The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVII | January 3, 1934 | Number 1

Few Farms Too Small To Cash In On Corn-Hog Benefits

Almost no Illinois farm is too small to get some of the benefits of the government's corn and hog adjustment program, and every farmer who does take part will stand with his neighbors in helping to restore a fair exchange value for these two farm products, it is pointed out by the extension service of the College of Agriculture, University of Illinois. Any farmer who can comply with one of four different combinations of corn and hog production can get a contract and receive the benefit payments.

Every corn and hog farmer in the state will have a chance to learn the details of the plan in community meetings which county farm advisers and the extension service of the College of Agriculture, University of Illinois will hold throughout the state.

Permission for a farmer to sign the contract for only one commodity is made possible through a special ruling of the Agricultural Adjustment Administration.

If in 1932 and 1933 a farmer grew an average of 10 or more acres of corn and marketed four or more litters of pigs, he may sign the adjustment contract to reduce his corn acreage in 1934 at least 20 per cent and his hog production 25 per cent. He thereby becomes eligible for benefit payments on both corn and hogs. He must reduce his production of both to be eligible for either or both payments.

If the farmer, in the two-year base period, grew an average of more than 10 acres of corn but marketed less than three litters of hogs, he can sign up for the corn payments, but will not be eligible for any hog benefits. In 1934, however, he must not increase his hog production.

If any _____ county farmer grew less than 10 acres of corn as an average for the two years, 1932-1933, exclusive of corn for silage, but marketed three or more litters of hogs, he may sign up for the benefit payments on hogs. He must not, in this case, increase his corn acreage in 1934.

If the farmer grew an average of 10 or more acres of corn in 1932 and 1933 and only three litters of pigs, he has a choice between two possibilities. He may reduce his corn acreage by 20 per cent and agree to produce not more than three litters, thereby becoming eligible for corn benefits but will not receive payments on hogs. If he desires, he may agree to reduce his corn production as specified and his hog production to two litters, thereby becoming eligible for payments on both his hogs and corn.

Any farmer who grew less than 10 acres of corn and marketed less than three litters of pigs during the base period is not eligible to sign a contract.

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Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, *Director*.

Journal Of Daily Issues Will Climax Farm Home Week

Inflation, taxation and all the other leading issues of the times will be covered in eight general sessions which will climax the program of the thirty-ninth annual Farm and Home Week, January 15 to 19, at the College of Agriculture, University of Illinois, it is announced by Dean H. W. Mumford.

As a foundation for the eight general sessions, 30 special short courses, all keyed to the recovery and adjustment needs of farmers and homemakers, will run throughout the week. Special entertainment features, meetings of a number of the state's rural organizations and other features will be combined with this instruction to make the week a "new start" for the hundreds of farmers and homemakers who annually attend the event.

A "planned" agriculture for the future is expected to be touched upon in the first general session of the week, Monday afternoon, January 15, when DeWitt C. Wing, of the Agricultural Adjustment Administration and former farm paper editor in Illinois, comes back from Washington, D. C., to speak on, "Farming of Gaits and Walks."

Needed reforms to reduce the cost of local and county government, a problem close to the hearts of farm people, will be discussed in the Tuesday morning general session, January 16, by Dr. W. H. Hurlin, University of Illinois professor of economics.

Inflation will get its hearing at the Tuesday afternoon session when Dr. Max J. Wasserman, University of Illinois assistant professor of economics, speaks on, "The Experience of France With Inflation."

The Wednesday morning session, January 17, will bring one of the highlights of the week for many farmers when Wood Netherland, general agent of the Farm Credit Administration, St. Louis, Mo., speaks on, "The Farm Credit Administration and Illinois Agriculture."

"Buying Standards for Consumers" will be discussed Wednesday afternoon by Elizabeth O'Brien, chief of the division of textiles and clothing in the bureau of home economics, U. S. Department of Agriculture, Washington, D. C. "European Trade Barriers in Relation to American Agriculture," Thursday morning by L. C. Stewart, counsel in farm economics for U. of I. College of Agriculture, and "The Outlook for Farming from the Farm Boy's Standpoint," Thursday afternoon by Liberty Hyde Bailey, author and horticulturist, Ithaca, N. Y.

Claude R. Wickard, assistant chief of the AAA commodity section, is scheduled to close the Farm and Home Week program Friday morning, January 19, with a report of progress on the corn-hog campaign.

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Three Major Items Figure In Costs Of Producing Eggs

The three big items in the cost of producing the 12 million dollars' worth of eggs that Illinois farmers sell every year are feed, depreciation, which includes mortality, and labor, according to records which 30 poultrymen kept during the past year in cooperation with the extension service of the College of Agriculture, University of Illinois.

Any flock owner who cuts down on these items therefore will be going a long way toward getting a wider margin of net return out of the cash that he receives for his eggs, it is pointed out by H. H. Alp, poultry extension specialist of the college.

"Probably the best opportunity to reduce feed cost is to improve the average egg production of each hen in the flock, as the good layers eat but little more feed than the mediocre layers. Too many flocks carry about 20 per cent defaulters--hens that start laying and then quit--and it is this class of birds which runs up the feed cost of a dozen eggs.

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Illinois Dairymen Set Example for Other Farm Groups

Illinois most progressive dairymen are not waiting for a government plan to kill off diseased cows and thereby raise the price they get for their product to help bolster their incomes. Already these dairymen are members of dairy herd improvement associations sponsored by the extension service of the College of Agriculture, University of Illinois and cooperating with a new milk plan of a type which if followed by all dairymen would mean the disposal of 60% of the poorer cows in the state within a year.

In this respect the new ruling which the Illinois dairymen already are practicing is quite similar to recent proposals made to the federal administration for adjustments in the dairy industry.

Figures compiled by J. L. Dale, assistant in dairy extension at the agricultural college, show that in [illegible] year [illegible] per cent of the [illegible] cows enrolled in the 87 dairy herd improvement associations of the state were culled. While in November, [illegible] per cent were culled from the herds.

"At this rate [illegible] the cows in dairy herd improvement associations [illegible] the state went into the [illegible] it would mean that [illegible] of the cows in the state," Dale said.

Illinois dairymen estimate that 40 per cent of their gross income from the sale of dairy products, and the ability of these men to cull cows has been advocated by the extension service of the agricultural college as a means whereby the farmers may get more money from their business.

To illustrate how dairy returns may be improved by culling of lower and better cows, Dale cited the records of members of the Hancock County Dairy Herd Improvement Association for the month of June. The first month the farmers culled out cows, and the records in October show that they did not produce enough butterfat for their feed. The cows sold by the dairymen during the culling month netted the farmers $1.44 more per cow per month than the cows kept in the herd. Likewise the 14 cows kept and fed by members believed the increased gains of 4,141 pounds of milk a month.

The Problems Of Land Handling In AAA Wheat And Corn Plans

[illegible] 1,500,000 and 2,000,000 acres of Illinois land may be contracted to the government as a result of the AAA programs on wheat and on corn and hogs. How best to handle this land, together with other soil and crop management problems in relation to the agricultural adjustment program, are expected to bring a record number of farmers here for the soils and crops short course of the thirty-sixth annual Farm and Home Week, January 14 to 18, at the College of Agriculture, University of Illinois.

Farmers of the state have been adjusting their cropping programs for years, as shown by the fact that the acreage of legumes has been steadily increasing and the acreage of wheat and corn has been declining, it was pointed out by L. H. Smith, head of the college agronomy department. However, the AAA program will speed up the rate of adjustment, and the Farm and Home Week program will be designed to help farmers meet the new pace, it was explained.

The soils and crops program, itself, will not get under way until after the annual Illinois Seed Grain and Utility Corn Show has been opened on Monday afternoon, January 15, and farmers have had a chance to inspect the samples and exhibits.

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COLLEGE OF AGRICULTURE UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the [illegible] College Experiment Station, and Extension Service

Volume XVII January 13, 1934 No. [illegible]

[illegible] Meetings for Corn and Hog Plan in Illinois

By [illegible] one of the [illegible] 1,600 community meetings [illegible] in the state, every Illinois farmer will have an opportunity within the next week or so to learn how he can participate in the new emergency corn-hog adjustment program and thereby get his share of the $[illegible],000,000 in cash payments and other benefits. It is announced by the extension service of the College of Agriculture, University of Illinois.

Few farmers in the state are [illegible] on so small a scale that they can not come in for some of the benefits of the program, and the community meetings which county farm advisers and the extension service of the agricultural college are now starting are designed to carry the details of the plan down to the last corn and hog farmer, no matter where he may be.

County leadership schools have just been held by the college and farm advisers to train local farmers who will preside at the community meetings.

In northern Illinois, Stark, Woodford, Marshall and Tazewell counties were among the first to start their community meetings, but other counties representing all the other sections of the state are not far behind. At these meetings sample contracts, work sheets and other pointers on the plan in general will be distributed and explained. Administrative rulings on special points in the contract and on other puzzling questions are to be discussed and explained.

As soon as every farmer has had an opportunity to become familiar with the details of the program, the state campaign will reach its climax with the establishment of about 1,600 contract sign-up stations throughout the rural districts of the 102 counties in Illinois.

One of the most important things that corn and hog producers should do preparatory to signing the government's adjustment contract is to collect all possible "supporting evidence" regarding their corn and hog transactions during the past two years. This should include information about the number of hogs sold, date of sale, estimated average weight and to whom sold. Such information should cover the two base years, December 1, 1931 to December 1, 1933. Signers also will be asked to show how many feeder pigs they bought and sold during that time, and must certify the number of [illegible]-farrowed pigs and feeder pigs bought and on hand on December 1, 1933.

A reduction of at least 20 per cent in the average corn acreage grown in 1932-1933 and a cut of 25 per cent in the number of litters farrowed and hogs marketed in the same two-year base period is required of those signing contracts. If all Illinois corn and hog producers sign up, they would be eligible for a total of approximately $40,000,000 in benefit payments which would start as soon as their contracts were accepted by the Secretary of Agriculture.

The aim in seeking the reductions is to balance the supply of corn and hogs with the effective demand and thereby aid in bringing the prices of farm products up to a fair exchange value in relation to the prices which farmers must pay for the things they buy.

[illegible] the Act of [illegible] Extension Act approved by Congress May 8, 1914. H. W. Wilkinson, Director

Farm Credit Aids Will Be Outlined At Farm-Home Week

Prominence of Illinois in current farm credit activities assures farmers that they will get ample help in ironing out their financial troubles when they attend the thirty-sixth annual Farm and Home Week, January 15 to 19, at the College of Agriculture, University of Illinois, it is pointed out by those in charge of the program.

Wood Netherland, general agent of the Farm Credit Administration St.Louis, will be the headliner and will appear on the Wednesday morning general session program at 11 o'clock to speak on, "The Farm Credit Administration and Illinois Agriculture." Herbert W. Mumford, dean of the U. I. College of Agriculture, is a member of the board of directors of the Farm Credit Administration in the St. Louis area.

Prof. H. C. M. Case, chief of the college's division of farm management, who is now on leave as assistant to Dr. W. I. Myers, governor of the Farm Credit Administration in Washington, will return to discuss farm debt conciliation and refinancing. He is in charge of this work for the FCA.

This event will come Wednesday morning, January 17, at 9 a.m., as the opening number in the special course on farm credit problems. This farm credit course is one of 25 different ones being offered throughout the week as a means of helping farmers and homemakers work out their own recovery and adjustment programs.

Following Prof. Case's opening of the farm credit course, C. E. Hopkins, a director of the Farm Credit Administration, St. Louis, Mo., will tell what is happening to farm mortgage indebtedness in Illinois.

Illinois is now the first state in the Union to be completely organized for production credit purposes, and this phase of farm credit work is to have the whole of Wednesday afternoon program, January 17, devoted to it. Leading off the discussion will be Dr. E. J. Norton, assistant chief in agricultural economics at the college, who is now on leave doing special production credit organization work for the Farm Credit Administration. He will discuss production credit problems and procedures.

Potential use of cooperative banks by Illinois associations will be the subject of a round-table discussion which will be led by J. H. Cosgrove, acting president of the St. Louis Bank for Cooperatives, St. Louis, Mo. Speakers will include L. H. Merchant, manager of the Illinois Farm Supply Company, Chicago; C. H. James, Southern Illinois Seed Growers' Exchange, Flora, and Harrison Fahrnkopf, of the Illinois Grain Corporation, Chicago.

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PWA Funds May Give Farm Communities A Meeting Place

Many rural communities in Illinois now have a chance to overcome one of their worst drawbacks--the lack of a community meeting place--by getting through a CWA or PWA project for the building of a community center, it is pointed out by E. E. Lindstrom, associate in rural sociology at the College of Agriculture, University of Illinois. More than 400 community groups have been organized throughout the state during recent years by the extension service of the agricultural college, and there are scores of other groups that have been in existence for years, he said. Lack of a good community meeting place where such groups can have their social and educational programs is one of the real barriers in rural advancement, he believes. For the first time an opportunity for having such a building is opened up to rural communities through the provisions of the PWA and the CWA. Any rural community can submit a project for community building improvement, community building construction or park improvement.

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Balanced Dairy Rations Mean $12,000,000 In Relief

If Illinois farmers made just one New Year's resolution--to feed their milk cows balanced rations this year--they would get at least $12,000,000 worth of "relief" in feed bills, says J. G. Cash, assistant in dairy extension at the College of Agriculture, University of Illinois.

All they would have to do in order to pocket this cash would be to save $1 a month a cow in the feeding of the 1,111,000 cows now on farms of the state.

This is an extremely conservative goal, Cash believes, because it is based upon accurate records taken on cows owned by progressive dairymen who are members of dairy herd improvement associations organized by the extension service of the agricultural college. Considering all dairy herds of the state, it is likely that a change from the almost universal use of unbalanced rations to balanced, might save much more than the $12,000,000 total in 12 months.

"That this is not an unreasonable possibility is shown by actual records from dairy herd improvement association herds. In Knox county, for instance, a new member of a herd improvement association was feeding an unbalanced ration of farm grains to his 14 cows. He revised his feeding methods, as suggested by the cowtester, and reduced his feed cost $15.06 in one month without lowering his production level.

"One month a new member of the Kankakee association fed 2,520 pounds of an unbalanced ration. The next month he fed 2,511 pounds of a balanced ration with the result that his feed bill was $7.40 less than the previous month. Here, again, their was no change in the cows' milk production.

"By changing his ration from corn, oats and a high-priced protein supplement to corn, oats, bran and cottonseed meal, a Christian county dairyman reduced the price of his ration 11 cents a hundredweight without affecting production. This will make a saving of approximately $36 for the year on his herd of 18 cows."

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Destructive Pest Of Fruit Trees Is In For "Big Year"

San Jose scale--the little insect that plays havoc with promising peach and apple crops--had a rather prosperous 1933, and may have a "happier and more prosperous New Year," warns S. C. Chandler, assistant entomologist of the Illinois Natural History Survey, in a statement issued to the extension service of the College of Agriculture, University of Illinois.

"That is," says Chandler, "there is likely to be a large increase in San Jose scale infestation throughout Illinois orchards, unless fruit growers spray their trees this winter and early spring with oil emulsion or miscible oil to check the threatened 'prosperity' of the insect."

The annual San Jose scale survey completed a short time ago showed a very marked increase in this insect over the late fall of 1932. One hundred thirty-eight peach and apple orchards located in the southern fruit sections of the state showed 27 per cent of them to have a moderate to severe infestation in at least some part of the orchard. A year ago only 6 per cent of the surveyed orchards were in this condition.

Two reasons account for this situation--lack of spraying and a favorable season. In 1932 many growers took advantage of the small amount of scale and as an economy measure omitted the dormant spray. Then too, the warm weather of late October and the first half of November this past fall allowed an extra brood to develop, which if not checked by a dormant spray this winter will result in dead and dying limbs in 1934.

The standard Illinois recommendation for scale control is either oil emulsion used at the rate of 3 gallons to each 100 gallons of spray or miscible oil used at the manufacturer's recommendation.

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Five Thousand Leaders Ready for Corn-Hog Sign-Up

Approximately 5,000 "lieutenants" have received their instructions and are all set to lead the farmers in the adjustment drive to its climax, when the statewide sign-up days are announced, says the extension service of the College of Agriculture, University of Illinois. Following a series of educational conferences held throughout the state

[illegible] farm leaders representing practically every rural community in Illinois, are during the past 10 days the [illegible] received special training in schools conducted by farm advisers and members of the college extension staff. Instructions dealt with the contract that will unite farmers of the corn belt in a movement to raise the market prices of corn and hogs to a fair exchange value with the things rural people buy. To obtain this price improvement, the producers agree to cut their 1933 corn acreage at least 20 per cent and their hog production 25 per cent below their 1932-1933 average, and in return shall receive a proportionate share of the nearly $350,000,000 in benefit payments to be made by the Agricultural Adjustment Administration to cooperating farmers.

Within the next ten days the 5,000 lieutenants will aid farmers in their respective communities to fill in the work sheets, prepare maps of their farms, gather supporting evidence regarding corn and hog sales during the past two years and answer questions that arise in the application of the contract to individual farms.

When the 1,000 community sign-up stations are established at the peak of the campaign, these especially trained leaders will man the booths and help the thousands of cooperating farmers fill in the final contract and other documents.

Interest in the corn-hog adjustment program is said to be running high in Illinois and a large percentage of the state's 210,000 farmers is expected to take part. It is estimated that at least two days will be required for the 5,000 leaders to receive and compile the signed contracts.

One of the first contract signers in the state has been reported from Christian county by Farm Adviser T. H. Brock. Without waiting for the sign-up days, this farmer collected all the necessary information and evidence on his corn and hog production and came to Farm Adviser Brock's office of his own accord to complete the sign-up.

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McDonough County Wins Two Major Corn Titles Of Year

Clarence Watson, of Macomb, McDonough county, became the new "corn king" of Illinois when his ten-ear sample of yellow utility corn won the grand sweepstakes in the annual Illinois Seed Grain and Utility Corn Show held in connection with the thirty-sixth annual Farm and Home Week at the College of Agriculture, University of Illinois. His sample scored 83.7 points out of a possible 100. Frank Brown, of Arcola, won the sweepstakes prize on ten-ear samples in the junior classes and thereby became the "corn prince" of the state. H. B. Smith, Bardolph, McDonough county won the annual Illinois Ten-Acre Corn Growing Contest when he scored a total of 89.97 points out of a possible 100 on yield, costs and quality of grain.

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Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, *Director*.

Planned Marketing Is Necessary To Get Most From AAA

Illinois farmers who sign the corn-hog adjustment contracts must also give attention to how and where they sell their hogs, if they hope to get the greatest benefits from the AAA program, says R. C. Ashby, associate chief of livestock marketing of the College of Agriculture, University of Illinois.

"Granting that there is a surplus of hogs, will not a reduction in supplies result in a surplus of packing plants or plant capacities, and in a surplus of distributive organizations and personnel?" asks Prof. Ashby. "As the volume of slaughter decreases, packers must accept a lower margin per hog or cut operating costs, which is probably difficult under NRA provisions, or widen the margin between the price of hogs and the wholesale price of hog products. The packers also have the alternate of leaving hog margins unchanged but charging a larger portion of overhead expense against beef cattle and lamb operations.

"Likewise, assuming reduced hog supplies, it may be expected that competition between packers for both quality and quantity will be stimulated. However, to get the full benefit from such transition, the producers must adopt and support sound policies of marketing." In this connection Prof. Ashby explains that such a marketing policy might well include:

1.--Elimination of all ineffective hog salesmen and sales agencies both cooperatively and privately operated.

2.--Better coordination of sales objectives by sales agencies on each market. Twice in 1933, sales agencies at Chicago demonstrated that a sales program can receive the united market support.

3.--Coordination of markets in support of a sound sales program.

4.--Patronize only those local markets which demonstrate ability to sell hogs on a parity with competing terminals--quality and price considered--and which return to stockmen their full share of the possible savings.

"Individual producers can not achieve such a program," says this market specialist, "but groups of stockmen can when enough of them demand it. Planned marketing is the logical sequel of planned production."

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Even Old Dairy Bulls Get "New Deal" On Many Farms

Old dairy bulls in Illinois are not headed for the last round-up" but are in line for a "new deal" as a result of a higher regard held for them by dairymen of the state, says C. S. Rhode, member of the dairy department of the College of Agriculture, University of Illinois.

Many Illinois dairymen plan to reduce the size of their herds, explains Prof. Rhode, and to work with fewer but better cows. Since the quality of the cows, and not the number, is being emphasized, these men naturally turned their attention to the selection of dairy bulls that will sire efficient producing daughters. Many farmers have had the experience of butchering the best bull they ever owned before his daughters came into production.

A program launched by the extension service of the college, calling for a careful selection of young sires, keeping the good bulls until their daughters come into production, and securing production records through dairy herd improvement associations has been responsible for retaining many good old bulls. Such sires of caliber fit into the national farm adjustment programs planned to give greater net returns on reduced volume and expense, says this dairy authority.

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Aides Named For Corn-Hog Work In Illinois [illegible]

Illinois corn and hog producers [illegible] additional help [illegible] for the $4[illegible] in benefit [illegible] through the [illegible] of the appointment of [illegible] extension [illegible] of the College of Agriculture, University of Illinois.

The [illegible], [illegible], will [illegible] corn-hog [illegible] in holding [illegible], distributing [illegible] throughout the state. [illegible] located in [illegible].

The [illegible] include:

[illegible], White [illegible] County [illegible] Lester, [illegible]; J. B. [illegible], [illegible]; A. [illegible]; [illegible] Bonington, W[illegible]; George F. [illegible].

Arthur [illegible] Johnson, [illegible]; [illegible], Hancock; [illegible].

[illegible]; Elmer E. [illegible], and E. E. Walker, [illegible] County.

[illegible] prepared maps of their farms and [illegible] their farm operations [illegible] into the corn-hog program. In [illegible] still in progress [illegible] to be announced soon.

As the preliminary [illegible] to the [illegible], [illegible] warned to beware of hog buyers and [illegible] processors who, [illegible] for commercial slaughter, are reported to be deducting all or part of the processing tax from the regular market price quoted to the producer.

"Country buyers and others [illegible] in settling [illegible] with [illegible], [illegible] for the processing tax on the bill of sale [illegible] are seeking to frustrate the declared policy of the Agricultural Adjustment Administration," it was pointed out by officials. "Farmers are urged not to [illegible] to buyers who [illegible] propose to make such deductions. Names of hog buyers [illegible] practice, together with full details on individual cases, should be forwarded to Dr. A. G. Black, chief of the corn-hog section of the AAA, Washington, D. C."

P[illegible] the [illegible] Extension Act approved by Congress May 8, 1914. H. W. Mumford, Director.

Wheat Checks To Illinois Growers Exceed $1,135,000

Buying power of Illinois farmers has been increased by $1,135,831 within recent weeks as a result of participation in the wheat production adjustment program last fall, according to figures compiled by the extension service of the College of Agriculture, University of Illinois.

