inches from the end; then take the end nearest the knot and put it around the tip of the one wing, and tie a slip knot below the knot in the string, so it cannot pull too tight on the wing. Then pass the other end of the string under the other wing, and have it just loose enough so that the chicken can keep its wings folded naturally, and tie same as other end. After it has been on about six weeks the string may be removed, and your chicken will stay in just as though it had never flown over a fence.

Many grapes grown in American vineyards and on farms are unsuitable for shipping, wine making, or drying, but they may be profitably converted into an excellent vineyard. Such vineyard can be sold at a profit and at a price which compares well with that of wine. On the open market wine vineyard can compete when quality is considered. When converting grapes into vineyard there is always a certain amount of loss, some of which can be avoided by working carefully and cleanly. The amount of vineyard obtained from various kinds of grapes also differs, which is due to the fact that the amount of stems, seeds, skins, and fermentable sugars vary with each kind of grape. Roughly it has been estimated that on an average a ton of grapes will yield 135 gallons of vinegar of 9.8 per cent acetic acid.

Egg eating is a habit that starts with hens, generally, that are out of condition. In other words, when the hen gets too fat, and also when there is a scarcity of lime in the bill of fare the shells of the eggs become thin. When being laid these soft shelled eggs usually break and the hen thus acquires a taste. It is always best to gather the eggs several times a day so that there will be no chance for breakage by hens crowding on the nest, or by the newly-laid egg striking those already laid.

For canker in fowls, the following remedy is recommended: Mix 12 drops carbolic acid, one teaspoonful laudanum, 10 cents worth sugar of lead, 5 cents worth sulphate of zinc, and one pint of water; shake well. Open up the nostrils with a broom straw, and with a small glass syringe inject into them the mixture, three times a day, and put eight to ten drops in the mouth. Feed soft bran and give plenty of water.

The proper way to kill a turkey is to tie its feet together, hang on a pole, then cut the throat and allow it to bleed freely. Dry pick, leaving head and wings on. After picking, dip in hot water and then in cold. This will give the skin a fresher look.

Turkey breeding stock should be changed about every three years. Nature protests against inbreeding by giving warning with club-footed and ill-conditioned chicks.

RHUBARB-GROWING IS GREATEST OF WINTER CROPS.

The greatest money crop in California is winter rhubarb growing. This was again demonstrated this fall and shipments are already in progress which seem to guarantee at least \$2,000 per acre. The Pioneer Fruit Company of Sacramento, Cal., shipped east during last March and April 150,000 boxes. They may surpass that in 1913. Mr. J. B. Wagner, of Pasadena, Cal., is really the American authority on this subject. His booklet, "Rhubarb for Profit," is now in press for its eighth edition. Send for a copy of it. It will show you how the wonderful results of rhubarb have been made commercially valuable by Mr. Wagner. How he has brought the price of the stock to within the reach of all fruit and ranch men; how he has made this crop one of the greatest nursery producers in America. If you are interested it will pay you to write to him.

Hardy Variety of English Walnut Is Profitable and Attractive

Owners of country estates and orchardists throughout the United States are just now devoting much attention to the culture of the English or Persian walnut. In fact, horticulturalists everywhere are tremendously interested in the propagation of this delicious fruit, both from a commercial and an aesthetic point of view.

For many years the English walnut has been cultivated with more than ordinary success in California, but only very recently has a sufficiently hardy variety been found to withstand the severe winters of the northern, eastern and southeastern states.

The late Norman Pomeroy of Lockport, New York, was the discoverer of an unusually hardy variety, which bears his name today.

Being thoroughly versed in arbor culture, Mr. Pomeroy propagated young trees from this acclimated variety, feeling certain that from these he would ultimately obtain an English walnut of superior hardiness, capable of resisting the rigors of almost any climate.

The elder Pomeroy's remarkable success has attracted the attention of nut culturists, horticulturalists and progressive farmers in all parts of this country and Europe. Nut specialists from California came east and examined the Pomeroy trees, and were well satisfied that a hardy variety for the colder states had at last been found.

So profitable has the culture of the English walnut in the eastern and northern states become, that owners of farms and suburban tracts are beginning to set out large orchards, in preparation for the immense demand that is already being shown for this most edible of all nuts.

It is only a few years ago that the cultivation of the English walnuts for the market started in California, and today they are shipped from that state in car and train loads. To show, however, that the supply does not begin to meet the demand in this country, it may be stated that the United States consumes more than 50,000,000 pounds of English walnuts a year, and that about 27,000,000 pounds of these have to be imported every year. And when it is known that the price is steadily advancing, it will very readily be seen that the possibilities of commercial success are unusually great.

In California the nut industry is rivaling that of the orange; and even now, there are more dollars worth of nuts shipped from the state per year than there are of oranges. This statement is meant to include all varieties of nuts, although the English walnut figures largest in the proportion.

As to planting and cultivating, English walnut trees seem to require no particular soil, but should not be set out where it is low and wet. The trees should be planted 40 to 50 feet apart each way. A cultivated crop, such as corn or potatoes, with small fruit trees for fillers, can be made to yield an income for the brief period,

comparatively, before the walnuts begin to bear. The pruning should be done between fall and spring, only such branches as would interfere with cultivation being removed.

THE NATIONAL POULTRY SHOW.

The National Western Poultry show, which is held annually in connection with the National Western Stock show at Denver, and which will open on January 20th, promises to be of more than usual interest. This section of the stock show is commencing to attract the attention of poultry fanciers all over the country, and Superintendent Schuman reports that quite a number of eastern exhibitors have made arrangements to bring their fancy birds to Denver in January. There will be birds here from as far east as Massachusetts, and from several of the states in the Middle west. Every effort is being made to make this a quality show, and more attention will be given at this show to the quality of the exhibits than to quantity. While

Colorado fanciers will be well represented in the show, and expect to hold their own, they are all very much interested in the opportunity that will be offered to compare their breedings with the best that can be produced in the east. Two of the most prominent poultry judges in America have been engaged to place the ribbons. These are W. S. Russell of Ottumwa, Iowa, and James A. Tucker of Concord, Michigan. This is the first time these two judges have been together in the West, and this of itself is an attractive feature for the fanciers who are anxious to have these men (both of whom are authorities in the poultry world) pass upon their breeding.

The Poultry show is proving one of the most interesting sections of the Stock show, and plans are being made to make it more interesting than ever at the coming show.

A "large rooster" means a plump, soft chicken of four or five pounds weight. The broiler weight in March is one and one-quarter pounds each; in April, one and one-half pounds; in May, one and one-quarter pounds to two pounds. Old cock birds have a special classification, and do not come under the head of "large roasting" fowls.

Incubators and Brooders "THE DENVER"

BEST by actual TEST and COMPARISON

A machine made in this city by a man who has solved the moisture question for the high altitude and dry climate of Colorado.

A new and full line of Poultry Supplies, such as Bone and Root Cutters, Feeders, Fountains, Sprayers, Oat Sprouters, Shipping Coops, Egg Boxes, Chicken Boxes. Western agents for the Famous

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The Colorado Seed and Nursery Co.

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(In the shopping district—3rd door from Gas & Electric corner.)



THE LARGEST POULTRY SUPPLY HOUSE IN THE WEST

We carry the largest and most complete line of Poultry Supplies.

Incubators, Brooders, Bone Cutters, Root and Vegetable Cutters, the International Oat Sprouter, Shipping Coops, Feed Boxes.

Barteldes' Hoyt's Mixture, Barteldes' Developing Food, Oyster Shell, Beef Scraps, etc.

Barteldes' Poultry Regulator, Conkey's Remedies, Pratt's Food.

Your dealer should carry our line; if not, ask us for prices. Our Garden Seed Catalogue will be ready for mailing December 31st; a postal will bring it.

THE BARTELDES SEED CO.

Denver, Colorado

The COMMUNITY AS A SOCIAL UNIT

The development of the rural community from the standpoint of the home, the school and the church is the purpose of this column. The successes of social center work all over the nation will be reported here. Especially will we watch and encourage this work in the intermountain states.

THE FIRST SOCIAL CENTER WORK IN COLORADO.

The first rural life conference in Colorado has just been concluded near Grand Junction. It fittingly commemorates the formal opening of the beautiful social building which marks the source of the first movement in Colorado in behalf of the consolidation of rural schools.

The rural life conference was a great success. An idea of the scope and value of the work may be had from the program, which was as follows:

- The Purpose of the Conference....
C. G. Sargent,
 Rural School Visitor State Agricultural
 College, Fort Collins.
 Address—The Awakening of the Rural
 School....Hon. Helen M. Wixson,
 Supt. Public Instruction, Denver.
 Address—The Rural Life Vision...
Z. X. Snyder, Ph. D.,
 Pres. State Teachers, College, Greeley.

FRIDAY, NOV. 22, 8:00 P. M. Second Session.

- C. G. Sargent, Presiding.
 Music.
 AddressHon. P. P. Claxton,
 Commissioner of Education, Wash-
 ington, D. C.

SATURDAY, NOV. 23, 9:30 A. M. Third Session.

Presiding Officer, W. B. Mooney,
School Visitor, State Teachers'
College, Greeley.

- Music.
 Address—Problems of the Rural Situa-
 tion.....Prof. S. Arthur Johnson,
 Dean of Agriculture, State Agricultural
 College, Fort Collins.
 Address—Rural Life Values.....
Loran D. Osborn, Ph. D.,
 Director University Extension Divis-
 ion, State University, Boulder.

SATURDAY, NOV. 23, 2:00 P. M. Fourth Session.

Presiding Officer, C. H. Williams,
High School Inspector, State
University, Boulder.

- Music.
 Address — The Practical Value of
 Knowing How and Why.....
Miss Inga M. K. Allison,
 Professor of Home Economics, State
 Agricultural College, Fort Collins.
 Rural Workers' Round Table.
 Business Meeting.

See our big special combination offer of The FRUIT JOURNAL, The Farm Journal and The Garden Gold Book, all for \$1.25. Full announcement on another page.

CONNECT RURAL SCHOOL WITH STATE AGRICULTURAL COLLEGE.

The rural school should, in its course of teaching, draw closer to the State Agricultural college, both for the girls as well as the boys. If they are to seek remunerative employment, the courses in the State Agricultural college offer good opportunities for employment at good pay; much better, on the average, than the city affords.

SUPREME COURT EXAMINES TWO-YEAR OLD EGGS.

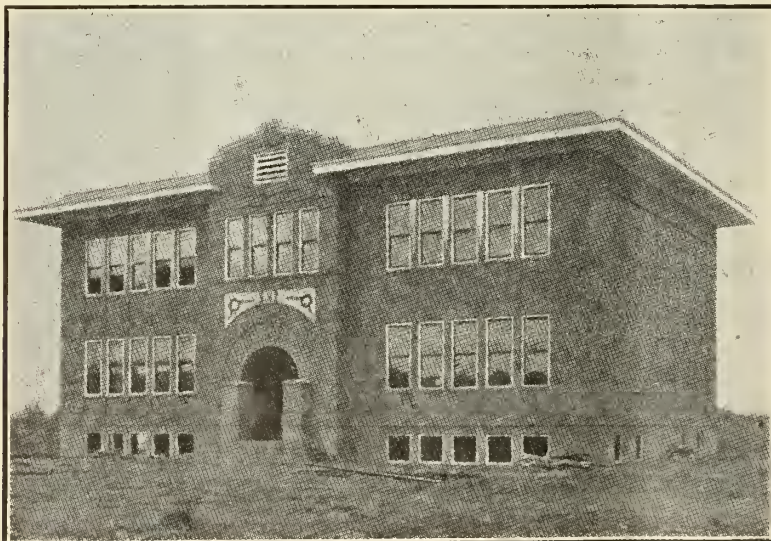
The United States Supreme Court gave its attention this week to 443 cans of eggs put up two years ago, and declared by officials of the food inspection bureau to be decomposed. Ralph S. Rounds, appearing for the claimants of the eggs informed the court that the case was the most important of any of the five pure food cases that have come to the attention of the court. Mr. Rounds stated that the law should be interpreted so as to give the word "decomposed" the meaning of "unwholesomely decomposed," and not according to the number of bacillus coli the product contains. They stated that eggs are divided into four grades—"current use," "seconds," "checks," and "spots."

"Do you mean to say there are four grades of strictly fresh eggs?" asked Justice Holmes.

"Oh, no," was the reply of Mr. Rounds.

Every year there are many more requests from the government and from large agricultural enterprises and private estates for trained managers and assistants than can be satisfied from the ranks of the yearly graduating class. Many of the young men go into some phase of farming on their own land. As yet few women have taken up the work in preparation for positions as official seed testers, pleasant work in an uncrowded profession.

The object of the courses in agronomy is to give the student a mastery of all subjects relating to the soil, field crops, rural engineering and farm management such as will help prepare him for the highest type of practical farming, or for success as an expert in the United States Department of Agriculture, in one of the state experiment stations, or in an agricultural college or high school. Many such positions have already been filled by graduates at salaries ranging from \$75 to \$200 a month. The farms of the West offer great opportunities to young men trained in the knowledge of the soil, of the growing of crops, and of rural engineering.



APPLETON CONSOLIDATED HIGH SCHOOL BUILDING

The new building is pronounced to be the best rural school building in the state of Colorado. In its design and structure are included provisions for every requirement of the most highly developed rural schools in the United States, embracing a spacious and beautiful assembly hall for a social center of the district, rooms for manual training and domestic science and a chemical laboratory. Including the well lighted basement rooms, the building contains ten rooms besides

the assembly hall and a principal's room and library.

The Appleton school came into being because the people now included in it undertook to found the first rural consolidated school in the state. Being the first in Colorado, the way was beset with many difficulties; but each one served only to call forth a greater and more resolute public spirit. The campaign on behalf of the new and better kind of school for the children of the country lasted four years.

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Send a trial advertisement and be convinced. Remit with order—using Money Orders, Checks, Drafts or 2 cent postage stamps.

LANDS

FREE MAP MEXICAN ISTHMUS.

Showing richest agricultural lands known. Now being sold at low prices and easy terms. Here you can raise corn (2 crops—), HOGS, GRASSES and CATTLE, and gradually develop an ORANGE GROVE, a RUBBER or SUGAR CANE plantation that will make the land extremely valuable. Write today for full particulars. MEXICAN ISTHMUS LAND CO., Suite 412-413 Grand Avenue Temple, Kansas City, Mo. 11-13

FINE LAND VERY CHEAP—Beautiful 40 acres, all in high state of cultivation, only 5 miles southwest of Denver P. O. On main Morrison road, best old water right, all fenced, gentle south slope, fine farms all around. Price only \$125 acre; terms.

I. E. WEBB,
Bank Building,
Denver, Colo.

1-13

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Which is situated in center of the most fertile farming district in the Platte Valley the home of the successful truck gardeners and Poultry raisers. We have some bargains in good 5, 10, 15 and 20 acre tracts, improved and unimproved. For information write or phone

BAKHAUS-NELSON REALTY CO.
Phone Littleton 1421 Littleton, Colorado

LANDS—FOR RENT

ALFALFA RANCH FOR RENT—18 acres fine stand of alfalfa; 12 acres leveled and ditched ready to plant; excellent water right; modern two-story house built last winter; 160 acres of raw land on bottom and first bench; six miles from D. & R. G. station and town of 1,000 population. Alfalfa hay sells at \$12 to \$15 in the stack. Will lease for long term for one-half the crops raised on 30 acres now in cultivation. Tenant can keep crops raised on raw land. Free cattle range adjacent. Peck, 734 First National Bank Bldg., Denver, Colo.

HELP WANTED

Farmers Sons Wanted with knowledge of farm stock and fair education to work in an office; \$60 a month with advancement, steady employment, must be honest and reliable. Branch offices of the association are being established in each state. Apply at once, giving full particulars. The Veterinary Science Association, Dept. 12, London, Canada.

POULTRY

COLORADO

SINGLE COMB WHITE LEGHORNS EXCLUSIVELY.

Exhibition and Heavy Laying Strain; 50 Exhibition Cockerels for the winter shows. Write for prices and score. Stock Eggs and Baby Chicks from the world's finest matings. W. H. Sanders, Edgewater, Colo. Phone Ralston 711.

FOR SALE—Single comb Black Minorca Cockerels from bred to lay strain. Cockerels from \$3.00 to \$15.00, Pullets from \$2.00 to \$5.00 each. Special prices on pens. Eggs in season, from \$1.50 to \$5.00 per thirteen. Write us your wants and we will give your order our personal attention, guaranteeing satisfaction. N. J. Browne, 1024 Ouray Ave., Grand Junction, Colorado.

POULTRY

WINTER EGG LAYING LEGHORNS—S. C. White. Bred to "shell out" eggs in winter, and do it. How would you like to have coming in from winter eggs \$8.00 per day, \$66 per week, \$240 per month? This and more you can have by another winter if you grow a nice flock of our layers. Eggs and baby chicks. Catalog free. Write O. C. Frantz, Box 66, Rocky Ford, Colo. 12-12

SINGLE COMB WHITE LEGHORNS—The chickens for the west because they lay the best. My flock is pure bred and from the best winter laying stock in Arkansas Valley. They "shelled out" the eggs through February storms. Write for special price on eggs. Baby chicks, 16c each. W. D. Neale, Box 602, Rocky Ford, Colo. 12-12s

WYCKOFF STRAIN S. C. WHITE LEGHORN cockerels, 5-point combs, pure white, perfect shape, \$2.50 a piece; high scoring show birds, \$5.00. J. L. Heaton, Boulder, Colo. 1-13

S. C. WHITE LEGHORN pullets for sale. April hatch. Celebrated Frantz laying strain. Write for prices. O. G. Dukate, Rocky Ford, Colo. 12-12

PLYMOUTH ROCK POULTRY YARDS—Established 1898. Barred Plymouth Rock Cockerels \$3 to \$5. Baby chicks \$3 per 12; \$20 per 100. Hatching eggs \$1 per 13; \$6 per 100. Plymouth Rock Poultry Yards, 2535 Hooker st., Phone Gallup 974, Denver, Colo. 1-13

HOUDANS EXCLUSIVELY—The famous Empire strain. Everlasting layers. Exhibition and utility stock. Eggs for hatching—write for prices. Empire Poultry Yards, Frank Schilling, Manager, Denver, Colo. 12-12

S. C. W. LEGHORNS—As good as grow. Bred-to-lay Stock for sale. Eggs and Baby chicks Sunny Slope Poultry Yards, Frank Rossa, Prop. R. F. D. No. 2, Boulder, Colo. 2-13

DUCKS, DUCKS—A-1 breeders from first premium Mammoth White Pekin ducks. Also Indian Runner ducks, both standard American and English A-1 breeders at reasonable prices and now is the time to secure the best breeder for next year. Pekin Duck Ranch, Louviers, Douglas Co., Colorado. 1-13-s

S. C. WHITE LEGHORNS—Carefully selected eggs for hatchings at \$4.00 per 100. Write for prices on baby chicks. O. G. Dukate, Rocky Ford, Colo. 12-12-s

KANSAS

RHODE ISLAND REDS—(Rose Comb exclusively.) Better than ever before. Pens carefully mated by licensed judge. Eggs, pen 1, \$5.00 per 15. Other pens, \$3.00 per 15. Range flock culled to Red quality, eggs \$1.00 per 15; \$2.50 per 50; \$4.50 per 100. Write for descriptive circular. Address Red Cedar Place, Mrs. J. Wedd, Oakhill, Kan. 11-12-s

SINGLE COMB BUFF ORPINGTON and Red Breeders. My Orpingtons won 6 out of a possible 9 ribbons the past winter at the El Dorado show, including first, second and fourth Cockerel on four entries. Young stock at \$1.50 to \$5.00. My prize Orpingtons, males and females, are for sale, also R. and S. C. Red Cocks and R. C. Hens and young stock at \$1.00 to \$3.00. Dane Huffington, Latham, Kans. 12-2

CRYSTAL WHITE ORPINGTONS—Kellerstrass strain. Cockerels, Trios and Pens. Single birds \$2 to \$10 each. Correspondence solicited. F. A. VANIMAN, McPherson, Kas. 11-13

POULTRY

EGGS! BUFF ORPINGTON EGGS—From birds, direct from winners of firsts and specials at Topeka, American Royal and Missouri State shows and themselves winners at the "El Dorado Show," of six ribbons out of a possible nine. I am selling about half of these eggs at \$3.00 per 15 eggs; I also have choice Cockerels for sale. Satisfaction assured. DANE HUFFINGTON, Latham, Kansas. 1-13

ROSE COMB BROWN LEGHORNS EXCLUSIVELY—Twenty years a breeder. Fine large healthy strain of winter as well as summer layers of eggs. \$3.50 per 100; scored, \$1.50 per 15. L. A. Hodsdon, Clarksville, Iowa. 19-12s

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BLACK LANGSHANS, Pacific Coast Champions. Won 53 ribbons, 3 silver cups. Portland, Pendleton, Spokane, Walla Walla and Colfax shows acknowledged best winter layers bred. To weigh, lay and pay. Eggs \$2.50 per 15. M. E. Taylor, Winona, Wash. 1-13

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Bellevue strain of White and Columbian Wyandottes, S. C. White Leghorns, and Light Brahmans. Stock for sale. Over 30 years in business. Michael K. Boyer, Box H, Hammonton, Atlantic County, New Jersey. to f.