This amount is represented in checks mailed to 21,894 farmers in 67 counties of the state by the Agricultural Adjustment Administration, Washington, D. C., as the first benefit payment made to those who agreed to reduce their 1934 wheat acreage by 15 per cent as compared to their average acreage during the three base years, 1930-1932. Checks to wheat cooperators in the other 35 Illinois counties are being sent out from the AAA headquarters as quickly as the contracts can be checked and accepted by the Secretary of Agriculture.

This first payment is at the rate of 30 cents a bushel on the allotment each farmer received, and the second payment of 8 cents a bushel, minus the pro-rata cost of administering the plan in each county, will be made after the spring planting season. Illinois farmers will receive approximately $3,618,000 in benefit payments on their 1934 wheat crop.

With a total of $89,170 in 2,117 checks, St. Clair county leads in total payments made in Illinois so far. Mason county ranks second, at this time, with 1,100 checks to farmers totalling $70,[illegible]. Randolph county has received $61,932 in 1,251 checks, Cass $58,570 in 706 checks, Menard $39,638 in 502 checks, Washington $37,267 in 886 checks, Scott $32,809 in 589 checks, Pike $31,524 in 390 checks, Macoupin $23,592 in 669 checks and Jackson county $22,476 in 481 checks.

More than 2,000,000 acres will be taken out of wheat production in the United States in 1934 as a result of the wheat production adjustment program. The purpose of the project is to reduce domestic production in line with actual consumption and exports, which in turn is designed to bring wheat prices up to a fair exchange value with the things farm people must buy.

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Assured Sale Of Crops Is Essential On Small Farms

Thousands of city dwellers who are considering the possibilities of moving onto a small farm with the hope of improving the family income should bear in mind that such farms are likely to be disappointing unless careful plans are made for the production and sale of the products, says H. C. M. Case, chief of farm management in the College of Agriculture, University of Illinois.

"The 'small farm, well tilled' idea was prominent 25 years ago," points out Prof. Case. "As with any form of farming, 50 per cent of the chance for success rests with the individual. Actual farm experience plays a large part in determining a man's chances of succeeding."

No one type of small farm is best. Some people are more successful with poultry, while others succeed better with some specialized fruit or vegetable production or a small dairy farm. Usually the small farm can not well develop many different kinds of production because of the cost of maintaining different kinds of equipment. In a period like the present, when large diversified farms are hardly meeting operating expenses, there is little chance for the small diversified farm.

The small farm, it is explained, should look first of all to the provision of family needs, and secondly, to the development of some one or two important sources of income for which the market is quite definitely assured. The small farm is the most successful and has its most important place in supplementing some income from other sources. But in any event, success depends mainly upon the ability of the farmer to make a good plan and to carry it through.

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Oats As Feed For Swine Suggested By Illinois Tests

Wider utilization of oats, which are still extensively produced in spite of the declining market for them, is suggested in a new circular, "Oats as a Feed for Swine," by W. E. Carroll, chief in swine husbandry in the College of Agriculture, University of Illinois, and now available for distribution.

With the disappearance of 800,000 horses and mules from farms and city stalls in Illinois--the chief outlet for the state's 4,500,000 acres of oats--farmers have been casting about for suggested uses of this grain. The usefulness of oats in the cropping system has been the important reason for their retention on Illinois farms, but in view of continued extensive production and the reduced market value of oats, it has been desirable to find some way of expanding their use. Feeding oats to swine under certain conditions and methods is suggested by Prof. Carroll.

More than 1,000 pigs have been fed at the Illinois experiment station since the spring of 1926 in an effort to determine the most profitable way to use oats in swine feeding. The results to date, as summarized in the bulletin are:

1.--Oats can be used extensively in place of corn in the rations of pregnant sows without noticeably reducing the efficiency of the ration. They may also be used in sow rations during the suckling period, but to a less extent.

2.--For growing-fattening pigs, one-third of the ration may consist of oats without reducing the rate of gain compared to the rate when corn is used.

3.--Grinding 100 pounds of oats and feeding them as one-third of the ration saves about 27 pounds of feed as compared with the amount used when whole oats are fed in otherwise similar rations.

4.--Hulling oats and feeding the kernels to growing-fattening pigs is less profitable than feeding ground oats.

5.--Only when oats are as cheap as corn per pound will a ration that contains oats in any form produce as cheap gains as will a ration of corn and a protein supplement.

A copy of this circular, No. 414, "Oats As a Feed for Swine," may be had by writing the College of Agriculture, University of Illinois, Urbana.

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Cleaning Ditches By CWA Workers Is Boon To Farmers

Using CWA workers to clean out ditches and natural channels is helping farmers in one of the most important drainage problems Illinois agriculture faces today, says E. W. Lehmann, head of the department of agricultural engineering at the College of Agriculture, University of Illinois. This work also is bringing benefits to communities and the state at large.

"The problem of cleaning out ditches is a serious one in many localities," explains Prof. Lehmann, "and the lack of a plan for maintenance makes it necessary in many cases to organize so that the work can be done and the cost distributed among the people in the district who are benefited. The use of CWA workers, not only accomplishes this reduction in cost to the farmers, but aids in poor relief efforts, relieves to an extent the pressing problem of unemployment and gives idle workers an opportunity to sustain their self esteem.

"The growth of weeds and brush in many open ditches retards the water flow to a point that the effectiveness of the drainage is greatly reduced, even though the outlet from tiles may be satisfactory under normal conditions."

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The Extension Messenger

COLLEGE OF AGRICULTURE UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College Experiment Station, and Extension Service

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"During the [illegible] have [illegible] in the [illegible] trend in [illegible] farm [illegible] market. "While [illegible] farmer, they [illegible] substitute [illegible] They serve rather to [illegible] the farm [illegible] to the [illegible] for, but [illegible] in the [illegible] farm [illegible]."

The report discusses in detail the various [illegible] the [illegible] to the Illinois [illegible] in relation to the [illegible] of the [illegible] agricultural situation, [illegible] with several unfavorable [illegible] [illegible] factors.

[illegible] interested persons may get a copy of the report [illegible] adviser or direct from the College of Agriculture, University of Illinois, Urbana.

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Hatcherymen Told Of Deadline On Code Certificates

Over [illegible] of the [illegible] hatcheries in Illinois must display their poultry license certificates not later than the date of their first hatch of the year after [illegible] opening, but [illegible] February 1 in order to comply with the code of fair competition [illegible] poultry according to H. H. Ib[illegible], poultry extension specialist of the College of Agriculture, University of Illinois. He has been placed in charge of the [illegible] work on the code in this state. In order to get their poultry licenses certificates in time, hatcherymen should file application at once with the National Recovering Committee, 15 Pershing Road, Kansas City, Mo., [illegible].

"In his application the hatchery owner or [illegible] should list the total hatching capacity, including all incubator trays, [illegible] and [illegible] the hatchery. He should [illegible] with his application [illegible] of the code agreement in the amount of [illegible] for each [illegible] hatching capacity. The minimum fee [illegible], and all [illegible] the minimum."

Culling Sows Is Profitable Even Without AAA Program

Getting rid of the poorer sows in Illinois' swine breeding herds would be a profitable way for Illinois farmers to cut their pork cost and at the same time reduce future unwieldy pork supplies, even if there was no AAA corn-hog adjustment program to pay producers for making the reduction, says R. H. Wilcox, of the department of agricultural economics, College of Agriculture, University of Illinois.

The fact that it costs the same to carry a sow whether she produces a large or a small litter makes it a profitable practice to weed out those that give any indication of being poor breeders and poor mothers, he pointed out.

"Cost figures collected by the college, when applied to the present hog situation, show that a 13-per cent reduction in pork supplies could be made under present corn price levels without reducing the total farm profit a cent if the remaining 87 per cent of pork was produced from sows wearing seven pigs to the litter instead of an average of only four.

"Thirty per cent of the cost of raising pigs for market is consumed in feeding, housing and caring for the sows on the average corn-belt farm," explains Prof. Wilcox, in referring to the fact that Illinois farmers may proceed individually, and at the same time collectively through the corn-hog program, in their efforts to adjust production and obtain a profit in swine production.

"Under present price conditions, most Illinois farmers could well afford to cull out and sell five out of every ten sows on the farm, if this culling leaves five sows that will wean three more pigs to the litter than the average of the ten."

This statement is borne out by investigations of 106 cost records kept by 34 to 37 central Illinois farmers for a three-year period. Figures from these farms show that 19 per cent of the sows weaned spring litters averaging four or less pigs, while another 19 per cent weaned spring litters of seven or more. These two groups were within a few cents of each other in the cost of maintaining a cow.

More detailed information relative to these facts is given in Bulletin 370, entitled "Some Important Factors Affecting Costs in Hog Production." Copies of the bulletin may be had by addressing the College of Agriculture, University of Illinois, Urbana.

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Horse And Tractor Expenses Compared On 2,000 Farms

Two thousand Illinois farmers have proved that whether an operator should use horses or a tractor for power still depends upon the farmer's individual abilities, his financial resources and the particular condition of his farm. There is no basis, so far as net income is concerned, for recommending any one type of power for any large group of Illinois farms.

This is revealed in a study of the cost of horse and tractor power on Illinois farms made by F. E. Johnston and J. E. Wills, of the farm management division of the College of Agriculture, University of Illinois. Details relative to the study have just been made available in Bulletin 430, published by the university agricultural experiment station.

The actual experiences of some 2,000 farm operators, as shown by financial records kept on 1,351 farms in 1930 and 1,599 farms in 1931, were used for this study. Standard tractors, general-purpose tractors and trucks were included.

Many farmers have asked the college if they could increase their net incomes by changing from horse to mechanical power, or from standard to general-purpose tractors. Horse-operated farms, standard-tractor farms and general-purpose tractor farms, according to this new bulletin, were found in general to have the same net incomes when comparison was made between groups of farms comparable in size, although the gross incomes were higher on the tractor farms.

-M-

"Corn King" Runs After Seeking Honor For 30 Years

When Clarence Watson, 42-year-old McDonough county farmer of Macomb, won the "corn king" title of Illinois during the recent thirty-sixth annual Farm and Home Week at the College of Agriculture, University of Illinois, he climaxed a 30-year quest that he has been making for corn growing honors in the country's second largest corn producing state.

He won the title when his ten-ear sample of yellow utility corn won the grand sweepstakes in the annual Illinois Seed Grain and Utility Corn Show held in connection with Farm and Home Week. He has been growing and showing utility corn ever since the University of Illinois introduced it more than 15 years ago, but even before that he had been growing and exhibiting seed corn for almost a score of years. However, this is the first time that he has ever won state honors, although he has been getting a little higher every year, he reported.

He is a firm believer in the Illinois' system of permanent soil fertility as worked out and advocated by the college of agriculture. His four-year crop rotation system includes corn, corn, oats and clover, and he uses limestone and phosphate wherever it is needed on his farm. In addition to producing about , bushels of seed corn a year, he feeds around 1 head of Hampshire hogs and 5 head of Hereford cattle.

He is enrolled in the farm accounting project sponsored by the extension service of the agricultural college, and for four years has been a member of the agricultural economics advisory committee to the experiment station of the college. He also has served as a director of the Illinois Crop Improvement Association.

He and his father are the only farmers, besides the initial owner, who have ever lived on the 1 -acre farm which he now operates. His father bought the farm in 1 . Both the father, who is 1, and the mother, who is 74, are still living in Macomb.

It was in 1 that Watson first attended the university short courses that have since become the annual Farm and Home Week. That year he won a free trip to the event as a prize on a bushel of seed corn in a local corn show at Macomb. He has been coming to Farm and Home Week more or less regularly ever since.

His prize-winning sample at this year's show was picked out of 1, bushels grown in a 1 -acre field that averaged 1 bushels an acre despite the hardships of dry weather.

-V-

Trees May Prove Real Pay Crop On Retired AAA Land

Growing trees on land contracted to the government through the AAA wheat and corn-hog adjustment programs will prove more advantageous to farmers in many parts of Illinois than crops planted on the same ground, says L. E. Sawyer, extension forester of the College of Agriculture, University of Illinois and of the Illinois Natural History Survey.

"On a large majority of farms throughout Illinois, where corn-hog and wheat contracts are signed, the less productive land will be removed from cultivation," explains Sawyer. "Under the terms of the contract such land may be planted to trees for woodlot, windbreak or forest purposes. This is a decided advantage to farmers living in northern and central portions of the state. It gives them an opportunity to establish the long-needed protection without reducing the area of their farm that is available for cultivation.

"In many cases this less productive land will grow trees to better advantage than it will grow farm crops, even under more normal conditions. In the future such tree plantings will yield valuable timber crops, or they will aid in the control of erosion, or both."

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Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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Expert Figuring Shows Advantages Of Corn-hog Plan

Terms of the government's corn-hog adjustment contract are so advantageous to Illinois farmers that under some circumstances it might be more profitable for them to sign up and not produce any hogs at all than it would be to go on producing in the old way. These and other "believe it or not" facts are revealed in a series of formulas worked out on the AAA corn-hog contract by Prof. R. A. Rusk, head of the department of rural husbandry, College of Agriculture, University of Illinois.

Under the contract producers agree to reduce their number of litters 25 per cent below the average number for 1932-1933 and the number of hogs raised to market 25 per cent below the average of those base years. As compensation, contract signers will get benefit payments of $5 a head on their hogs minus the local administrative expenses. This will be in addition to the gross sales returns.

This 200-pound hogs can be sold in Iowa for $3.47 a hundredweight and assuming that the average feed cost is $4 for each 100 pounds market weight, it would be more profitable to sign up and not raise any hogs this year than it would be to ignore the corn-hog program and raise the same number as the 1932-1933 average. It should be remembered, however, that this might leave the producer without a base if the program is continued after 1934. When calculating this comparison Prof. Rusk makes a small deduction from the $5 a head benefit payments to cover the cost of local administrative expenses.

Further proof that the corn-hog plan is fair to the producer is shown by one of Prof. Rusk's formulas which proves that with the full $5 a head benefits, hogs will have to bring $3.75 a head in 1934, regardless of weight, before the gross returns of the non-signer will equal those of the farmer cooperating with the AAA. Below a market price of $3.75 a head, the contract signer's returns will exceed those of the non-signer; above $3.75 the gross returns of the non-cooperator will exceed those of the producer who reduces his production 25 per cent in 1934.

For example, let it be assumed that the contract signer produced an average of 100 head of hogs in the two base years, and in 1934 he agrees to raise only 75 head. If the market price should jump to $3 a head, he would receive $1,125 from the sale of hogs and $375 in benefit payments, or a total of $1,500. The non-signer will continue to raise his average of 100 hogs and will receive $3 a head from the sale of the stock, or $1,800 in gross returns.

When the weight of the hogs is considered and a small deduction from the benefit payments is made for local administrative expenses, Prof. Rusk explains that 200-pound hogs must bring an average of $7.65 a hundredweight before Illinois producers can afford to pass up the opportunity of signing a corn-hog contract. This, of course, is assuming that the non-cooperator will produce the same number of hogs in 1934 as he averaged in 1932 and 1933. The corresponding price for 240-pound hogs is $6.12 a hundred pounds.

The non-signer who raises feeder pigs to around 70 pounds is gambling that the market value of his young stock will jump to $21 a hundred, or war-time prices in 1934.

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, Director

Stockmen Now Have Chance To Picker With Terminals

Rapid increase in the number of local livestock markets within recent years has put Illinois farmers in a strong position to bargain with the larger terminal markets for a reduction in the mark ting expenses on the 175 million dollars worth or more livestock they sell every year, in the opinion of H. C. Hobby, associate chief in livestock marketing at the College of Agriculture, University of Illinois.

How prominent local livestock markets have become can be judged from the fact that an estimated 50 per cent of all Illinois hogs moved direct to market in 1932 without going through terminal markets, Mr. Hobby pointed out.

"If stockmen were sufficiently organized and decided that it were advisable to renew terminal market patronage, they could go to the owners of the terminal market involved, specify the volume of livestock they would be in a position to return to that market and bargain for a reduction in marketing expense.

"This would be in line with the recent agitation of stockmen for a larger patronage of terminal markets. In some sections stockmen have signed up to market all livestock at terminals for a specified period.

"Should stockmen continue their campaign for increased patronage of terminals without organized bargaining for reduced terminal charges in return for increased receipts, they will have overlooked an excellent opportunity. Business men would never pass up such a chance. In the same way organized producers who preferred to keep on patronizing local markets could bargain for a higher price with the alternative of going to the terminal market if the local market did not meet requirements.

"Every terminal stockyards company could handle 50 per cent more livestock than it is handling now and do it at relatively little more cash expense than in handling current receipts. If assured a definite increase in volume of livestock, the company could afford to make concessions in its charges. One stockyards executive said but a few months ago, 'If we could double our volume, our cash handling expense would not be proportionately increased and we could afford to reduce our charges. Speaking for our own company, we would be glad to do it.'

"In one area stockmen already have approached officials of a terminal market as to the reduction of charges in proportion to increased receipts."

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Advises Planting Locust Trees On Retired AAA Land

Planting black locust trees on retired wheat and corn land contracted to the Agricultural Adjustment Administration supplies a four-fold purpose that might well be considered by many Illinois farmers, says L. E. Sawyer, extension forester of the College of Agriculture, University of Illinois and the State Natural History Survey. Black locust trees comply with the AAA requirements, they prevent soil erosion, aid in improving the nitrogen content of the soil and in time will furnish a crop of durable fence posts.

"Soil erosion, which is so destructive over a large portion of Illinois," explains Sawyer, "may be controlled easily and economically by planting trees, and one of the best varieties for this purpose is the common black locust. Being a legume, this tree enriches the soil, and where black locust has been planted a heavy sod becomes established within a few years. In addition to its soil-holding ability, black locust produces one of the most durable fence post woods that can be grown in this section of the country. In 10 to 12 years it will often produce posts 4 to 5 inches in diameter."

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Care Of Sows Is More Essential Under [illegible] Hog Plan

To get the most out of the "new deal"--which to Illinois farmers means cooperating with the AAA corn and hog adjustment program--producers might profitably give greater attention to reducing spring pig death losses, says W. E. Carroll, chief in swine husbandry at the College of Agriculture, University of Illinois.

The corn-hog contract requires that a cooperator reduce by 25 per cent, not only the number of hogs marketed, but also the number of litters farrowed. Thus getting an allotted number of pigs for market from a given number of litters makes it highly desirable that the producer have reasonable control over the death losses of the pigs. "Only 14 of every 100 pigs farrowed weak live to be weaned, while 90 out of 100 strong pigs live to a weaning age," explains Prof. Carroll. "Then too, 3 to 15 per cent of all pigs farrowed have no chance of surviving because they are born dead."

The chances of the pigs surviving are determined during the gestation period, and healthy sows are, of course, necessary for healthy pigs it is said. The kind and amount of feed the sow receives apparently influences the strength of the pigs at birth. for a certain amount of protein and mineral matter are essential for the development of the unborn pigs. A mineral mixture composed of equal parts of limestone, bone meal and salt is as good as any, except in goitrous areas where 1 to 2 ounces of potassium iodide should be mixed with each 100 pounds of the simple mineral. Exercise of the sow during gestation also contributes to the strength of the pigs.

Any of the common farm grains can be used as a basis for the ration for pregnant sows. Legume hay is essential for best results when pasture is not available. Whether to feed protein supplements in addition to the grain and hay will depend largely on the age and condition of the sows. Gilts are more likely to need such a supplement than mature sows. One-fourth pound of tankage, one-half gallon of skim milk or one-half pound of soybeans per head will usually suffice and is good insurance against pig-eating in sows craving additional protein the last month before farrowing.

Sows should not be allowed to become so fat that they are lazy and awkward. They should, however, be put in high enough condition to milk well after they farrow.

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AAA Wheat Money Used For Wide Variety Of Necessities

"The butcher, the baker, the candlestick maker"--all are sharing in the $1,377,851 in benefit payments that have been received to date by more than 26,000 Illinois farmers and landowners who cooperated with the AAA in adjusting their wheat acreage in 1934 and 1935, according to a survey made by the extension service of the College of Agriculture, University of Illinois.

Even Santa Claus got a "lift" in some counties where the government checks arrived before Christmas, while other beneficiaries included doctors, hospitals, insurance companies, grocers, clothing merchants, bankers, implement dealers, threshing men, hired help, and so on along the line.

The wheat benefit payments received so far, it is said, do not represent all that is coming to the farmers from the AAA this year. Before another wheat harvest is over, the total bonus for the 1934 wheat adjustment will amount to approximately $2,618,000. Further improvement in the Illinois farmer's income is anticipated when the exchange value of the products rural people have to sell is increased as a result of the various AAA programs.

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First 20,000 Signers Reported In Corn-Hog Campaign

Sign-up of Illinois farmers in the government's corn and hog production adjustment program passed the 20,000 mark Tuesday night, February 13, although up to that time progress reports had been received from only 61 of the 102 counties and the campaign was considered only a little more than well started, according to an announcement by Dean Herbert W. Mumford, of the College of Agriculture, University of Illinois and director of the agricultural extension service, who is chairman of the state advisory committee on the campaign.

The line-up of the ten leading counties on the basis of incomplete progress reports received by the extension office from county farm advisers up to Tuesday night was: Iroquois, Farm Adviser C. C. Farmer, 1,171; Livingston, Farm Adviser S. G. Turner, 1,137; Bureau, Farm Adviser Paul T. Dean, 1,04[illegible]; Adams, Farm Adviser J. F. Russell, 918; DeKalb, Farm Adviser R. V. Bergren, 8[illegible]; Whiteside, Farm Adviser F. H. Truman, 800; Henderson, Farm Adviser G. T. Smith, 7[illegible]; Hancock, Farm Adviser T. M. Lafferty, 7[illegible]; McLean, Farm Adviser L. T. Weaver, 6[illegible]; McDonough, Farm Adviser R. V. Watson, 590.

Within the next few days it is anticipated that more than 75 per cent of the eligible producers in the state may join with their neighbors in the voluntary cooperative movement to adjust production to demand and thereby increase the effects of farm prices that have sunk low and lower as a result of the loss of foreign markets and other causes. In no county has the campaign progressed to the present time, and in practically all counties farmers are busy filling in work sheets, collecting supporting evidence and signing contract applications.

Approximately 1,000 sign-up stations will be conducted at half point points in the state during the campaign to make it easy for every Illinois farmer to join the plan and become eligible for his share of the $40,000,000 or more in benefit payments to be distributed to cooperating farmers in this state, it was stated by Prof. J. C. Spitler, state leader of farm advisers. He is representing the extension service of the College of Agriculture, University of Illinois in the campaign.

Paving the way for the sign-up, educational meetings have been held in practically all counties of the state by county farm advisers and the extension service of the agricultural college. Sixty-eight of the 102 counties have reported 1,[illegible] meetings attended by 150,[illegible] farmers anxious to learn about the contract and the purpose of the campaign.

Inasmuch as only two-thirds of counties holding corn and hog educational meetings have reported, it is believed that the total number of Illinois farmers who have given preliminary information relative to the adjustment program will amount to 70 per cent more than the 150,[illegible] reported, or 196,[illegible].

F. H. Truman, farm adviser of Whiteside county, reports that more than 1,[illegible] farmers in that county have attended the corn-hog educational meetings, the largest total attendance reported to date. Other counties having large totals that have reported include Henry, with a total attendance of 1,[illegible]; Edgar with 1,0[illegible]; Crawford and Jasper counties with a combined attendance of 1,[illegible]; Bureau county with 1,[illegible], and Christian county 1,[illegible].

Printed and published by the Agricultural Extension Service, Mumford Hall, Urbana, Illinois

Chinch-Bug Count Shows Five Times 1933 Hibernation

Last year chinch bugs reduced the corn crop in 70 Illinois counties from 15 to 50 per cent, and unless May and June of this year are unusually dry, the 1934 damage from this insect may be double that of last year, says W. P. Flint, chief entomologist of the Illinois Natural History Survey in a report of the extension service of the College of Agriculture, University of Illinois. A study of the records of the weather bureau also reveals that the chances are three to one that the two crucial months will be favorable to the chinch bugs.

A recent survey of the former infested areas indicates that there are at least five times as many chinch bugs in hibernation now as at the same time last year, a serious threat to the state's nine million acres of corn. Only the counties in the extreme northern and southern ends of the state are exempt from possible chinch bug damage, explains Mr. Flint.

Possibly 10 per cent of this likely menace can be checked by farmers who will burn over areas where chinch bugs are prone to winter. From 80 to 90 per cent of these over-wintering insects will be found at the bases of bunch-forming grasses, particularly the native grasses such as blue stem, prairie grass, bunch grass and broom sedge. They will be found on the south slopes of ditch banks, roadsides and the south and west sides of hedges where accumulations of grass and leaves are evident. From 100 to 5,000 chinch bugs under each square foot of cover have been found on farms in central and north central Illinois.

These favored types of protective cover should be burned off sometime between the first of December and the middle of April, when conditions are dry enough so that the fire will burn close to the ground. Burning against the wind so that the fire will spread slowly is recommended.

It is not necessary or advisable to burn over whole tracts of woodland or the whole farm, explains Mr. Flint. The bugs are nearly all in the south side of the woods or in the favored localities mentioned previously. Well established stands of blue grass seldom contain large numbers of bugs and should not be burned. It is better to look over the favored hibernating places and concentrate in burning these thoroughly, rather than burning over the whole farm, it is said.

-M-

Market Check-Up Is Next Move After Planned Farming

Now that stockmen and farmers of Illinois and other corn belt states are going in for planned, adjusted production on a larger scale than ever, their next move might well be a shrewd appraisal of the advantages and disadvantages of local livestock markets as against terminal markets, according to R. C. Ashby, associate chief in livestock marketing at the College of Agriculture, University of Illinois.

"Major advantages to farmers of local markets include (1) convenience, (2) no delay in securing returns, (3) some apparent saving in marketing expenses and (4) avoidance of risk of price change, since on short haul deliveries the approximate price can be known before the hogs leave the farm.

"Major disadvantages, less apparent to the farmer and hence frequently disregarded, include: (1) less assurance of accurate weights, (2) non-competitive sorting and grading, (3) payment not guaranteed whereas at terminal markets all sales agencies are under government approved surety bonds guaranteeing payment to shippers, (4) local markets have, on the whole, tended to weaken the level of hog prices and (5) while affording an apparently desirable outlet for hogs, many local markets do not handle other livestock, leaving the producer to dispose of cattle, calves and sheep elsewhere."

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Industrial Rise Is Seen As Boon To 1934 Agriculture

A world-wide reversal from a downward to an upward trend in industrial activity is of basic significance to American farmers, but unfortunately the growing spirit of nationalism in different countries has set up conditions which greatly limit the foreign market outlets, according to the annual state agricultural outlook report just released by the College of Agriculture, University of Illinois.

The AAA program now being applied to export supplies should, however, aid United States farmers in getting full advantage of whatever improvement is made in industrial activity in this country, it is pointed out by agricultural economists of the college. The purpose is to adjust production to the reduced foreign demand while supplying fully the domestic requirements, it was explained.

Improvement in industrial activity looms large in the farmer's hopes, for such activity determines the incomes of non-agricultural consumers and these consumers, in turn, are the principal source of the farmer's income, the report points out.

The latest available index indicates an increase in industrial production in the United States of 26 per cent in 1933 as compared with the 1932 low point, an increase in England of 13 per cent, 17 per cent in France, 23 per cent in Germany, 9 per cent in Italy and 25 per cent in Japan.

This increase in foreign industrial activity would be a more hopeful sign for the American farmer than it is if it were not for the fact that European nations have progressed in their campaigns for agricultural self-sufficiency, the report points out. Improved foreign outlets for U. S. agricultural products apparently must come from negotiation of reciprocal trade treaties, which are of limited possibilities, or result from a devalued U. S. currency, the effects of which would be temporary.

"Germany is now on a surplus basis in rye, wheat and meat. France has begun to export wheat. Italy is self-sufficient in wheat. England has adopted a definite program of increased production of domestic bacon supplies, imports being restricted more than 16 per cent for 1934. The United States quota is only slightly more than 6 per cent of the total British import. As a result of the London wheat conference the United States was assigned a quota of 47 million bushels of wheat exports for 1934 in contrast to 26 million bushels exported in 1933 and 82 million bushels in 1932.

"Agricultural exports constituted 49.9 per cent of the total United States exports during 1909-1914, but only 36.4 per cent during the period 1927-1932. Whereas 14 per cent of our total agricultural production was exported in 1921-1925, only 7 per cent was exported in 1930-1931."

-M-

New Bulletin Sifts Basic Factors In Milk Marketing

A decline of from 10 to 15 per cent in the per capita consumption of milk and cream in important fluid milk markets of the United States during the past several years has been caused principally by retail prices which have been too high in relation to consumers' declining purchasing power, according to results of a study made by Dr. R. W. Bartlett, of the department of agricultural economics, College of Agriculture, University of Illinois. Findings made in the investigation have just been published by the experiment station of the college in a bulletin entitled, "Prices and Consumption of Milk in Specific Cities as Related to Industrial Payrolls and Other Economic Factors."

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Grass Seed Need Doubled by AAA and Other Programs

Thousands of farmers in Illinois are taking part in the government's corn-hog and wheat adjustment programs will be well to look to their immediate supply of pasture and hay seeds on hand, for the demand this spring may be double that of previous years, says J. C. Hackleman, crop extension specialist of the College of Agriculture, University of Illinois.

It is anticipated that approximately 1,[illegible],000 acres of Illinois corn land may be retired from production under the AAA corn-hog contracts, while last fall some [illegible],000 acres were withheld from normal wheat seeding as a part of the general wheat production control program. It is likely that these newly [illegible],000 acres will be planted to legumes or grasses—a large percentage probably to all the tame hay produced in Illinois in either [illegible] or [illegible].

Additional demands are being made on the supply of seeds as a result of other government activities, such as the federal soil erosion service, work of the civilian conservation corps, rural rehabilitation projects and the Tennessee valley project.

"Legume seeds in general are not plentiful and in many farm areas," points out Prof. Hackleman. "The carry-over of alfalfa and clover will smooth clovers at the close of the [illegible] harvest year will be slightly in excess of normal demand, but probably not sufficient to meet the new demands as made by the AAA programs. Since harvest, however, alfalfa and red clover seeds have been leaving our stores in much greater quantities than in a normal year.

"The [illegible] September-December export of alfalfa seed was nearly twice the average for the same period in the [illegible] years of [illegible] to [illegible], inclusive. Limestone, red clover exports during the same three months of [illegible] were [illegible] times as great as the [illegible]-year average for the period. Timothy and other grass seed exports were relatively much less significant in view of the small supplies and the normal movement of these seeds at this season of the year.

"Illinois harvested the short crop of soybeans only [illegible] bushels it has had in several years, owing to a reduced acreage and the low yields resulting from late plantings. Soybean processors anticipated their needs by early purchases in October, November and December of last year, and half of the threshed bean supply is now in their hands. The remaining beans must meet the usual demand for seeding approximately [illegible],000 acres in Illinois, as well as planting contracted acres to be turned under.

"Thousands of bushels of cow pea and Korean lespedeza seed will be needed in southern Illinois for seeding on contracted land that is too acid or too low in phosphorus to grow alfalfa, red, alsike or mammoth clovers.

"The supply of grass seed, however, is more nearly adjusted to meet anticipated demands.

"It is advisable for farmers who have a limited supply of home-grown clover seed on hand to send reclaimed samples to the state analyst for examination, so that they may be ready to sell any extra supply. Illinois farmers who do not have sufficient seed on hand to fill their requirements should make the necessary arrangements immediately," says Hackleman.

In this connection it was announced that the U. S. Department of Agriculture has just issued a new mimeographed circular entitled, "Pasture Plants and Pasture Mixtures Suggested for Seeding on the Acreage Taken out of Cotton, Tobacco, Wheat and Corn for Erosion Prevention and Soil Improvement."

-H-

AAA Dairy Plans Touch Entire Illinois Industry

Illinois would take front rank anywhere in any dairy production adjustment program such as recently outlined by Secretary of Agriculture Henry A. Wallace, for the state stands fifth among all states in total milk production, it is pointed out by members of the dairy department, College of Agriculture, University of Illinois. During the past four years the average annual cash income from the sale of dairy products of Illinois farms has been about $71 million dollars.

The tentative plan which the administration is offering to the dairy industry is an individual voluntary reduction proposal financed by a processing tax on all butterfat in milk and its equivalent and a corresponding tax on oleomargarine. The rate of the processing tax would eventually reach 5 cents per pound of butterfat in all milk and its equivalent and a corresponding tax on oleomargarine equivalent to the tax rate on butter.

A three-year base period, with individual production of butterfat for 1931, 1932 and 1933 established for each farm, is recommended.

The goal to be sought is a 15 per cent reduction in the amount of milk and butterfat produced for sale, which would be below the quantities sold in the past years, with the producer to receive benefit payments for his reduction.

The method of securing reductions on the farm is to be left to the judgment of cooperating producers. The actual plan of operations is to be secured through benefit payments or premiums on sales based on reduction basis and records.

Fewer and better cows, producing higher quality products at less cost and more profit to the cows, have been recommended over Illinois for years by means of dairy herd improvement association work and other extension activities of the College of Agriculture, University of Illinois, it is pointed out by dairy men at the college. It appears, however, that more drastic steps are necessary, as Secretary Wallace himself has said, "If some such plan as I have briefly outlined does not find favor, the path of the dairy industry is likely to be rough. Our course will be determined by the response of dairy farmers and their representatives to this program."

-X-

Growing Quality Small Fruits Now Being Made Easier

Small fruit growers, including both the home-gardener type and the commercial producers, this spring will have the best chance that they have ever had to get started with superior, high-quality varieties at a reasonable cost, according to Dr. A. S. Colby, chief in small fruit culture at the College of Agriculture, University of Illinois. Nevertheless, prospective buyers should be sure that the varieties they buy are adapted to the climatic, soil and other conditions in their particular locality.

During the past several years many small fruits have been developed through controlled methods of plant breeding which are greatly superior to the older varieties, formerly standard, Dr. Colby said. Many of these newer varieties might well be given a place in the 11,000 acres or more of small fruits that were reported for Illinois in the last census, he said.

Most nurseries are cooperating with the state nursery inspection service to grow and sell only disease-free stock, usually true-to-name, points out Dr. Colby, and the prospective buyer may purchase from any one of several reliable nursery firms with the certainty of getting high-class plants.

-X-

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Volume XVI

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New Sign-Up Opens [illegible] Adjustments

Possibilities for further adjusting the program of wheat on Illinois farms have been brightened by a telegram which Dean Burt [illegible], of the College of Agriculture, University of Illinois, has received from AAA headquarters in Washington announcing the reopening of the wheat sign-up to obtain any farmers who could not or did not sign up last fall. Plans for extending the Illinois sign-up were started immediately upon receipt of the telegram.

Illinois farmers, guided by the teachings of the College of Agriculture, University of Illinois already had reduced their acreage of all wheat 11 per cent since 1933, but they went even farther in the AAA sign-up last fall and put the state in fifteenth place among all the states in the percentage of wheat acreage signed up. The 1,611,204 acres that were put under contract in the 1,150 contracts signed last fall represented more than 9 per cent of the state's average acreage during the three-year base period, 1928-29-30. The total required reduction under the terms of the contracts was carried out successfully by 104,000 acres below the average for the 1928-29-30 base period.

Reopening of the sign-up in the wheat program opens the way to further adjustments. Growers who come in now will be eligible for the 1937 benefit payments and for subsequent benefits under the 1938 program, but not for the first 1937 benefit payment which already has been made. A special provision of the regulations will make it possible for a contract to be drawn up for the farmer who had an unsatisfactory base acreage under the original plan, but the contracts will not give late signers an advantage over original signers.

The 91 county committees which [illegible] local committees which were organized following the signing of the first contracts [illegible] in extending the sign-up to the [illegible] farmers. The state [illegible] by Prof. T. C. Blaisdell, state chairman of AAA activities, and by the extension service in the College of Agriculture, University of Illinois in the various AAA programs.

-W-

Farm Income Gains Even Though Crops Fail

Virtually one-tenth of the crop acres in Illinois were lost from production in 1934 through the AAA programs, and under soil conservation and improvement practices encouraged by agricultural leaders, a substantial portion of the state's wealth that lies in its soil could be held over, says A. L. Lang, superintendent, chief of soil experiment fields, College of Agriculture, University of Illinois.

Sweet clover has proved its value in the prevention of soil erosion and its restoration as a green manure crop is attested by data secured from the Illinois soil experiment fields. At the Dixon field, on a soil of good productivity, sweet clover in a rotation of corn, oats and wheat improved the soil to the extent of 17 bushels of corn an acre annually, on a three-year average, while it was the main fertilizing constituent. Where wheat and oats straw were returned to the land, they enhanced the value of sweet clover as a soil builder by 7 bushels of corn an acre. At Mt. Morris in Ogle county, with a fertility level approximately the same as at Dixon, residues from timothy, soybeans, red clover and alfalfa fell short of equalling the benefits of sweet clover combined with oat and wheat straw on the Dixon field by 26, 17, 1 and 7 bushels of corn an acre, respectively.

Oats Smut Takes Heavy Toll On Farms Of Illinois

Last year oat smut extracted a tax of approximately 4,[illegible] bushels from Illinois farmers, and a similar oat loss may be expected in 19[illegible] unless growers properly treat their seed to prevent this common disease, says Benjamin Koehler, associate chief of crop pathology at the College of Agriculture, University of Illinois. This toll amounts to an average loss of [illegible].5 per cent of the oat crop for the state, and although the disease is an easily-controlled one, crop damage on some farms amounted to as high as 25 per cent last year, it is said. For control, two treatments--the formaldehyde and the Ceresan--are recommended.

The most satisfactory way of applying formaldehyde to the oat seed is the 50-50 method, which is practically a dry process. A pint of commercial formaldehyde is mixed with a pint of water in a quart-size sprayer of the kind used in gardens and cow sheds. As one man shovels the oat seed from one pile to another, an attendant handles the sprayer, giving the seed four "shots" of the liquid on each scoopful of oats as it is picked up. About a quart of the formaldehyde-water mixture should be applied to each 50 bushels of seed.

After this has been done, the oats should be turned over again by shoveling the seed into another pile, or into sacks or a wagon box. If the seed is not sacked, it should be covered with canvas or other cloth for at least five hours. The oats are then ready to use or may be stored for several days without serious damage. The cost of this method is about two-thirds of a cent a bushel.

New Improved Ceresan, another recommended disinfectant for treating oats, is a dry dust which should be applied at the rate of one-half ounce to each bushel of seed. It is best to mix it thoroughly with the grain by means of a regular treating machine or a power corn mixer. If the mixing is thorough, the oats can be seeded at once, otherwise the seed should be covered with canvas or sacked and stored overnight. Storage for longer than a few days or a week, however, will reduce the yield.

While this latter method is a little more expensive, costing about two cents a bushel, it helps control other diseases that are sometimes present in addition to smut, it is said.

Local Buying Threat to Terminal Livestock Markets

Unless local and terminal livestock markets can be better coordinated or new influences change existing conditions, the vast terminal markets which have been built up in this country must eventually give way to the newer local agencies, predicts R. C. Ashby, associate chief in livestock marketing at the College of Agriculture, University of Illinois. This conclusion is supported by the findings of a three-year study by Ashby which shows the effects of the operation of local livestock markets upon terminal markets.

Local livestock markets have greatly decreased the hog receipts of the terminals, Ashby found. Until 19[illegible], hog receipts at the public stockyards exceeded the federally inspected slaughter, but by 19[illegible] terminal receipts amounted to only 77 per cent of the hogs inspected by federal authorities. In 19[illegible] but 4 per cent of all hogs slaughtered under federal inspection were purchased outside of the public markets, while 10 years later this figure had increased to more than 44 per cent. Thus, too, local markets have decreased supplies of hogs available for sale on the public markets even more than they have reduced receipts. At Chicago in 19[illegible], more than 4 per cent of the hogs received were not offered for sale on the open market. Moreover, operation of local markets has tended to lower the quality of the final terminal receipts, particularly at Chicago.

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Volume XVII [illegible]

[illegible]

A [illegible] Agri[illegible] — [illegible], the [illegible] College of Agriculture, University of Illinois [illegible] to [illegible] mark [illegible] is [illegible].

Livingston county [illegible],000-contract mark, [illegible] Thus, Livingston [illegible] of [illegible] contract [illegible] Farm Adviser C. F. [illegible].

Farm Advisers [illegible] R. T. [illegible], of McLean county, [illegible] of Champaign county, [illegible] Whiteside county [illegible].

Th[illegible] with [illegible] reports [illegible] that had 1,000 [illegible] campaign [illegible].

[illegible] list of the [illegible] included [illegible] DeKalb 1,[illegible]1, [illegible] Macon 1,[illegible], [illegible] Fulton 1,[illegible], [illegible] 1,[illegible], [illegible] Marshall-Putnam 1,[illegible]1, Logan 1,[illegible], [illegible] Stephenson 1,[illegible], Montgomery 1,[illegible]0, Peoria 1,[illegible], Morgan 1,[illegible], DeWitt [illegible], Christian 1,[illegible], [illegible] Jo Daviess 1,[illegible], Grundy 1,[illegible], Ford 1,000 and [illegible] 1,000.

[illegible] 500 to 1,000-contract group included Piatt 9[illegible], Cumberland [illegible], [illegible] Kendall [illegible], [illegible] Will [illegible], [illegible] Clark [illegible], [illegible] Moultrie [illegible], [illegible] Bond 700, [illegible], [illegible] Henderson [illegible]. Mason 600, [illegible] Gallatin [illegible], White [illegible], Rock Island [illegible], and [illegible].

[illegible] toward the 500-contract goal were Randolph with [illegible], Wabash [illegible], Calhoun [illegible], Edwards 4[illegible], Jefferson 413, St. Clair [illegible], Wayne 40[illegible], Lawrence [illegible], [illegible], Franklin [illegible], Clay [illegible], Richland [illegible], Saline [illegible], Marion [illegible], [illegible] Kane [illegible], Pulaski [illegible], Jackson [illegible], [illegible], [illegible], [illegible], Monroe 1[illegible], [illegible], Perry 1[illegible], [illegible], Hamilton [illegible], [illegible] 60, Union [illegible], [illegible] and Washington [illegible].

The [illegible] remaining county [illegible] of the 10[illegible] in the state [illegible] for [illegible].

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Seed Mixture For AAA Acres Include Several Choices

With probably a hundred forage plants to choose from, Illinois farmers taking part in the AAA corn-hog and wheat adjustment programs have a singular opportunity to restore some of their old permanent pastures or seed new ones on the retired acres, says J. J. Pieper, associate chief of the crop production at the College of Agriculture, University of Illinois. At least 25 of these crops are used more or less commonly in the state.

To make the most of their opportunities farmers must select the ingredients for their pasture mixtures that are best adapted to the soil and that at the same time fit the needs of the grower.

Kentucky bluegrass is one of the most popular for pastures, explains Pieper, and is adapted to the better soils somewhat inclined to be sweet. Timothy has a wide adaptation for fertility and drainage in all parts of Illinois, while red top, too, is a favorite on poor, acid and wet land, where other grasses find it difficult to get a stand.

White clover is the most [illegible] and [illegible] will grow well on poor, acid soil, while alsike will grow [illegible] alfalfa, sweet or red clover. In the [illegible] may be substituted in [illegible] for alsike clover.

[illegible] seeded for [illegible] soil, together with the amount to be sown per acre, are suggested by Pieper as follows:

Good, well-drained land--Kentucky bluegrass 6 pounds, red top 3, timothy 4 and alsike and white clover 2 pounds each.

Wet fields--Red top 5 pounds, timothy 4, meadow foxtail 4 and alsike clover 3 pounds.

Poor, acid soils--Orchard grass 5 pounds, red top 4, Canada bluegrass 3 and alsike clover 2 pounds. Lespedeza may be substituted for alsike clover in the southern half of Illinois.

Shaded areas--Orchard grass 6 pounds, smooth brome meadow grass 5, red fescue 4 and alsike and white clover 2 pounds each.

Where the soil is sweet and fertile, alfalfa or red clover may be added to the above mixtures or used to replace other legumes at the rate of 4 pounds to the acre for alfalfa and 3 pounds for the red clover.

-M-

Chinch-Bug Invasion Will Not Catch Farmers Unaware

Although chinch bugs threaten the heaviest invasion in many years, the destructive insect will not catch Illinois farmers unaware, says D. E. Lindstrom, associate in rural sociology at the College of Agriculture, University of Illinois. During March and April some 417 rural community units located in all parts of the state will hold their regular monthly meetings at which time the chinch bug and recommended methods of control will become almost a campaign issue as the chief topic for discussion. From 1 to 28 such groups will meet in every Illinois county.

Burning over areas where chinch bugs are prone to winter, revision in crop rotations, use of chinch-bug resistant crops and other suggested control practices will be included in the discussions at the community meetings. Farm advisers, local farmers, members of the college extension staff and entomologists of the Illinois Natural History Survey will be the feature speakers.

Community action, as the result of an educational campaign through rural organizations which make up the 417 community units, is believed to be more effective in fighting combat practices. Through group action, the burning of railroad right-of-ways has been accomplished in some localities, and where the danger of killing wild life is small, other public waste places commonly infested with chinch bugs may be cleaned up.

-M-

[illegible] Fields Proved To Be Unsafe [illegible]

"Believe it or not," [illegible] after [illegible] of an acid-sweet [illegible] from the [illegible] light-colored soil, says C. J. Galpin, [illegible] soils expert of the College of Agriculture, University of Illinois.

Evidence [illegible] value of an application of the "sweet cure" is revealed in the results of [illegible] tests of two typical Illinois fields of rather low productive levels maintained by the state experiments.

At the Grant Field in Champaign County, [illegible] soil is a light [illegible] loam, the type of manure [illegible] yield of [illegible] pounds of soybean hay to the acre, but when lime was applied in addition to manure, the yield of hay was [illegible] pounds an acre. The field that received the manure returned about the same where manure had been given. The increase [illegible] lime from limestone, but it was applied in addition to manure, amounted to [illegible] bushels, or more than a half a ton to the acre.