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On a patch of ground containing 840 square feet, C. C. Woodruff, of Illinois, raised produce that netted him \$51.34—or at the rate of \$2,618 per acre. He probably could not have made that much on a full acre, but his figures go to show how many ways there are to make and save money in the ordinary small garden. There is money in back yards.

If Your Garden Isn't Producing Good Profit It's Not the Garden's Fault.

There is a gold mine in your garden if you know how to find it. You don't have to seek far or work hard to locate it. You simply have to know a few things, either by experience or from some one who is an expert garden-miner. One of the latter now offers to owners of small gardens the new booklet

"GARDEN GOLD"

written to show you how to get produce out of your garden. Hundreds and thousands of people have done it—men like Chas. C. Woodruff, of Illinois, who raised \$55 worth of produce on 840 square feet of ground—at the rate of \$2,805 worth per acre a season; or H. S. Weber, a Pennsylvania gardener, who figured his year's receipts on a patch of seven acres at \$1,700.

Read these subject headings that occur here and there in this great little book, and then read how you can get it at a bargain:

"Locating the Garden Mine," "Small Areas Most Profitable," "The Secret of Drawing Fertility from the Air," "Planting Pointers," "Methods of Keeping Moisture in Soils," "Storing for High Winter Prices," "\$500 Annually Per Acre" (from Celery), "Sweet Potatoes a Paying Specialty," "How to Market Vegetables," etc., etc.

Reduce the Cost of Living

If you raise no garden vegetables for market, you can still raise them for your own table; it is amazing how even a tiny back yard can cut down huckster bills. All it needs is intelligent care and a handbook that is especially adapted for money-making in small patches of ground—in other words, "Garden Gold."

There is only one way to get this new and valuable work, and that is with Farm Journal.

Farm Journal comes once a month, and each copy is a kind of little brother to "Garden Gold." It is an intimate, friendly, neighborly sort of paper with well written departments that will appeal to every member of your family. Every page is full of the soundest, most practical reading, the most helpful information on gardening, poultry, horses, berries, fruit, the dairy, and all the multitude of farm interests. A splendid new series of articles called "Back to the Soil," by city people who have actually gone to the country, and who give the most absorbing accounts of their successes or failures. Farm Journal is the standard agricultural paper of the world. Has 750,000 subscribers already, and insists on a full million. Regardless of what you may think now, it is the paper for you if you have a back yard, a berry patch, a fruit tree, a few hens, or any patch of ground as large as a napkin. Unlike any other paper.

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This booklet is a gold mine for the small gardener. It tells you how to get the most out of your garden, and how to save money in the process. It is a practical, up-to-date guide to the art of gardening, and is a must for every gardener who wants to make the most of his patch of ground.

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The method of C. C. Woodruff, of Illinois, is a classic example of how to get the most out of a small garden. He raised \$51.34 worth of produce on 840 square feet of ground, which is equivalent to \$2,618 per acre. This is a remarkable achievement, and it is a testament to the power of intelligent gardening.

FAIR PLAY
The price of "Garden Gold" is a fair one. It is a small booklet, but it is packed with valuable information. It is a must for every gardener, and it is a great gift for any gardener who is looking for a way to make the most of his patch of ground.

HIGH FARMING AT BERNWOOD
The high farming method is a new and exciting way to grow crops. It involves the use of special techniques and equipment, and it can result in much higher yields than traditional methods. This is a must-read for any gardener who is interested in the latest in agricultural science.

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I like the Farm Journal. It is a clean, temperate, progressive, high-toned paper, always bringing cheer, and brimming over with good sense, kindly advice, and comforting hints on many subjects. Long may it live. The leading farm paper of our glorious land, for the noble work it is doing to make our citizens better and to encourage the tillers of the soil.—G. A. C., Carey, Idaho.

Have been taking the Journal for a little over a year and am certainly pleased with it and don't hesitate in recommending it to all my friends. Information received has been so valuable and the price of your paper so low, as to almost make me believe that it is possible to get something for nothing in this world after all.—H. A. P., Hillsdale, Idaho.

I am taking the Farm Journal and like it fine. Would not do without it for twice the price.—S. E. C., Brewster, Wash.

Your paper is spicy, full of vim and vigor and is the best paper published for the price. It is surely worth many times the subscription price.—L. R., Pueblo, Colo.

Of all my farm papers, I like Farm Journal best. When it comes my wife and I run a race to see who gets it first, and then usually wind up by reading it together.—J. R. O., Laketown, Utah.

Am now receiving regularly the Farm Journal. It's great! Each number is worth a year's subscription. Will call my neighbors' attention to it.—L. S. A., Leavenworth, Wash.

I got a good deal more than a dollar's worth out of your last copy.—L. M. S., Pueblo, Colo.

I try and get the Farm Journal in one new house every year. It is the best paper that a family can get. I would not be without it for ten times its cost.—R. B. C., Cameron, Mont.

I have yet to see anything unclean printed in your paper. Just the Grange at Work is worth the money, say nothing about the rest that's just as good.—G. H., Lakeside, Ariz.

FARM JOURNAL, Clifton St., Philadelphia.

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OFFICIAL ORGAN OF THE AMERICAN APPLE CONGRESS

THE INTER MOUNTAIN FRUIT JOURNAL

AND INTENSIVE AGRICULTURIST

VOL. VI; NO. 6

JANUARY 1913

10 CENTS A COPY

"Get-Together" Sweeps From District to District
Rides, Like Paul Revere, From Ranch to Ranch



Growers Who Endorsed Big Selling Agency Idea
At State Horticultural Meeting at Grand Junction

February { *Official Plans State Selling Agency*
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THE INTERMOUNTAIN FRUIT JOURNAL

AND INTENSIVE AGRICULTURIST

Published Monthly in
Behalf of Fruit Growing
and Marketing, Intensive
Agriculture, Irrigation
and Allied Interests
in Colorado, Utah, New
Mexico, Idaho, Wy-
oming and the West

VOLUME VI

JANUARY 1913

NUMBER 6

The Fruit Journal's "Get-Together" Campaign Is Winning

Since the last issue of the Fruit Journal, the fruit growers' get-together campaign has developed into a strong movement, with a promise of great and urgent benefit to fruit growers in the intermountain states. Especially in Colorado, and most notably on the Western Slope of Colorado, in Mesa and Delta counties, has this movement been taken up by practical men resolved to bring competing associations and rival groups of growers under one head.

By R. E. TURPIN

In Mesa county—the Grand Valley fruit district—a committee composed of representatives from the three associations there, the Grand Junction, the Western Slope and the Palisade, are holding meetings for working out a plan to unite their forces.

The obstacles with which they are contending in trying to solve the problems of a real union are those with which competitive associations in other fruit districts will have to wrestle.

Three plans have been proposed in the Grand Valley:

One is for the three associations to consolidate.

One for the Grand Junction Association to market the fruit of the two other associations.

One is for the three associations to dispose of their product through a central selling agency, directed by a board of representatives of the three associations. The basis of representation has been discussed at some length.

One proposal at one of the conferences of representatives of the three associations was that the basis of representation be according to the membership in each association, or according to the paid-up capital stock in each.

Everyone present at these conferences, though failing to agree as to a way when it came right down to considering how much their association would gain or lose, as an association in this venture, did agree, unequivocally, that getting together in some manner would be a great benefit to all concerned. It is the interest of rival groups, you see, which comes in contact with the interests of all.

The benefits, meaning better profit to the individual growers in the groups, such as would arise from a uniform grading card, uniform pack, one corps of inspectors, elimination of local competition and reducing orchard expenses, were all admitted, but no one could propose any way to form a central selling agency that would be satisfactory to the different interests.

One reason for this was, and other districts will find it the same, that it is difficult to fit a selling agency in such a limited field. The selling agency, as it has been developed, is a marketing machine for a large num-

ber of strong units, or local associations. It is so with the California Fruit Exchange, and in the northwest, since the last issue of the Fruit Journal, a central selling agency to handle the product of four other states has been formed.

Grand Valley's natural part in such a movement is to be one of the units of a central selling agency. So far as Grand Valley is concerned, it was proposed as a step toward forming such a unit. If it is not treated, if taken up, as a step toward consolidation, its chances of much success are not very bright. Read the following dispatch from North Yakima:

"The plan to combine the Yakima Valley Fruit Growers' Association and the Yakima County Horticultural Union into a single organization, or to get them to work through a single selling agency, has fallen through. The three business men named by the horticultural union as part of a committee to work out some scheme of amalgamation have been notified by President Irish and Secretary Conant that their authority has ended."

If a central agency can be formed, with an agreement in the form of an option on property in question, by which, at the end of a certain time, if desired, the properties and interests can be consolidated, there would be something to work for. Take up the selling agency as a means to attain the end of consolidation, and it may be made to serve a great purpose.

Many other advantages beside those mentioned for the central selling agency will accrue to actual consolidation.

There should be but one brand of fruit for the Grand Valley, as for any other fruit district. Then it would be to the interest of everybody in the valley and every interest in the valley to advertise that brand. The output of all the fruit in the valley would be large enough to afford, even at a very small charge, a sum large enough to properly advertise this brand. There are a good many plans proposed to cut down or control profits of middlemen, the broker, wholesaler and retailer.

Make your brand known to the consumer by advertising it, systematically and scientifically, and you begin to establish an independence from

the dictation of middlemen. What the people ask for and demand, they sell. In other lines it will be found to be a rule that the better known the brands, the less the profit. Many sales and small profits is the argument of the owners of those brands.

The same way with Delta county—one brand, then make it famous.

The central selling agency for the Western Slope or Colorado would handle these different brands, leaving it to the associations owning them to push them as hard as they desired.

Energies in the Grand Valley are now, it is understood centering on trying to effect an actual consolidation. To accomplish this would be much better, as it would be to attain once what the selling agency would be expected to supply after a period of trial. If one county or fruit district in the valley could actually get together, it would afford a splendid example for other districts in the state. Difficulties overcome by them would lessen the difficulties for others. It would be a great triumph—a great story for the Fruit Journal to spread abroad.

The fruit district in Colorado that first gets together and shows it can stay together, is entitled to leadership in the formation of the larger selling agency. It is the first step toward the central selling agency. Organize thoroughly at home first. A selling agency composed of a lot of weak associations, or some strong and some weak associations, would be certain to fail. They have failed this season. There are places now where no words are more unpopular than those of selling agency. It is because these districts were not ready for such an organization. Any kind of strong organization is a hard thing to accomplish, but like all difficult undertakings it offers a great reward.

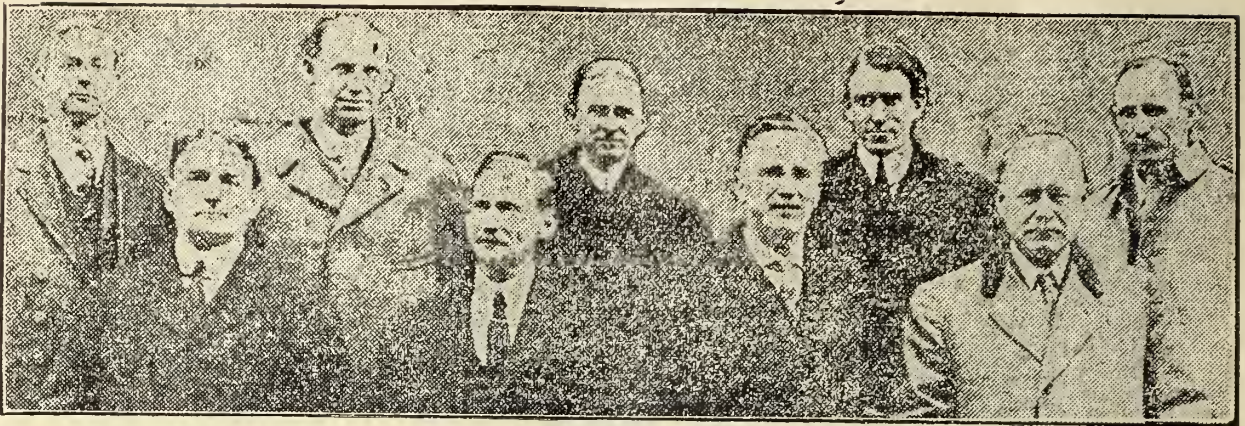
Chairman Clark, at the Spokane get-together meeting, said:

"If you have not made up your minds that you will stick by this organization after it is formed, we might as well all go home."

They needed money; they said they would stick.

If they do not, that big selling agency will break before next season is over, into many pieces.

California learned the lesson after many hard knocks. One was empty pockets.



DIRECTORS BIG NORTHWEST SELLING AGENCY, COVERING FOUR STATES.

Left to Right, Back Row—H. F. Davidson, Hood River, Ore.; W. S. Thornber, Lewiston, Ida.; W. M. Savage, Hamilton, Mont.; H. C. Sampson, Spokane, Wash.; Harry Huber, Milton, Ore.
Front Row—P. J. Neff, Medford, Ore.; W. N. Yost, Boise, Ida.; J. H. Robbins, North Yakima; W. T. Clark, Wenatchee.

Probably the most difficult achievement of that wonder-working state is the California Fruit Exchange. Among economists it is world famous. The International Institute of Agriculture at Rome, Italy, has recently made a thorough study of this institution, and publishes a bulletin about it in which the statement is made:

"The author describes the difficulties of fruit growers in California before their union in co-operative societies. Distant as they were, thousands of miles from the great centers of consumption of the Atlantic coast, ignorant of the conditions of the market and the requirements of the public, they were forced to forward their produce at hazard or entrust it to middlemen and speculators often far from conscientious. Threat-

ened by complete failure, they at length combined, thus enabling themselves to confront their difficulties, distrust on the part of the buyers and the selfishness of rivals. The great Californian co-operative societies may now be considered as models of their kind. In the article of the bulletin above mentioned there is a description of the California Fruit Growers' Exchange, a typical example. This exchange, which sells a large proportion of the citrus crops of California, is an association of associations which have branches even in the remotest districts of the state. The smaller local associations are united in the district exchanges, which in their turn send representatives to the central exchange. The fruit is forwarded to the markets by the central exchange, according to information con-

tinually received by telegraph or telephone from agents to whom is entrusted the executive part, so to say, of the sales. Thus the distribution of the fruit among the centers of consumption corresponds exactly to the demand, with the even regularity of the circulation of the blood in a sound organism. The excellence of the organization is shown by the following figures. During the seven years from 1905 to 1911 the California Fruit Growers' Exchange sold about 30,000,000 cases of citrus fruit, of the value of \$89,500,000.

"Thirty years ago the annual exportation of California oranges did not exceed a few scores of wagon loads; now it is tens of thousands. The co-operative societies may be justly proud of their contribution to this great progress."

Four States in Northwest Form Gigantic Selling Agency

In the northwest the apple growers have just formed a big central selling organization. It is to cover four states. Many associations, hitherto antagonistic, have learned the lesson of get-together. No time was lost in arguing about the importance of uniting their forces. This year's experience had supplied all the argument necessary before the meeting in Spokane was held.

After an almost continuous session of twenty hours at Spokane, December 18, the permanent incorporating committee named the Monday before by the apple growers' conference and given ninety days to report back to the various organizations as to its proposition, completed its work of preparing articles of incorporation and immediately decided that the big central organization be called the North Pacific Fruit Distributors, with its head office in Spokane, and controlled by nine trustees representing one each of nine northwestern apple districts, described in the articles of incorporation. Permanent officers were named the same day, and the third Monday in May was fixed as the date of the first annual meeting.

The articles of incorporation will be filed with the secretary of state for Washington immediately and as soon as incorporation is completed the articles will be printed in pamphlet form and distributed to every growers' association in Washington, Oregon, Montana and Idaho. It will then be optional with the individual associations whether they ally themselves with the central organization.

The association will be a mutual corporation, controlled by the nine trustees, and incorporated under the laws of Washington under the non-profit making law. The home office will be in Spokane, at 907 Paulson building.

The permanent officers elected yesterday, who by virtue of a state law, can hold office only six months, are as follows:

W. T. Clark, Wenatchee, president; J. H. Robbins, North Yakima, vice president; H. C. Sampson, Spokane, secretary; H. F. Davidson, Hood River, treasurer; N. C. Richards, North Yakima, general counsel.

The other members of the permanent committee, who now become trustees of the corporation for six months, are as follows: Henry Huber, Walla Walla; W. M. Sackett, Bitter Root; P. J. Neff, Western Oregon; W. N. Yost, Southern Idaho, and W. S. Thornber, the Lewiston-Clarkston district.

The northwest is divided into nine districts, and each must have its representative on the board of trustees. The districts, with the scope of their territory, are as follows:

Wenatchee District—Cheban, Okano-

gan, Ferry, Douglas and Grant counties.

Yakima District—Yakima, Kittitas, Benton and Franklin counties.

Hood River District—Hood River, Wasco, both in Oregon, and Klickitat and Skamania in Washington.

Western Oregon District—All of Oregon west of the Cascades.

Walla Walla District—Walla Walla and Columbia counties in Washington, and Umatilla, Union, Wallowa and Baker counties in Oregon.

Southern Idaho District—All of southern Idaho and Malheur county, Oregon.

Lewiston-Clarkston District—Asotin, Garfield, Snake river territory in Whitman county, all in Washington, and Nez Perce, Lewis, Idaho and Latah county, south of American Ridge in Idaho.

Spokane District—All eastern Washington not previously mentioned, and northern Idaho.

Montana District—All Montana.

At the annual meeting in May the trustees elected will draw lots as to the length of their tenure of office, three to serve three years, three two

(Continued on page 14)

Clarion Call to Western Fruit Growers to Get Together

A strong sentiment in favor of fruit growers getting together is developing in Delta county. Within a few days the representatives of the numerous associations in that county will meet for the purpose of actively taking up the matter of co-operation. Get-together has become a big movement already. What county next?

By IRA B. CLINE, President Colorado State Board of Horticulture

In accordance with a resolution unanimously passed at the state horticultural meeting in Grand Junction, a meeting of the representatives of all the fruit shipping associations in Delta county will be called within a few days. The purpose of this meeting is to formulate a plan of action and elect a delegation to meet with like delegations from other counties, at which meeting the delegates from the associations of all the fruit growing counties will formulate a plan for and organize a Colorado exchange to handle all the fruits of the counties composing the exchange.

I believe this movement is along the right lines and if these association representatives succeed in agreeing upon a plan of union I have no fear but that they will be able to work out to the satisfaction of the grower the details of marketing and distribution. Then it will be up to the growers to stand firmly behind the exchange associations, to not be led away by small promises and not to fight some of the rules of the exchange, among which will be a better pack generally and a uniform one.

It is generally conceded that our present method of handling the crops from the orchards of Colorado—and especially those of the Western slope—might be improved upon. There is a feeling among the growers at large that they are not receiving a fair share of the price paid by the consumer.

We have all heard the story of the barrel of apples sold two or three years ago by a Missouri grower for 75c into which he placed a card requesting the final purchaser to let him know how much he had been charged. In due time the card was returned with the statement that the consumer had paid \$5.25 for the barrel, and he added the remark that "At this rate apple-growing ought to be mighty profitable."

Also, we know from experience that in many, many cases within the confines of our own state the consumer is called upon to pay heavy toll to the various hands through which our fruit passes. It is known that apples which could be bought from growers in the best sections of the state for from half a dollar to a dollar a box, packed, have sold at times as high as \$3.00, \$3.50, and in rare cases as high as \$4.00.