In Vermilion County, the Danville Field [illegible] typical [illegible] silt loam [illegible] but better in [illegible]. [illegible] treatment produced [illegible] pounds of soybean hay [illegible] manure [illegible] but when lime was applied in addition to manure, [illegible] bushels, or [illegible] tons, more than a half a ton to the acre, was harvested [illegible] pounds, or practically [illegible] ton to the acre. [illegible] while the [illegible] manure [illegible] the manure [illegible] an acre. However, manure [illegible] limestone [illegible] the acre, [illegible] plot which [illegible]

-V-

[illegible] Lambs Among Animals Killed By [illegible]

With [illegible] lambs [illegible] sheep [illegible] and [illegible] the [illegible] lambs [illegible] off [illegible] their [illegible] against [illegible] has appeared in many localities of the state, says Dr. Elmer Becker, chief of animal pathology and hygiene at the College of Agriculture, University of Illinois.

Prevention of the [illegible] is usually a matter of management, which includes [illegible] and [illegible] for it is now when the [illegible] are lost. The scientific method of [illegible] and [illegible] and [illegible] and [illegible] the [illegible] of [illegible] methods of [illegible].

The disease is [illegible] known as [illegible] and [illegible] it occurs [illegible] and is the most common cause of loss of [illegible] during the winter and [illegible]. At first, the principal [illegible] are the [illegible] and [illegible].

[illegible], [illegible] and [illegible] of the [illegible], [illegible] and [illegible] of appetite and finally are [illegible] to stand, fall and [illegible], are [illegible] symptoms, points out Dr. Becker. Death may occur in one to six days after the appearance of the symptoms, and early [illegible].

Even with [illegible] or triplet [illegible] are the usual victims of the disease, though it occasionally may be observed in [illegible] only one lamb. The [illegible] ewes do not suffer from the disease, and it is [illegible] that are [illegible] this loss can [illegible] [illegible] [illegible] over [illegible] single lambs. Virus [illegible] of the [illegible] lamb, when discharged in the maternal system, are factors in this [illegible]. No [illegible] explanation of the cause for this [illegible].

-V-

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Volume X[illegible]II March [illegible] Number [illegible]

Illinois Corn-Hog Sign-up [illegible] Past 100,000 [illegible]

Illinois' first 100,000 [illegible] corn acres, [illegible] schedules [illegible] in the AAA corn-hog [illegible] adjustment program, and at the present time the final drive for the completion of the sign-up campaign is under way throughout the state, according to Dean Herbert W. Mumford of the College of Agriculture, University of Illinois, and chairman of the state allotment committee. By the end of the week a deadline [illegible] will [illegible] work. A total of [illegible] contracts [illegible].

Totals in the Illinois sign-up [illegible] 100,[illegible] weekly reports made by county farm advisers [illegible] the number of contracts [illegible] farms [illegible] this under contract [illegible] three and one-third more farms [illegible] contract, it [illegible] of the [illegible].

One [illegible] county--Livingston--[illegible] more than 3,[illegible] contracts, 10 others [illegible] between [illegible] and 3,000 and [illegible] had more than 1,000 [illegible] on the basis of reports [illegible].

Livingston [illegible] contracts reported by Farm Adviser [illegible] kept that county in the lead, but McLean county, the largest in the state, had moved up to a challenging position with 3,[illegible] contracts reported by Farm Adviser [illegible]. In third place was Iroquois county with [illegible] contracts reported by Farm Adviser [illegible], while LaSalle was fourth with [illegible] reported by Farm Adviser [illegible]. C. D. Hunt, farm adviser of Champaign, had that county in fifth place with [illegible] contracts, and then followed [illegible], Vermilion [illegible], Shelby [illegible], Sangamon [illegible], Henry [illegible] and [illegible].

Totals for the [illegible] counties were: Edgar 1,[illegible], Adams 1,[illegible], Hancock 1,[illegible], Lee 1,[illegible], Knox 1,[illegible], DeKalb 1,[illegible], Tazewell 1,[illegible], Macon 1,[illegible], [illegible] 1,[illegible], Warren 1,[illegible], Fulton 1,[illegible], McDonough 1,[illegible], Pike 1,[illegible], Logan 1,[illegible], [illegible] 1,[illegible], Woodford 1,[illegible], Mercer 1,[illegible], Coles 1,[illegible], Christian 1,[illegible], Stephenson 1,[illegible], [illegible] 1,[illegible], [illegible] 1,[illegible], Peoria 1,[illegible], Morgan 1,[illegible], [illegible] 1,[illegible], [illegible] 1,[illegible], DeWitt 1,[illegible], [illegible] 1,1[illegible], Grundy 1,11[illegible], Kankakee 1,[illegible], Fayette 1,[illegible], Carroll 1,[illegible], [illegible] 1,[illegible], Will 1,0[illegible], and Piatt 1,[illegible].

Kendall 946, Stark [illegible], Cumberland 8[illegible], Clark [illegible], Jasper [illegible], Henderson [illegible], Douglas 8[illegible], Winnebago [illegible], [illegible], Rock Island [illegible], Moultrie [illegible], Menard [illegible], Bond [illegible], [illegible], Cass [illegible], [illegible], [illegible], Randolph [illegible], Crawford [illegible], [illegible], Saline [illegible], [illegible], Marion [illegible], Franklin [illegible], [illegible], Boone [illegible], Kane [illegible], Massac [illegible], Clinton [illegible], Monroe 226, Johnson [illegible], Hardin 1[illegible], Lake 1[illegible], Pulaski-Alexander 1[illegible], Perry 1[illegible], Union [illegible], Williamson [illegible], Cook [illegible] and Washington 20.

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Wheat Cash Has Paid Half Million In Old Farm Debts

Nearly a half million dollars in old debts have been paid off this winter by Illinois farmers who signed up in the AAA wheat adjustment program, if a survey of the use of the first benefit payments made in Mason county may be considered as a barometer for the state, says Marshall Harris, of the agricultural economics department, College of Agriculture, University of Illinois. In addition, some $202,[illegible] in current debts have been liquidated with funds from the same source.

According to the latest figures available, $1,[illegible],7[illegible].[illegible] in wheat benefit payments have been received by farmers in the state who agreed to reduce their 1934 wheat acreage 15 per cent below their average production during the three years of 1930-1932. A check of the use of this money in Mason county indicates that [illegible].1[illegible] per cent of it went for the payment of old debts and [illegible].39 per cent was paid on current accounts. When these percentages are applied to the total Illinois wheat payments to date, they indicate that approximately $[illegible]75,170 in rural obligations have been cleaned up.

Mason county is considered as typical of the state's wheat producing area, and it is believed that the use of the benefit money there is applicable to the nearly 25,000 growers who signed up in the wheat adjustment program in Illinois. As the Mason county growers came to the county wheat [illegible] to sign their contracts, they were asked by Farm Advisor C. E. Lowe to fill in a questionnaire indicating how they intended to spend the money.

Less than [illegible] per cent of the benefit money was not accounted for, according to the survey, indicating that the farmers put the cash back into active circulation in a short time, where it aided in improving the financial condition of business in general.

Other ways in which the farmers planned to apply the benefit payments and the percentages earmarked for each item: Purchase of feed and stock [illegible] per cent, machinery [illegible].[illegible], repairs [illegible].[illegible], taxes [illegible].[illegible], labor [illegible].[illegible], live stock [illegible].[illegible], seed 1.[illegible]4, household [illegible] and miscellaneous expenses [illegible] per cent.

Farm leaders see utilization of AAA benefit funds to clean up indebtedness and to supply the current necessities of the farm and home will go much to relieve agricultural economic conditions and to start the wheels of industry functioning normally, it is pointed out.

-M-

Illinois Turkey Producers Organize To Push Quality

It may be a long time until people will be thinking about eating a Thanksgiving or Christmas turkey, but Illinois turkey growers already have started plans for educating consumers to the superior quality of this state's birds, while at the same time further improving that quality.

For the first time, turkey growers of the state have organized a state association, and chief among their objectives will be the matters of consumer education and quality improvement, according to F. H. Alp, poultry extension specialist of the College of Agriculture, University of Illinois, who is associating with the project.

Illinois was producing more than 91,000 turkeys annually, according to the last census, but most of the turkeys sold to Illinois consumers are range-fed birds from Texas, Alp pointed out. Turkeys produced in Illinois are of superior quality because they are fattened in closer confinement, he explained.

Earl Kennedy, of Amboy, was elected first president of the turkey growers' association when the organization was formed at the recent meeting in Bloomington.

-M-

Record Tree Crop Being Set Out In Illinois This Year

A record number of 151,000 trees are being put out on Illinois farms this spring as part of the plans to speed up the proper utilization of land and bring about better planned agricultural production, according to L. E. Sawyer, forestry extension specialist of the College of Agriculture, University of Illinois and of the Illinois Natural History Survey. This total of 151,000 trees is the largest on record for any one year in forestry projects sponsored by the extension service of the agricultural college and other agencies, Sawyer said.

Almost half of the 151,000 trees, or about 80,000 of them, are black locust that will be planted for erosion control and the holding of blow sand land in different parts of the state. Twenty-five thousand of the black locust trees are going to farmers in Schuyler county for an erosion control project which Farm Adviser L. E. McKinzie is conducting in cooperation with the extension service of the agricultural college. The First National Bank of Arenzville, Cass county, is putting out 22,000 black locust, red pine, pitch pine, white ash and Norway spruce trees.

About 32,000 pitch pine trees will be planted on sandy soils and on worn out farm soils as a timber crop. In addition about 10,000 Norway spruce and white spruce are being planted for Christmas trees and for windbreaks. One planting of 20,000 Christmas trees is being made in DeKalb county, and another of 10,000 in Livingston county.

There are also about 5,000 red pine trees in the 151,000 that will be set out this spring, and the rest are ash, cedar and a variety of other species that are to be used in reforestation work. The plantings will be scattered in Hardin, Edwards, Richland, Johnson, Williamson, Vermilion, Piatt, Fulton, Clark and McLean counties, in addition to the several counties mentioned.

Planting for the 151,000 trees is now going forward at a time when the outlook for forestry is much brighter than it has been for several years, Sawyer pointed out.

-H-

AAA Programs Will Cut Costs On Many Illinois Farms

With less corn and wheat and fewer hogs to tend, the thousands of Illinois farmers participating in the government's AAA programs will have an opportunity to reduce their operating costs in 1934, particularly in the case of labor and power, in the opinion of C. W. Wills, of the farm management division, College of Agriculture, University of Illinois.

"In a great many farms, says Wills, "there will be less spent for fuel and other tractor costs; and the expenses for horses can be reduced, if the animals are fed according to work done. If extra labor is normally hired for field work and hog production, it is possible that AAA cooperators may be able to reduce this item of expense.

On farms where the operator and members of his family perform all or nearly all of the work, the chief problem will be to use the existing supply of labor to good advantage. In such cases, it will be possible to give more time to a number of practices known to pay well, yet requiring little or not outlay other than labor.

Among these practices might be included the careful selection and testing of seeds, testing of soils for limestone and phosphate requirements, more efficient use of manure, better control of weeds, keeping machinery in repair, control of livestock diseases through sanitation and the keeping of farm accounts. To this list should be added the opportunity that many farmers will have to make much-needed repairs on their improvements and to "dress up" the general appearance of the farm.

-M-

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110,000 Marketed in Illinois Hog-Corn Drive

Workers in the Illinois corn-hog campaign entered the last two weeks of the campaign with incomplete reports indicating that the 110,000 mark in completed contracts had been passed. Even additional contracts are in sight so that a total of 125,000 or more is not improbable for Illinois by the time of the deadline at 6 o'clock, Saturday evening, March 31. It was announced by Prof. J. C. Hiller, state leader of farm advisers, who is representing the extension service of the College of Agriculture, University of Illinois in the corn-hog program.

Up to Tuesday noon, March 20, the state total actually reported in reports from farm advisers stood at 103,220. However, there were 22 counties from which up-to-date reports had not been received at that time.

The 73 counties from which late checks had been received announced that they had a total of 81,825 completed contracts, which is an average of 1,120 for each county, a mark high enough to put the state total well over the 11,000 line if it holds for all the 102 counties of the state.

McLean county, the largest in the state in number of farms and in corn and hog production, took the state lead for the first time when the county weekly reports brought a new total of 3,200 contracts from Farm Adviser L. D. Laible. The other county Livingston, was next the 3,000 mark to the total of 3,167 contracts reported by Farm Adviser L. F. Turner, while the other counties had between 2,000 and 3,000 contracts.

Iroquois had 2,973, LaSalle 2,600, Champaign 2,160, Vermilion 2,040, Bureau 2,320, Shelby 2,317, Henry 2,243, Sangamon 2,100 and Whiteside 2,000.

Totals for the other counties of the state were as follows:

Adams 1,782, Bond 754, Boone 330, Brown 714, Calhoun 480, Carroll 1,060, Cass 704, Christian 1,510, Clark 904, Clay 440, Clinton 255, Coles 1,[illegible], Cook 58, Crawford 660, Cumberland 900, DeKalb 1,712, DeWitt 1,204, Douglas 1,0[illegible], Du Page [illegible], Edgar 1,524, Edwards 476, Effingham 720, Fayette 1,116, Ford 1360, Franklin [illegible], Fulton 1,500, Gallatin 61, Greene 1,242, Grundy 1,147, Hancock 1,711, Henderson 900, Jackson 400, Jasper 1,010, Jefferson 815, Jersey 364, JoDaviess 1,200, Johnson 638, Kane 464, Kankakee 1,153, Kendall 946, Knox 1,[illegible]23, Lake 170.

Lawrence 465, Lee 1,[illegible]78, Logan 1,588, Macon 1,604, Macoupin 1,[illegible]90, Madison 1,196, Marion 580, Marshall-Putnam 1,[illegible]06, Mason 810, Massac 348, McDonough 1,[illegible]60, McHenry 402, Menard 742, Mercer 1,[illegible]40, Monroe 382, Montgomery 1,[illegible]94, Morgan 1,[illegible]30, Moultrie 890, Ogle 1,[illegible]17, Peoria 1,325, Perry 1[illegible]4, Piatt 1,[illegible]50, Pike 1,[illegible]60, Pope-Hardin 180, Pulaski-Alexander [illegible]45, Randolph 632, Richland [illegible]50, Rock Island 1,008, Saline 410, Schuyler 529, Scott 590, St. Clair [illegible], Stark [illegible]90, Stephenson 1,[illegible]29, Tazewell 1,635, Union 1[illegible]0, Wabash 530, Warren 1,6[illegible]1, Washington 20[illegible], Wayne [illegible]30, White [illegible], Will 1,213, Williamson 118, Winnebago 8[illegible] and Woodford 1,[illegible]87.

-M-

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Record Milk Cow Population Adding to Dairy Problems

The heaviest population of milk cows that Illinois and the United States have ever had is one of the basic facts that farm leaders and officials of the Agricultural Adjustment Administration are up against as they set about working out a solution of the dairy problem, it is pointed out by dairymen of the College of Agriculture, University of Illinois.

Tentative plans for milk production control will be presented by the AAA at a series of regional conferences to be held in the near future at central points in leading dairy producing sections of the country, according to official announcements received by the extension service of the agricultural college.

There are 1,165,000 milk cows on farms of Illinois and more than 26 million on farms of the nation this year, according to figures compiled by the college dairymen. For Illinois this is an increase of 15 per cent over the 987,000 reported for 1928 and an increase of more than 23 per cent over the 886,000 milk cows reported 34 years ago. For the United States as a whole the present population of milk cows is an increase of almost 18 per cent over the total of 21,819,000 reported for 1928.

Whatever plans are made for coping with this problem will figure prominently in Illinois farming operations, because this state is the fifth most important one in total milk production, it was pointed out by officials of the college. During the past four years the average annual cash income from the sale of dairy products off Illinois farms has been almost 71 million dollars, but problems of the industry have reduced that income to as low as 50 million dollars annually during the past year or two. In 1932 dairying ranked first as a source of cash to Illinois farmers, returning 25.7 per cent of their total cash income.

The percentage increase in milk cows has been much greater than the increase in human population during the same period, it was explained. Fewer and better cows producing higher quality products at more economical costs have long been urged upon Illinois farmers by the extension service of the College of Agriculture, University of Illinois. Many herd owners have profited by following this suggestion, but it appears that more drastic steps are necessary. Even though most of the milk and milk products have been finding their way to some market, the returns to farmers have been dangerously low.

The goal of the proposed production adjustment program would be to bring about better returns to producers of all dairy products by bringing production more nearly into line with effective demand. Such a program would be supported and supplemented by milk marketing agreements, drawn in accord with the recently adopted policy which places emphasis upon prices paid to producers.

-M-

Brighter Outlook for Higher Quality Fruit This Year

With more money in circulation now than at any time in the past three years and prospects for short crops in certain areas, Illinois fruit growers anticipate larger premiums to be paid for high quality fruit in 1934, says R. S. Marsh, horticultural extension specialist at the College of Agriculture, University of Illinois. To obtain these premium prices, advises Marsh, orchard men who still have prospects for a crop should carefully plan and organize their spray programs so as to produce the highest quality fruit, especially from the remaining peach crop. Now is the time to see that all spray equipment is in first-class condition and that the latest recommended spray schedule is at hand. Growers may obtain the newly-revised spray schedule, Circular 388, which gives the latest facts for the control of disease and insect pests, from their county farm adviser or by writing the College of Agriculture, University of Illinois, Urbana.

-M-

Discussion Leaders Trained To Aid In Rural Problems

Illinois farmers will be better prepared to cope with new economic and social trends affecting agriculture in the future, as a result of plans now being made to train community discussion leaders and to hold regular community discussion meetings, predicts D. E. Lindstrom, associate in rural sociology at the College of Agriculture, University of Illinois.

The value of community discussions has been demonstrated by the nearly 3,000 AAA corn-hog and wheat adjustment meetings held throughout the state in recent months, it is said.

Several Illinois counties are now training discussion leaders and organizing discussion teams in various types of community units. Training schools, attended by approximately 150 rural people from 50 different community units, have been conducted in Champaign, Ford and Sangamon counties for the purpose of developing discussion leaders. Similar schools will be held in other counties during 1934 so that farm and home bureau units, granges, community clubs and like organizations may provide their memberships with a better understanding of the new economic and social developments affecting farm life.

"The importance of discussion in rural community meetings was recognized by the Agricultural Adjustment Administration when launching both the wheat and corn-hog programs," points out Lindstrom. "A total of 752 community meetings attended by approximately 68,000 farm people were held in 69 Illinois counties by farm advisers and the extension service of the agricultural college in connection with the wheat adjustment campaign. Later there were 2,037 community meetings conducted in 102 counties to discuss the corn-hog program. The latter gatherings were attended by 191,867 of the 214,000 farmers of the state. Thus the corn-hog campaign reached more than 90 per cent of the farm operators in Illinois.

"By training leaders who can conduct discussions at rural community meetings, Illinois farmers will be better prepared to develop future cooperative activities related to their industry."

-M-

Spring Repair Of Farm Machinery Saves Money And Time

With an investment of more than $160,000,000 in farm implements and machinery, or an average of $748 on each farm, Illinois farmers can well afford to devote a certain amount of time in the early spring months to making minor repairs and adjustments that assure longer life and more efficient operation of their machines. This is the opinion of E. G. Johnson, agricultural engineering extension specialist of the College of Agriculture, University of Illinois, who points out that thousands of dollars are lost annually by farmers of the state who fail to make necessary machinery repairs before the rush of field work begins.

Lower operating costs and getting the job done on time are awards which the farmer receives who follows the practice of inspecting each machine, replacing badly worn parts, tightening bolts, making adjustments and applying paint when needed, it is explained. The farm machinery instruction book provided by the manufacturer with each machine is of valuable assistance, and the farmer who does not have such a booklet should request one from the nearest branch house.

To give additional assistance in this important problem, the agricultural engineering department of the College of Agriculture, University of Illinois, has published a booklet on "The Care, Operation and Adjustment of Farm Machinery." A copy of this circular, No. 309, may be secured upon request from the agricultural college at Urbana or from county farm advisers.

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COLLEGE OF AGRICULTURE UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College Experiment Station, and Extension Service

VOLUME XVII March 28, 1934 Bulletin 15

Illinois Dairymen Hear First Details Of AAA Plan

Dairymen of Illinois, chief cash farm income source, have before them for consideration and acceptance or modification the first official details of the proposed plan for a dairy production adjustment program under the Agricultural Adjustment Administration. Farm advisers, extension workers in the College of Agriculture, University of Illinois and others who will be more or less closely connected with the preliminary field work have just been given the tentative outline of the plan as revealed in an official telegram and other communications which Dean Herbert W. Mumford, of the College of Agriculture, University of Illinois received from headquarters at Washington.

Dairymen have from now until about the first of April to study the proposal and decide what they wish to do about it. Starting April 4 a series of regional conferences will be held to present more details of the proposed program to farmers for discussion, acceptance or modification.

Just when and where the conference for the Illinois area will be held has not been announced, but officials of the College of Agriculture, University of Illinois are expecting word on this in the near future.

Illinois has a large stake in the program, for the state is the third ranking one in total milk production, and more than [illegible] per cent of the income of Illinois farmers come from dairying. During the past four years the average cash income from the sale of dairy products on Illinois farms has been about 71 million dollars, but during the past year or two this income has run as low as 60 million dollars, a condition which the proposed program is designed to correct.

The aim in the plan to restore the purchasing power of dairy farmers will be to hold production at about the level of recent months. This will mean that cooperating dairymen will have to reduce their sales by from 10 to 15 per cent below the peak in 1932 and 1933.

In addition to the higher prices that might be expected to result from the adjusted production, benefit payments are to be paid to cooperating producers at the rate of about 45 cents for each pound of butterfat or about $1.50 for each surplus 100 pounds of fluid milk that the cooperator reduces.

The program is to be financed by a processing tax starting at one cent a pound on butterfat and advancing to five cents a pound as supply comes under control. The plan is a $[illegible],000,000 one providing for extension to $800,000,000 in event of congressional action pending legislation.

Additional features of the program provide the relief distribution of surplus milk to underfed children and the transfer of cows from drouth areas to needy farm families. There is also the provision for disease eradication measures.

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Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, Director.

Rich Illinois Soil Adds Full Share To Erosion Toll

Even the soils of central Illinois, once thought to be of inexhaustible fertility, are contributing their share of good soil to the three billion tons of soil material which erosion is washing off the fields of the United States every year, according to F. A. Fisher, Illinois regional director for the soil erosion service of the U. S. Department of Interior.

The entire seven inches of richest top soil has been washed off of 47 per cent of the first two sections of land that were surveyed in the erosion control project which the Department of Interior is starting in McLean county, Fisher reported. This is all the more striking in view of the fact that the land has been farmed intensively for less than 100 years. The injury throughout the area is probably not as great as this, but the damage as a result of the erosion that has been going on all these years is severe, he pointed out.

It takes Nature about 400 years to build a single inch of productive top soil from raw sub-soil clay, indicating that it will take between 2,800 and 4,000 years to repair a wound like in the McLean county area, Fisher said.