This is a fact regarding all farm products. Often it may appear to us that the fruitman is unduly oppressed, whereas, if we look about us, we will see that there are other branches of agricultural industry which show up even a less proportionate profit for the grower as against the consumers' prices. Your can of smoking tobacco which cost you ten cents brought only a fraction of that sum to the producer of the tobacco. The pair of shoes for which you pay \$5.00, deducting the difference in proportion of manufacturing cost, yielded the man that grew the hides a nominal sum. Cotton,

wool, lumber, and cereal products are all conspicuous examples of the high tribute levied by middlemen notwithstanding the portion of the whole that belongs to manufacture as compared to the cost of preparing fruit for market.

But, since the fruit growers have taken one step in the right direction, namely, the formation of co-operative associations, it now seems feasible that another step might be taken. Before suggesting a plan of betterment, it will be necessary to look carefully at the present plan.

There are now thirty or more co-operative and corporate shipping associations and firms in western Colorado which secure supplies, superintend packing and shipping, and sell the fruit for the growers. These concerns, by buying in large quantities, save for the growers many thousands of dollars annually. They set a standard for packing so that there is a semblance of uniformity, and every small grower is assured that however small his shipment may be it will be enabled to get the advantage of car-lot rates, and the growers are not individually compelled to seek a market.

Thus far it is good. But when there are fifty associations there are fifty men who devote more or less of their time to the selling end and not one of these fifty men are in the market where the selling is done. They are in western Colorado, and their markets are practically all far removed.

We often hear of f. o. b. selling, but we assert without fear of contradiction that not one per cent. of the fruit of western Colorado is sold f. o. b. shipping station. In nine cases out of ten which are reported as f. o. b. sales they are not cash f. o. b. shipping station but f. o. b. destination, subject to inspection and rejection at that point.

This latter I shall not detail now, but know and maintain and take as granted that for the past five years there has been practically no f. o. b. selling in western Colorado, and **there cannot be.**

If it is advantageous for twenty or more growers to combine for buying supplies and shipping their fruit, it seems that it would work in the same manner for the fifty associations to combine for the distribution and selling of their outputs.

Under the present system, each salesman received each day telegraphic reports of the conditions in several Eastern markets. Did you ever try to estimate what this expense is? The manager of one association tells me that they spend annually about \$1,500 for telegraphing. If \$1,000 is taken an as average, there is an expense of at least \$30,000 that must be borne by the growers annually.

And what is the result of all the organizations getting these daily reports? If some morning during the peach harvest the reports show that

Omaha, for example, is short on peaches and the prices strong, each association salesman makes all haste to divert some of his cars to Omaha. If they average two cars each, Omaha, within the next two days, receives 60 cars of peaches.

What is the result? Probably five cars would be all that market would stand up under. Mr. Omaha commission man must dispose of his peaches and the prices are cut to pieces. Thus the growers are paying \$30,000 a year for reports that oftentimes are really working to his disadvantage. When 40 cars of peaches are diverted to Omaha some other point or points are probably left practically empty, which in a few days causes a general scramble for such place or places.

I believe the foregoing contains the answer to an argument which I was told appeared in a Western slope paper last week from the pen of a prominent fruitman. His argument seemed to be that such a scramble for markets would not, could not, affect the price, trade. Evidently he overlooked the fact that not a single house is content with the trade it has, and that if one can undersell his neighbors to their because every house has its line of old established customers he is going to do it in the hope that he will line up that customer as a steady comer with him; and nothing helps such a state of affairs like a glutted market.

If one head did the distributing, \$24,000 a year might be saved in telegraphic bills, and many times \$24,000 might be saved by averting the gluts such as I have mentioned. I am firmly convinced that 20 per cent. could be added to the returns by the growers of Colorado if one man had charge of the distribution and all else went on as under the present system.

The ideal way for the producer to sell would be to the consumer, but since this cannot be, the next best thing is for the producer to have paid representatives to sell his products for him for the best prices obtainable.

I believe that all the fruit-shipping concerns of Colorado should have one head to whom they might deliver the products for distribution, and under the control of this head should be agents in all the important distributing points who will be paid to sell this fruit to best advantage. And when I say **sell** I do not mean to consign in any sense of the word unless at certain times it seems best to sell through an auction; but whenever control of the fruit is relinquished cash should be in hand.

As I said in the beginning, we have taken steps in the right direction. We have the inspiration of many examples of producers of like and different commodities to spur us on to a successful pursuit of this ideal marketing system I am advocating. You may have heard how the lima bean growers of the southern California territory stood by their guns until today they meet once

(Continued on Page 17)

Apple Prices Direct From the Eastern Auction Rooms

The auctions afford a reliable guide as to the market price of fruit. For the first time that it was ever done by a fruit magazine, so far as we know, the Fruit Journal has had compiled for it a table of the auction sales at Chicago, on some of the leading varieties and taken at different periods.

It will give the grower an idea as to how near he comes to receiving the market price. The table would have been a much better guide if the auctions had kept a record of the extra fancy and the fancy separate. It was necessary to base the averages on extra fancy and fancy combined. The ratio of extra fancy and fancy probably did not vary greatly in most parts of the Northwest, nor widely, from most of the fruit sections in Colorado.

One valuable thing about this table is that the freight and usual outside commissions from the various points is subtracted.

It is likely that the private sales of the associations using the auctions have been somewhat better than these results, but there is conclusive evidence of the fact that private sales were impossible, otherwise the auction would not have been used to the extent that it was. We feel confident that these auctions sales cover only the extra fancy and fancy grades from these shippers as we hardly think any shipper would be so foolish as to put a car of standard or third grade stock on the Chicago auction.

The auction averages are as follows, net, except that where an association was the shipper its commission has not been taken out:

Gano	\$.64
W. W. Pearmain . . . . .	.71
Shackelford . . . . .	.31
York Imperial . . . . .	.37
Wine Sap . . . . .	.65
Jonathan . . . . .	.65
Grimes . . . . .	.70
Spitzenberg . . . . .	.77

At the end the averages of the Grand Junction Fruit Growers' Association on the same varieties is given. They certainly speak well for that association, which, we are assured sold practically all of its output by private sales, only one car going to the auctions, and practically none of it being consigned.

In our next issue we should be glad to publish the averages on these varieties of other associations. There is no reason why every one of our associations should not have received these prices. Had they worked together, under one selling head, it would have been the case. In fact, better prices would probably have been obtained all around, as the manager of the Grand Junction association admits that but for some sharp competition on the Western slope of Colorado, his prices would have been better.

The report from the auctions follows:

GANO APPLES ON CHICAGO AUCTION

Idaho.

62 Ganos at	90c per box
308 Ganos at	\$1.19 per box
Freight, per box, 42½c.	
Auction charges, 5%.	
Net to shipper, 64c and a fraction per box.	

Washington and Oregon.

167 Ganos at . . . . .	.95c per box
Freight, 50c per box.	
Auction charges, 5%.	
Net to shipper, 40c and a fraction per box.	

Colorado.

354 Ganos at	55c per box
210 Ganos at	60c per box
295 Ganos at	62c per box
357 Ganos at	65c per box
144 Ganos at	68c per box
82 Ganos at	70c per box
595 Ganos at	75c per box
150 Ganos at	81c per box
156 Ganos at	89c per box
145 Ganos at	97c per box
96 Ganos at	\$1.00 per box
98 Ganos at	\$1.08 per box
Freight, 37½c per box.	
Auction charges, 5%.	
Net to shipper, 31c and a fraction per box.	

WHITE WINTER PEARMAINE ON CHICAGO AUCTION

Colorado.

69 W. W. Pearmaine at \$1.17 per box	
80 W. W. Pearmaine at 1.20 per box	
270 W. W. Pearmaine at 1.25 per box	
116 W. W. Pearmaine at 1.35 per box	
217 W. W. Pearmaine at 1.42 per box	
76 W. W. Pearmaine at 1.50 per box	
Freight, 37½c per box.	
Auction charges, 5%.	
Net to shipper, 87c and a fraction per box.	

Idaho.

115 W. W. Pearmaine at 87c per box	
290 W. W. Pearmaine at \$1.01 per box	
593 W. W. Pearmaine at 1.26 per box	
Freight, 42½c per box.	
Auction charges, 5%.	
Net to shipper, 66c and a fraction per box.	

Washington and Oregon.

132 W. W. Pearmaine at \$1.10 per box	
276 W. W. Pearmaine at 1.31 per box	
Freight, 50c per box.	
Auction charges, 5%.	
Net to shipper, 68c per box.	

SHACKLEFORDS ON CHICAGO AUCTION

Idaho.

521 Shackelfords at . . . . .	.77c per box
629 Shackelfords at . . . . .	.85c per box
Freight, 42½c per box.	
Auction charges, 5%.	
Net to shipper, 60c and a fraction per box.	

Washington and Oregon.

660 Shackelfords at . . . . .	.56c per box
Freight, 50c per box.	
Auction charges, 5%.	
Net to shipper, 3c and a fraction per box.	

YORK IMPERIALS ON CHICAGO AUCTION.

Colorado.

100 York Imperials at . . . . .	.86c per box
105 York Imperials at . . . . .	.95c per box

Freight, 37½c per box.

Auction charges, 5%.
Net to shipper, 48c and a fraction per box.

Idaho.

140 York Imperials at . . . . .	.75c per box
Freight, 42½c per box.	
Auction charges, 5%.	
Net to shipper a fraction less than 29 cents.	

Washington and Oregon.

348 York Imperials at . . . . .	.88c per box
Freight, 50c per box.	
Auction charges, 5%.	
Net to shipper, a fraction less than 34c per box.	

Washington and Oregon.

151 Winesaps at	84c per box
258 Winesaps at	\$1.13 per box
117 Winesaps at	1.22 per box
210 Winesaps at	1.46 per box
104 Winesaps at	1.50 per box
265 Winesaps at	1.65 per box
212 Winesaps at	1.68 per box
Freight charges, 50c per box.	
Auction charges, 5%.	
Net to shipper, 81c and a fraction per box.	

323 Winesaps at	50c per box
221 Winesaps at	72c per box
204 Winesaps at	73c per box
118 Winesaps at	85c per box
198 Winesaps at	\$1.10 per box
618 Winesaps at	1.15 per box
Freight, 42½c per box.	
Auction charges, 5%.	
Net to shipper, 42c and a fraction per box.	

Colorado.

708 Winesaps at	95c per box
504 Winesaps at	\$1.02 per box
127 Winesaps at	65c per box
336 Winesaps at	\$1.05 per box
79 Winesaps at	1.10 per box
314 Winesaps at	1.15 per box
67 Winesaps at	1.20 per box
758 Winesaps at	1.25 per box
94 Winesaps at	1.30 per box
101 Winesaps at	1.34 per box
259 Winesaps at	1.35 per box
298 Winesaps at	1.45 per box
98 Winesaps at	1.47 per box
78 Winesaps at	1.50 per box
126 Winesaps at	1.57 per box

Freight, 37½c.

Auction charges, 5%.
Net to shipper, 73c and a fraction per box.

JONATHANS ON CHICAGO AUCTION

From Points in Colorado.

404 Jonathans at	55c per box
602 Jonathans at	85c per box
535 Jonathans at	88c per box
1222 Jonathans at	89c per box
310 Jonathans at	90c per box
486 Jonathans at	91c per box
1128 Jonathans at	95c per box
212 Jonathans at	\$1.00 per box
882 Jonathans at	1.05 per box
2811 Jonathans at	1.10 per box
315 Jonathans at	1.13 per box
254 Jonathans at	1.14 per box
2157 Jonathans at	1.15 per box

(Continued on Page 20)

Views of Leading Men Regarding Central Selling Agency

Below are some opinions from prominent men in regard to the central selling agency plan. It will be noted that all agree on the advantages of the fruit growers getting together. The dividing question is simply what is the best way. When an end is desirable the means to that end can generally be worked out. In this case it certainly needs to be worked out before another shipping season begins.

By JOHN D. REEDER

The consolidation of our fruit growers' associations, or a general selling agency representing the various associations as they now exist, has been the principal topic of discussion for the past few weeks. There are many growers who think the former plan could be adopted at this time, while others think that a general selling agency should be the first step taken in that direction. Nearly all admit, however, that something should be done the coming season to reduce the cost of getting our fruit to the consumer, while but few suggestions have been made as to the best methods by which this could be accomplished.

The best plan if it could be done at this time, would be to form a new association, under a name which every section of the western slope could adopt, have the property of the various associations appraised at their cash value (if they would consent to sell) and fix the value of the shares in the new association so that their combined value, allowing one share for each bearing acre, would equal the amount of the appraised value of the association taken over. By making each grower have a share of stock for each bearing acre and the by-laws providing that no dividends be paid, you would have the control in the hands of the growers. Then by making a package charge at actual cost for handling, and by reducing the margin of profits on supplies furnished, you would soon save enough to pay for the stock, to say nothing about what we would save by eliminating competition among ourselves.

Much has been said about paying so many commissions on our fruit before it reaches the consumer. Did it ever occur to you that most of our associations were controlled by commission men?

An article in the Daily News of December 20th, in referring to Mr. Turpin's paper read before the Horticultural Society in Grand Junction, in which he favored a central selling agency, says in part:

"For the benefit of the whole section, we hope this can be brought about, though in bringing it about we feel, as do many other members of the Grand Junction Fruit Growers' Association, that what will be to the gain of the western slope will not be a gain to this particular association. Ever since its organization, largely because its stock was in the hands of a few able business men, the Grand Junction Fruit Growers' Association has had the most efficient marketing agency of any co-operative fruit growers' association in the world; and this in spite of the fact that the bulk of the growers have tried every year to overturn this management but were not able to do so because they were unable or unwilling to purchase shares of stock in sufficient number to give them control."

There you are. These are the men to whom you pay your first commis-

sion, and these are the men who are opposing any plan which will stop the commissions you are paying them. With their combined voting power they elect a board of directors and a management who see to it that they get their commission in the form of dividends. In order to pay these dividends, the management charges a fixed per cent. on all fruits sold and a large per cent. of profits on all supplies furnished.

We do not blame those men for the part they take in the election of directors who control these associations. They have their money invested in them and it is a part of their business to get as large commission, or dividend on their investment, as the grower will permit.

True, they have not made much money the past few years, but they expect soon to get back to paying the good old 25 and 30 per cent. dividends, which you, Mr. Grower, with your one share of stock and a 5, 10 or 20-acre bearing orchard, will have to pay. So the question is, What are you going to do about it?

There are many who think that the growers at this time could not raise sufficient money with which to buy over these various associations, and I think perhaps this is true. Then the next best thing to do is to incorporate a central selling agency, under the control of a board from the various associations, with the power to employ a sales manager who would have charge of selling all our output. The grading of fruit as well as the packing should be under the supervision of this board and should be uniform. In fact, put this board in absolute control, with the exception, perhaps, that each association might have a man in charge of their supplies at their own expense. Instead of having three sets of men at Palisade, have one set for all, in charge of a competent foreman. Ship everything over one platform, and it does not make any difference which platform you use. Have all fruit delivered there and handled by one set of men. Your boxes will show to which association you belong, and by this means you can determine the amount each association is to pay for running expenses in proportion to the amount shipped.

With the exception of ten days or two weeks, during the rush, all the fruit in this district could be handled over one platform and during this time other platforms could be used when necessary, and when loaded could be billed out as directed by your general salesman, and as the pack and grade will be uniform, each day's sales should be pooled and each grower get the same price for the same grade sold on the same day.

There are many other good reasons why we should get together, and no good reason why we should not, and when a man, after looking into it, still presumes to say that it is not the

thing to do, if you will take the trouble to investigate, you might find that somewhere he gets a commission under the present system.—Courtesy Palisade Tribune.

John J. Bridges, vice president of the Grand Junction Fruit Growers' Association, concludes a statement on this subject, as follows:

"It is very unfortunate that in so small a section of country as we have here at Palisade, and with as high a class of citizenship as we have, that we should be so skeptical or suspicious of each other as to have found it necessary to organize so many concerns, and by so doing we have created an expense that is becoming considerable of a burden, and the most important topic the growers of the Palisade section can put their attention to is to reduce the local expense of securing and handling our supplies and loading and shipping the product. If it would be advisable to have one sales agent for ALL the associations, then what would be the use having ALL the associations?"

"The writer would recommend that immediate steps be taken to reorganize all the present organizations of the Grand valley into one association of some appropriate name on an equalization stock plan."

A. C. Newton, state representative from Mesa county, writes:

"Any measure or method that will create a better grade of fruit and a better market with a better price in that market should have the hearty support of every grower in the Grand valley, and there is not the least reason on earth why the entire valley should not be included in a single organization for handling and selling every variety of fruit and produce. The best growers will eventually have such an organization and those who will not harmonize or live up to the rules and be refused the right to do business regulations will be forced out. If a grower will not pack right he should with the organization. He is a menace to the prosperity of his neighbors and the success of any form of union. A central selling agency will not do this class of men a particle of good."

F. J. Cory, a leading fruit grower of the Fruita district, in an article on the marketing problem, makes the following point:

"There are grave obstacles to be overcome, however, in the successful carrying out of any system which fails to recognize the middlemen. The item of capital is one of first consideration. Storage plants within 'striking' distance of the great market centers must be provided, either by lease or purchase or construction. Means must be forthcoming to meet operating expenses, salaries, wages, maintenance, etc., pending the sale of the crop."

THE FRUIT JOURNAL, one year for \$1. Special departments for every member of the family.

Four States Form Selling Agency

(Continued from page 11).

years and three one year. After the first election the trustees will serve a three-year term.

"The general purpose of the corporation will be to provide for the marketing and distributing of the fruit of the northwest," said N. C. Richards, general counsel-elect, last night. "The articles give the corporation power to employ agencies to that end and construct the necessary property to market and distribute fruit, and generally to construct the machinery to represent the growers and eliminate waste. The corporation will handle the fruit of its members, either as individuals or organizations.

The board of trustees adjourned to meet in North Yakima in January to further evolve plans. It is the intention of the trustees to meet from time to time in various district centers to study local conditions and for the moral effect their sessions will have in firmly establishing the harmony that so far has marked all the deliberations. By its close application to the big task given over to it by the conference the committee, now the board of trustees, had achieved recently practically what they had been given ninety days to do, and in perfecting the organization have accomplished much in bringing about the big central selling agency that the growers desire.

Many details as to storage facilities, methods of operation and general management are yet to be worked out.

The important apple shipping districts of the northwest are the Yakima, Wenatchee, Walla Walla and Columbia river valleys in Washington, the Hood river, Rogue river and Willamette valleys in Oregon, various districts in northern and southern Idaho and the Bitter Root valley of Montana. The Spokane valley and adjacent districts in Spokane, Whitman and Stevens counties are rapidly coming into productive importance. All these have direct or close representation on the committee.

A statement by Chairman W. T. Clark of the committee shortly before the convention adjourned conveys a conception of the magnitude of the interests that are to be fostered by the organization that is to come as the outgrowth of yesterday's deliberations. Fifty million dollars, Mr. Clark said, are invested in the apple orchards that were represented in Spokane yesterday. Under the foster-

ing conditions this will soon expand to \$100,000,000.

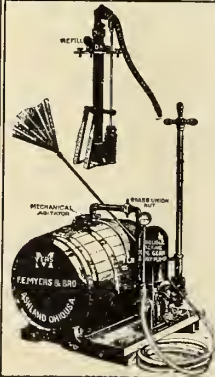
Mr. Clark did not add, but the fact must be apparent to all thoughtful observers, that if the industry falls into demoralization the \$50,000,000 now invested can dwindle down to \$25,000,000 or less. Scores of growers who had been alarmed by the imminence of that possibility went cheerfully away from the convention hall at Spokane, hopeful to confidence that the

danger had been warded off; that the orchard industry of these northwestern states is to be placed on a footing of enduring prosperity.

During the convention J. M. Crutchfield of Pittsburg, Pa., head of the Northwest Fruit Exchange, was given the privilege of the floor and spoke on the marketing of the northwest apple crop.

"The northwest growers are marketing a specialty," he said, "and

IT PAYS TO SPRAY WITH A MYERS SPRAYING OUTFIT



A Myers Spray Pump is an investment that pays and pays well. It does not mean outlay. It means income. It means a more marketable fruit or vegetable crop—one that not only sells more readily but commands a better market price—that shows a greater profit to the grower.

The vast difference in the salability of unsprayed and Myers-Sprayed fruit has caused many orchardists and farmers in this and foreign countries to make the statement, "It pays to spray with a Myers Spraying Outfit."

Myers Spray Pumps are the result of years of experience and experiment. They have been developed with spraying itself, in line with spraying needs, and have withstood the tests made of them for service and reliability. The Myers line includes a pump for every need.