Erosion is estimated to be costing the farmers of the United States $400,000,000 a year in destroyed land, loss of plant food and through other channels. The evidence of what soil erosion is doing up in McLean county, is proof that farmers in that section and in other parts of the state are paying their full share of the toll, Fisher said. Approximately half the 36,000,000 acres in Illinois farms is subject to erosion of one kind or another.

Demonstrations are now being started in the McLean county project to show farmers how to hold their soils in place by means of gully dams and other mechanical devices, how to change their cropping system to stop soil washing and how to manage their fields so that lost fertility can be built up instead of destroyed. Different departments of the College of Agriculture, University of Illinois are cooperating.

The McLean county project, spread out over an area of 141,000 acres, is one of 20 which the Department of Interior is undertaking in different parts of the country to cope with the menace of soil erosion. At least 50 million acres of formerly cultivated land, an area as large as the state of Illinois and much of it originally good land, have been practically destroyed by erosion. Another 100 million acres of crop land are in serious danger. More than 400 million tons of suspended solid matter and many more millions of tons of dissolved matter pass out of the mouth of the Mississippi river every year.

-M-

Illinois Second Among 70 States In Corn-Hog Sign-Up

Illinois ranks second among the 70 states that have signed up the first 800,000 contracts in the government's corn-hog adjustment program, according to reports which the extension service of the College of Agriculture, University of Illinois has received from Agricultural Adjustment Administration headquarters at Washington. The Illinois total is more than 110,000.

The sign-up to date is regarded by leaders of the campaign as encouraging evidence that a large proportion of the corn and hog production both of the state and the nation will be covered by AAA contracts when the sign-up is completed. This, of course, means definite progress in adjusting corn and hog production to effective demand and thereby rebuilding the farmer's purchasing power, it was pointed out. Iowa, conceded to be the largest producer of both commodities, is first with a count of 155,000 contract applications, according to the latest figures available.

-M-

Best Vegetable Varieties Listed For Illinois Gardens

Every season adds a few more new varieties of vegetables available to Illinois gardeners, and 1934 is no exception, says E. L. Weaver, of the horticultural department at the College of Agriculture, University of Illinois.

This ever-increasing list of varieties is often confusing to the market gardener, and even more so to the farmer or home gardener, unless it is realized that many of the new names mean only a slight change in size, shape, color, texture, flavor, season or productivity, points out Weaver.

After many tests under varying conditions, the experiment station at the College of Agriculture, University of Illinois has singled out a number of varieties found to be most applicable to Illinois conditions and which can be recommended to most growers. These varieties include;

Asparagus - Mary Washington.

Green snap bush beans - Stringless Green Pod and Bountiful.

Yellow bush beans - Pencil Pod Black Wax and Round Pod Kidney Wax.

Pole beans - Kentucky Wonder.

Bush lima beans - Henderson's, Fordhook and Burpee.

Beets - Early Wonder for early planting, Lutz Greenleaf for late, and Detroit Dark Red for canning.

Cabbage - Golden Acre and Copenhagen for early, if Fusarium wilt disease is not present in soil, and Jersey Queen, Marion Market and Wisconsin All-Seasons for later harvest.

Carrots - Nantes Coreless, Chantenay and Red Core Chantenay.

Sweet corn - Howling Mob for mid-season; Evergreen, Golden Cross Bantam and Top Cross Bantam for late. Early varieties are not recommended owing to prevalence of Stewart's disease.

Lettuce - Black-Seeded Simpson and Prizehead for leaf. New York and Mignonette for head varieties.

Muskmelons - Lake Champlain for early, Hale's Best, Bender's Surprise, Tip Top, Honey Rock and Hearts of Gold for main crop; Ohio Sugar for green flesh variety.

Radishes - Scarlet Globe and Saxa for early; Crimson Giant White Icicle and Cincinnati Market for late spring; White Strasburg for summer.

-M-

Some 23 Common Crops Serve As Hosts For Chinch Bugs

Some 23 different grasses will aid the chinch bug in its destructive march across Illinois this spring and summer unless farmers take steps against what threatens to be one of the worst infestations in the past half century, says C. M. Woodworth, chief in plant genetics at the College of Agriculture, University of Illinois.

It has been found, however, that the chinch bug does not relish legumes such as alfalfa, sweet clover, soybeans and other clovers. Thus planting these crops so as to separate the fields of small grains, corn and grasses is suggested as one of several control measures.

So far as small grains are concerned, explains Woodworth, barley, spring wheat, winter wheat, rye and oats are preferred by the insect in early spring. The second brood, which comes along in June and July, feeds mainly on corn and the sorghums, including broomcorn, kafir corn and Sudan grass. Other crops on which the chinch bug can exist, in the absence of small grains and corn, are millet, timothy, barnyard grass, tickle grass, crabgrass, foxtail and other wild and cultivated grasses. Kentucky bluegrass does not seem to be attractive to the bugs, and only a few are usually found feeding on it.

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The Extension Messenger

COLLEGE OF AGRICULTURE UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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Illinois Dairymen Give Views On Adjustment Program

Views and suggestions of dairymen and agricultural leaders in Illinois, fifth leading dairy state, with regard to the proposed program of the Agricultural Adjustment Administration for the adjustment of the dairy industry are a matter of record following a regional meeting at Indianapolis on April 2 and 3. Indiana, Ohio, Michigan and Kentucky, in addition to Illinois, were represented at the meeting.

No definite action for or against the program was taken at the meeting, the idea being merely to get the views and suggestions of farmers and dairy leaders. Sentiment of producers at 12 similar meetings to be held in different parts of the country will determine the administration's next step on the dairy problem. The meetings will not be concluded until the middle of the month.

The official Illinois representatives attending the Indianapolis meeting were Dean H. W. Mumford, of the College of Agriculture, University of Illinois; H. A. Fuehe, head of the dairy department; C. S. Rhode, dairy extension specialist; J. C. Fetzer, state leader of farm advisers, and F. J. Keilholtz, extension editor.

Details of the proposed plan were presented by A. W. Lauterbach, chief of the dairy section of the Agricultural Adjustment Administration; O. V. Reed, associate agricultural economist of the administration, and A. P. Yostrom, senior dairy husbandman of the U. S. Department of Agriculture.

Outstanding in the dairy industry problem as it was outlined at the Indianapolis meeting are these facts: a volume of milk production which increased by two billion pounds from 1930 to 1932; a cow population of more than 25 million, which is larger than it has ever been before; an average price index of 69 as compared with 140 in 1929, and a total cash income from dairy sales which dropped from $1,447,000,000 in 1929 to $985,000,000 in 1932.

The proposed program would involve benefit payments totaling not less than 150 million dollars to dairy farmers who reduced their milk sales by between 10 and 20 per cent of their average annual sales for 1932 and 1933. Illinois dairymen would be eligible for a maximum of $7,155,000. The method of reduction would be left to the individual farmer. Furthermore, it would not be expected to reduce sales below the low winter level, but to cut down about 10 per cent from the high average volume of the 1932-33 base period.

The plan also includes allocation of additional funds for purchasing and distributing milk among underfed city children, for purchasing and distributing healthy cows to needy farmers to produce milk for their own families and for speeding up the eradication of bovine tuberculosis and Bang's disease.

Sound methods of cropping, cow feeding and herd management whereby individual dairymen who sign contracts could control their production were outlined at the Indianapolis session.

The proposed program would be financed by a processing tax starting at 1 cent a pound of butterfat and gradually advancing to 5 cents a pound as supply came under control. There would be a compensatory tax on oleomargarine sufficient to prevent shifts to this product as a substitute for butter.

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Erosion Damage On Illinois Soils Shown By Gullies

Eight hundred gully checks of different kinds which the soil erosion service of the U. S. Department of Interior has already built in McLean county stand as monuments to the speed and certainty with which soil erosion already has cut into the fertile lands of Illinois, it is pointed out by F. A. Fisher, Illinois regional director of the service.

The 800 gully checks which have been built as part of the demonstration to show farmers how to cope with the menace of soil erosion range all the way from 2-foot wire checks to the large 8-foot, multiple-post checks. Some of them are imposing looking, rock-dam structures.

Building of gully checks is a sort of last-line defense against the inroads of erosion. The checks are not built at the mouth of the gullies, because in many instances erosion has cut so deeply that it will take too long or be impracticable to try to fill in the gullies. Instead, the checks are built at the head of the gullies as a means of preventing them from eating back any farther into the farm. The gullies then are reclaimed by being seeded to permanent pasture crops or planted to trees.

While the gully checks are a striking feature of the demonstrational work that is being done in the McLean county area, they are only a part of what will be done to show farmers how to hold their land in place by means of mechanical devices of various kinds, by proper cropping systems and by sound farm management methods. Fisher, who has his offices at the College of Agriculture, University of Illinois and who has the cooperation of the college in his work, already has operations well under way in the McLean county demonstrational area.

Erosion, against which the demonstration is directed, is eating away in some form or other at approximately half the [illegible] acres of Illinois farm land, Fisher says. For the United States as a whole, the cost of erosion to farmers is estimated at $400,000,000 a year, and it is washing the soil off fields of the United States at the rate of three billion tons a year, he added.

-X-

Illinois Farmer May Be Oldest Of Corn-Hog Signers

Joseph J. Ford, 102-year-old farmer of Crawford county, is believed to be the oldest producer in Illinois, if not the United States, to sign up in the AAA corn-hog adjustment program, according to the extension service of the College of Agriculture, University of Illinois.

Inasmuch as 115,000 farmers in Illinois have signed corn-hog contract applications, according to the latest reports, and more than 1,000,000 producers throughout the nation are cooperating in the AAA campaign, Ford's friends claim that he is "one man in a million."

Ford owns 135 acres of land near Flat Rock and recently signed a corn-hog contract application in which he agrees to reduce his 1934 corn acreage at least 20 per cent and his hog production 25 per cent, under the terms of the government's adjustment program.

He says that he expects to see the next corn crop harvested and has invited the members of the local corn-hog committee to his next birthday party.

Although Crawford is not considered a prominent corn and hog producing county, Farm Adviser Harold Atherton reports that more than 600 farmers have signed with the county's oldest citizen in the corn hog adjustment movement.

-X-

Rotation Changes May Check Damage From Chinch Bugs

Threatened with the heaviest chinch bug infestation ever recorded in the history of the state, Illinois farmers should consider revising their rotations as a means of partially protecting their 1934 corn crop, warns A. L. Lang, assistant chief of soil experiment fields, College of Agriculture, University of Illinois.

By this is meant the location of legume crops in the rotation so as to isolate the small grain, corn and grass fields where the chinch bugs are prone to breed and feed. It has been proved that legumes are distasteful to this insect pest, and separating the bug's "favorite" crops with legumes is suggested as one of several control measures. Furthermore, the addition of one or more legumes will improve the fertility of the land on which they are grown.

"A five-year rotation supplying this dual purpose," explains Lang, "may consist of corn, oats, clover, corn and soybeans. In this case, not only is 40 per cent of the farm in legumes, but 80 per cent is in cash crops. One crop of corn is completely set off between two legumes, which in many cases will prevent serious damage from chinch bugs. The fact that the oats field will have a spring seeding of clover may deter rapid multiplication of the insects in this crop, if the clover gets a strong, early start.

"When wheat is grown with a maximum of corn, a rotation of corn, corn soybeans, wheat and clover can be planned. An important feature of this combination is that the small grain crop, which is always the early breeding ground of the chinch bug, is isolated from the corn crops by a legume on either side. With a good, growthy spring seeding of clover in the wheat, this crop is not susceptible to the bugs.

"Where a four-year rotation of corn, oats, wheat and clover is followed, a protective revision would be to substitute soybeans for the oats. This would carry the isolation advantages of the previously mentioned wheat rotation and, with a good stand of clover in the wheat, would keep 75 per cent of the land in legumes throughout the growing season."

-M-

AAA Dairy Plans Creating Interest In Herd Testing

Anticipating the coming of the government's dairy adjustment program, when definite milk and butterfat production records will be of added value, more and more Illinois farmers are forming dairy herd improvement associations so that the profitableness of their cows may be checked every month, says J. G. Cash, dairy extension specialist of the College of Agriculture, University of Illinois.

This rapid growth of interest in dairy testing work is revealed in the fact that within the past two months new associations have been organized in Lake, Lee and Iroquois counties, while several other associations have added new members. With these new additions, approximately 1,100 Illinois dairymen now belong to 50 associations in which some 20,000 cows are tested regularly.

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AAA Program Might Mean $158 To An Illinois Dairyman

Benefits of as much as $158 a year could be counted on by a typical north central Illinois dairyman if he signed up under the proposed dairy production adjustment program of the Agricultural Adjustment Administration, according to figures given by the extension service of the College of Agriculture, University of Illinois. The figures hold for conditions as they are now and do not take into account the effect of the proposed processing tax upon consumption, it was pointed out.

What is considered more important is the fact that by signing up, the dairyman would have joined with his neighbors in safeguarding the dairy industry against the effect of ruinously low prices which threaten to come about as a result of the excessive potential producing possibilities of the country's dairy herds and the low buying power of the consuming public.

The dairyman in the typical case cited by the college keeps around 14 cows producing 7,800 pounds of milk a year. He feeds each cow approximately 2,234 pounds of grain a year, and 589 pounds of this feed must be bought.

Without signing up he would be producing 108,700 pounds of milk a year. Under the basic-surplus plan on which this dairyman and others like him now operate, 87,000 pounds of this milk would be sold as basic milk at $1.50 a hundred pounds, bringing a total of $1,305. The remaining 21,700 pounds would be sold as surplus at the rate of $1 a hundred pounds and would bring $217. The total income from the sale of milk would be $1,522. The 8,400 pounds of feed which this dairyman must buy costs him $1.50 a hundred pounds, or a total of $126. When this is subtracted from the sales receipts, it leaves him a net return of $1,396.

His net returns would be $158 more than this if he signed up to reduce 15 per cent and if there was a two-thirds sign-up of all dairy farmers with a 10 per cent reduction in dairy sales for the country as a whole.

By signing up to reduce 15 per cent, he would get benefit payments of $1.50 a hundredweight for the 16,300 pounds of milk that he cut off his sales. This would be a total of $245. He would still get $1.50 a hundred pounds or a total of $1,305 for his 87,000 pounds of basic milk. In addition he would still have 5,400 pounds of surplus milk for which he would get $1 a hundredweight or a total of $54. This would give him a total of $1,604 from sales and benefit payments.

He would make his required 15 per cent reduction in sales by buying and feeding 60 per cent less feed concentrates than he bought and fed before signing up. In other words, his bill for purchased feed would be only $50. This would leave him a net return of $1,554, or $158 more than he was getting before signing up.

-M-

With final reports still to be received from 14 counties the number of corn-hog contracts that have been signed up by Illinois farmers stood at 121,073 on Tuesday, April 10, it was announced by Prof. J. C. Spitler, state leader of farm advisers, who is representing the extension service of the College of Agriculture, University of Illinois in the AAA campaign.

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U. I. Tests Suggest Pasture Mixtures for AAA Acres

More Illinois land will be seeded to grass during the next two years than ever before in the history of the state, prophesies H. P. Rusk, head of the animal husbandry department of the College of Agriculture, University of Illinois.

This "back-to-grass" movement is spreading throughout the state as a result of the government's corn-hog and wheat adjustment programs in which some 2,000,000 acres of land will be taken out of crop production by cooperating Illinois farmers.

"A large percentage of this former wheat and corn land," explains Rusk, "will be seeded to permanent or semi-permanent pastures for livestock and many Illinois producers are wondering what grass seeds or mixtures of seeds should be used.

"For early livestock carrying capacity of permanent pastures, all records at the University of Illinois were broken by a heavy seeding consisting of 12.3 pounds of bluegrass, 2.5 of red clover, 2.5 pounds of sweet clover, 4.1 pounds of timothy, 1.6 pounds of alsike clover and .4 pounds of white clover. This mixture may be used for seeding contracted acres, without violation of the AAA corn-hog contract, provided it is in addition to the average acreage devoted to pasture in 1932 and 1933 and is not pastured in 1934.

"If it is desired to pasture this seeding lightly this fall, sweet clover must be replaced in the mixture. This can be done by increasing the amount of the other legume seeds, or by substituting 2 to 5 pounds of alfalfa. Furthermore, the mixture must be seeded without a nurse crop if it is to be pastured this fall.

"Several other factors, in addition to a good seed mixture, should be considered in developing a permanent pasture. They include the use of relatively clean land of high fertility; preparation of a good seed bed, heavy seeding of bluegrass and legumes; control of weeds by frequent clipping during the first season; allowing grass to get a good start in spring before cattle are turned on, and grazing heavily but not too long for any one period."

-M-

Feeding Cows Yeast Will Enrich Milk With Vitamin D

Adults may not have to go to the sunny beaches nor children take their daily dose of fish oil to acquire their vitamin D in the future, according to J. M. Brannon, assistant chief of dairy bacteriology at the College of Agriculture, University of Illinois. "Old Bossy," when fed especially-treated yeast as a part of her daily ration, will supply this bone-building vitamin in her milk, it is said. Heretofore the most common methods of securing vitamin D for the human system have been to expose the skin to direct sunlight or to ultra-violet ray machines or by consuming certain fish oils.

"Normal milk contains calcium and phosphorus in the proper ratio for the development of bone tissue in children, but it is low in vitamin D and does not have a large supply of the substance which is converted into vitamin D," explains Brannon. "Investigators, however, have found that certain types of yeast are high in the substance from which vitamin D is made, and if these strains of yeast are treated with ultra-violet rays of light, they become excellent sources of vitamin D. Likewise if yeast so treated is fed to cows their milk at the end of three weeks will contain sufficient vitamin D to insure the proper development of the bones of a child."

Production of this special bone-building milk entails additional costs. Dairymen selling it must secure a license costing a dollar a cow. There is also the extra expense of purchasing the treated yeast.

-M-

"Importing" Chinch-Bug Corn May Not Be Safest Plan

Illinois farmers, casting about for a variety of seed corn that will be most resistant to chinch bug attack in 1934, will do well to select the variety that is the best adapted, most vigorous growing and highest yielding in their respective areas, rather than import a variety said to be resistant in another part of the state or in another state.

This is the opinion of G. H. Dungan, assistant chief of crop production at the College of Agriculture, University of Illinois, after reviewing experimental evidence and the experience of farmers relative to chinch bug resistant varieties of corn.

"There is evidence that some strains of corn are less favored by chinch bugs than others," explains Dungan, "but the particular quality which makes them less appetizing to the bugs is not known. It is believed, however, that the most important factor is the superior vigor which enables the plant to produce a good crop of corn in addition to supporting a goodly number of bugs. No plant during its vegetative growth can withstand an attack by an unlimited number of chinch bugs but the ability of a variety to remain green and continue growing until the normal maturity date, in spite of the insects, is a mark of resistance.

"In southern Illinois, where varieties have been tested at the college's Alhambra experiment field, Champion White Pearl, Black Hawk, Mohawk and Golden Beauty have proved to be the best adapted to the upland soils, and at the same time the most resistant to chinch bugs. Waddell Utility White Dent supplies a good type of grain for feeding and seems to be resistant to the bugs, although it does not stand up as well under a severe infestation as does Champion White Pearl.

"Experimental evidence is not available covering the most chinch-bug-resistant varieties of corn in central and northern Illinois and positive recommendations can not be made. However, farmers in the north-central section of the state last year reported that the corn known as Krug is markedly resistant. In the absence of thorough experimental tests on the resistance of varieties grown in northern and central portions of the state, it is suggested that the best adapted, most vigorous growing and highest-yielding varieties be grown in these sections during years of chinch bug outbreaks."

-M-

Effingham Eggs Are Among First To Carry U. S. Seal

The first shipments of eggs from an Illinois egg-buying station, under official government grading, have been inaugurated in Effingham county, with the Farmers' Equity Union there adopting U. S. standards for packing and shipping to the New York market, according to H. H. Alp, poultry extension specialist of the College of Agriculture, University of Illinois.

Through the cooperation of the U. S. Department of Agriculture and the Illinois Department of Agriculture, officers of the union have been able to secure the services of a licensed government grader and permission to use the government seals on various grades of egg packs. The grading is in line with work which the extension service of the agricultural college has been carrying on throughout the state to raise the quality and the value of the Illinois egg crop.

"During the four years from 1929 to 1932 the cash income of Illinois farmers from eggs has averaged $20,240,000 annually, but the opportunities to sell those eggs on a graded basis have been all too few," Alp said. "With the proper cooperation of the members and the right kind of management, such a program as that started in Effingham county should do much to raise the quality and price of eggs produced in that area."

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The Extension Messenger

COLLEGE OF AGRICULTURE · UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVII | April 18, 1934 | Number 16

Record Alfalfa Seeding Forecast On Illinois Farms

A new all-time record for alfalfa seeding is expected to be set in Illinois this year in spite of the fact that the 1933 crop of [illegible] of alfalfa was a record in itself, according to O. C. Hackleman, [illegible] of the College of Agriculture. Drivers[illegible] of Illinois [illegible] The [illegible] acres of [illegible] land [illegible] will be released [illegible] and [illegible] the various adjustment programs will [illegible] an ideal place for starting an alfalfa meadow while at the same time obtaining some income from the land in the form of benefit or rental payments, he pointed out. Alfalfa may be seeded in May with or without a nurse crop, he said.

Use of contracted land for alfalfa and other crops is explained in a new circular, No. 422, "How Use Contracted Acres," which the college has just issued for free distribution to interested farmers. Hackleman is joint author with O. M. Linsley, soils extension specialist.

Record plantings of alfalfa are only one indication of the extent to which Illinois farmers are carrying out the college's long-time teaching for the growing of more legumes on Illinois farms, Hackelman said. This has been advocated for years not only as a means of adjusting production to demand but also of reducing production costs, of conserving land resources as a continuing source of wealth and of controlling insects and diseases.

As most of our growing season is needed to establish a good alfalfa field, there is no better place to start than on the contracted acres. However, alfalfa should be seeded only where the soil is known to be sweet enough to produce the crop and where soil tests indicate that there is sufficient available phosphorus to make production of the crop relatively safe.

If the alfalfa is to be seeded with a nurse crop, oats probably should be used in most parts of the state since this crop is far less attractive to chinch bugs than is barley. Barley near a cornfield would be a worse hazard to the corn than would oats. Oats used as a nurse crop for alfalfa should be clipped before they head out. If the oats grow too fast, they probably should be clipped twice so that no large amount of material will be left on the young alfalfa at any one time and thus endanger the stand.

Alfalfa may also be seeded alone in May, after a thorough preparation of the seed bed, if weeds have been kept under control for several years on the land. Such seeding will likely require two or three clippings during the year. The final clipping should be made about the middle of August.

No hay can be taken from alfalfa seeded on the contracted acres during 1934. The hay can, of course, be used in 1935 if the contracted acres have been released.

If summer seeding of alfalfa is preferred the ground can be plowed and thoroughly prepared this spring. The seed bed should be worked at frequent intervals thus insuring the killing of several crops of weeds. Seeding should be done in late July or early August so that the crop will be ready for use as hay in 1935. Any contracted wheat acreage not hayed must be replaced by an equivalent contract acreage in 1935.