Myers Spray Nozzles and Accessories are complete in every particular and can be relied upon to do the work expected of them. Our Spray Pump Catalogue tells all about them, illustrates and describes the few pumps shown here and the many other styles and sizes of Knapsack, Bucket, Barrel and Power Spray Pumps we manufacture. It also gives valuable spraying information, including a spray calendar, spraying solutions, etc.

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OUR ADVERTISERS GIVE SPECIAL ATTENTION IF YOU MENTION THIS MAGAZINE.

northwest fruit is recognized everywhere in the East as in a class by itself. The science of organization must be given careful attention to avoid costly mistakes. The middlemen must be eliminated if the greatest results are to be attained. The grower must remember that he is the party of the first part and that he must do right himself if he expects results. The growers must co-operate and organize and have confidence in each other. Confidence is absolutely essential to establish the apple business on a sound, successful business basis. The organization needs protection from itself.

"It needs protection from the bankers, for there are rates of interest charged in the western country that would make a commission man blush. It needs protection from the railroads. If the apple industry is systematized and put on a business basis, the railroads will have to give it consideration or the Interstate Commerce Commission will step in and compel them to do so. The industry needs protection from the middleman and the consumers need protection from the growers. If often happens now that the consumer is 'skinned' far worse by the grower than the grower by the middleman. You must protect your customers from yourselves."

Mr. Crutehfield urged the importance of maintaining the highest possible standards for northwestern apples. Growers here, said the speaker, cannot possibly compete with eastern growers in the lower grades. It costs \$1 a box, he figured, to convey the northwestern apple, after it is grown, from tree to market, with the items

divided thus: Thirty cents for picking, wrapping, packing, boxing and hauling to the car; 50 cents for the freight rate, and 20 cents for interest, insurance and storage. That dollar a box is equivalent to \$3.50 per barrel. If the grower be allowed a dollar a box for his investment and labor, another \$3.50 is added to the barrel, as eastern measurements go, or a total of \$7 per barrel. Yet the choicest eastern apples sell in season at an average of \$2.85 a barrel.

The point that Mr. Crutehfield drove home was the fact that high-grade northwestern apples are in a class by themselves; that the growers have really a distinctive product, if high standards be upheld and can sell it at prices that will mean a profit. But once allow the standard to fall and the grower has put himself in impossible competition with the eastern apples that sell for \$2.85 a barrel.

Mr. Crutehfield concluded that the problems of the northwestern grower are not nearly so difficult as some suppose. That the apple, when properly handled, will not be a perishable product. As compared with the banana, he said, it was as coal compared with ice, for the banana "freezes" at a temperature of 50 and cooks at 65." With adequate organization and effort, he thought, the market season for the apple could be made to cover eleven months in the year.

The need of canneries to take care of low-grade stuff was an important matter for consideration. One speaker put it as follows:

"Now it is entirely plain that we can not hope to find a profitable market east for second and third grade ap-

ples. Like the poor they will be always with us. The question to be answered is what shall we do with them? Feed them to the pigs? If that is to be the method of disposal, then the speaker was half right who said that the apple industry started in the nursery and ended in the hog pen.

"I insist that our problems will not be more than half solved until we develop by-product factories all

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If you are interested in spraying outfits of any sort, write for the

Bean Spray Catalogue

It illustrates and describes the entire Bean line of Hand and Power Sprayers and Pump Accessories, explaining thoroughly the advantages of these outfits

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The Neutral Product is Effective and Safe

In selecting an Arsenate of Lead for fruit-tree spraying, you choose between the Neutral and the Acid. The Neutral Arsenate has all the advantages found in the Acid with none of its disadvantages. Select

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1387

over the northwest—first to the point where the home products of these factories will capture the home market and drive out California dried and canned fruits. And after that reach out for the markets of the United States, Europe and Asia, just as the California products have done already.

"These four northwestern states are spending every year several million dollars for California by-products of the apple, the peach, the prune, the apricot, the pear and the grape—all fruits that thrive in our soil and climate. It is folly for us to go on indefinitely under this wasteful custom.

"I noticed that the railroads were well represented at these conventions. It seems to me unfortunate that we adjourned without a friendly conference with their representatives. They have it within their power, by putting in fostering rates, to develop the manufacture of by-products to a wonderful degree of prosperity. Without their co-operation we can do little."

APPLES—TWENTY CENTS A BOX; MARKETED HIS OWN

The Chewelah correspondent of the Spokesman-Review reports that Jesse Hartill, owner of the Hartill orchards there, has returned from Chicago, whither he went a few weeks ago with a car of choice apples. He reports that the commission houses were overstocked, and he sold out on the track for the ridiculously low price of 25 cents a box.

LEAD ARSENATE FOR SPRAYING.

How to prevent what is estimated by experts as more than a quarter of a billion dollars' annual damage to the crops of this country by insects and germs is a problem which is engaging, as never before, the attention of horticulturists, fruit growers and farmers.

It is accepted that the best method, so far discovered, is that of destroying the pests by means of judicious spraying with Lead Arsenate.

This reliable and economical insecticide is now employed with most satisfactory results by leading entomologists and growers, and its use is steadily on the increase throughout the country.

Care must be taken, however, to see that the poison is of full strength and properly combined. Such an article is that of the P-W-R brand, guaranteed under the insecticide act of 1910 by the manufacturers. **Powers-Weighman-Rosengarten Co. Philadelphia-New York-St. Louis.**

It is supplied in both paste and powder form, at lowest ruling prices, by first-class wholesale drug houses, drug stores and seed houses throughout the United States.

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FOR APPLES, PEACHES & PEARS

Add selling value to your pack. Identifies you with the consumer. Puts on the finishing touch. Special designs to order.

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We have three or four stock designs of each kind that range in price from \$5.00 to \$10.00 per M. These are especially attractive to the new grower who does not care to go to the expense of a special label.

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THE LAND lies in the heart of the lush fruit country of Montrose and Delta counties, Colorado, on the Western Slope.

THE WATER comes from the rushing Rio Escalante, permanently supplied by the snow-capped peaks of the Rockies.

THE SOIL is a rich red sandy loam—the ideal fruit soil. A gentle slope makes irrigation easy and gives perfect drainage.

THE CLIMATE is even, with mild winters and gentle summers. The altitude ranges from 4,900 to 6,000 feet, and the air is crisp and invigorating.

THE PRICE is \$1.25 per acre for the land (U. S. Desert Act) and \$60 per acre for permanent water right, with five years to pay.

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330-332 Railway Exchange Bldg.
Box C Denver, Colorado.

Call to Growers to Get Together

(Continued from Page 11)

a year, fix their price at nearly three times the figure they might expect if they operated under the competitive system, and get it.

You probably have read of the organization of the Michigan grape-growers; or you may know something of the banana business of today; the stories of co-operative concentration, intelligently followed, are stories of success.

As the most favorably and widely known example of this, I would cite the California Fruit Growers' Exchange. Organized less than twenty years ago in the face of the bitterest opposition and severest discouragement, it now maintains salaried representatives in nearly seventy-five principal markets of this country, Canada and Europe, selling the product of over 5,000 growers who compose the 100 or more associations of the sixteen sub-exchanges.

The sales of this concern are made on a delivered basis. This is, by keeping in close touch day and night with the present and prospective conditions in every inch of the territory covered by each one of these agents, the distributing heads are enabled to apportion a steady and suitable value of fruit from the various associations to the various markets.

The machinery of this wonderful organization has required years to build. But it is now perfected so that sales are made only to dealers of whose responsibility and integrity there is no question. The percentage of losses through poor customers is unbelievably small. If one market is growing stronger fruit is sent to it from some place which seems to give signs of weakening, and thus a fine balance is maintained which makes a disastrous market almost unknown.

It has occurred to me that with the proper organization in this territory we might join hands with our California friends in using the machinery of the exchange sales force.

Or, it might be advisable for our own exchange to secure a reputable broker in each of the larger markets and have a local manager to distribute the fruits to these various jobbers as the markets from day to day seemed to justify. This Colorado manager to be under the control of and report to a board of control composed of members of the various associations included in the exchange.


The growers are pretty much of a unit in their demands for better returns for their fruit and are not generally dissatisfied with the work of their local associations in the system but they are sure that the system is wrong and are going to insist that the associations help in developing a change in the system.

ROOM FOR IMPROVEMENT.

"The necessity of putting up in an attractive manner any farm product," said Prof. W. J. Spellman of the Department of Agriculture, recently, "is so obvious that it ought not to need discussion, yet when one goes to market and sees unsorted and unattractive apples and potatoes exposed for sale beside the products from farms that send only attractive wares to the market, it seems that farmers have not yet generally learned this lesson. The unwisdom of trying to market perishable farm products, such as the softer fruits and truck crops, through unknown and unrecommended commission merchants in distant cities, who have every chance to practice fraud without let or hindrance, ought also to be so self-evident as to prevent anyone from relying on such methods of marketing; but the facts indicate that

many have not yet learned this lesson, and apparently some farmers need to have the lesson repeatedly brought to their attention.

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and let you use it ten days absolutely free of charge. If the free trial does not convince you that Hurst Sprayers are better made, easier operated, more durable and cheaper than any other sprayer on the market, send it back at our expense. If you decide to keep it, you can pay cash, or we will wait a whole season for our money and let you pay for the sprayer out of the increased profits. Surely, this is a one-sided proposition, with everything in your favor—if we weren't mighty certain about the quality of Hurst Sprayers, we couldn't afford to make this offer.

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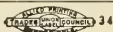
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Official Organ of the American Apple Congress.
Clinton L. Oliver, Secretary, Paonia, Colorado.

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Vol. VI JANUARY 1913 No. 6

Money for Farmers at Less Cost

A nation-wide movement is on foot to secure money for farmers at a lower rate of interest.

Governors from thirty-nine states pledged themselves to active campaign for comprehensive credit system at a conference with President Taft in the East room of the White House last month.

A committee of nine executives was named to draw up a tentative farm credit plan, from the reports of foreign credits system, submitted to them by Myron T. Herrick, American ambassador to France.

The committee of governors consisted of Governor O'Neal of Alabama, chairman; Plaisted, Maine; Mann, Virginia; Harmon, Ohio; McGovern, Wisconsin; Hadley, Missouri; Foss, Massachusetts; Carey, Wyoming, and Johnson, California.

Declaring that farm extension was one of the country's greatest needs, President Taft urged serious consideration of the plan.

"The earlier we begin the agitation," he said, "the earlier we shall bring the matter to the attention of the public."

Ambassador Herrick outlined briefly the bond issue plan which he recommended for adoption by this country. The system, he explained, consisted of an association of small state or land banks, whose sole business was the issuance and guarantee of bonds secured by farm lands. These bonds have no fixed date for retirement but their average is thirty to seventy-five years. The interest on the bonds averages three per cent. a year, exclusive of the cost of the bond issuance.

From Grower to Consumer

An interesting attempt to eliminate the middleman in the apple deal is being made in Denver. The Growers Fruit Distributing Company, of which Clinton L. Oliver, Arthur Graham and S. Arthur Wade, are the incorporators, has opened a retail apple store, on Fifteenth street in Denver near Glenarm.

Inquiry at the store, just before going to press, brought out the information that the business had been averaging about twenty boxes sold a day, and that the organizers were satisfied with the results so far. They are planning, it was learned, to open up other stores in Denver, and, as the business may warrant, extending the apple shops to other cities. An effort is now being made to sell more stock.

Fruit Counties Take Notice

El Paso county has engaged a county agriculturist—at \$5,000 a year salary—whose business it will be generally to promote better, more scientific and more profitable farming. W. H. Launck, formerly of the government station at Eads, has been engaged and he has just completed a series of institutes in various parts of the country.

Instead of establishing an experimental farm, which could be operated with every modern tool and under conditions which would not apply to the average farm, El Paso county has secured a man who not only has the benefits of a scientific agricultural education, but who has actually farmed under the most severe conditions.

He will spend his time out in the country, going from farm to farm, studying local conditions and talking over with each farmer the best methods for him on his own farm. Logan county has a man who is putting in part of his time, and the San Luis valley also has a man.

Good Pack Deserves Good Label

The latter point needs special emphasis. In agriculture as in no other business products are continually offered for sale without any indication of their source. In other lines of industry such articles are likely to be rated as "junk" and sold at greatly reduced prices. It has been well said that agriculture is probably the only industry that could long exist with its products continually selling at junk prices. Good fruit growers take pride in their product, should see to it that not another season passes without labeling their boxes with some attractive label.

Parcels Post Makes Good

At exactly seven minutes after 12 o'clock, on the morning of Jan. 1, A. A. Rockefeller, a local carrier, walked up to the home of Gov. Wilson, president-elect, with the first package delivered in Princeton, New Jersey, by the parcel post. The package weighed eight pounds and eight ounces, and contained two dozen fine Jersey apples which the Woodrow Wilson Club of Princeton had sent to President-elect as New Year greeting.

What Grand Junction, Colo., Papers Say of R. E. Turpin, New Editor of Intermountain Fruit Journal.

[The publisher, Mr. Alfred Patek, quotes the following extracts, feeling that they voice best of all the opinions that the fruit growers at Mr. Turpin's home have of the new editor of the Fruit Journal.]

(From the Grand Junction (Colo.) Sentinel.)

R. E. Turpin, one of the leading fruit growers of this valley and a leading spirit in many of the big enterprises of the county, has editorial charge of the Intermountain Fruit Journal.

Mr. Turpin enjoyed an enviable and long experience in the eastern and southern newspaper world. He was for years city editor of the Louisville Courier-Journal, Henry Watterson's famous paper, and later for a good many years held most responsible positions on the New York Journal, Hearst's first great newspaper. Some eight years ago he came to this valley and purchased a fruit farm in the Pomona section and has proven conclusively that a successful newspaper man can also be a successful fruit grower. Mr. Turpin has been a member of the board of directors of the Fruit Growers' Association for a number of years, and was one of the prime movers in the bringing about of the now famous Appleton Consolidated School district and is one of the officials of that district.

Mr. Turpin is a newspaper man of unusual ability and as editor of the Intermountain Fruit Journal, he will be certain to bring that publication up to a very high standard of excellence.

(From the Grand Junction News.)

"Get Together and Stay Together," the leading article in the December issue of the Intermountain Fruit Journal, was written by R. E. Turpin of this city, the new editor-in-chief of that publication. It deals seriously and exhaustively with the marketing problem, and is a preliminary to an article which he will write for the January number on "The Central Selling Agency."

Mr. Turpin is not only a grower of wide experience, but he has been connected for several years with the board of directors of the Grand Junction Fruit Growers' Association. The fact that this is the largest single cooperative selling agency dealing in deciduous fruits in the world, has lent Mr. Turpin some valuable experience to take into his work as editor-in-chief of the standard fruit paper of the intermountain country.



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Association of American Advertisers
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It is said that Mr. Turpin will attack the distributing proposition without gloves in future numbers of his paper and make it an instrument to increase the efficiency of the association on methods of marketing.

Mr. Turpin's thorough knowledge of the needs of the fruit growers of the state and his unsurpassed ability to make clear these needs and their solution, won for him the Denver offer. Under his management, the Fruit Journal will work for the best interests of the orchardists of the state and will start a campaign to unite the growers for their own good and protection. It will be put on a par with the leading fruit papers of the country.

Mr. Turpin is a newspaper man and writer of wide experience. He worked for many years on the biggest New York dailies. He was city editor for a long period on the Louisville Courier-Journal before coming here to make his home. He was as successful as a rancher as a journalist and at once took a leading place in Mesa county horticultural circles.

**SCHOOLS IN GERMANY
FOR THE FRUIT GROWERS.**

Instruction by itinerant teachers is a feature of German agricultural education, especially in fruit growing, according to information received at the United States Bureau of Education through consular advices. The work is similar to the agricultural extension work carried on in some sections of the United States, but shows several interesting local differences.

The school for wine and fruit growing at Kreuznach sends its instructors over the entire district of 200 villages. The plan is found to be excellent not only for the farmers who receive the direct benefit but for the teachers themselves, who are enabled to keep in close touch with the practical side of their work. This instruction is furnished entirely without charge.

The horticultural school at Oppenheim, besides giving instruction by lectures and furnishing practical aid to the farmers has introduced "model vineyards." The school and the vineyard proprietors enter into a five-year contract by the terms of which the school exercises supervision over the vineyards and the vineyard owner agrees to follow the directions of the school in every particular. The school makes no charge for this service. There are about a dozen such "model vineyards" in the Grand Duchy of Hesse.

**FRENCH CONSUL REPORTS
APPLES WANTED THERE.**

Consul John Ball Osborne of Havre reported that, according to information from all parts of France, the crop of apples for cider making was quite abundant this year, but on account of rain the fruit gained more in size than in sugar, and the musts in certain places will suffer in consequence. In view of the great need of France and foreign countries, apples are in active demand, and prices show a tendency to rise.

THE FRUIT JOURNAL, one year for \$1.



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The West for Berries**

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West for Berries**

And there's nothing like berry-growing for making money fast and surely. Five acres of the right kinds of berries will net you \$2,000 a year—and do it easily after the second year. Berries bring high prices on the Coast. They are wanted in the East by the train-load for dried and canned berries, and can be shipped at low cost. Grow berries and you will make money.

I Know Western Fruits

I lived in the West for eight years and made lots of money. The three months' longer growing season there makes 1000 crates an acre easy to get.

Buy five acres—plant three in berries, use two for buildings, pasture and poultry—and live like a king. Send today for my Berry Book—the only one of its kind. Contains a lifetime of berry knowledge.

A. Mitting, Berry Specialist Berrydale Experiment Gardens, Colony Avenue **Holland, Mich.**

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Auction Prices Apples Sold At

(Continued From Page 12)

1043 Jonathans at.....	1.16	per box
1859 Jonathans at.....	1.18	per box
1836 Jonathans at.....	1.19	per box
3254 Jonathans at.....	1.20	per box
1640 Jonathans at.....	1.21	per box
1515 Jonathans at.....	1.24	per box
3312 Jonathans at.....	1.25	per box
2995 Jonathans at.....	1.26	per box
2166 Jonathans at.....	1.27	per box
1589 Jonathans at.....	1.28	per box
1488 Jonathans at.....	1.30	per box
1719 Jonathans at.....	1.31	per box
1223 Jonathans at.....	1.32	per box
1242 Jonathans at.....	1.33	per box
935 Jonathans at.....	1.35	per box
242 ² Jonathans at.....	1.36	per box
1621 Jonathans at.....	1.38	per box
397 Jonathans at.....	1.39	per box
395 Jonathans at.....	1.40	per box
183 Jonathans at.....	1.42	per box
1177 Jonathans at.....	1.43	per box
566 Jonathans at.....	1.45	per box
392 Jonathans at.....	1.50	per box
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344 Jonathans at.....	1.55	per box
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Idaho.

650 Jonathans at.....	57c	per box
605 Jonathans at.....	80c	per box
339 Jonathans at.....	98c	per box
825 Jonathans at.....	\$1.02	per box
547 Jonathans at.....	1.03	per box
51 Jonathans at.....	1.05	per box
202 ³ Jonathans at.....	1.08	per box
630 Jonathans at.....	1.10	per box
290 Jonathans at.....	1.12	per box
2448 Jonathans at.....	1.14	per box
188 Jonathans at.....	1.15	per box
2383 Jonathans at.....	1.18	per box
1160 Jonathans at.....	1.22	per box

116 Jonathans at.....	1.24	per box
873 Jonathans at.....	1.25	per box
640 Jonathans at.....	1.31	per box
1672 Jonathans at.....	1.32	per box
514 Jonathans at.....	1.35	per box
105 Jonathans at.....	1.36	per box
736 Jonathans at.....	1.41	per box
1346 Jonathans at.....	1.45	per box
598 Jonathans at.....	1.50	per box
126 Jonathans at.....	1.51	per box

Refrigeration about 8c per box.
Freight, 42½c per box.
Auction charges, 5%.
Net to shipper, 61c and a fraction per box.

JONATHANS ON CHICAGO AUCTION

Washington and Oregon.