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Chinch Bugs Going to Small Grains; Farmers Warned

Chinch bugs, worse than they have been for years, have started flying from their winter quarters to small grain fields, and the cheapest and most effective way for farmers to fight them from now on is through the use of crops that are immune to attack, it is pointed out by the College of Agriculture, University of Illinois in a new circular, "Fighting the Chinch Bug on Illinois Farms."

The bugs are even worse now than they were one year when farmers in 17 southwestern Illinois counties lost practically 6½ million dollars as a result of damage to corn, wheat and oats alone, not counting injury to other crops and secondary losses, the college says.

Especially this year, when farmers are reducing their corn acreages under the adjustment program, control of the bugs may mean the difference between a farmer's raising enough feed for his own needs and for sale or else having to buy practically all of his feed, it is pointed out.

Six direct and indirect methods of fighting the bugs are outlined in the new circular by W. P. Flint, chief entomologist of the Illinois Natural History Survey and of the agricultural experiment station; G. H. Dungan, associate chief in crop production at the agricultural college, and J. H. Bigger, assistant entomologist of the natural history survey.

Of all the methods, the cheapest and most effective is the use of chinch-bug proof crops, the circular says. These include such crops as alfalfa, red clover, sweet clover, alsike clover, lespedeza, cowpeas, soybeans, sunflowers, flax, sugar beets, artichokes, potatoes and rape.

During the rest of April and throughout May and June, the chinch bugs and their newly hatched young will be found in fields of small grain or tender, succulent grasses. The flight from winter quarters to the small grain fields takes place throughout this period. The real damage threatens to begin about the middle of June and afterward, when the bugs of the first brood migrate on foot from the small grain fields to corn. Once in the corn they soon acquire wings and scatter over the entire field.

Farmers desiring the help of the new circular in fighting chinch bugs on their farms can get copies from their county farm advisers or from the College of Agriculture, University of Illinois at Urbana.

-M-

Export Trend Has Little To Cheer Illinois Farmers

Possibilities of restoring the income of Illinois farmers through a revival of foreign markets are none the brighter on the basis of export figures which the College of Agriculture, University of Illinois has just received from the bureau of agricultural economics, U. S. Department of Agriculture.

Showing a further decline, the index of the volume of farm products exports from the United States was 80 for February of this year as against 93 for January, 109 for December and 71 for February of last year. The index for February, 1932, was 117. The average of 1909-1914 is taken as 100 in the index figures.

The decline recorded in the figures brings home the importance of the state-wide agricultural adjustment program which the college started in 1928 under the direction of Dean Herbert W. Mumford and has been carrying on ever since, it was pointed out. More recently the loss of export markets and its attendant problems have been attacked in the AAA activities now being sponsored by the U. S. Department of Agriculture.

-M-

Proper Rotation Of Crops Will Aid Chinch-Bug Fight

Proper rotation of the $182,000,000 worth of crops that they grow annually is one of a half dozen hopes for Illinois farmers, now that chinch bugs are on the move in what threatens to be the worst infestation of these destructive pests that the state has had for years, it is pointed out by the College of Agriculture, University of Illinois and Illinois Natural History Survey.

Crop rotation is a safeguard because a good way to hold the insect in check is to make its food scarce somewhere along the line, it was explained. Bugs of the first brood, which mature in the small grain during the late spring, depend for their food mainly on wheat, oats, barley and rye. The second brood, which matures in the corn during the summer, feeds almost exclusively on corn.

"This means that wheat-growing areas should cut down on their acreages of corn, substituting if possible some crop on which the chinch bug will not feed, so as to reduce damage from the first brood bugs that will come out of the wheat. Heavy corn-producing areas should reduce the acreage of small grains so that the first brood will be starved out, thereby reducing the size of the second brood.

"A rotation of corn, soybeans, wheat and clover will suffer as little loss as any rotation that contains both wheat and corn.

"In an area where wheat is the main money crop, a rotation of 25 per cent wheat, 25 per cent soybeans or cowpeas, 25 per cent wheat with some oats or rye and 25 per cent red or sweet clover will be satisfactory because it contains no crop on which the second brood of chinch bugs can feed.

"Where corn is the main money crop, a rotation of 40 per cent corn, 20 per cent soybeans, 20 per cent wheat or oats and 20 per cent red clover, sweet clover or alfalfa may be used.

"The essential point in arranging a rotation to prevent chinch bug injury is to grow as large an acreage as possible of the crops on which the insect does not feed. Where both small grains and corn are grown on the same or on adjoining farms, the fields of these two crops should preferably not adjoin."

Crop rotation and other methods of fighting the chinch bug are explained in a new circular, No. 419, which county farm advisers and the extension service of the College of Agriculture, University of Illinois have available for interested farmers.

-M-

Times To Harvest Asparagus Shown By U. Of I. Tests

Asparagus, which ranks as one of the leading truck crops of Illinois with a total value of more than half a million dollars in 1930, should not be cut severely until the second year after the plantation is set, and in some cases not until the third year, according to a seven-year experiment conducted by the College of Agriculture, University of Illinois. The results are reported by F. P. Lewis, in a new bulletin, "Asparagus Yields as Affected by Severity of Cutting."

-M-

Changing Rose And Carnation Soils Is Needless Work

Time and labor spent in changing greenhouse soil each year for the production of carnations and roses is neither necessary nor economical, if the old soil can be sterilized and kept in a high state of fertility, according to experiments conducted by F. F. Weinard, and S. W. Decker, of the College of Agriculture, University of Illinois. Their results are reported in a new bulletin, "Experiments in the Use of Old Soil in Growing Carnations and Roses."

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The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station and Extension Service

Volume XVII — April [illegible], 1934 — Number 17

Proposed AAA Dairy Program Is Dropped For Present

A limited program of diseased cattle eradication and relief purchases of dairy products financed by funds made available by congress, coupled with the continued use of milk marketing agreements, will probably be the extent of any dairy program which is sponsored by the Agricultural Adjustment Administration.

For the present at least no benefit payment dairy production control program will be undertaken.

This decision of AAA officials in Washington was announced in a telegram received by Dean Herbert W. Mumford, of the College of Agriculture, University of Illinois, from C. W. Warburton, director of the extension service in the U. S. Department of Agriculture.

The decision followed a study of reports from the AAA regional dairy conferences and is in accord with the fixed policy of the administration not to attempt adjustment programs without the expressed consent of a substantial majority of the producers concerned.

Although abandoning for the time being the plan of a benefit payment program, the AAA will continue its study of dairy problems and will be prepared to initiate a program which may seem sound if it appears that the dairy industry as a whole is agreed on such a program, the telegram to Dean Mumford said.

With the immediate future of the dairy program settled, representatives of every group concerned with the beef cattle industry met in Chicago on Thursday, April 5, to analyze their difficulties and to see what might be done under the Agricultural Adjustment Act for the benefit of beef producers.

—X—

U. of I. Students Take Sweepstakes In Flower Show

A record of having won the sweepstakes trophy two years in succession in the collegiate exhibits classes of the National Flower and Garden Show is now held by floriculture students of the College of Agriculture, University of Illinois following the recent show in Rochester, N. Y.

Preparation of such exhibits is part of the training which the students are receiving for places in the floricultural industry, which in Illinois is producing products having an annual value of approximately seven million dollars, according to the last census.

Entries made by the Illinois students, competing with those from Cornell, Purdue, Michigan State College, Rutgers and Penn State, won seven first and eight second prizes, or more than any other school represented in the show. Purdue was second in total number of prizes and Cornell, third.

Seventeen of the [illegible] awards were won by the Illinois students at the St. Louis, Mo., show last year, when they took the sweepstakes prize.

More than 16[illegible] pots of floral plants and vases of cut flowers were entered this year from Illinois, all of which had been grown by students as part of their class and laboratory work beginning last September.

—X—

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, Director.

Illinois Sign-Up In Corn-Hog Nearing [illegible] Mark

With the last of the reports coming in, indications now are that the total sign-up of Illinois contracts in the government's corn-hog production adjustment campaign may reach [illegible], it is announced by Dean Herbert W. Mumford, of the College of Agriculture, University of Illinois and chairman of the state advisory committee.

This does not represent the total number of farms that are under contract, because in some cases two or more farms are covered by one signature, it was explained. Farmers signing up have agreed to reduce their corn production [illegible] per cent and their hog farrowings and marketings [illegible] per cent in 1934.

How soon the [illegible] million dollars or thereabouts in benefit payments will start coming to farmers who are reducing will depend upon how soon the contracts are submitted to Washington. Farmers, themselves, members of county allotment committees and other workers in the campaign are now putting the finishing corrections and alterations on the contracts, preparatory to sending them to Washington.

The first agreements to reach the Washington AAA offices for approval and issuance of benefit payments came from Marion county, Ia. It is expected that the peak of agreements will come during May. Machinery and personnel for approving the agreements and issuing the benefit payment checks are being organized. The checks are expected to be written within about two weeks after the agreements start through the contract records section for approval and payment. The maximum daily capacity is about 45,000 checks a day.

In Illinois, the heaviest reductions will be made and the largest benefits collected in 25 counties where 1,000 or more contracts signed up. Heading the list is McLean county with 1,681 contracts, and then follows Iroquois with [illegible], Livingston [illegible],704, LaSalle [illegible], Champaign [illegible],141, Vermilion [illegible], Bureau [illegible], Shelby [illegible],496, Henry [illegible],486, Fulton [illegible], Knox [illegible],167, Macoupin [illegible],111, Whiteside [illegible],[illegible], Sangamon [illegible],[illegible] and Lee [illegible],[illegible].

-M-

Heavy Rainfall At Right Time Would Check Chinch Bugs

Only in the case of frequent, heavy rains during the latter part of May and June can the weather be counted upon to aid Illinois farmers in their battle against what threatens to be one of the worst invasions of chinch bugs in years, warns W. P. Flint, chief entomologist of the Illinois Natural History Survey and entomologist of the College of Agriculture, University of Illinois.

"Unfortunately, the chances are three to one that May and June will be comparatively dry months, he said. He suggests, therefore, that farmers be on guard to see barriers and traps when chinch-bug migration from small grain to corn fields begins in June. Planting the most resistant varieties of crops and seeding legumes in as many fields as the rotation system will permit are other safeguards that can be used.

Heavy rains in the early spring may have little or no effect on the bugs, but frequent rains during the last half of May and June will reduce infestations. Even in the worst chinch bug years, such rains will keep down the insects to the point where no serious damage will occur.

"The rain beats the young bugs down into the ground and 'muds' them in so they die. Also dampness and high humidity are favorable to the spread of the white fungous disease which attacks the insects.

"Likewise, if a period of very wet weather occurs in August, starting about the first and continuing throughout the month, the second brood of chinch bugs will be greatly reduced. Usually this means no damage the following year."

-M-

Best Not To Raise Hogs At All If Pastures Not Clean

If a farmer can not get his young pigs out on clean pasture and practice other sanitary measures, he will be better off by not raising any hogs, in the opinion of the division of animal pathology at the College of Agriculture, University of Illinois, when referring to the close relationship between health and profit in swine production.

"Necro" enteritis, sore mouth, lung worms, round worms, thorn-headed worms, whip worms and stomach worms, all of which are filth-borne diseases and parasites, are some of the major causes of runts, unthrifty and unprofitable pigs, it is pointed out. When pigs are raised in the same lot year after year the ground becomes saturated with the disease germs and eggs of the parasites passed out in the manure. The young pigs pick them up either directly or by eating bugs which have consumed the eggs, and in a short time are infected and in order to keep unthrifty and runts die.

"Clean soil is also necessary in the prevention of anemia, for from the soil the pigs obtain certain elements needed for blood building," explains Dr. Thom. "If the pigs can not be taken to the clean soil, then the soil should be brought to them."

If the pigs are not turned in brood houses in clean, new pasture, they should be hauled to one which has not been used for at least a year. Preferably this field should be one that has been cultivated since it was used by hogs. Of course, the field should be well fenced so that the pigs can not get back into the barnyard of former hog lots where many worms are found and lose the benefit of having been taken to new pasture.

Experience has shown that pigs may be kept without losses in contaminated lots or pastures until four months old and usually "thrift" and can be marketed at an early age with a lower feed cost and at a higher price.

-V-

Factors Indicate Brighter Outlook For Poultry Raisers

Four important factors indicate that Illinois poultrymen may find themselves in a more favorable position financially during the coming months than they were at the same time last year, says E. H. Aly, poultry extension specialist of the College of Agriculture, University of Illinois.

Egg prices have had the habit of going into the "doldrums" during the late spring and early summer during the last two years, explains Aly. "Whether this year they will reach the low of 1935 remains to be seen, but there are some indications that they will not.

"Storage holdings of shell eggs, generally considered to have a distinct bearing on the fresh egg market, contain a note of improvement. On March 31 of this year there were in storage in 26 cities a total of 473,000 cases of eggs as compared with 611,000 on the same date in 1937. This is a decrease of 23 percent and the movement of eggs into storage is reported to be slower than the five-year average.

"Last fall there were many flocks of pullets housed that were below normal in development and vigor. Consequently production has been unsteady and this has resulted in many hens being marketed. Thus there is some question as to whether the spring flush of production will reach its usual volume of past years.

"To date the prevailing egg prices have encouraged rather free selling which has resulted in a fairly good consumer demand being established. Eventually egg prices should reflect any general increase in factory wages, provided there is not too rapid an increase in prices of other things the wage earners must buy."

-V-

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Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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Million Illinois Cattle Figure In Beef Adjustments

More than a million cattle marketed annually by Illinois farmers would be affected by whatever plans the proposed committee of 25 feeders and breeders works out for a national beef cattle adjustment program, according to the College of Agriculture, University of Illinois.

That such a committee be appointed by the Agricultural Adjustment Administration to investigate the possibilities of a beef adjustment program and make tentative plans to be submitted to farmers was recommended in action taken by representatives of the beef industry who attended the recent AAA meeting in Chicago. Approximately 700 cattlemen from 24 states attended the meeting, with Illinois being the most heavily represented.

The key to the beef cattle problem, as it is seen by AAA officials at Washington and as it was presented at the Chicago meeting, is the elimination of from six million to seven million cows and heifers on farms. As an initial effort, two million head of cows, in addition to usual marketings, might be removed in 1934 through eradication of diseased animals and through relief purchases. Contracts with individual producers might be required to assure that any removal program adopted would not be offset by further increases in breeding and feeding.

Beef cattle prices not only followed the decline in other farm prices during the depression, but continued to drop until in 1933 they were $2.05 a hundredweight less than the parity price. In March of this year they were $2.46 a hundredweight below parity.

"There may be a temporary improvement in beef cattle prices in 1934 partly because of smaller receipts in well finished, corn fed cattle, caused by the shortage in the 1933 corn crop, and partly because of the continued pick-up in consumer buying power," the AAA officials pointed out at the Chicago meeting. "However, maximum returns to cattlemen will depend upon sound and prompt adjustments in cattle numbers.

"From 1928 to 1934 numbers of all cattle--beef and dairy--in the United States increased from about 57,000,000 head to about 67,000,000 head. Milk cow numbers increased by about 22 per cent and beef cows by about the same percentage.

"Annual cattle slaughter may be expected to rise from about 21,000,000 head a year to about 24,000,000 head in the next several years, unless prompt action is taken, although the number of finished cattle coming to the market has not yet begun to reflect fully the increase in the number of breeding stock."

"During each of the past six years cattlemen have produced from 1,000,000 to 1,500,000 more cattle than they have marketed. That is, they have been adding to their herds faster than they have been selling off. Thus a new cattle production cycle has been under way for six years, and we still are definitely on the upward trend in numbers of cattle.

-M-

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Inferior Seed To Be Avoided In Increasing Soybeans

In order to plant an additional 114,000 acres of soybeans this year, Illinois farmers should not yield to the temptation of using cracked, old, or otherwise inferior seed, if they hope to secure satisfactory stands, warns C. A. Van Doren, assistant in crop production at the College of Agriculture, University of Illinois.

Last year Illinois farmers planted and harvested the smallest crop since 1929, and with an anticipated increase of 20 per cent in acreage this year, some growers may be tempted to be less critical of the quality of seed they plant, it is said.

Reports of planting intentions indicate that Illinois farmers will seed bout 682,000 acres this spring as compared with 568,000 acres last year and 617,000 cres in 1932. The 1931 crop of 771,000 acres was the largest in the history of the state. Normally Illinois growers harvest more than half the soybeans produced in the United States.

Experiments at the U.I. College of Agriculture show that cracked soybean seed will produce only 55.4 per cent as heavy a stand as sound seed, although the difference in ultimate seed yields is not as pronounced.

The age of the seed should also be considered, if maximum production is to be attained, explains Van Doren. New, sound seed is always preferable, since one-year-old seed usually falls 9 per cent short in stand as compared with new seed that has been stored under average farm conditions. In some cases, however, the one-year-old seed may produce as large or a larger yield than the new seed, all other factors being comparable. It is seldom advisable to plant soybeans that are two years old or older, as both the stand and yield decline rapidly from the second year on.

"Good quality soybeans consist of seed that was well matured and in a dry condition when harvested, and has been stored under favorable conditions," points out Van Doren. "Seed harvested from frost-killed plants or from plants cut before completely matured, are likely to be inferior. Furthermore, changes in atmospheric humidity make the beans deteriorate in storage. If a farmer must purchase his seed, he should buy new, sound-appearing beans that will give a germination test of at least 90 per cent strong sprouts."

-M-

Nuts Are Suggested As Non-Surplus Crop For Illinois

High quality nuts constitute one of the few crops in which there is not a surplus, and many Illinois farmers could well afford to devote a small acreage to their production, declares R. S. Marsh, horticultural extension specialist of the College of Agriculture, University of Illinois. To assist farmers in doing this he is holding a series of nut propagation demonstrations in 14 Illinois counties within the next week or two.

At the nut propagation demonstrations, Marsh and L. E. Sawyer, extension forester of the Illinois Natural History Survey and of the U.I. College of Agriculture, will explain the latest method of top working walnut, pecan and hickory trees. Farmers attending will be given an opportunity to make a graft so that they will have a model to take home with them, together with complete printed instructions.

Local arrangements for the demonstrations are being made through the county farm advisers, with tentative dates scheduled as follows:

Union and Jackson counties, May 8; Pulaski-Alexander and Saline counties, May 9; Johnson and White counties, May 10; Williamson and Edwards counties, May 11; Schuyler county, May 14; Stark county, May 15; Bureau county, May 16; and Jo Daviess county, May 17.

-M-

Fruit Bud Loss In Illinois Less In Eastern States

Illinois peach growers fared better than those of the eastern states insofar as damage to orchards as a result of sub-zero weather during the past winter is concerned, it is reported by Dr. M. J. Dorsey, chief in pomology at the College of Agriculture, University of Illinois.

Although there was severe injury to the peach buds in this state, no damage was done to the trees. In fact in some of the more favored locations, sufficient buds survived to produce small crops of varying percentages. In the east, however, all fruit buds were killed by the freezing temperatures, and a great many trees were killed or damaged badly, it is said.

The Illinois peach crop has been estimated at about 801 carloads, as compared with approximately 8,000 cars in the bumper season of 1931. As was anticipated the apple crop is likely to be light in this state, owing to the defoliation and unfavorable weather during fruit bud formation last year. Red raspberries suffered considerably from winter kill, but the cherry and plum buds are believed to have survived comparatively well. Unfortunately in some parts of the state cold nights during the last week or ten days of April did considerable damage to certain fruit blossoms.

Differences in bud hardiness were illustrated strikingly this winter in Illinois, Dorsey points out. Such peach varieties as Greensboro, South Haven, Carmen and Bell came through the winter in much better shape than the more popular Elberta and J. H. Hale. This would indicate that for home plantings it might be advisable to include more of the hardier varieties. These would give more assurance of a crop in some seasons when the other varieties have been winter damaged.

In orchards where the live buds are too few to be worth considering, Dorsey suggests that growers prune the trees back to the two or even three-year-old wood. In cases where there are sufficient live buds to give a crop, pruning should be delayed until the set is evident, after which the non-bearing branches can be thinned out.

Where the bud survival is still lighter, it is advisable to leave all possible bearing wood in the trees so that full advantage can be taken of the live buds. Here, too, an application of some form of quickly available nitrogen should be made in order to increase the set. This is particularly worthwhile, if applications were not made last year or if the growth conditions are at a low ebb.

-W-

Too Much Hulled Oats Will Handicap Fattening Pigs

In their efforts to grow and fatten fall pigs as cheaply as possible Illinois farmers are sound in their practice of not including too large a proportion of hulled oats in the rations, it is revealed in a two-year feeding experiment just completed at the College of Agriculture, University of Illinois. Hogs fed on a dry lot on hulled oats as the only grain developed severe stiffness, became unthrifty and in one case died.

The addition of hulled oats, however, did improve the so-called standard ration of corn and protein supplement, according to W. E. Carroll and W. P. Garrigus, who conducted the tests. The most satisfactory ration was found to be one in which the pigs consumed two parts cracked corn, one part hulled oats, plus .76 pounds of protein supplement and .12 pounds of minerals daily. These pigs consumed 414 pounds of the ration for each 100 pounds of gain and increased in weight at the rate of 1.45 pounds daily. The protein supplement was made up of 2 parts tankage, 1 part soybean oil meal and 1 part alfalfa meal, while the mineral mixture consisted of equal parts of limestone, bonemeal and salt.

-W-

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COLLEGE OF AGRICULTURE UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and Others from the Agricultural College, Experiment Station, and Extension Service.

Volume XVII — [illegible] 9, 1934 — Number 19

[illegible],000 Acres Of [illegible] Land In Pot Planting Puzzle

Leaving approximately [illegible] million acres out of corn production, Illinois farmers will do under terms of the government's various AAA programs, is not going to upset sound farming methods or bring about any radical changes in cropping systems, judging from reports coming to the farm management division of the College of Agriculture, University of Illinois. Quite the contrary, the contracted land is going to be used almost entirely for legumes. This is directly in line with the long-continued teachings of the college and will pave the way for soil conservation, the reduction of plant disease and insect pests, better control of insects and diseases and other benefits.

How far Illinois farmers have gone in this direction in the past 20 years is shown by the fact that during the five-year period of 1929-1933 the average annual acreage of such legumes as alfalfa, sweet clover, soybeans and cowpeas was 1,413,000 acres more than it was in the five-year period of 1911-1914. Furthermore the average annual acreage of such surplus crops as corn and wheat, together with oats, rye and buckwheat, was 1,[illegible],000 acres less in Illinois during the 1929-1933 period than it was during the 1911-1914 period.

Extensive use which farmers in one section of the state will make of legumes on their contracted acreage is indicated in figures reported by J. D. Cunningham, field man for the farm-by-farm management service, which the U. I. College of Agriculture sponsors in Grundy, DeKalb, Marshall and Putnam counties. The figures cover 84 farms on which 116 pieces of land have been contracted to the government.

Alfalfa or sweet clover will be used on 68 of the tracts; red, mammoth or alsike clover on 21 of them; timothy or orchard grass on 2 of them, and soybeans for plowing under on 4 of them. Thirteen of the tracts will be fallowed to kill weeds and on five others nothing will be planted and the weeds clipped. Owners of two pieces of the land are undecided how they will handle the contracted acres.