390 Jonathans at.....	85c	per box
1177 Jonathans at.....	\$1.03	per box
389 Jonathans at.....	1.07	per box
1967 Jonathans at.....	1.08	per box
1178 Jonathans at.....	1.10	per box
520 Jonathans at.....	1.13	per box
217 Jonathans at.....	1.14	per box
2715 Jonathans at.....	1.17	per box
785 Jonathans at.....	1.18	per box
294 Jonathans at.....	1.21	per box
1255 Jonathans at.....	1.26	per box
80 Jonathans at.....	1.29	per box
590 Jonathans at.....	1.34	per box
1988 Jonathans at.....	1.37	per box
220 Jonathans at.....	1.43	per box
1225 Jonathans at.....	1.54	per box
2072 Jonathans at.....	1.56	per box

Refrigeration, about 8c per box.
Freight, 50c per box.
Auction charges, 5%.
Net to shipper, 60c and a fraction per box.

BEN DAVIS ON CHICAGO AUCTION

Colorado.

76 Ben Davis at.....	45c	per box
79 Ben Davis at.....	50c	per box
377 Ben Davis at.....	60c	per box

YOU CAN
spray in season, you can use the best spraying machine made, and then lose the fight for your crop, if you don't use a good spray—the Devoe kind.

The right time, the right tools, the right sprayer are the three essentials to success in fighting insect pests—the most important of these is the spray.

Devoe Arsenate of Lead is a sure remedy for Coddling Moths and all sorts of leaf-eating insects. Combined with Lime and Sulphur Solution it makes a most effective spray for insects and fungus growths.

Devoe & Reynolds Co's Paris Green is made of the best materials we can buy and we guarantee it to be pure; there is no waste because of adulteration.

Devoe Lime and Sulphur Solution for San Jose scale and similiar growths has no superior; better than any home-made. An excellent fertilizer for fruit trees and vines.

When you order your sprays, insist on Devoe; the name will be your guaranty of quality. Any dealer can supply you; if he doesn't, write to us direct.

Devoe & Reynolds Co.
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Get these time-saving, labor-lightening farm and garden tools to secure the greatest yield from your crops. Fully guaranteed.

No. 4 Planet Jr Combined Hill and Drill Seeder, Wheel Hoe, Cultivator, and Plow sows accurately all garden seeds, cultivates, hoes, furrows, and plows. Indestructible steel frame.

No. 8 Planet Jr Horse Hoe and Cultivator does more kinds of work better, quicker, and easier than any other cultivator. Can be fitted with plow and disc attachment and all-steel wheel—new this year.

FREE Instructive 64-page illustrated catalog. Describes 55 implements. Send postal for it today!

S L ALLEN & CO
Box 1201E Philadelphia

TREES \$5.00 will buy 50 Delicious and 50 Black Janet Whole Root, Crown Grafts. Better than any little dwarfed 1-year trees than you can buy.

Write for sample. **SUNNY SLOPE NURSERY HANNIBAL, MO.**

The Spalding Deep Tilling Machine Co.
712-4 Ideal Building, Denver, Colo. Send for Catalogue No. 10. It's free.

- 989 Ben Davis at.....57c per box
- 504 Ben Davis at.....63c per box
- 138 Ben Davis at.....65c per box
- 376 Ben Davis at.....67c per box
- 566 Ben Davis at.....68c per box
- 703 Ben Davis at.....70c per box
- 479 Ben Davis at.....74c per box
- 170 Ben Davis at.....80c per box
- 344 Ben Davis at.....85c per box
- 181 Ben Davis at.....86c per box
- 143 Ben Davis at.....92c per box

Freight, 37½c per box.
Auction charges, 5%.
Average net price to shipper, 26c and a fraction per box.

Idaho.

- 485 Ben Davis at..... 55c per box
- 154 Ben Davis at..... 62c per box
- 614 Ben Davis at..... 83c per box
- 480 Ben Davis at..... 90c per box
- 38 Ben Davis at.....\$1.00 per box

Freight, 42½c per box.
Auction charges, 5%.
Average net to shipper, 29c and a fraction per box.

Washington.

- 598 Ben Davis at.....85c per box
- Freight, 50c per box.
Auction charges, 5%.
Average net to shipper, 30c and a fraction per box.

MAMMOTH BLACK TWIGS

ON CHICAGO AUCTION

Idaho.

- 172 Black Twigs at.....70c per box
- 191 Black Twigs at.....75c per box
- 159 Black Twigs at.....90c per box
- 152 Black Twigs at.....92c per box

Freight, 42½c.
Auction charges, 5%.
Net to shipper, 34c and a fraction per box.

Washington and Oregon.

- 156 Black Twigs at....\$1.08 per box
- 173 Black Twigs at.... 1.21 per box

Freight, 50c per box.
Auction charges, 5%.
Net to shipper, 59c and a fraction per box.

None from Colorado points.

ROME BEAUTY APPLES

ON CHICAGO AUCTION

Washington and Oregon.

- 105 Rome Beauty at.... 80c per box
- 202 Rome Beauty at....\$1.10 per box
- 154 Rome Beauty at.... 1.13 per box
- 138 Rome Beauty at.... 1.36 per box
- 360 Rome Beauty at.... 1.38 per box
- 152 Rome Beauty at.... 1.42 per box
- 840 Rome Beauty at.... 1.44 per box
- 470 Rome Beauty at.... 1.45 per box
- 545 Rome Beauty at.... 1.50 per box
- 160 Rome Beauty at.... 2.93 per box
- 161 Rome Beauty at.... 3.71 per box
- 1013 Rome Beauty at.... 1.81 per box

Freight, 50c per box.
Auction charges, 5%.
Net to shipper, \$1.04 and a fraction per box.

Idaho.

- 212 Rome Beauty at....\$1.10 per box
- 65 Rome Beauty at.... 1.20 per box
- 86 Rome Beauty at.... 1.17 per box
- 628 Rome Beauty at.... 1.31 per box
- 742 Rome Beauty at.... 1.33 per box
- 176 Rome Beauty at.... 1.35 per box
- 310 Rome Beauty at.... 1.43 per box
- 615 Rome Beauty at.... 1.49 per box
- 147 Rome Beauty at.... 1.66 per box

Freight, 42½c per box.

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A Gold Mine for Fruit Growers!

100 Pages Describing Over 250 Varieties of Splendid Money-Makers.

A volume of priceless information for every fruit grower, large or small. Beautifully illustrated; tells the advantages of each variety, where it grows best, kind of soil best adapted, which are most profitable, etc. Describes the best of the very best varieties of apples, including the celebrated "Delicious," the world's greatest quality apple, saved to pomology by William P. Stark—dozens of pears, plums and cherries, superior peaches, assorted fruits, grapevines, roses, peonies, ornamental evergreens—everything that is desirable for the orchard, garden and home. Full description of famous J. H. Hale Peach. Experts wild about it. Worth all other peaches put together. Will revolutionize peach growing everywhere.

The new book contains boiled-down results of 50 years of expert fruit growing—mailed Free if you write today. Sent only on request.

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50% Lower Than Agents' Prices**

We employ no agents. So we save you the 50 per cent commission by selling to you direct by

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Fame and Fortune for Peach Growers In the Wonderful J. H. HALE Peach

Tested and proven for eight years in over 3,000 commercial plantings, as the greatest and best peach the world has ever known. Adapted to every peach soil and climate. Sells like wildfire. Developed by J. H. HALE, "The Peach King." We control it exclusively. Be the first in your section to reap the golden harvest from the J. H. HALE peach. Remember how other money-makers succeeded. Do it now!

Send Name for Big Book FREE!

**WM. P. STARK NURSERIES, (1)
Sta. A3, Stark City, Mo.**

Please send me your latest Fruit Tree Book.

Name

Town..... State.....

Auction charges, 5%.
Net to shipper, a fraction less than 87c per box.

GRIMES GOLDEN ON

CHICAGO AUCTION

- 72 Grimes Golden at... 90c per box
- 144 Grimes Golden at... 91c per box
- 231 Grimes Golden at...\$1.07 per box

Freight, 42½c per box.
Auction charges, 5%.
Average net to shipper, 51c and a fraction per box.

Washington and Oregon.

- 66 Grimes Golden at..\$1.10 per box
- 1792 Grimes Golden at.. 1.13 per box
- 731 Grimes Golden at.. 1.19 per box
- 625 Grimes Golden at.. 1.25 per box
- 494 Grimes Golden at.. 1.26 per box
- 95 Grimes Golden at.. 1.28 per box

Freight, 50c per box.
Auction charges, 5%.
Average net to shipper, 62c and a fraction per box.

Colorado.

- 84 Grimes Golden at.. 68c per box
- 312 Grimes Golden at..\$1.01 per box
- 162 Grimes Golden at.. 96c per box
- 358 Grimes Golden at..\$1.12 per box
- 1307 Grimes Golden at.. 1.19 per box
- 243 Grimes Golden at.. 1.31 per box
- 692 Grimes Golden at.. 1.35 per box
- 268 Grimes Golden at.. 1.48 per box

Freight, 37½c.
Auction charges, 5%.
Net to shipper, 78c and a fraction per box.

SPITZENBERGS CHICAGO AUCTION

- 632 Spitzenbergs at....\$1.07 per box
- 520 Spitzenbergs at.... 1.33 per box
- 594 Spitzenbergs at.... 1.50 per box
- 160 Spitzenbergs at.... 1.51 per box

Hamilton Made Spraying Hose

Will spray your trees without trouble or expense for several years for one cost. One trial sufficient to convince.

Perfect Spraying Hose

Every length will stand 600 pounds and guaranteed for 300 pounds working pressure.

- ½-inch : : 15c per foot
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Vulcan Spraying Hose

Stands 350 pounds, guaranteed for 100 pounds working pressure.

- ½-inch : : 12c per foot
- ¾-inch : : 11c per foot

All coupled complete 50-foot lengths. Order from your dealer or shipped direct from factory. Cash with order.

**Hamilton Rubber Mfg. Co.
Trenton, N. J.**

Apple Trees for Sale Cheap

3 to 4 feet, \$3.50 for per 100

4 to 6 feet, \$5 per 100

Boxing at cost

**North Yakima Nursery Co.
North Yakima, Wash.**

The Spalding Deep Tilling Machine Co.

712-4 Ideal Building, Denver, Colo.

Send for Catalogue No. 10. It's free.

630 Spitzenbergs at.... 1.61 per box
412 Spitzenbergs at.... 1.67 per box
Freight, 50c per box.
Auction charges, 5%.
Net to shipper, 85c and a fraction per box.

Idaho.

585 Spitzenbergs at.... \$1.18 per box
Freight, 42½c per box.
Auction charges, 5%.
Net to shipper, 69c and a fraction per box.

Following are the average prices paid by growers by the Grand Junction Fruit Growers' Association up to December 28th, 1912, on extra fancy and fancy grades combined. These prices are net to the grower, less 7 per cent, the association's commission:

Ganos	\$.71 per box
W. W. Pearmaine.....	1.08 per box
Shackleford .....	.56 per box
York Imperial .....	.71 per box
Winesaps	1.09 per box
Jonathans	1.06 per box
Ben Davis .....	.61 per box
Grimes Golden	1.06 per box
Spitzenber	1.06 per box
M. Black Twig.....	1.06 per box
Rome Beauty	1.08 per box

What Farming Now Offers As a Vocation

Much has been written about the tendency of the young man in the past to leave the farm and seek his fortune in the crowded centers of population, and the more crowded avocations of these centers.

Whether this has been responsible or not, the fact must be admitted that the tide of public opinion regarding the preference of metropolitan life is changed, and the drift now is rather from the city to the country, with "back to the soil" nailed to the mast-head, as the slogan of those who find in the new order of things a more independent, healthful and happy life—a change which many look upon as coming out of a state of mere existence to the fullness and ideality of rational living.

Whatever may be said in favor of the exciting pleasures and attractions and nerve-straining demands of city residence, it is being increasingly admitted that for a given amount of energy invested by the individual, rural life pays by far the biggest dividends.

There are several reasons why this is so. The freedom of the outdoor life revitalizes and gives abundant energy. And the increase of energy, coupled with exuberance of spirits, most bountifully equips one for the prosecution of his labors, and makes him doubly ambitious for large undertakings.

Then, if he takes up farming as a serious, business-like calling, he has, in these modern times, every aid to economical labor-saving production, of which he can make capital for profitable earnings. One of his chief assets in cultivation, if he is shrewd enough to take advantage of it, is the helpfulness of Planet, Jr., farm and garden implements.

Indeed, it would surprise the most expectant user, if he would keep account of the total saving in time and labor and money in a single season that it is possible for these up-to-date tools to effect.

In the market garden a Planet Jr. hand-tool, combining seeder, wheel-hoe, cultivator and plow in one, makes the usual drudging work seem like mere play, so easily and quickly are you enabled to cover the ground with it.

And in the extensive cornfields the Planet Jr. cultivators, which work two rows at a single passage, make the work equally light and pleasurable and profitable.

Or in the smaller field of corn, cotton, potatoes or similar crops, the Planet Jr. one-horse hoe and cultivator does so many kinds of work that it becomes a general utility implement.

A new illustrated catalogue recently issued by S. L. Allen & Co., Box 1201 E, Philadelphia, which they send on request to those interested, describes minutely the implements to use for scientific cultivation, and tells the particular kind of tools adapted to the different kinds of crops.

This labor-saving method of cultivation, together with the many other attractions offered by Dame Nature, make the "call of the land" louder than ever to him who would really live life to its full.

BILL FOR LICENSING THE COMMISSION MEN

In an effort to eliminate the numerous abuses which the commission men of the state have inflicted upon the fruit growers and farmers, Senator George Stephan and Representative-Elect Hawkins of Delta county, this week drafted a bill, providing for the licensing of all commission men and requiring those engaged in the commission business to give bond in the

sum of \$10,000 as protection to the consignors. The bill will be introduced at the present session.

The Grand Junction Fruit Growers' Association report that they have sold four carloads of pears recently for shipment to Buenos Aires, South America, via Europe. This breaks all records for long distance shipment of Grand Valley pears. The fruit will have been transported over 11,500 miles in cold storage when it reaches the South American market.

The Grand Junction Fruit Growers' Association had paid out, up to January 1, to the fruit growers of Grand Valley, in round numbers, the sum of \$681,000. This amount includes but a small portion of the apple crop, the bulk of which is still being marketed or stored here awaiting shipment. will be some time very soon.

Corona Dry Powdered Arsenate of Lead

Here is a Dry Powdered Arsenate of Lead that stays in suspension longer than any other arsenate of lead—dry or paste—has greater spreading properties, and holds longer on the sprayed leaves and fruit

A new chemical and scientific discovery, of amazing value to fruit growers. Manufactured by an entirely new process. Patent applied for. Different from and superior to any similar insecticide. Mixes quickly and easily in water. No sediment. No lumps. No waste. Never clogs spray nozzles. The pest-killer to depend on.

Codling Moth, commonly called APPLE WORM—attacks any variety of apples. Little Turk or PLUM CURCULIO—attacks Plums, Peaches and Apples. Both these pests are great money losers for fruit growers in all sections.

These losses are avoidable. It is now entirely possible to control, to exterminate, these and other fruit-destroying insects. But one must do the right thing at the right time. The answer is—Spray with Corona Dry Powdered Arsenate of Lead.

Corona Dry Powdered Arsenate of Lead removes every objection heretofore raised against such insecticides. It contains nothing but lead oxide and arsenic oxide, the only two essentials of an arsenate of lead. The difference between Corona and all other arsenates of lead—dry or paste—lies in the process of manufacture, and in this alone. The Corona product combines convenience, economy and efficiency. It has been put to test and proved to have the highest per cent. of actual killing power.

Never before has there been a satisfactory dry arsenate of lead. The old-fashioned acetate or nitrate precipitating processes give a heavy, coarse substance, which quickly settles in the spray tank, making impossible a uniform strength of spray.

Corona Dry Powdered Arsenate of Lead is as soft as cotton and as fine as flour. Being lighter, finer and fluffier, it stays in suspension longer, has better spraying proper-

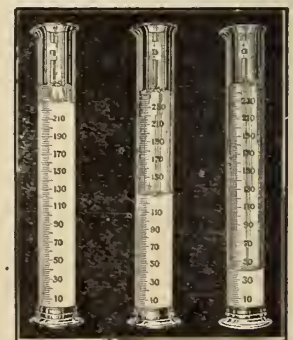
ties and adheres longer to the foliage. Less is required to each batch of spraying solution. Use one to one-and-a-half pounds to fifty gallons of water or fungicide. Study the illustration here shown and see the superiority of the Corona product.

One pound of Corona Dry Powdered Arsenate of Lead will do the work of two to three pounds of paste arsenate of lead—and do it more thoroughly. The Corona Dry Powdered Arsenate of Lead is more simple, cleaner and easier to handle than a paste material. Cannot freeze, dry out, cake or lose its strength. It has always the same high point of efficiency.

We can prove the unusual qualities of Corona Dry Powdered Arsenate of Lead by figures, testimonials and sworn tests. Every orchardist should write for illustrated booklet and further information about this new discovery. Ask about our consulting and service department. Write to-day—now. Address

Corona Chemical Co.

Dept. F Milwaukee, Wis.
Manufacturers of Insecticides and Fungicides—
Arsenate of Lead, Lime and Sulphur,
Bordeaux Mixture, Paris Green, etc.



CORONA—PASTE—OTHER DRY

Above test shows suspension after standing five minutes. This proves Corona Dry Powdered Arsenate of Lead lighter and softer than either paste or other dry arsenates of lead.

**WAGNER'S
GIANT WINTER
RHUBARB**

Has proved hardy in Intermountain Sections. Plants ready for shipment. Write for information.

J. B. WAGNER
The Rhubarb Specialist
Pasadena, California

Calves Without Milk

Cost only half as much as the milk raised calves. Increase your profits by using

Blatchford's Calf Meal



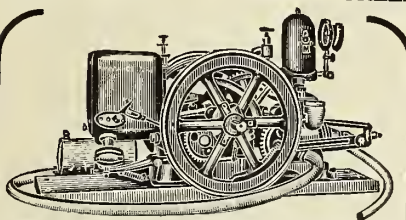
The perfect milk substitute—the best since 1800. Write today for free book, "How to Raise Calves." Your name and address on a postal is enough.

**Blatchford's
Calf Meal
Factory**
Waukegan, Ill.

Littleton Creamery Co.
Denver, Colo.

**Fairbanks-Morse
Spraying Outfit**

KILLS INSECTS SAVES TREES



YOU must spray to secure perfect fruit. Use a Fairbanks-Morse high pressure sprayer and do the work quickly and thoroughly. The above 1 H. P. Gasoline Engine Outfit will supply three 1/4-inch Vermoral spray nozzles at 200 lbs. pressure which is the pressure required for effective spraying for scale diseases. The "Deluge" pump gives steady pressure. Entire outfit compact, strong and easily moved about the orchard. Will give splendid service for years.

Complete description of this and larger outfits given in our Catalog, No. SF 1531. Catalog also tells just when spraying should be done. Write for a copy today.

Fairbanks, Morse & Co.
1735 Wazee Street, Denver, Colo.



PFILE'S 65 Varieties

LAND and Water Fowls. Farm-raised stock, with eggs in season. Send 2c for my valuable illustrated descriptive Poultry Book for 1913. Write Henry Pfile, Box 648 Freeport, Ill.

**CANTALOUPE GROWERS
FORM SELLING AGENCY
AT ROCKY FORD, COLO.**

At Rocky Ford, the organization of the National Cantaloupe Growers' Association, with J. G. Washburn as president and J. O. Wood as secretary, promises to open the way for another big distributor in the produce field. The association is incorporated under the laws of Colorado, and the plan is to work on the same plans used by the Southern California Fruit Growers' Exchange. The headquarters are to be here, but the operations will take in this state, New Mexico, Arizona and California. These states are for cantaloupes. It is the intention eventually for the National to get into other lines than cantaloupes. The charter is broad and permits operations anywhere and in anything produced on the farm.

Following the practice of the California Exchange, a delegate from each growers' association will be annually selected to come to headquarters here, and these directors are to select the officers. Thus far, delegates have been chosen from seven organizations. This city, Rocky Ford, Newdale, Las Animas, Ordway and other smaller places make up the seven directors chosen. Shilo and Sugar City are two of the new places and Melondale is another.

This is the first season of the organization, and while it will not cut much of a figure in the California cantaloupe deal next year, it will be right in it in this state and Arizona. The work of organizing has been quietly done. Edward Byrnes, of Chicago, is general counsel, and he is shaping the organization so that it will be substantial. Mr. Byrnes was here a week or so ago on his return from California. He said while here that the possibilities of the association were unlimited. By another year it would be in the fruit game as well as melons.—Rocky Ford Exchange.

**MAKING HAY WHILE
KILNS ARE BURNING**

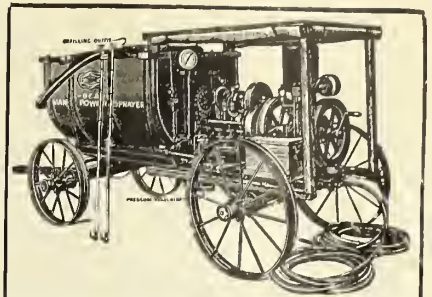
That it is commercially profitable to dry hay by artificial means, thus eliminating the large waste due to damage by rain in the fields after cutting, is the belief of officials of the Department of Agriculture at Washington.

For two or three years experts of the office of farm management have been conducting experiments in southeastern Missouri with alfalfa hay, putting it through a kiln-drying process.

The department has not formally announced the exact location of the government's last plant. It is in the alfalfa belt of southeastern Missouri and was under water for a considerable period during the recent flood. Since that time, however, it has been put into commission once more.

Hay artificially dried is subjected to great heat for a short time and comes through the process retaining a rich green color. The juice is forced out and the larger part of it preserved.

THE FRUIT JOURNAL, one year for \$1. Special departments for every member of the family.



Bean Power Sprayers

**DO THE WORK QUICKLY, THOROUGHLY
AND PERFECTLY AT A MINIMUM OF COST**

Three outfits, differing chiefly in capacity. All built for heavy pressure. The various parts are readily accessible, and when worn can be easily and cheaply replaced.

The Bean Pressure Regulator does away with all relief valve troubles, saves from a fourth to a third the gasoline, and wear and tear on engine and pump.

All Bean Power Sprayers have porcelain-lined cylinders; bell metal ball valves that cannot corrode, rust, or clog; direct machine-cut gear connection; underneath suction; iron well in tank, so that tank can be easily cleaned and drained; and steel frames, instead of wood. Power outfits from \$137.50 up.

SEND FOR OUR NEW CATALOG OF HAND AND POWER SPRAYERS, AND PUMP ACCESSORIES
BEAN SPRAY PUMP CO.
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Eastern Factory, Borea, Ohio

When You Think of Photographs
Think of DEAN, and Remember

**The Dean
Studio**

Produces the
Best Always.

North Fifth Street GRAND JUNCTION, COLO.

EXPRESS CHARGES PREPAID

**Four Full
Quarts**

\$3.20



Your Money Back If
Not Satisfied

Our old reliable 2-star Whiskey, pure, sweet and smooth. Good for either medical or sideboard use, and satisfaction guaranteed.

Write for mammoth Catalog of all kinds of merchandise, just out.

The largest mail order house west of the Missouri.

BON I. LOOK 16th & Blake
Denver, Colo.

ATTRACTS ATTENTION ON EAST-ERN SLOPE.

The following from the Denver Times shows how the get-together movement is attracting attention all over the state:

A notable movement for a closer co-operation of the fruit growers of Colorado in the marketing of their product is now well under way.

There are not many interests in the state which, either directly or indirectly, are not affected by the fruit industry. Its advancement along the permanent lines of better methods will be an acquisition for Colorado as a whole.

Fruit growers call this a poor year, but if the slack prices induce a concerted energy that will end in the success of this movement it is really one of the best years the fruit growers have ever had.

In all the fruit districts there are signs that such an energy has begun to marshal the forces of the industry to a new and aggressive purpose. At the recent meeting of the State Horticultural Society at Grand Junction the question of getting together was placed in concrete form by the proposal of a central selling agency for the marketing of the output of the state. The idea was indorsed and the discussion that it evoked showed that Grand Junction was the place in Colorado to give the plan initial guidance.

An idea mishandled at the start, as is often the way with impetuous enthusiasts, will be long delayed in delivering its benefits.

Now, Grand Junction is the home of the Grand Junction Fruit Growers' Association, the oldest in the state, with the great record of twenty-two years of continuous service to its members. These members know something of the difficulties that attend the formation and perpetuation of a fruit growers' organization.

The discussion quickly took the trend that the way to form a central selling agency was from the bottom up, and not from the top down; that the first step was the establishment of strong local organizations, either one well-cemented association in each fruit district or else for the several associations in a given district to join their interests so they could act as one, on the ground that a regiment, in order to be safe from attack from any side, must rest on the strength of its constituent companies.

A district where several contending associations cannot fuse interests that are common is not ready for larger co-operation, it was stated. The members of a central selling agency must submit to the regulations of a uniform pack and a uniform inspection of the package and feel the weight of discipline strongly enough always to stay within the lines of the local organization.

The recommendation, therefore, was that each separate fruit district actively begin to get together into one company.

Already the work has been undertaken in Mesa county. Within the last three years the Grand Junction association has absorbed two other local associations. There still remain three associations in the county, how-

ever. Meetings of representatives of the three associations are now being held, with the aim of agreeing to act under one head or to merge into one body. If they succeed Mesa county will be the first in the state to present a solid front of fruit growers.

A like plan has been proposed for Delta county. Once the strong local association are formed, they can be united into a selling agency that will have assurance of hanging together and bringing the great benefits desired, such as eliminating the unprofitable and widely harmful inferior and irregular pack and establishing a uniform pack of uniform quality, and obtaining a strategic distribution of the fruit in the markets of the country, instead, as often happens, of two rival associations demoralizing a fair market by shipping cars of fruit to the same place on the same day, each association manager, with a telephone between them, being unconscious of what the other was doing.

A state committee, composed of E. P. Taylor of Garfield county, Ira B. Cline of Delta county and R. E. Turpin of Mesa county, is at work drawing plans for a central selling agency which will be distributed to the fruit districts of the state through subcommittees.

BIRTHPLACE OF APPLE; ITS ANCIENT BEGINNING

There are two varieties of apples found wild in Europe, but the region adjacent to the Caspian sea seems to have been the birthplace of the apple as known in the east. Charred pieces of apples are found in the heaps of refuse left by lake dwellers, who occupied portions of Europe before and of the present races. These people lived on platforms laid over piles driven into the water—probably to protect themselves from animals, in an era before metal weapons were known. These specimens of apples are generally carbonized by heat, but they show perfectly the internal structure of the fruit.

There are five types of native American apples, all of them crabs. John Smith wrote from Virginia that he had found "some new crabapple, but they were small and bitter." New Englanders made the same report. The Soulard has the reputation of being the largest and best of these natives. Sprouts of this variety, like the Matthews, are improved in size and quality. Selections might probably be made from western thickets, of even better sorts than are now known.

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160 pages full of valuable information, with 350 illustrations. This manual tells you what to plant, when and how to plant it. Write or phone for it now.

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THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's
Caustic Balsam
IT HAS NO EQUAL

<p style="font-size: small;">For the Human Body</p> <p style="font-size: x-small;">—It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons Exterior Cancers, Boils Corns and Bunions</p> <p style="font-size: x-small;">CAUSTIC BALSAM has no equal as a Liniment.</p>	<p style="text-align: center; font-size: small;">A Perfectly Safe and Reliable Remedy for</p> <p style="text-align: center; font-weight: bold;">Sore Throat Chest Cold Backache Neuralgia Sprains Strains Lumbago Diphtheria Sore Lungs Rheumatism and all Stiff Joints</p>
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REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."
OTTO A. BEYER.

Price \$1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet B.

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Orchards and orchard lands examined for buyers, owners or bonded companies. Development plans furnished and development directed. Sites selected, soils examined, values estimated. Inspections, identifications, control of orchard pests and diseases.

Advice of varieties, pruning, orchard management, etc.

Estes P. Taylor

Address, Rifle, Colorado

DELTA COUNTY TRIBUNE
ENDORSES THE CENTRAL
SELLING AGENCY IDEA

The Tribune this week publishes an article from the pen of R. E. Turpin, concerning the relations that should prevail between fruit grower and the selling agency, the fruit association. Mr. Turpin's words carry wisdom with them and every man or woman interested in fruit production should read this article and take some of the advice given, to heart.

Anyone who is familiar with the fruit industry realizes only too well that there is a big problem to be solved in connection with getting the product to the consumer. What the solution will be we do not know, but the problem must be solved if fruit growing is to continue to be one of our leading industries. When a grower can get only 75 cents or \$1.00 per box for his choice apples, while the same apples retail to the consumer for \$3.00 and \$3.50 per box, there is something radically wrong with the selling conditions governing the marketing of our fruit.

Mr. Turpin urges the necessity for co-operation among the growers and the elimination of destructive competition. Co-operation is the keynote of success in any large institution. Co-operation we must have, at least in fruit distribution and marketing. Storage warehouses, where apples can be housed during a period of low prices, seem to be an essential part of the whole plan. As it is now, the commission men are the ones who store the apples to tide over the low price season and reap the harvest when the demand becomes greater than the supply on the open market.

Let all our fruit growers get their heads together and put forth a united effort to solve the problem. It is a condition that we are facing, not a theory, and it is a condition that must be correctly diagnosed before the remedy can be applied. The only way to cure an evil is to get at the root of the cause.

GET THEM TO EAT
MORE FOR HEALTH;
THEIRS AND OURS.

"The apple is such a common fruit that very few persons are familiar with its remarkable efficacious medicinal properties. Everybody ought to know that the very best thing they can do is to eat apples just before retiring for the night. Persons uninitiated in the mysteries of the fruit are liable to throw up their hands in horror at the visions of dyspepsia which such a suggestion may summon up; but no harm can come to even a delicate system by the eating of a ripe and juicy apple just before going to bed. The apple is an excellent brain food, because it has more phosphoric acid in easily-digestible shape than other fruits. It excites the action of the liver, promotes sound and healthy sleep, and thoroughly disinfects the mouth. This is not all. The apple helps the kidney secretions and prevents calculus growths, while it obviates indigestion, and is one of the best preventatives known of disease of the throat. Everybody should be familiar with such knowledge."

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Western Seeds for Western Planters

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If not at your dealer, we will supply direct

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Our specialty—Dry Farming Seeds

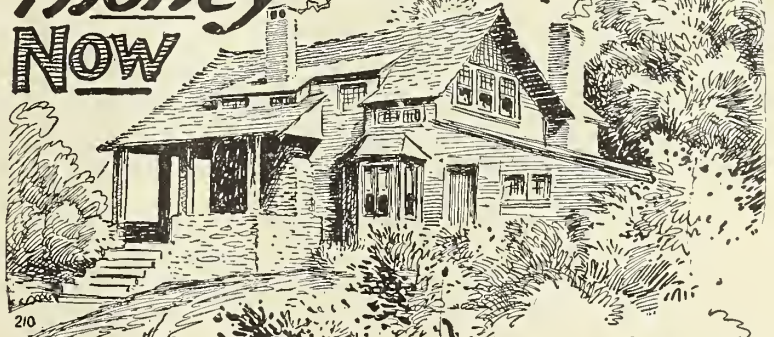
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POULTRY

DEVOTED TO HIGH
CLASS, PROFITABLE
POULTRY GROWING



Contributions to this department are always welcome and signed articles are solicited. Send the editor little expressions of your own experience. They are valuable to other Poultry Growers.

Address Communications to Editor—Intermountain Fruit Journal and Intensive Agriculturist

WESTERN COLORADO POULTRY SHOW WILL BE HELD IN FEBRUARY

The Western Colorado Poultry and Pet Stock Association will hold its second annual show in Montrose the second week in February, 1913. This will without question be the biggest and best show of its kind ever attempted in Western Colorado, says the Montrose Press.

It is the intention of the officers and directors to launch a show that will reflect credit on this part of the state and to make the show an annual affair. In this connection the association invites co-operation of everyone in Western Colorado who is interested in producing good poultry and more of it. Anyone having any poultry or pet stock of merit is invited to communicate with any of the officers or directors regarding the same with a view of exhibiting it in February.

Conditions in Western Colorado are excellent for poultry, and if intelligently bred and cared for they would soon take care of the great deficit in eggs in this state and save to the state thousands of dollars that yearly go to Kansas and Nebraska for eggs and poultry.

In the big show to be held in February the farmer will see the best specimens of the several breeds of chickens, turkeys, ducks, geese and other varieties of poultry and pet stock and can judge of their several merits, and will be better able to decide the kind that will meet his needs.

He will there be taught how to mate for best results, when he should hatch and the length of time it requires for the several breeds to reach maturity. He will there see the very latest poultry appliances, will see different kinds of incubators and be taught how and when to use to secure best results. He will be taught how to feed for egg production and how to feed for market purposes. In fact, this show will be made just what it ought to be. There will be some one in charge of each department who will be pleased to answer any questions of interest to the spectators.

The committee in charge has met with a liberal response on the part of the merchants in the way of advertising and by contribution of premiums, or it would be impossible to hold the show. It is urged that all who have not already done so will respond as liberally as possible in the way of premiums.

The officers of the association are: President, E. C. Blowers, Olathe; vice president, E. M. Scott; treasurer, M. E. Fliniiau; secretary, Ella E. Wallace. Executive committee: N. H. Deisher, A. C. Nash, F. A. Zickefoose, B. C. Bullock, J. G. Brown, E. C. Blowers Wm. P. Price.

LATEST REPORT FOR COOLING EGGS

While the Bureau of Animal Industry, Department of Agriculture, pays particular attention to methods of feeding and raising poultry so as to produce the greatest number and best quality eggs, the Bureau of Chemistry takes a hand to see that the eggs reach the consumer in an eatable condition. One feature in this regard that has caused considerable study is the transportation of eggs a long distance during the warm months of spring and summer.

A few years ago the division of pomology of the department found that fruit could be shipped long distances if it is pre-cooled before shipment. Officials of that division have co-operated with the Bureau of Chemistry in adapting and modifying the principles of fruit pre-cooling to render them applicable to the shipment of eggs.

The pre-cooling of eggs has been accomplished for the education of the shippers far from mechanical refrigeration by means of a portable refrigerating plant installed in a refrigerator car. The result is a well-insulated portable room, divided by a partition, in which a temperature at or near 32 degrees can be maintained. The space is sufficient to permit of handling eggs or poultry in 10,000-pound lots.

Eggs pre-cooled in this care were shipped during May and June from Winchester, Ky., to New York. The results indicate a remarkable saving in quality as compared with eggs not pre-cooled.

NOTES FROM HERE AND THERE ABOUT MANY POULTRY NEEDS

Keep poultry dry.

You like a change of food. Follow the same rule with your poultry.

A poultry house should be warm in winter, but it should also be well ventilated.

All other things being supplied, improper ventilation at night may prevent hens from laying as they should. Dry air, good food, with change and plenty of it, and plenty of exercise are necessary for winter eggs.

Keep the vermin out. A nice big fat hen will support in luxurious comfort several hundred lice for awhile, but she couldn't be expected to lay any eggs while doing it.

Pullets that delay laying until February are not profitable birds to keep. Those that start in November or early December are the ones to be relied upon for winter laying.

Inactive hens mean inactive organs, and it is impossible for them to produce eggs under such conditions. Leg exercise in the scratching-shed, hunt-

ing for grain and feed, or running on the range overcomes this all too common difficulty.

Five thousand dollars saved to consumers by one day's work, the establishment of a lowered scale of retail prices, which will mean the subsequent saving of additional thousands each week, are listed by experts as the principal achievements of the 200 Chicago Clean Food Club women, who sold close to 1,000,000 eggs at 24 cents a dozen in various sections of Chicago one day in December. The sale netted \$20,000. As soon as the women opened their sale, retail grocers posted signs offering eggs at 22 cents a dozen and advertised their product as "guaranteed April storage eggs," the same quality sold by the women.

Kerosene emulsion, one of the best mixtures to use in combatting mites in the poultry house, is made by mixing two gallons of kerosene oil, one-half pound of whale oil soap, one quart of home-made soft soap, and one gallon of water, then remove from the fire and add the kerosene at once. Churn this mixture rapidly and violently until it is as smooth as beaten cream. One part of emulsion to several parts of water is used to dilute the mixture for application to buildings, dropping boards or nest boxes. Add one or two ounces of carbolic acid to the emulsion just before applying. This is a splendid disinfectant and insecticide to use about the poultry house.—Green's Fruit Grower.

MOVING PICTURES HATCH LESSON FOR FARMERS

The latest application of moving pictures to education is that which gives lively demonstration of good and bad methods of poultry raising. Prof. James Dryden, in charge of poultry husbandry at the Oregon Agricultural College Experiment Station, conceived the idea of making a moving picture show at the state fair as attractive educationally as it is as an amusement. Many a farmer had his eyes opened to the financial value of the farm flock, while his wife received new courage in her attempt to supplement the slender household purse with "egg money."

In the film story, John has no use for chickens and forbids his wife to feed them from the wheat bin. He "shoes" them out of his way, and "sics" the dog on them. But Mary steals the wheat and gets her eggs, and he is no wiser. When he goes to town he takes her along and gives her 50c to spend. When he is not looking, she puts a basket of eggs under the seat. On their return home she shows her purchases and he is filled with astonishment.

"Did you buy all that with fifty cents?" he asks. "No! The eggs bought it. But see what the thirty-six hens did last year!" she says.

Groceries	\$24.50
Shoes	12.50
Drygoods	13.00
Socks for John.....	1.17
Tobacco for John.....	8.25
Spring hat for Mary..	3.25
Calico apron .....	.25
School books for boys..	5.00
Total	\$67.92
Sold 300 dozen eggs....	\$75.00

John thinks hard, and with the help of a college poultry bulletin, Mary converts him to her viewpoint. No more worrying the hens by the dog; no more stealing wheat. A feed bucket takes the place of her apron, and clean ground is furnished for the hen house. He builds a movable colony house and increases the flock to 100 good hens which Billy tends out of school hours.

The daily ration is seven pounds of bran and three of middlings, mixed with buttermilk at morning; wheat and some oats after school; kale hung where they can peck at it; and beef scraps and buttermilk where they can get at it all the time. They are kept busy scratching in clean straw litter. "The hens will raise the mortgage if you will let them scratch," says a motto introduced between sections of the film.

"Half a million dollars a year are lost to the poultry keepers in Oregon by poor methods of handling and marketing eggs. The loss in the United States is estimated at \$50,000,000. In addition the consumption of eggs is greatly curtailed." This statement is emphasized by a film showing graphically how the stolen nest and broody hen are responsible for millions of dollars' loss.

Dicky crawls under the barn and brings out a hatfull of eggs, and he takes as many more from broody hens on nests. John takes several weeks' eggs to town eight miles away, when it is 104 degrees in the shade, and the eggs are not covered. Hatching temperature is 103 degrees. Before the eggs reach the consumer the broody hen sits on them awhile, the sun shines on them awhile, the railroad rides on them awhile, the storekeeper broods over them awhile, and the consumer raves over them quite a while. "Thus," says another motto, "the producer shows his love for his best friend—the consumer—and the consumption of eggs is curtailed." The disgust bred by bad eggs on the breakfast table and consequent loss of appetite for eggs is shown in a humorous film.

UNFAVORABLE RESULTS FROM STAKED TOMATOES.

In a report received by the Department of Agriculture from the Georgia Experiment station of experiments with tomatoes, which were pruned to 1, 2 and 3 stems, respectively, and staked, all the pruned and staked plats gave a much higher yield than unpruned and unstaked vines. Vines pruned to 3 stems gave the highest yield and vines pruned to one stem gave the least yield. The bearing season of the pruned and staked plats use twice as long as that of the unpruned and unstaked plat, and the fruit was larger and freer from defects, except blossom-end rot. Pruning and staking is not, in general, however, recommended since in experiments previously made by the station, the poorest yields were secured from the staked plat, which likewise showed a greater percentage of disease. The latest experiments showed that blossom-end rot was more prevalent in the staked tomatoes than in the unstaked ones.

Further Improvements of the Albany Hotel, Denver, to Meet the Growing Demand for Rooms With Bath

The Albany Hotel, of Denver, during the year of 1912, has expended \$163,000 in improvements, all to give the Albany's many patrons improved accommodations at a popular price. The business of the Albany since these improvements have been made, has surpassed the most sanguine expectations of the owners.

The constant demand for rooms with bath at a popular price is steadily increasing, and to meet these requirements The Albany Hotel has set aside a large sum to expend in the next few weeks in improvements and to give The Albany still a larger number of rooms with bath, at \$1.50 and \$2.00 per day.

\$163,000 for improvements is a large amount of money to be expended by one hotel in a single year, but The Albany management has found this expenditure of money was wisely made, as the constant increase of patronage justifies further expenditure

to fill the long-felt want, that of sufficient rooms with bath at \$1.50 and \$2.00 per day.