Forty-two farmers are leaving old clover, alfalfa or grass mixtures stand over on their contracted acres, thereby saving labor and expense this year. However, most farmers are not prepared to do this, for out of the 116 pieces of contracted land, 64 were in corn last year.

In seeding such corn land down as contracted acres, about 30 per cent of the farmers abandoned the usual practice of using a nurse crop, thereby eliminating a place for the chinch bugs to feed and also saving expense.

While the percentage of contracted land growing legumes on these farms is exceedingly high--perhaps much higher than on farms not in the farm management service--it would probably be still higher were it not for the large amount of sour soil, Cunningham reported. This is being partly corrected on ten of the farms where some of the agricultural adjustment benefit money is being used to buy limestone. The four farmers who plan to sow soybeans on their contracted acres are doing so because of sour soil. Others have sown mammoth clover, which stands a medium acid soil.

Wheat Prospect Below Average; Carryover Also Lower

Although it is anticipated that the 1934 wheat crop in Illinois may be larger than the unusually small crop of last year, it is likely to be some 2,000,000 bushels less than the five-year average production of the state, according to available reports reviewed by R. C. Ross, assistant chief of farm management at the College of Agriculture, University of Illinois.

The total 1934 wheat yield in Illinois has been estimated at 29,601,000 bushels, as compared with 26,593,000 bushels in 1933 and 31,611,000 bushels on the average during the five years of 1927-1931. The increased wheat acreage planted last fall was probably the result of the large amount of corn land that remained idle last summer. Rather than lose the time and labor they had spent in preparing the ground for corn, farmers planted the fallow acres to wheat, in the opinion of Ross.

Wheat stocks on Illinois farms as of April 1 amounted to 3,839,000 bushels, or the smallest carryover since 1931. Last year at this time wheat stored on Illinois farms totalled 5,345,000 bushels.

Current reports on the world wheat prospects indicate the carryover of wheat on July 1 in the four principal exporting countries will be at least 15,000,000 bushels less than on July 1 of last year.

Like that of Illinois, the North American wheat crop is expected to be considerably larger this year than last, because of the exceptionally bad growing conditions of last year, but the European crop may be considerably smaller. Dry weather in the lower Danube basin has damaged late-sown grain, and early-sown fields may have yields reduced even though the moisture has been sufficient for a favorable early development of the crop.

The condition of winter wheat in the remainder of Europe is reported as being generally good except in Italy and Spain. However, the early-season condition of the crop in the more humid parts of Europe has not proved to be a good indication of subsequent yield. It is not likely that the high average yield of last year will be repeated in 1934.

-M-

Increased Soybean Acreage Will Yield Many Benefits

Illinois farmers, who this year plan to plant approximately 662,000 acres of soybeans, will be in a position to reap many advantages from the crop, particularly in the case of producers who are cooperating in the government's wheat and corn-hog adjustment programs, in the opinion of E. E. DeTurk, chief of soil technology at the College of Agriculture, University of Illinois. At least six characteristics of the crop can be cited as advantages.

When plowed under, soybeans add nitrogen to the soil in much the same manner as other legumes do. Then too, this crop has the ability to absorb mineral plant food elements which are ordinarily not readily available, and when the soybeans are turned under, the minerals become easily available for the following crops.

Experiments have shown that the tops of soybeans, when plowed down help the development of bacteria, thereby making the soil more favorable for future crop growth. Furthermore, soybeans need less lime or limestone than the more commonly grown clovers. Although not the most ideal crop for soil erosion prevention, soybeans give quick results in producing a protective cover, and when broadcast or drilled around a slope will do much in holding the soil. Finally, soybeans are distasteful to chinch bugs, and if the contracted acres are located between the small grain and corn fields, this legume tends to discourage the bugs from migrating from the small grain to the corn field where they do the greatest damage.

Although soybeans fit in ideally as a green manure crop for contracted acres, they are not used as much in general farm operations being less practical for soil improvement than certain other legumes.

-M-

Cutworms Threaten Damage If Spring Is Wet And Cold

If Illinois should have cold, wet weather soon after corn comes up, farmers may expect cutworm infestation and should be ready to control the insects with poisoned bait, says J. H. Bigger, assistant entomologist of the Illinois Natural History Survey in a report to the College of Agriculture, University of Illinois.

After the cutworms have become established on a field, the use of poisoned bran bait is the only control method available, points out Bigger. This should be used as soon as signs of cutworm feeding appear.

Enough poisoned bait for about three acres can be made with 25 pounds of low-grade bran, 1 pound of Paris green or sodium arsenite or white arsenic, 2 quarts of molasses and 3 gallons of water. For larger or smaller proportionately larger amounts will be required.

The water, molasses and poison should be mixed together and then the solution is stirred into the bran so that every particle of the bran is moistened by it. Just enough of the solution should be used so that the bran will hold together when squeezed tightly in the hand but will crumble when opened. A little experience will establish this point.

If Paris green is used instead of sodium arsenite or white arsenic, it should be mixed dry with the bran, and the water-molasses solution stirred over this mixture until it is sufficiently wet.

The bait should be spread late in the afternoon so that it will remain moist [illegible] night. Broadcasting by hand or with a distributor at the rate of 5 to 15 pounds to the acre gives sufficient bait to eliminate heavy infestation.

In the case of black cutworms, often found in abundance in wet seasons only partially in wet areas, one application of the poisoned bait will not be enough. Repeated applications are [illegible]

-W-

Optimistic View Is Held By Growers Of Strawberries

Illinois strawberry growers, whose crops are valued more than a half million dollars annually in recent years, are optimistic about the present because of the smaller crop which is in prospect and more money in circulation, says E. S. Haresh, extension specialist in horticulture at the College of Agriculture, University of Illinois. Whether or not they get the maximum returns will depend partly upon how carefully they grade their berries and the extent to which they use shipping point inspection service, he said.

"What can be done through grading and shipping point inspection to get better prices for strawberries is shown in the results obtained last year by a new growers' cooperative organized in Edgar county. Its members got higher net returns than the members of any other organization either in Illinois or Indiana. Principles of grading, packing and marketing were taught to them in five demonstrations held by the extension service of the U. I. College of Agriculture with the cooperation of the State Division of Standardization and Markets.

"Better marketing methods also paid a premium for growers in Union county, where pan grading was introduced by the U. I. agricultural extension service. As a result of several demonstrations held by the farm adviser, the average price received throughout the season was $1 more a crate where pan grading was used than where no grading was done. The extra cost of pan grading, including the value of the culled berries thrown out and the expense of extra labor, amounted to 25 cents a crate. This, however, left an extra net profit of 75 cents for the growers who employed the pan-grading method."

-W-

Vol.

The Extension Messenger

COLLEGE OF AGRICULTURE UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station and Extension Service

Volume XVI May 15, 1934 Number

Home Accounts Show Increased Buying By Farm Folks

That Illinois farm families are contributing their share to improved business and industrial conditions is revealed in a summary of 167 farm and small town home account records made by Mrs. Ruth C. Freeman, home economics extension specialist of the College of Agriculture, University of Illinois.

Comparing the 167 farm family records studied in 1933-34 with 167 summarized in 1932-33, it was found that the total average money value of living and savings was 5½ per cent higher during the last 12 months than in the 1932-33 period. The increase occurred in cash expenditures, probably resulting from increased incomes of the farmers in one form or another.

The total realized income of the 42 small town families, however, was 11 per cent lower in 1933-34 than during the previous 12 months.

Cash house expenditures by the farm families, including cash repairs, fire insurance and improvements on houses, nearly doubled in 1933-34 over 1932-33, points out Mrs. Freeman. They ranged from nothing to $734, or an average of $18 to the family.

Forty-four per cent of the 167 farm families purchased paint and varnish for decorating interior walls and floors in the past year. 18 per cent painted one or more rooms, and three farm houses were painted.

Expenditures for furnishings and equipment in 1933-34 were also nearly double that spent in 1932-33. Twenty large pieces of electrical equipment were bought in the past year, as well as 13 mattresses, 14 rugs and 8 complete suites of furniture. Small kitchen equipment, curtains and draperies, dishes, toweling, sheets and pillow cases, and oil cloth were among the most frequent purchases shown in the records.

Clothing expenditures in 1933-34 averaged $101 as compared to $91 in 1932-33, with from one-fifth to one-third of each person's clothing money going for shoes and hose.

Automobile expenditures of the 167 farm families also increased in 1933-34, although the difference was not large. Eight families traded in their old cars for new ones, and eight others traded for late model used cars. The 159 families in 1932-33 bought only three new cars.

Twenty per cent of the farm families attended the World's Fair in Chicago last summer, considering the trip both educational and recreational, and entering the expenses accordingly in their books.

Even with increased expenses, the farm families were able to save an average of $148 each, the major portion of which was in the form of life insurance premiums.

Further heartening signs are seen by home economics extension workers of the college in the recent almost record growth of county home bureaus and the livelier interest which farm women are showing in new ideas on home making and home management. A total of 1,469 new members have enrolled in Illinois home bureaus during the past five months, making the total membership now stand at 9,341. Twenty-six community home bureau units have been organized in the state since December 1, 1933.

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Cow Culling Sets Stage For State Efficiency Record

Elimination of thousands of low producing and unprofitable cows by members of Illinois' 55 dairy herd improvement associations made it possible for their herds to set a new state record in efficiency of production during the past year, according to a report by Prof. C. S. Rhode, chief of dairy husbandry at the College of Agriculture, University of Illinois.

The [illegible],049 cows retained by the herd improvement association members averaged 321 pounds of butterfat each during the past year. This is the highest efficiency record ever attained by association members in Illinois and is 141 pounds better than the 180-pound butterfat average of all cows in the state. In 1932 the average butterfat production for cows in dairy herd improvement associations in this state was 317.6 pounds as compared with 31[illegible].1 pounds in 1[illegible]7 and [illegible]4.1 pounds in 19[illegible]5.

Members of herd improvement associations have realized more than ever during the past three years that the practice of keeping fewer and better cows is a sound method of adjusting their individual problems, as well as the problems of the industry as a whole, it was explained. Consequently during these three years, many Illinois association dairymen have practiced rigid culling, disposing of approximately 10,[illegible]00 low-producing cows.

How efficiency of production actually affects the producer is shown by the estimated return of $[illegible]6.7[illegible] above feed cost for the average cow in this state, while the average cow in dairy herd improvement work returned $64.31, or an increase of more than 14[illegible] per cent.

In point of individual production, a grade Holstein cow owned by the Sweetheart Home in Kane county led all others of the state with a record of [illegible],19[illegible] pounds of milk containing 1,0[illegible]7.3 pounds of butterfat. The highest-producing herd in the state in 1933 was owned by Tirm and Ralston, of Boone county, with an average of 57[illegible] pounds of fat and 1[illegible],671 pounds of milk.

-M-

Chinese Cabbage May End State's Sauerkraut Problem

A new delicacy may be served [illegible] to the 46,[illegible]7[illegible] inmates in Illinois' [illegible] charitable and penal institutions and a big problem in the diet and feeding of these people may be solved if experiments started by Lee A. Somers, vegetable gardening extension specialist of the College of Agriculture, University of Illinois, prove as successful as they promise to be.

The new delicacy is sauerkraut made from Chinese cabbage instead of the common cabbage, which sometimes fails under fall weather conditions in Illinois. A. L. Bowen, director of the Illinois State Department of Public Welfare, and other state officials already have sampled the new kind of sauerkraut. Some of them pronounced it superior to common cabbage sauerkraut, some said they could tell no difference and others did not like it as well. It has been more or less common opinion that sauerkraut could not be made from Chinese cabbage, or "celery cabbage," as it is sometimes incorrectly called.

Sauerkraut is a mainstay in the diets that are served at the state's [illegible] charitable and penal institutions. Unfortunately, however, the fall crop of cabbage which must be relied upon for the kraut is frequently a failure in this state. Chinese cabbage, being strictly a fall crop and much easier to grow than common cabbage, would overcome the danger of a crop failure, but the question was whether or not kraut could be made from it. Somers tried it out on a small scale last fall and successfully produced a satisfactory kraut. As a result of the success of the preliminary experiments, each of the state institutions will be asked to make a batch of Chinese cabbage kraut this fall.

-M-

Good Horses Here to Stay, This Is Generally Realized

Although it has been known that the number of work animals on farms in the United States has been declining at such as [illegible],[illegible] horses and mules in a single year, the scarcity of good work stock in Illinois is even more pronounced than generally realized, according to [illegible]. Crawford, associate in animal husbandry of the College of Agriculture, University of Illinois.

The number of horses, mules and colts on farms in this state as of January 1 of this year totalled approximately [illegible], [illegible] as compared with [illegible],[illegible] on the same date in [illegible], or a decline of 1,[illegible] head in two months. The population of horses, mules and colts in Illinois in [illegible] was [illegible], in [illegible] it was [illegible],[illegible], and in [illegible] totalled 1,[illegible],[illegible].

Farmers have sold down to their minimum needs and will seldom price a horse for sale, says Crawford, following a tour through central Illinois on which time he made a survey of the available supply.

"There are a few teams of [illegible] which can be bought and a few big teams of rather plain order," he explains. "Of course, after the crops are in, there will be some horses which can be spared.

"Quite a few farmers are [illegible] of their horses and are in the market for teams of mares. Of late, farmers' ideas have changed radically in respect to the sex of horses. They now insist upon buying mares and colts, and there are indications of a return of greater pride in horses and better care given them.

"Stallion owners, [illegible], are still in business they can handle. Likewise, there are quite a few fresh to be found in the pastures. But when one considers that it takes four or five years to produce a work horse, as well as the high proportion of old horses on farms, there is little likelihood of too many being raised in the near future. The main difficulty will be in the scarcity of young mares and stallions."

-V-

Improper Care After Eggs Leave Farm Lowers Quality

Complaints of consumers about the low quality of eggs sometimes offered for sale during summer months can often be traced to careless management on the part of people handling the eggs after they leave the farm, says H. H. Aly, poultry extension specialist at the College of Agriculture, University of Illinois.

Poor quality eggs tend to reduce purchases by housewives, and this in turn lowers the prices and profits received by both farmers and dealers. Thus with the approach of warm weather, greater care should be taken in handling eggs as a truly perishable product, it is said.

Too often, eggs are held in the back room of a store which also serves as storage room for various items, some of which should never be in the same room with eggs. This room during the summer months will frequently have a temperature high enough to start the incubation of fertile eggs. Another criticism in this connection is that often the small country buying stations do not have satisfactory places to hold a product as perishable as eggs.

In one instance last summer, when the prevailing temperature was about 90 degrees Fahrenheit, Aly reports visiting a produce house consisting of a large room covered by a sheet metal roof. In this room poultry was being held and eggs stored until time for delivery to the next buyer. "Regardless of how good the quality of these eggs when originally received by this dealer, they would quickly deteriorate under such conditions," he explains.

-V-

The Extension Messenger

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Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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Drouth Makes Chinch-Bug Barriers Short Necessity

Favored by the continued dry weather, chinch bugs are becoming so serious that they will soon be making short work of thousands of acres of corn unless farmers take steps immediately to establish barriers around corn fields, according to a warning by W. P. Flint, chief entomologist of the Illinois State Natural History Survey and of the College of Agriculture, University of Illinois.

Hordes of the pests will soon be leaving fields of harvested small grain to continue the destruction in corn, and only by prompt building of rear-like barriers will growers of that crop be enabled to save it this year. Under present dry, Flint said.

These barriers may be made by plowing a furrow around the field, throwing the dirt toward the corn and then smoothing this ridge, which should be 6 to 8 inches high. The furrow should be packed down with a plank dragged so that it will make a smooth, dusty surface.

After this has been done, post holes 1 inches deep should be dug on the ridge side of the furrow about 10 feet apart. The tops of the holes should be flush and kept dusty so that the bugs will fall into them as they crawl along the side of the furrow seeking entrance.

As soon as the chinch bugs begin migrating from small grain to the corn fields, a liquid repellent should be applied in front of the ridge. Crude creosote (not the expensive wood preservative type), naphthalene drum oil and to some extent pine tar oils are the most effective repellents because of their strong, disagreeable odor. Ordinary road oil and used crank case oil do not have sufficient repellent odor and are not worth the labor of application.

A handy container for carrying the crude creosote or other repellent material can be made by punching an 8-penny nail hole in the side of a 2-gal bucket, about an inch from the bottom and directly below the point where the bail is attached. A stream of creosote or naphthalene oil flowing from such a hole will form a liquid barrier ridge wide enough to turn back the bugs.

The repellant material should be renewed between 1 and 2 o'clock each afternoon for the first several days, and then every other afternoon during the 14- to 16-day period when the bug migration is active. Bugs trapped in the post holes should be destroyed each afternoon about sundown by pouring one or two tablespoonfuls of kerosene into each hole, scattering it over the bugs. The kerosene should not be ignited.

Between 25 and 50 gallons of the repellant solution will be sufficient to maintain a quarter-mile barrier during the danger period, and the usual cost is about 15 cents a gallon. An acre of corn saved will usually more than pay for the maintenance of a barrier one-fourth mile long.

Plans are being made for demonstrations in approximately [illegible] infested counties to teach local leaders proper methods of constructing and maintaining chinch-bug barriers. These local leaders, in turn, will push the building of barriers in their own communities.

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Illinois Dairymen Look To Sires For Higher Returns

Illinois dairymen who are planning for the time when a premium market will pay for milk and butterfat but secure higher net returns through the use of "proved and better" cows, are looking carefully to their herd sires, says C. [illegible], chief in dairy husbandry at the College of Agriculture, University of Illinois. During the past year alone at least [illegible] dairy bulls in different parts of the state have been "proved" on the basis of definite production records of their daughters, he reported.

That the herd sire of today has a definite influence on the dairy returns of tomorrow is shown by the fact that daughters of [illegible] of the proved bulls showed an average increase in milk production over their dams, while [illegible] showed a decrease. The daughters of 14 of the sires produced more butterfat than their dams, but the daughters of 11 produced less.

Continued use of sires whose daughters produced less than their dams will gradually destroy the profitableness of a herd, while the use of proved bulls will gradually increase the efficiency of the herd. How this improvement actually takes place is illustrated in the case of the bull, Oak View Doris.

Oak View Doris was one of seven purebred bulls used on the farm of [illegible] whose butterfat production [illegible] annually. From these seven sires seven daughters were dropped which eventually produced [illegible] over [illegible] dams. These seven daughters averaged [illegible] pounds of fat more than their dams, or an increase of 4 per cent in butterfat annually.

A study of the pedigree of this bull reveals that he [illegible] to this high production. His sire has an advanced registry record of 1,[illegible] high average production, and his dam had a high record. She was sired by a proved bull and out of a high producing cow. The dam of this bull also had three high-producing daughters, thus proving that she could transmit high production. Such [illegible] records by which the value of a sire may be judged, however, are available only through regular testing in a dairy herd improvement association or advanced registry facilities.

Many Illinois dairymen have increased the production level of their herds through good feeding and care practices, and further progress is to be made, much of it must come through the use of bulls capable of siring cows with higher levels of production, it is said.

-W-

[illegible] Sires Set High Goal For 4-H Club Work In [illegible]

Illinois boys and girls now enrolling in 4-H clubs throughout the [illegible] counties of the state, preparatory to beginning their [illegible], have a high goal set for them in the achievements of those who took part in rural [illegible] work last year, according to figures released by the extension service of the College of Agriculture, University of Illinois.

A total of [illegible] farm young folks, ranging in age from [illegible], carried on definite projects under direction of the agricultural and [illegible] county farm and home advisers, assisted by [illegible] local club leaders. [illegible] of the girls and [illegible] per cent of the boys completed their projects. Finally, [illegible] the members enrolled last year had taken part in 4-H club work in three or more previous years. Many were carrying on club work for their fifth and sixth consecutive year.

The value of the livestock produced and owned by [illegible] last year is reported to approximately $[illegible], while the crops [illegible] of $[illegible], reports W. I. Dilgard, extension specialist in boys' club work at the University College of Agriculture. Enrollment in [illegible] 11,[illegible] girls, explains Miss [illegible], extension specialist in girls' club work.

-X-

Sowing Soybeans And Cowpeas May Help Meet Feed Need

Threatened with a serious feed shortage as a result of the dry weather and the chinch bug menace, Illinois livestock farmers still have a chance to meet the situation by planting additional land to soybeans or cowpeas for hay, according to the animal husbandry department, College of Agriculture, University of Illinois.

Dry weather since the early part of April has reduced the growth of pastures, meadows and small grains. At the present time the abnormally dry season has been particularly favorable for the reproduction of hordes of chinch bugs, the most destructive and widespread insect now present in the state. Unless heavy rains are general in a short time, there is danger of a serious shortage of livestock feed, it was predicted.

Since chinch bugs do not feed on legumes, it is being suggested that Illinois farmers take immediate steps to increase their soybean and cowpea acreage for hay production. It may be advisable to plant some of the corn acreage to these crops.

Both soybeans and cowpeas are excellent pasture plants for dairy and beef stock. When used as pasture crops for hogs, especially in connection with corn, they greatly increase the production per acre. Soybeans are grown in the central and northern portions of the state and cowpeas in southern Illinois.

Soybeans are usually sown in rows and require a thoroughly prepared seedbed which should contain sufficient moisture to sprout the beans. Inoculation is, of course, recommended. They may be sown with a grain drill, 6 to 7 pecks of beans will be required to the acre, or if planted in rows 28 to 36 inches apart, 30 to 40 pounds will suffice in the case of medium-sized seed.

Sudan grass has also given satisfactory results as a hay crop in Illinois. However, since sudan is one of the favorite foods of chinch bugs, it will be advisable to seed either soybeans or cowpeas as a companion crop to sudan grass this year. Using 1 bushel of beans or peas and 15 pounds of sudan grass to the acre gives a practical seeding.

-M-

Food Items Total One-Fifth Of Rural Family Expenses

Although farmers in this state produce 60 per cent of the food served on their tables, the grocery bill is still the largest item in the family's expenditures, according to a summary of 167 home account records made by Mrs. Ruth C. Freeman, home economics extension specialist of the College of Agriculture, University of Illinois.

During the past year the Illinois farm families covered in the summary made total cash expenditures ranging from $577 to $1,774, or an average of $[illegible] each, points out Mrs. Freeman. Of this amount, $147, or 1.5 per cent went for the purchase of food.

Cash operating expenses such as telephone, fuel, light and power, ice, servant hire, soap, matches and similar small supplies amounted to 15 per cent of all cash expenditures. Another 15 per cent, or approximately $111 for each family, was used in buying clothing.

Automobile charges accounted for the fourth largest item, requiring 1 per cent of all cash expenditures, while recreation and education combined required 11 per cent, or an average of $77 for the average family during the year.

-M-

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-X-

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. MUMFORD, *Director*.

Dry Spring ... Garden Irrigation ...

Ten ... the idea of irrigating their gard... have been profited at by Illinois ..., but the unusually dry weather of this spring has brought ho... the possibil... of irrigation in a convincing way, says I. A. Pe..., vegetable gardening extension specialist at the College of Agriculture, University of Illinois. Not all Illinois farms, but a ve... lar... number ... them might have irrigated gardens at small expense, he said.