Further improvements are also contemplated on the ground floor which will add to The Albany's already most excellent facilities.

Wanted!



Johnson wants your name and address if you are interested in chicken raising. He will send you the famous Old Trusty Book, free—finest published, worth \$1.00.

A Postal Brings Johnson's 1913 Old Trusty Book, Free

Tells about the incubator sensation of the world, 400,000 sold—all making big money for owners. Tells about 50 to 50 day free trial offer, 10 year



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guarantee. Price is less than \$10.00, freight paid east of Rockies and allowed that far to points beyond. Get the Johnson's Book Free—read all the facts—see hundreds of photographs. Don't miss it. Mail a postal now to Johnson Incubator Mar Clay Center, Neb

WHERE WE HARVEST A CROP EVERY DAY



My Dear Friend: Did you ever figure out how much extra money you could make with your hens by having plenty of eggs in WINTER, when prices are high?

Do you know that we are making a yearly profit of \$6 to \$8 on each and every hen? If you have 200 birds that means more than \$1,200 clear profit each year—\$100 a month, \$25 a week, nearly \$4 a day—a good salary as a side line.

Remember, our start was with one hen and 15 eggs—no capital. Send for our FREE illustrated catalog—it tells the rest. It means money for you. Guaranteed fertile eggs, day-old chicks, alive and strong at your door from WINTER-LAYING LEGHORNS. Write

O. C. FRANTZ, Route 2, Rocky Ford, Colo.

Come and see us.

Incubators and Brooders "THE DENVER"

BEST by actual TEST and COMPARISON

A machine made in this city by a man who has solved the moisture question for the high altitude and dry climate of Colorado.

A new and full line of Poultry Supplies, such as Bone and Root Cutters, Feeders, Fountains, Sprayers, Oat Sprouters, Shipping Coops, Egg Boxes, Chicken Boxes. Western agents for the Famous

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Call and see our stock when in town

The Colorado Seed and Nursery Co.

1515 Champa St. DENVER, COLO. Phone Main 5203

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The COMMUNITY

AS A

SOCIAL UNIT

The development of the rural community from the standpoint of the home, the school and the church is the purpose of this column. The successes of social center work all over the nation will be reported here. Especially will we watch and encourage this work in the intermountain states.

UNITE THE INTEREST OF RURAL COMMUNITY AT SCHOOL HOUSE.

An Indiana commission makes this report in regard to the social center:

The real solution of the problem in this country lies in the co-operation of economic, social and educational forces, with the school as the center. There is a vital relation between country life and the country school which has not been seen.

The country school has not even begun to fulfill its mission, for the simple reason that there has in fact been no country school. Hitherto all schools have been alike, city, country and town. Their province was not to educate, to develop, boys and girls into men and women, but to impart unrelated facts of arithmetic, geography and history. The country has had such schools, but they have never recognized their distinctive environment or let it make any difference in their mode of procedure. They have never realized that their problem is a distinct one nor that the means are peculiar.

The farmers could not solve the problem; they have their own work to do and it isn't their business. And the educators have worshiped tradition so long that it has been almost impossible for them to look fairly and squarely at the nature, conditions, environment and needs of the child, and let these determine the process and means of education.

BUSINESS OF CHURCH IN RURAL COMMUNITY.

By Hollster Page

Country life is vitally connected with the future of the entire nation. If the life of our forefathers had been corrupt, debased or weak, our nation had not made the great progress among nations which has been achieved. Its culture, wealth and power would not have become what we are now so proud of.

It is the business of the country church, its sacred privilege as well as duty, to keep pure the springs of the nations, not in America alone, but in all countries. If the country church become decadent, what may we expect of the cities, which the country supplies with brain and brawn?

For the rural community itself, the apathy of the church is the worst, perhaps the only serious discouragement. Desirable people often wish to leave a community when the church declines. With a live church as a social center, all things are possible, even the values of farm property are sustained. For when farmers and their families with substantial means are searching for homes, the first query usually is, "What kind of a church is near?"

It is not so much for some special denomination, for this does not appear

to count so greatly as in past generations. If the seller is able to truthfully state that the church is alive, efficiently officered, has a good attendance and is an acknowledged force in the community, the effect produced upon the mind of the inquirer is a salutary one always, even if he is not himself a church goer.

I know of one discouraged church that made a survey of its territory and became acquainted with every man, woman and child—it took stock of the raw material at hand as a manufacturer would do. It learned their religious preferences and began to tell them of the things that would improve this present life, slowly awakened in them a desire to look into deeper truths.

Where the parents cannot be influenced at first, the children may be, and later the parents unconsciously fall into line. This church is winning out. An acquaintance was relating recently the wonders wrought in another rural church that was about ready to cease holding meetings. It had formerly been active and influential. By using the material at hand for the "King's Business," its former prosperity has been restored.

Human nature is the same in every nationality if we can search beneath the reserve with which these peoples invest themselves, and secure their interest.

Every country pastor ought to realize that he is moulding the destinies of this nation and that although his field seems small, it is a most important one. Where is there a community that will not be better, stronger, morally, financially and in every other way if, in its midst, there is a living church, growing, active, successful.

WAY TO KEEP BOYS AND GIRLS ON FARM.

To keep the farmers' boys and girls in the country is a problem affecting every agricultural district in the United States. The universal opinion of the farmers throughout the country, as voiced to the National Country Life Commission was that the present system of education in the district schools in a large measure is responsible for the exodus of the youth of the country to the city; that the curriculum, owing to its failure to instruct in the spirit of the farm is strongly influencing the children away from rather than toward rural pursuits.

Recognizing fully the importance of the problem of conserving for the country a larger proportion of its young people and of directing them in childhood to appreciate the dignity and independence of farming as a profession, Secretary Fisher of the department of the interior has authorized the reclamation service to co-operate with the department of agriculture and the various state and county authorities,

in a practical plan which it is believed will materially promote a solution of this problem on the irrigation projects of the government.

On a number of these projects the old-fashioned one-teacher district schools have been eliminated and consolidated or centralized graded schools have been established. Sufficient land has been set aside or donated adjacent to these schools to permit the platting of small tracts for planting. A course in elementary agriculture is to be taught and an actual demonstration of irrigation and cultivation is to be given with prizes for the best results. The department of agriculture and the state experiment station will supply seeds and expert instructors. This western experiment will be viewed with absorbing interest by the farmers all over the land.

A RURAL LAUNDRY TO HELP WOMEN.

Among the things that rural folks need, is the establishment of public laundries—run by machinery and doing the work at a reasonable price—to which the weekly wash may be sent in order to relieve the women of this drudgery. Were it possible to obtain efficient household help there would be no need of such establishments; as it is, there is an urgent need of them. There are public creameries—let there be public laundries, also.

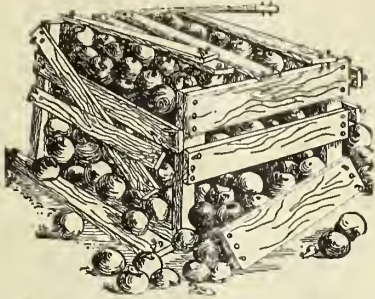
If a man doesn't think so, let him glance at this by Leon Noel in the Farm Journal:

"Every Monday morning millions of toiling women through the land 'tote' water by the pailful, weighing some thirty pounds more or less, from a well some little distance from the house.

After filling the wash-tubs, and scrubbing and scrubbing some light articles and some heavy ones (such as blankets, which may weight twenty-five pounds when water saturated), she carries the clothes-basket, weighing not less than seventy-five pounds, to the clothes yard, where, if the weather is cold, the clothes will freeze stiff ere she can pin them to the line. She goes out from a heated kitchen, possible one in which the wash-boiler is gurgling its wash-water (which may be a dirge), into the chilling air, with no extra wrap or gloves, because she can not spare the time to put them on; and her folks wonder, and so does she, where and how and when she caught such a cold.

Every Tuesday, the washwomen of Monday indulge in a good imitation of hard work when they iron the wash.

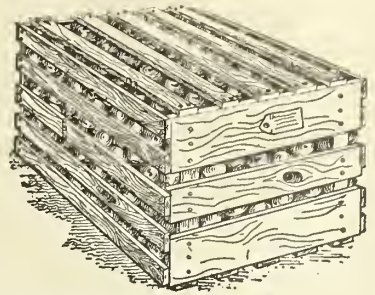
Before the close of Congress the Mann bill permitting the use of coloring matter in oleomargarine for export was unanimously agreed to by the house committee on agriculture.



BEFORE using Cement Coated Nails.

Western Cement Coated Nails for Western Growers

Our Cement Coated Nails are always of uniform length, gauge, head and count. Especially adapted to the manufacture of fruit boxes and crates. In brief, they are the Best on the Market. Write for Growers' testimonials.



AFTER use of C. F. & I Co.'s Cement Coated Nails.

Colorado Fuel & Iron Company DENVER, COLORADO

Are You Going to Montezuma County This Spring?

This spring, in the big rush which is coming from all over the country. This county is the coming orchard country of the entire West. This is the one place where you can buy land which is real orchard land, with perpetual water right, for grain land prices—and cheap at that. There are lots of orchards planted throughout the country, but not a great many on real orchard land, where you are protected and where the conditions are such that you can raise a crop every year. Such is Montezuma county. This has been proven to the satisfaction of everyone who has investigated. Don't wait until it is too late to find out about this country. There will be a great rush in there this spring, our correspondence shows that. Everyone likes Montezuma county when they find out the true conditions. Everyone who wants to farm where they can raise immense crops of grain, vegetables and fruit, every year, and where everything is convenient and modern, will like this country. Naturally, the land will double in value in the next year or so.

The Great Talk There Now

Is the new outlet and the new markets which the outlet will create in the South and West. We will be nearer these markets than any other portion of the state. Our fruit and our vegetables will be more easily shipped to these markets than the products of any other portion of the state. This will naturally increase our land values. There is no question but Montezuma county will double in population in the next year.

We have a few booklets on Montezuma county. We can sell you land—deep, red, fruit soil, cheaper than any place in the state, considering what you are getting for your money. We want real farmers. You do not have to have a fortune to start in here. Drop us a card and we will convince you.

L. J. Mountz and Company

1743 Champa Street

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SEND US

\$2.75 for 4 Full Qts. of the Best Whiskey You Ever Tasted



No. 607-IMFJ

Old California Port Wine Full Gallon Prepaid **\$1.39**

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All goods shipped by us are packed in plain boxes and even the most inquisitive cannot tell what you are getting. All shipments are billed and tagged as any goods from a Dry Goods House

Send us the Names and Addresses of Ten People who would be interested in our Catalogue and we will mail you a handsome hand-painted tray



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The Farm Journal, four years80

See full-page announcement of this Truly Wonderful Magazine on another page of this issue of the FRUIT JOURNAL.

The "Garden Gold" Book, regular value .50

Tells in a thorough, practical manner to reap big profits off your "Garden Patch." Should be in every farm home.

Total Value \$2.30

All the Above for . . \$1.25

DON'T DELAY—Fill Out and Mail this Order TODAY



THE FRUIT JOURNAL, Subscription Dept., Denver, Colo.

Enclosed herewith find \$1.25 for which send me The FRUIT JOURNAL one year, The Farm Journal four years, and the GARDEN GOLD Book, all postpaid as advertised in THE FRUIT JOURNAL

Signed _____

Town _____

R. F. D. No. _____ State _____

Remit with Money Order, Check, Stamps, or Coin at our risk. Wrap coin with paper securely.

Ladies, Be Your Own Dressmaker

We teach you how.

A wonderful system.

Our pupils gain a knowledge that enables them to have a business of their own.

Write for our booklet today.

Queen City College

323 McClintock Bldg. 1554 California St.
DENVER, COLO.

Stove Repairs

Any Old Piece for Any Old Stove

Just send us the complete name and number, as found on the stove, and give a good description of the part wanted.

The Western Stove Repair Co.
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SEND US YOUR MAIL ORDER
FOR
BOYS' SCHOOL SUITS

BOYS' AND GIRLS'

SHOES

Suits \$1.95 and up

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Does Whisky Do Your Thinking?

The Gatlin Treatment Cures the Liquor Habit in Three Days Under Contract—No Hypodermic Injections or Other Disagreeable Features

DRINKING LIQUOR has never yet made any man famous—but it HAS made many a man INFAMOUS. If you desire to succeed in business; if you would GO UP instead of DOWN; if you value your MENTAL and PHYSICAL health; if you care to prevent "FAILURE" being connected with your name, you MUST STOP drinking liquor—at once.

The Gatlin Treatment

Eradicates the Liquor Craving in Three Days

There are no hypodermic injections, no "strong" drugs, no disagreeable features. The Gatlin treatment removes the CAUSE of drunkenness—stored up alcoholic poison in the system,—that is why it cures in three days—a longer period would be superfluous and wasted. Craving, desire, physical and NERVE-NECESSITY for liquor are but EFFECTS of the poison in the system and disappear immediately with the CAUSE. Where the EFFECTS are smothered up by hypodermic injections of SUBSTITUTIVE STIMULANTS, from three to six weeks' time is required, and but ONE chance in FIVE of permanent sobriety.

Each patient is accepted for treatment at the Gatlin Institute under a plain, legal contract to do away with liquor craving in THREE DAYS, or the full fee paid shall be refunded at the end of the third day and treatment shall cost NOTHING. In other words, any expression of dissatisfaction with either the cure effected or with the treatment on leaving the institute, will mean that the fee paid will at once be returned.

The Gatlin Home Treatment for those who cannot conveniently come to the institute for three days, carries practically the same contract to cure, the only change being one to protect us against unscrupulous persons.

Gatlin Institute

Call or write for books of particulars, copies of contracts and other information—1425 Cleveland Place, just opposite the Carnegie library, Denver, Colo.
Telephone Main 4099.

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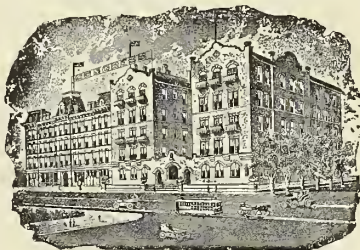
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THE INTERMOUNTAIN FRUIT JOURNAL
AND INTENSIVE AGRICULTURIST

GET BEHIND STATE
COLLEGE, FARMERS;
IT'S FOR YOUR SERVICE

Farmers of all kinds should back up the needs of their State Agricultural College. They should make their representatives feel that they expect this institution to be well supported.

In Colorado the needs of the state college for the ensuing year are, according to Dr. Lory, as follows:

Education.

Central heating plant.....	\$ 60,000
Library	50,000
Soils laboratory	10,000
Chemical laboratory	10,000
Payment on land.....	20,000

\$150,000

Fort Lewis	\$ 60,000
Grand Junction	15,000

Research.

Animal inv.	\$20,000
Plant inv.	20,000
Irrigation inv.	10,000
Potato inv.	10,000
Fruit inv.	10,000
Poultry inv.	5,000
Dry farming	5,000

\$80,000

Extension.

Farmers' institutes	\$10,000
Rural schools	5,000
Markets and marketing.....	6,000

\$21,000

PLANT DISTRIBUTION
A NEW PROBLEM.

By Richard Hamilton Byrd.

Congress has decreed that the Department of Agriculture shall furnish the farmers of the country with the usual supply of free plants. It has also issued an order that nursery stock shall be admissible to the mails only when accompanied by a certificate that the stock has been inspected and found free of insects. Hence the problem. The department officials are struggling with the question how best to inspect the several hundred thousand packets of plants, bulbs and shrubs annually distributed throughout the country at the instance of individual members of Congress. In fact, the government is the most extensive shipper of plants and shrubs.

The department will probably inspect the plants in bulk instead of each individual shipment among the 200,000 or 300,000 sent out. Incidentally, however, there is no worry over the 21,000,000 shipments of seeds which Congress sends its constituents, for the inspection requirement says nothing about seeds.

MORE MUTTON
SHOULD BE EATEN.

Experts say that mutton is every bit as nourishing as beef. It is satisfying and muscle-building and sticks to the ribs. The meat of the full-grown

sheep for centuries has been popular in Great Britain; the English mutton shop is famous. Yet here in the United States many of the poor as well as the rich throw up their noses at it for lamb and beef, for which they must pay handsomely. The big crops of this year can not lower the cost of beef animals. The tremendous demand for beef caused the farmers to sell most of the breeders and their young, and the dwindled stock will not be replenished, so Secretary Wilson says, for some years to come. He also says:

"It is difficult to see why mutton is so much neglected. The price of beef in the market shows an astonishing variation between cattle and sheep. People who find it impossible to make ends meet by buying beef could get excellent meat from the sheep."

Then note the testimony of the secretary of the American Meat Packers' Association, that we have "less beef animals in the country today than we had ten years ago, and an animal costs twice as much."

Why not begin a campaign of education among consumers in favor of mutton?

BLACK LEG IN CATTLE SURELY PREVENTED
CUTTER'S BLACK LEG VACCINE
California's favorite, the most successful, easiest used and lowest priced reliable vaccine made. Powder, string or pill form. Write for free Black Leg Booklet.
THE CUTTER LABORATORY
BERKELEY, CAL.
If your druggist does not stock our vaccines, order direct from us.



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FRUIT
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It Makes Up
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Light, Strong, Durable. Holds Nails; Don't Split. Two Car-loads Daily.

WESTERN SLOPE FRUIT
GROWERS ASSOCIATION

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The Best Candies, Ice Cream, Ices and Sodas in the West

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Main Office 631 15th St. Phone 1878 DENVER, COLO.

The Spalding Deep Tilling Machine

By Joseph H. Eaton.

An important condition of all successful farming and an indispensable condition of successful dry farming, is deep plowing. On irrigated lands deep plowing renovates the soil, supplies a deep seed bed for the roots of the growing crops, and by holding the moisture reduces the amount of irrigation water required. In dry farming, deep plowing is the only method by which the precipitation can be successfully caught, stored, and conserved for the use of the growing crops. If every farmer in Colorado should this year begin to plow twelve inches deep, it would mean more to the permanent prosperity of the state than the discovery of half a dozen new Cripple Creeks.

And the value of deep plowing is not a secret. Every intelligent farmer who has studied the question knows it. Then why do not more farmers plow deep? Because they cannot. Until recently no implement could be obtained by which satisfactory work could be done, especially in new ground. But within the last few years

plowing to the depth of two or three inches then either wait a year for the sod to "rot," or after industriously disking the overturned sod, raise the first year a small crop of one of the so-called "sod" crops; then the next year plow a little deeper, and so on, until after a period of several years a seed bed six or eight inches deep would be obtained.

But by the use of the Spalding Deep Tilling Machine the prairie sod can be at once plowed to the depth of twelve to fourteen inches, and transformed into a thoroughly tilled seed bed fourteen to eighteen inches in depth. By the use of this machine, a farmer can in one day convert a piece of raw prairie sod into a seed bed ready for any crop. This machine has abolished the distinction between sod crops and other crops. A traction engine pulling a battery of Spalding machines, disks, and harrows, can in one operation change the tough prairie sod ground into a thoroughly tilled seed bed fourteen to eighteen inches deep, with the sod thoroughly disintegrated. Thus the

Spalding Deep Tilling Machine the deep plowing and cultivation can be done that alone will make possible the profitable farming of this great area.

Green Goods Again

Far be it from us to offer advice, but may we not make, in a quiet way, the startling and novel suggestion that it would be a good idea for everybody now to begin thinking about his garden? You don't need to be an expert to make your spare land a source of revenue. Neither do you have to know anything about botany to begin raising flowers. Your land is good for something, no matter how unpromising. If you can't do anything better, put a nickel's worth of sunflower seed or wild cucumber between the ashbarrel and the back fence. Then watch results. If you once begin gardening even in this modest way you aren't likely ever to stop. From things needing no care you will go to others needing a little, and, by and by, working in the garden, feeling the soft ground under your feet, getting the fresh fragrance of the morning air, watching the little green shoots come up and develop, seeing the brilliant colors take the place of the dirty browns and grays of winter, will be more fun than anything you have done since you were a boy.

There is a greater incentive for gardening nowadays than ever before. Fresh produce costs more to buy and home gardens are better than they used to be. There are finer varieties of vegetables and flowers. It is within the memory of some of our readers that sweet corn and celery and tomatoes came to be generally known; and the flowers of today—how they have come into their own! Sweet peas and asters and cosmos, pansies, giant morning glories, California poppies and all the other poppies—these and many more a generation ago were unknown in their present glory.

Think about it. Make your plans now. When ready to plant get seeds that have been proven by some tried seedsman of national repute. Experienced gardeners buy only thoroughbred seeds; they don't waste their time on inferior or unknown quality. They depend on some old stand-by, some firm with large capital, experience and a reputation to maintain. But as we said to begin with—far be it from us to offer advice. We merely suggest that you do not let another spring-time go by without being a part of it.

Potato Growers' Convention

On January 22nd and 23rd will be held the first annual convention of the Colorado Potato Growers' Association. The headquarters of this convention will be in the Crystal Ball room of the Albany Hotel.

For the evening of the 22nd has been arranged a most unique banquet for the members attending these meetings.

Each dish served from the Menu will be either composed wholly of potatoes or the garniture will be of potatoes. This will be a very unique affair and will no doubt be attended by a great many people.

Don't forget the dates. January 22nd and 23rd.

The Secretary of the Interior has rejected the bids received on October 21 for the excavation of the extension of the West canal and laterals, Uncompahgre irrigation project, Colorado. The work consists of 17.4 miles of canals and laterals involving about 60,000 cubic yards of excavation and 800 linear feet of tunnel. Schedule 2, involving 7,600 cubic yards of excavation and 800 linear feet of tunnel, will be readvertised.



THIS DEMONSTRATION WAS MADE IN HARD, DRY ADOBE CLAY, WHICH HAD NEVER BEEN PLOWED, RESULTING IN THE FORMATION OF A PULVERIZED SEED BED, FROM FOURTEEN INCHES TO EIGHTEEN INCHES DEEP.

an implement has been perfected by which it is possible to plow and thoroughly mix the soil to the depth of even sixteen or eighteen inches. This implement is the Spalding Deep Tilling Machine. Hundreds of them are now in successful operation. The writer of this article has seven of them. This year he has plowed 700 acres with them. The machine is an unqualified success, and represents the greatest advance in the field of tilling implements since the invention of the steel plow share.

The use of the Spalding machine will make possible the rapid and profitable development of all of the great plains area. Heretofore the accepted method of reducing a tract of prairie sod to cultivation, has been first to turn the tough sod over by shallow

time has now come when in one operation a better seed bed can be prepared than has heretofore ever been attained at all, except with the spade.

There are 66,560,000 acres of land in Colorado. Out of this total there are 22,400,000 acres of arable land, 2,300,000 acres are under irrigation. Government and private projects now under way will water 1,000,000 acres more. But only about 4,000,000 acres can ever be irrigated. Thus the great bulk of the State's arable land—18,400,000 acres—must be dry farmed, if farmed at all. It is manifest that the development of this land is the greatest problem now confronting the State. The successful cultivation of it will mean more to the prosperity of the state than any other conceivable development, and by means of the

You Need Not Fear Leaf Roller

San Jose Scale, Woolly Aphis, and many other orchard pests, if you use

"SCALECIDE"

in the spring of the year before the leaf-buds appear.

Dr. Allan Bell of Canon City, Colo., writes: "SCALECIDE" proved an **absolute remedy**, as the eggs of the leaf roller on the trees sprayed never hatched out."

Write to Entomological Department, Fort Collins, Colo., for Circular No. 5 on Leaf Roller. Read carefully pages 30 to 33. Note the difference in the amount of "SCALECIDE" and other materials used.

A 50-gallon Barrel Delivered at Your Railroad Station on Receipt of \$30. (One-half Cost of Lime-Sulfur)

"SCALECIDE" is the standard soluble oil the world over and has been for the past eight years. No other approaches it. If you want the best, get "SCALECIDE." We have a cheaper soluble oil that we **guarantee** in every respect the equal of any other oil spray outside of "SCALECIDE."

Write for Pratt's Hand Book for Fruit Growers—just out; also your nearest dealer.

B. G. Pratt Company 50 Church St. **New York City, N. Y.**

The Colorado Midland

Affords the Best Service to

THE FRUIT LANDS AND THE FARMING AND GRAZING LANDS
of the Western Slope



There are thousands of acres of good lands still uncultivated in the fertile valleys of eastern Utah and western Colorado, and oceans of water in the streams and on the mountain tops. Write us or come in and ask us for information about what has already been done in that section.

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Seventeenth and California Sts., Denver, Colo.

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CLASSIFIED ADVERTISING PAGES

These Pages are wonderful Business Getters. This is the logical system on small advertisements. If you have anything to sell or exchange try these pages

RATES: 2 CENTS PER WORD—COUNT EACH INITIAL AND NUMBER.

Send a trial advertisement and be convinced. Remit with order—using Money Orders, Checks, Drafts or 2 cent postage stamps.

LANDS

PARTNER WANTED—Have lease on 600 acres, all in cultivation, under ditch, one mile from city limits of Denver; 260 acres alfalfa. Would take partner either silent or active preferred. Address: T., % Fruit Journal, Denver, Colo. 1-13

FINE LAND VERY CHEAP—Beautiful 40 acres, all in high state of cultivation, only 5 miles southwest of Denver P. O. On main Morrison road, best old water right, all fenced, gentle south slope, fine farms all around. Price only \$125 acre; terms.

I. E. WEBB,
Bank Building,
Denver, Colo.

1-13

REAL ESTATE WANTED—Sell your property quickly for cash, no matter where located. Particulars free. Real Estate Salesman Co., Desk 25, Lincoln, Neb. 1-13

Denver's Only Suburb

LITTLETON

Which is situated in center of the most fertile farming district in the Platte Valley the home of the successful truck gardeners and Poultry raisers. We have some bargains in good 5, 10, 15 and 20 acre tracts, improved and unimproved. For information write or phone

BAKHAUS-NELSON REALTY CO.

Phone Littleton 1421 Littleton, Colorado

FLORIDA'S BEST FRUIT LAND at 1/2 usual prices. Adjoins our own groves selected after long investigation. F. O. Farwell, 36 Fenelon Place, Dubuque, Iowa. 1-13

POULTRY

SINGLE COMB WHITE LEGHORNS—Large. Bred to "shell out" eggs in winter (and do it), one flock of 200 paid us \$1,124 profit. You can do as well. Baby chicks, guaranteed eggs, stock; free catalog. Write O. C. Frantz, R. 2, Rocky Ford, Colo.

DUCKS, DUCKS—A-1 breeders from first premium Mammoth White Pekin ducks. Also Indian Runner ducks, both standard American and English A-1 breeders at reasonable prices and now is the time to secure the best breeder for next year. Pekin Duck Ranch, Louviers, Douglas Co., Colorado. 1-13-s

WHITE LEGHORNS (Youngs) WHITE ROCKS (Fishes)—Selected eggs, \$1 per 15; \$5 per 100; Baby chicks \$3 per dozen; \$20 per 100. E. M. Harter, Windsor, Colo. 1-13

SINGLE COMB WHITE LEGHORNS EXCLUSIVELY.

Exhibition and Heavy Laying Strain; 50 Exhibition Cockerels for the winter shows. Write for prices and score. Stock Eggs and Baby Chicks from the world's finest matings. W. H. Sanders, Edgewater, Colo. Phone Ralston 711.

MAMMOTH BRONZE TURKEYS AND WHITE WYANDOTTES—Denver Prize Winners; choice young stock for sale. For particulars address Miss Anna Lansdown, Box 173, Fort Lupton, Colorado. 2-13

FOR SALE—Single comb Black Minorca Cockerels from bred to lay strain. Cockerels from \$3.00 to \$15.00. Pullets from \$2.00 to \$5.00 each. Special prices on pens. Eggs in season, from \$1.50 to \$5.00 per thirteen. Write us your wants and we will give your order our personal attention, guaranteeing satisfaction. N. J. Browne, 1024 Ouray Ave., Grand Junction, Colorado.

POULTRY

WYCKOFF STRAIN S. C. WHITE LEGHORN cockerels, 5-point combs, pure white, perfect shape, \$2.50 a piece; high scoring show birds, \$5.00. J. L. Heaton, Boulder, Colo. 1-13

BLACK LEGHORNS, ARNDT'S STRAIN—A few more utility hens and cockerels at low prices. Catalog free. Arndt, 2821 Umatilla, Denver, Colo. 1-13

PLYMOUTH ROCK POULTRY YARDS—Established 1898. Barred Plymouth Rock Cockerels \$3 to \$5. Baby chicks \$3 per 12; \$20 per 100. Hatching eggs \$1 per 13; \$6 per 100. Plymouth Rock Poultry Yards, 2535 Hooker st., Phone Gallup 974, Denver, Colo. 1-13

WE DUPLICATE ALL INFERTILE EGGS—White and Columbian Wyandottes, Single Comb White Leghorns and Light Brahmans. We use trap nests. In business for 30 years. Brahma Eggs, \$3 for 15; \$5 for 30. The other varieties, \$2 for 15; \$5 for 50; \$10 for 100. Address, Michael K. Boyer, Box h, Hammonton, New Jersey.

S. C. W. LEGHORNS—As good as grow. Bred-to-lay Stock for sale Eggs and Baby chicks Sunny Slope Poultry Yards, Frank Rossa, Prop. R. F. D. No. 2. Boulder, Colo. 2-13

EGGS! BUFF ORPINGTON EGGS—From birds, direct from winners of firsts and specials at Topeka, American Royal and Missouri State shows and themselves winners at the "El Dorado Show," of six ribbons out of a possible nine. I am selling about half of these eggs at \$3.00 per 15 eggs; I also have choice Cockerels for sale. Satisfaction assured. DANE HUFFINGTON, Latham, Kansas. 1-13

EGGS—From Toulouse and Emden geese, turkeys, Houdans, Leghorns, Rhode Island Reds, Wyandottes, Hamburgs, Orpingtons, games, Plymouth Rocks, Langshans, Cochins, pearl and white Guineas, Bantams, Pekin, Ronen, Muscovy and runner ducks. Hen eggs 15 for \$1; by the hundred, reasonable. Also dogs, rabbits and all kinds of fancy pigeons. Write for free circular. D. L. Bruen, Platte Center, Neb. 2-13

BLACK LANGSHANS, Pacific Coast Champions. Won 53 ribbons, 3 silver cups. Portland, Pendleton, Spokane, Walla Walla and Colfax shows acknowledged best winter layers bred. To weigh, lay and pay. Eggs \$2.50 per 15. M. E. Taylor, Winona, Wash. 1-13

NURSERY STOCK

NEW STRAWBERRIES—Our Annual plant catalog free to all. Reliable, interesting and instructive. ALL ABOUT THE NEW EVERBEARERS and other important varieties. THE NEW PROGRESSIVE EVERBEARING STRAWBERRY, Rockhill's best of all now offered for the first. Plants set last spring and fruiting until the ground froze produced at the rate of \$1,000 per acre. A GREAT SENSATION. Address C. N. Flansburgh & Son, Jackson, Mich. 2-13

PHYSICAL CULTURE

MEN Prof. Osborne's **PULLMOTOR**, Perfect Organ Developing Appliance, Enlarges and Develops. Osborne Co., 4607 Delmar Ave., St. Louis, Mo. Send for free Book on Development.

PATENTS

MASON, FENWICK & LAWRENCE, 51 years' experience; book and information free. Dept. G, 316-318 Colorado Bldg. Phone, Main 3110, Denver Colo.

SITUATIONS WANTED

TO ORCHARDS AND FRUIT GROWERS—I am a practical man in Pruning Fruit and Shade Trees. Would like work. Albert Mott, 1535 St. Paul, Denver, Colorado. 1-13

HELP WANTED

Farmers Sons Wanted with knowledge of farm stock and fair education to work in an office; \$60 a month with advancement, steady employment, must be honest and reliable. Branch offices of the association are being established in each state. Apply at once, giving full particulars. The Veterinary Science Association, Dept. 12, London, Canada.

Veterinary Course at Home



Dr. E. H. Baldwin writes: "I took the course for my own benefit on the farm, but the success I had started me in practice and now I am going night and day. Your course has been worth thousands to me; and will be to any man."

\$1500 A YEAR and upwards can be made by taking our Veterinary course at home during spare time. Taught in simple English. Diploma granted. Graduates assisted in getting locations or positions. Cost within reach of all. Satisfaction guaranteed.

WRITE FOR PARTICULARS
The London Veterinary Correspondence School
London, Ontario, Canada

THE UTAH GROWERS TRYING TO WORK OUT BETTER MARKETING PLANS

Fruit growers from the fruit growing districts of Utah county, Utah, gathered at the court house this afternoon to discuss the best methods for marketing fruit. A week ago a large number of the growers spent an entire afternoon discussing fruit problems. At that meeting William M. Roylance, James G. Duffin, J. B. Walton, M. C. Newell and many other prominent growers entered into the discussion.

A committee of five was appointed to formulate a set of resolutions in order to give the growers a foundation upon which to draft the resolutions to be presented by the Utah county growers at the State Horticultural meeting which will meet in Ogden in January.

OLATHE DITCH CO.'S CONTRACT IS APPROVED.

The secretary of the interior has approved the contract executed by the Olathe Ditch Company, providing for the transfer to the United States of the property rights of the company in connection with the Uncompahgre irrigation project, Colorado.

The acquisition of this property is in pursuance of the plan of unifying the existing irrigation systems within the limits of the Uncompahgre valley project. The consideration to be paid by the United States does not involve the outlay of any money, and will be paid by allowing a credit to the owners of the stock in the Olathe Ditch Company upon the construction charges of the project when such shares of stock are turned in and cancelled.

Unreasonable? Not a Bit

Why, how in the world do you suppose I got 700,000 people to subscribe to the Farm Journal, and pay each five years ahead, if it wasn't reasonable?

Of course, to a man who has been used to buying papers a year at a time, or maybe six months, it is a kind of a shock to ask him to come across with the cash for

Five Years in Advance

I have given heart failure to a good big army of people that way, I reckon!

But, I tell you, it IS reasonable. A long term subscription saves me money because I don't have to go after your renewal every twelve months. That saves me at least a dollar in printing, postage and clerk hire, and who gets the benefit?

You Get It

I would have to charge 50 cents a year if I took one-year subscriptions, but I can sell

Five Years for \$1

and make a profit.

Yes, the 5-years-for-\$1 plan is sound, and I'll stick to it till someone shows me a better one.

Other Reasonable Remarks on This Subject

Many other papers offer more than one year at a time, as you no doubt know, but I do not think they get very many subscribers that way.

Why, I can't say.

In some cases, because the paper is not good enough, no doubt.

In others, because the paper offers a one-year subscription as well as a two-year or three-year subscription, and naturally, the subscriber takes the one that costs less money

At the Moment

He pays a higher RATE, of course, but some people are made that way.

A cent in front of their eye looks bigger than a dollar ten feet away.

I'm not blaming them, but I want you to understand fully that they are wrong, and the five-year idea is right.

My address is below. And I want you to send me a dollar and get the one paper that can go into every home where Intermountain Fruit Journal goes, and find itself comfortable, and make itself useful and loved, and crowd nobody else out, so that it will stay and be welcomed for not five—but fifty years to come.

Send the dollar to

Wilmer Atkinson, Editor Farm Journal 105 W. Washington Sq.
Philadelphia

What Constitutes a Good Sprayer?



- High Pressure—to throw a strong, fine spray.
- A Pump — of sufficient capacity under slow speed.
- An Agitator—to keep mixture well stirred so that it cannot clog pipes and nozzles.
- Some Method of Cleaning the strainer.

Ask any fruit farmer with experience. He will tell you that the most annoying thing is to find pump suction or nozzles clogged when he has a tank full of spray mixture in the orchard and must clean out before his sprayer will work.

Fig. 165

Here WE Come In:—

Automatic Brushes with Mechanical Agitators furnished with Empire King Barrel Pump and Watson-Ospraymo Potato Sprayer, also with all LEADER Gasoline Engine machines.

The prices are *not* too high for efficiency, durability, capacity and satisfaction.

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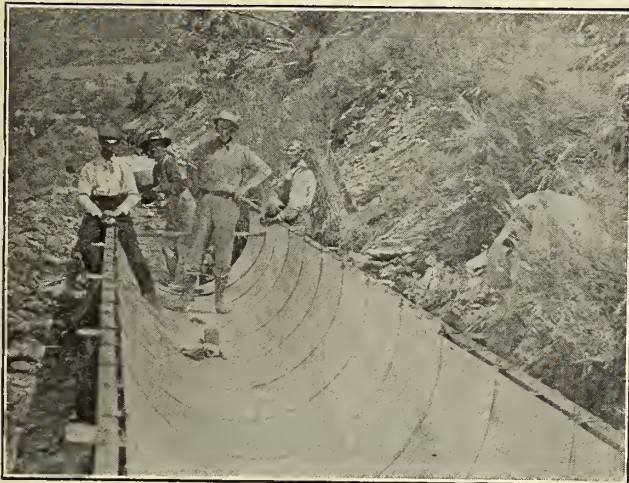
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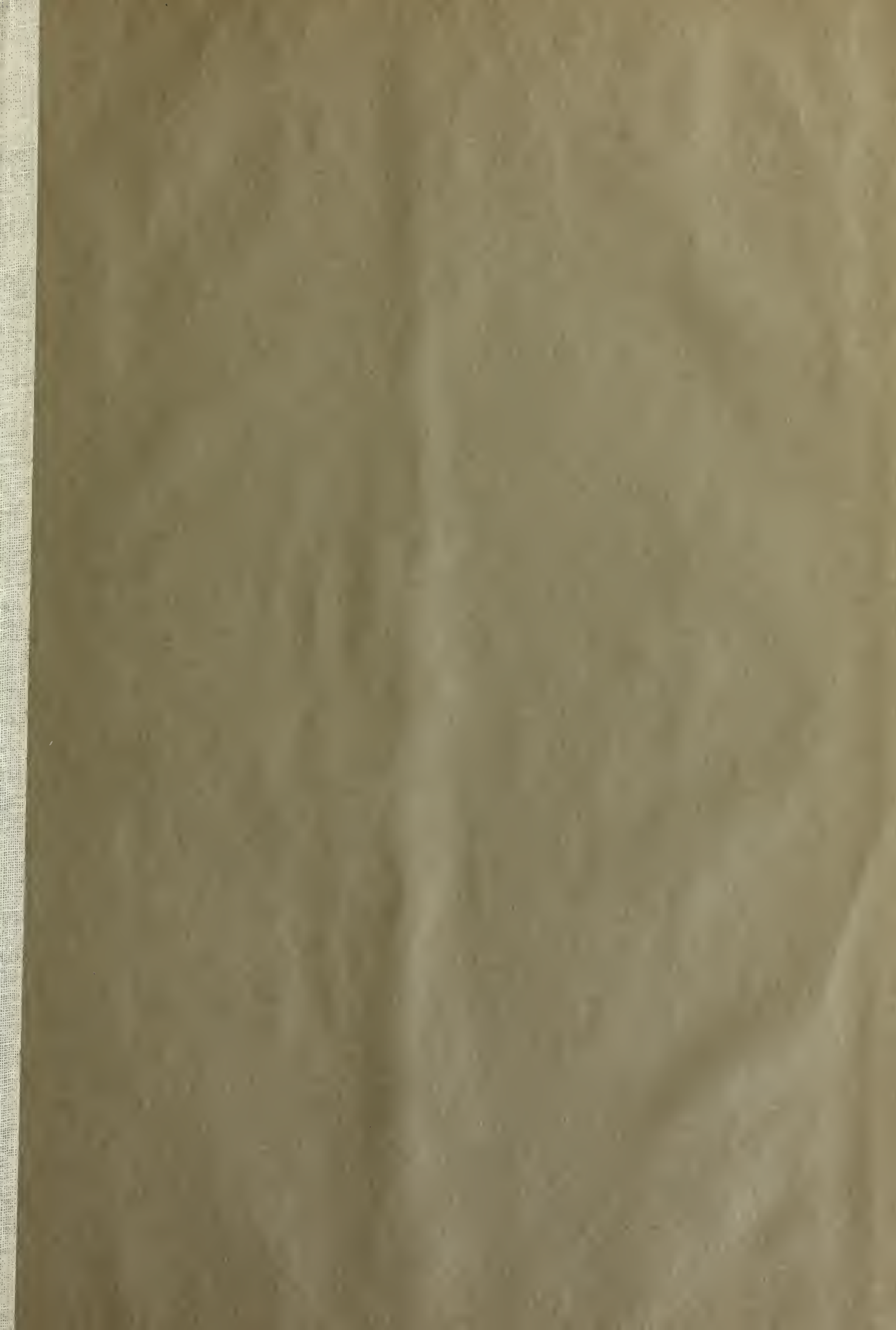
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