During drouth seasons a shall..., homemade watering system may ... the difference between a productive garden and a total loss. Likewise, having sufficient water at the proper time is particularly important to late-planted vegetables.

In a majority of cases the Illinois farmstead is built on a slight elevation with the ground laid out in a mild slope away from the source of water. Generally, too, there is a farm powered by a windmill or gasoline engine that is capable of supplying more water than is needed for household and livestock consumption.

All that is necessary, explains Mr. Pe..., is a line running from the ... to the garden and a piece of hose that can be ... to reach ... needed. If the ... is below the water level of the garden, the ... directly to the ... and the water forced ... to the level of the garden.

By using a ... the water can be ... between the rows of vegetables. The ... the upper end of a furrow and the water allowed to run ... the end. As the furrow becomes soaked, the ... to the next furrow. It will be necessary, of course, to ... windmill ... to maintain the water supply, but in ... the ... requires constant attention.

Different ... will, naturally, require ... adaptations of any type of watering system, but the ... is for ... Moreover, if Illinois farmers will look over their own situations, a great many will find it practical, possible and practical to irrigate the garden with but little expense and later.

-/-

Rival Teams Will Get Their Chance In Pulling Meet

Who owns the best pulling team of horses in Illinois? Will Willard Rhoads, of Springfield, be able to keep the state championship? What factors should be considered in the selection of good pulling?

These are some of the questions that are going to be decided in the annual series of horse-pulling contests to be conducted in different parts of the state by the College of Agriculture, University of Illinois. E. E. Pebbins, livestock extension specialist, will be in charge.

Four contests have already been scheduled for this summer and fall, and others may be arranged before the season gets under way, it is said. The first is to take place at the Illinois State Fair, Springfield, on August ... The first day teams weighing less than 3,... pounds will compete, with the heavier ... testing their strength the following day.

Champaign county horsemen are planning to compete with ... others at St. Joseph on August ..., while those of Warren county will stage their horse-pulling contest on August 31. The first contest scheduled this year for ... will be held at Sandwich, in DeKalb county, on September 9.

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Emergency Hay And Pasture Are New Hope Of Farmers

Hay and pasture [illegible] for the $[illegible],415,[illegible] worth of livestock on Illinois farms have been burned out to [illegible] the lowest [illegible], and only emergency plantings will save the situation for many farmers, [illegible] J. J. Pfister, associate chief of crop production at the College of Agriculture, University of Illinois. Experiments conducted for a number of years by the experiment station of the college stand farmers in good stead in showing how to produce sorely needed forage in times like these, he said.

Sudan grass, soybeans, cowpeas, millet and sorghum may yet be planted for the purpose of furnishing either a hay or hay during late summer and early fall. Under favorable weather conditions, they are usually ready for grazing within six weeks after seeding, and may be planted as late as the first part of August with reasonable assurance of a crop of hay or pasture before the first frost. Planting, however, should not be delayed that late if enough rain to insure germination of the seed after planting, it is said.

Because sudan grass is one of the favorite foods of chinch bugs, it should not be sown alone, except in the extreme northern and southern ends of the state. In most Illinois sections, sudan grass should be sown in combination with either soybeans or cowpeas, which are distasteful to chinch bugs. Seeded at the rate of 15 pounds of sudan grass and 1 bushel of soybeans or cowpeas, the combinations may be expected to give entirely satisfactory yields.

If the farmer desires, he may substitute either German or Hale's Weeder millet in the place of sudan grass, but the yield of hay and the hay of a less desirable quality in the case of millet. As millet is not attractive to the chinch bug, it should be planted in combination with either soybeans or cowpeas at practically the same rate as sudan grass.

Where the farmer has grown grain sorghum, [illegible] it may be seeded instead of the sudan grass or millet in combination with soybeans or cowpeas. However, if he must purchase seed, it will be more practical to buy sudan grass rather than millet or sorghum seed.

In pastures where sudan grass or sorghums are seeded, the fields should not be grazed after the first frost owing to the danger of prussic acid poisoning the livestock. Although it is believed that prussic acid does not develop in pure sudan grass, so much of the seed available has been accidentally crossed with sorghum that grazing after frost may result in prussic acid poisoning.

-M-

Carbondale To Be Site Of Guernsey Field Day, June 9

Celebrating the rapid growth in popularity of Guernsey cattle in the state, Guernsey breeders and their friends from southern Illinois will gather at Oak Grove farm, near Carbondale, June 9, for a special field day and picnic.

Between 400 and 500 dairymen and their families are expected to attend the event which is being sponsored by the Illinois Guernsey Breeders Association. J. R. McNeil, of Tuscola, president, and H. L. Fornoff, of Danville, secretary of the state organization, will be in charge of the field day.

At present there are more than 5,000 purebred Guernsey cattle on Illinois farms, or an increase of approximately 60 per cent since 1930.

C. S. Rhoda, chief in dairy husbandry at the College of Agriculture, University of Illinois, will appear on the field day program to discuss dairy cattle breeding problems in Illinois, with especial reference to the [illegible] of interest to Guernsey breeders.

The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVII | June 6, 1914 | Number 23

Chinch Bugs Unharmed By Light Rains; Barriers Urged

Except where there have been heavy rains, the record hordes of chinch bugs have not been thinned out by recent rainfall, and barriers therefore are still the one hope of farmers in protecting their young corn against the first-brood bugs, according to W. P. Flint, chief entomologist of the Illinois State Natural History Survey and of the College of Agriculture, University of Illinois.

It is not too late to build barriers against the bugs even after they first get into the corn, Flint said. However, in such cases it is necessary to go out into the corn, beyond the line which the bugs have already reached, and build the barriers there with the idea of saving as much corn as possible. Corn back of the barrier, where the bugs are feeding, should then be destroyed to force the pests into the barriers.

There has been some question about the merit of barriers from farmers who have felt that the bugs were so thick and so far advanced that it was futile to attempt stopping them, Flint said.

Thousands of miles of barriers have been built as a result of demonstrations which have been staged by county farm advisers, the extension service of the College of Agriculture, University of Illinois and the Illinois State Natural History Survey, cooperating. Farm Adviser H. A. deWerff, of Woodford county, for instance, estimated that 100 miles of barriers were built to protect Woodford county corn fields last year and that an estimated 1,00[illegible] miles of barriers would be needed in that county alone this year. The 1[illegible] miles of barriers built last year took a cash outlay of $3,[illegible] but they saved corn that was worth $[illegible],[illegible] at present prices, Farm Adviser deWerff pointed out.

Throwing up barriers will protect corn against the first-brood bugs marching from fields of destroyed barley, oats, wheat and rye to continue their destructive feeding in nearby corn fields. Later on the second-brood bugs may destroy corn of poor stand on weak ground, even though it is protected by barriers, but these second-brood bugs will not begin appearing until about the middle of July. Furthermore, if there are good rains in July and August, bugs of the second brood will be drowned out or "mudded" in, and the damage from them will be reduced.

Total damage from the pests undoubtedly will run into the millions, and anything that can be done to save some corn may be profitable, Flint pointed out. One year the bugs caused an estimated loss of 6½ million dollars to farmers in 17 southwestern counties alone, and this year they are worse than ever before and are scattered over 70 counties, he said. Aided by the drouth, the record number of bugs now present in the state are destroying fields of wheat, rye, oats and barley and are moving to corn fields in search of food a month earlier than usual.

"If the weather remains dry and it seems that the cost of a creosote barrier is not justified, a dust barrier, may be used. However, such barriers are effective only while the soil is dry and must be dragged several times each afternoon to remain effective."

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Planting Of Emergency Crops Pushed To Supply Feed

Thousands of acres of Illinois land where small grains, pastures and meadows have been ruined by drouth and chinch bugs are now being planted to soybeans and other substitute crops just as fast as sufficient rain comes to permit planting. Legumes like soybeans and cowpeas are being used most extensively because they are resistant to chinch-bug attack and can still be planted at these late dates. Crop specialists of the College of Agriculture, University of Illinois reported that most Illinois farmers had laid in their supplies of soybean seed and were only waiting for sufficient rain.

Seeding of a crop like soybeans is not considered safe until after enough rain has fallen to connect with the sub-soil moisture, crops specialists of the college pointed out.

While soybeans and cowpeas will be the most popular emergency crops, sudan grass, millet and sorghum will also be used by some farmers. However, these latter three crops are good prey for chinch bugs, and it therefore is recommended that they be seeded in combination with soybeans or cowpeas. The combination may be seeded at the rate of 10 pounds of sudan grass, millet or sorghum and 1 to 1½ bushels of soybeans or cowpeas.

Possibilities for Illinois farmers to produce at least part of their needed feed through the growing of emergency and substitute crops have been increased through the lifting of restrictions in the AAA corn-hog and wheat contracts. All the thousands of AAA contracted land in the state, as well as any and all non-contracted acreage, can now be turned to the production of certain hay, forage and pasture crops to offset the feed shortage resulting from the unprecedented drouth.

Farmers who have signed corn-hog and wheat contracts are now making the most of the new ruling which permits them to use their contracted acres for all hay, pasture or forage purposes, except the planting of fodder corn and grain sorghum.

Heretofore the use of contracted acres has been so limited that contract signers were only permitted to pasture additional permanent pasture that was seeded without a nurse crop.

The modification is particularly helpful to farmers who are now short of pasture or hay and who last spring seeded their contracted acreage to a forage crop with the intention of plowing it under for soil improvement. This crop may now be cut for hay or pastured as the contract signer desires.

The new ruling also helps farmers who set aside for their contracted acres old bluegrass or clover pastures which they intended to plow under in a soil improvement program. This acreage can now be pastured or used for hay.

Furthermore, the contracted acres can now be planted to soybeans, sudan grass or millet to be used as an emergency pasture or forage crop in late summer and early fall. Such crops, however, must not be cut for seed purposes but must be fed as forage. Farmers can, however, sell hay from these acres to a neighbor who has no hay.

In addition, the limitations have been modified to the extent that any and all non-contracted acres may be seeded to any crop for forage purposes, including fodder corn and grain sorghum. Heretofore, farmers were limited in their plantings of these crops even on non-contracted land, because their acreage of soybeans, cowpeas and all other harvested crops in 1934 could not be more than their harvested crop acreage for 1932 or 1933, whichever was the higher. However, even with the modifications, neither the fodder corn nor the sorghum can be planted prior to a date to be set by the Secretary of Agriculture. This date has not as yet been established for Illinois, but the decision is expected soon.

-M-

Green Wheat May Furnish Emergency Feed In Illinois

Cutting green wheat and other small grain crops for hay instead of harvesting them for grain is one way that Illinois farmers can meet the present serious feed situation, it is suggested by the College of Agriculture, University of Illinois. With the continuation of extremely dry weather and the devastating inroads of the chinch bugs, many dairymen face the most serious forage shortage in decades, it is believed.

Wheat has a high feeding value, if cut for hay in the early dough stage when the plants are quite green, according to W. W. Yapp, chief of dairy cattle at the college. When cut at this time, it has more feeding value than oat hay cut under similar conditions and is comparable to mixed clover and timothy hay. Where the chinch bugs have been prevalent in the wheat field, it is easily possible that the largest amount of digestible nutrients and the greatest feeding value would be gained by mowing it for hay.

"It should be borne in mind," explains Yapp, "that wheat hay should be fed in combination with a roughage of higher protein content, such as alfalfa, or should be supplemented with a grain feed containing relatively large amounts of protein. Adding ground soybeans or cottonseed meal to the grain ration will overcome the deficiency in the wheat hay.

The question of whether dairymen should cut their small grain for hay or harvest it for grain can not be decided for all alike, it is pointed out. Much depends on the probable yield of the grain, the price of wheat in relation to the price of hay, the prevalence of chinch bugs in the grain and the individual farmer's need for hay or roughage. These factors must be weighed on each farm before the final decision can be made.

-M-

Sunflowers May Be Utilized For Silage By Dairymen

Sunflowers may be grown by many Illinois farmers this year to make silage for their dairy cattle, as a result of damage to other crops by chinch bugs and drouth, according to Prof. C. S. Rhode, chief in dairy extension at the College of Agriculture, University of Illinois.

The fact that sunflowers are chinch-bug resistant makes them a possible silage crop this year. In past seasons when the bugs have been bad, Illinois dairymen have grown sunflowers and have found that the resulting silage was fairly palatable, Rhode said. Cows fed sunflower silage, however, do not generally produce as well as those given regular corn silage.

Where barley fields have been practically destroyed by the chinch bugs, Rhode suggested that farmers may seed a portion of this land to sunflowers. The crop may be seeded any time prior to the middle of June, and is usually drilled in rows 42 inches apart with the plants 12 inches apart in the rows.

Experiments conducted at the College of Agriculture, University of Illinois indicate that the best time to cut sunflowers for silage is when about one-fourth of the plants are in bloom. Silage made from sunflowers at this stage is more palatable and is superior for milk production to that made from more mature plants. The composition and flavor of the milk are not affected by sunflower silage, Rhode said.

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The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College,
Experiment Station, and Extension Service

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Record Creosote Distribution Aids Chinch-Bug Fight

Illinois gained something of a state record in the distribution of government-purchased creosote for chinch-bug barriers during the week of June 10 to 16. The record [illegible] farmers preparing to make a last stand to protect their corn crop, from which they have realized an average annual value of more than $1[illegible],[illegible]0,000 even during the last five years and on which they can ill afford to take losses this year.

By June 1[illegible], [illegible] gallons of the creosote [illegible] into the [illegible] counties of Illinois, it was announced by Prof. W. P. Flint, chairman of the state chinch-bug control committee and chief entomologist of the College of Agriculture, University of Illinois [illegible].

This record [illegible] until [illegible] approximately [illegible] the barrier [illegible]. Between [illegible] and June [illegible], [illegible] on [illegible] delivery, the [illegible] gave the record [illegible], Minn.

Prof. J. C. Spitler, state leader of farm advisers in the extension service of the College of Agriculture, University of Illinois, and W. W. McLaughlin, Director of the Illinois State Department of Agriculture, are other members of the committee.

Arrangements also were completed [illegible] with federal officials for the utilization of [illegible] gallons of creosote then available in a number of counties throughout Illinois from surplus [illegible]. Having this local supply gained an important time advantage for [illegible], inasmuch as most of the shipments of creosote on government orders heretofore had been made from the vicinity of Chicago.

Barrier material purchased on government orders was in addition to a vast amount of creosote which farmers, themselves, had bought before the federal chinch bug bill was passed. Fortunately for Illinois farmers they have since last summer and fall been warned by the College of Agriculture, University of Illinois and the Illinois State Natural History Survey that a chinch bug plague was imminent this season. They were forearmed therefore in time to get their materials ordered, their barriers built and their [illegible] to minimize damage.

The week ending June 16 saw farmers preparing to make what was the last stand against the march of the bugs. After that time it was believed that the pests would be so scattered in most counties of the state that it would be useless to try to protect corn. There may be some cases where barriers built after this week will still [illegible] damage from the bugs, but such cases will be few.

The broadening of the chinch-bug threat was indicated in reports which came in from farm advisers as the deadline for barrier building drew near. Christian county reported an infestation so thick that Farm Adviser T. H. Brock claimed the "chinch bug center of the world" for that county. Prof. Flint agreed. Formerly Champaign was believed to have been the chinch-bug capital, but developments this season have shifted the "honor," or more properly the horror, to Christian, it was said.

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Early Feeding Of Grain To Pullets Insures Egg Cash

Pushing pullets for extra early fall egg production may be a tempting way of trying to improve the farm's cash income this year, but such pullets may "fade" out as layers and as a steady source of income, says H. H. Alp, poultry extension specialist of the College of Agriculture, University of Illinois. Eggs have brought Illinois farmers an average annual income of $, , during the past four years, and this source of cash probably will be relied on more than ever this year, he said.

Egg prices are generally at their highest in the fall months, and to take advantage of this market, poultrymen force their pullets into early production by continuing them on a mash higher in protein than is needed for good growth.

The all-mash system of feeding has proved quite satisfactory in many instances, points out Alp. However, when used incorrectly it is believed to be partially responsible for pullets "fading" out of production in the fall and winter, because of failure to secure good physical development during the growing period. Early maturity in pullets is desirable, but maturity at the expense of physical development is likely to prove unprofitable.

To help overcome erratic winter layers, it is suggested that growing pullets be fed for good physical development, such as may be obtained on many farms through the liberal feeding of grain. It is true that grain-fed birds may not come into production as quickly, but in the opinion of a number of practical poultrymen, they are likely to be more consistent in their winter laying.

A mixture of equal parts of cracked corn and wheat fed in a hopper, in conjunction with the regular mash, has given satisfactory economical results, Alp explains. As the pullets become older, whole grain may be substituted for the cracked corn in the mixture.

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Limestone's Value Verified Today By Illinois Farmers

Ben Franklin's old adage about the best investment in a degree of fertility in an old farm is being confirmed in 1944 by hundreds of Illinois farmers, says L. B. Miller, associate in soil experiment fields of the College of Agriculture, University of Illinois.

Farmers who in past years applied limestone to their soils so that they might grow alsike, red and sweet clovers, have found the investment to pay good dividends, and particularly so this spring. Drouth in many Illinois counties dried up the bluegrass pastures, making them almost worthless by the middle of May, but legumes made possible by limestone applications have come to the rescue with both pasture and forage.

A typical example of such investments and timely dividends is found on the farm of Frank Henley, in McLean county, Illinois, explains Miller. Back in 1931, Henley applied limestone at the rate of 3½ tons to the acre on a 10-acre field. It was then conceded to be the poorest soil on the farm and had not grown clover for years.

In the past 13 years, however, the field has produced several good crops of alfalfa and this spring exhibits an excellent growth of a red and sweet clover mixture. The field is being pastured and the owner has remarked that it "certainly has been a life saver this season with the bluegrass pastures of little or no value."

It is possible that the original 3½-ton limestone application made 13 years ago will continue to give good results for many more years, points out Miller. If, however, it is assumed that it is now exhausted or leached from the soil, the cost at present prices has been only 65 cents an acre each year.

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Chopping Hay May Have Could Mean A Year Or Two

Illinois farmers will not harvest their record crop of 2,[illegible] tons of hay this year, but that may be only one more reason why it will pay many of them to use the newer practice of storing it in chopped form rather than as long hay, in the opinion of R. H. Reed, agricultural engineer at the College of Agriculture, University of Illinois.

Farmers who have been using chopped hay for a few years say that the [illegible] an important point when the hay crop is as large as it appears to be this year, he said. As much as 50 to 60 per cent may be wasted when coarse soybean hay or hay of poor quality is fed long, it is said.

Other advantages in favor of storing hay in chopped rather than unchopped form are savings in time, labor and expense, Reed reported.

From a questionnaire sent to farmers in many parts of the United States, it was learned that those who are now chopping their hay with a hay chopper or ensilage cutter as it is put into the barn have found the change so satisfactory that few, if any, would return to the use of long hay.

Among the many advantages noted in the use of chopped hay, explains Reed, is the elimination of work in the hot, dusty mow [illegible] time. There a chopper is used at the barn, it not only cuts the hay into short lengths but also elevates it and places the hay in any part of the mow desired. This [illegible] was listed by every farmer answering the questionnaire.

In addition, farmers note that the hay [illegible] put up in better and with fewer man-hours a ton, when it was chopped than when stored as long hay.

Many farmers also found that the saving of mow space through the chopping of hay permitted advantageous changes in their farming [illegible] Since the barn supports were strong enough, or could be reinforced, to permit more hay could be stored in the mow space or the extra space could be used for grain bins or other purposes.

Most of the farmers using chopped hay reported that less time and energy were required to throw the chopped hay down from the mow and feed it than had been required previously for long hay.

-W-

Barnyard Kings Get Ax For Sake Of High-quality Eggs

The open season for roosters is on in Illinois, and right now the life of the "King of the Barnyard," who plays the leading role in lowering the quality of summer eggs, is in a hazardous position, announces the poultry division of the College of Agriculture, University of Illinois.

Rooster days are being sponsored by farm advisers, members of poultry, newspapers and poultry companies in all parts of the state, with the result that male birds, young and old, are being corralled for market. Premium prices and prizes are offered to farmers who bring their roosters to town on special days.

Back of these rooster day celebrations is an almost statewide effort to produce higher quality eggs this summer and fall, it is explained. During the warm months fertile eggs are the first to deteriorate, but by removing the male birds from the flocks, farmers can take the first step toward insuring better keeping qualities in their market eggs. Approximately $5,000,000 is believed to have been lost by Illinois egg producers in one year as a result of marketing low quality and bad eggs, and to fertile eggs can be laid the blame for a large portion of this loss.

-W-

The Extension Messenger

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Timely Notes for Farm Advisers and others from the Agricultural College Experiment Station, and Extension Service

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Illinois Farmers Win Next Move Against Chinch Bugs

Illinois farmers have waged such an intensive fight against the chinch bugs threatening their corn crop that by June 17 there had been distributed in this state a total of 1,[illegible],000 gallons of the creosote and coal tar which the government purchased and furnished free to farmers for barrier building, it was announced by Prof. W. P. Flint, chief entomologist of the College of Agriculture, University of Illinois and Illinois State Natural History Survey.

Any further check on the pests by the use of barriers is now practically impossible in all of the 77 infested counties. For now on the chief activities in the fight will center in the late planting of emergency crops to replace those destroyed by the pests and the drouth and in the possibilities of reducing damage from the second brood.

The amount of government-purchased oil used for barriers in Illinois reached the total of 1,[illegible],000 gallons when the state was granted an additional [illegible],000 gallons on June 17. The state's original allotment was [illegible],000 gallons, but this had been increased by [illegible],000 gallons before the final additional grant of [illegible],000 gallons was made.

By June 13 the 11 states had used the entire quantity of barrier creosote and coal tar purchased by the government out of the special appropriation of $1,000,000 which was passed on June 7.

Distribution of the 1,[illegible],000 gallons of oil was made in Illinois without the cost of a cent for salaries, wages or other overhead, with the exception of transportation costs. Members of the state chinch bug control committee in charge of the distribution were Prof. Flint, chairman; J. C. Blair, state leader of farm advisers in the extension service of the College of Agriculture, University of Illinois, and Walter J. McLaughlin, director of the Illinois State Department of Agriculture.

Heavy rains in some parts of the state on June 17 caused no appreciable casualties in the hordes of chinch bugs. The pests continued to be just as serious a threat as ever to the corn crop, which farmers are now depending upon more heavily than ever as a result of the failure of many of their other crops.

Reports indicating that the rains did not lessen the dangers of chinch bug damage were received by Prof. Flint from a number of counties in the state. F. H. Thuman, farm adviser of Whiteside county, reported that bugs submerged for two hours after heavy rains of June 17 appeared to be as lively as ever after the water dried off.

"With everything done that can be done to check the bugs by means of barriers, farmers now are thinking and planning of what to do next. Suggestions to help farmers repair the damage that already has been done to their crops and to avoid as much damage as possible during the remainder of the season are being worked out by the chinch bug committee of the U. I. College of Agriculture composed by Prof. Flint, chairman; George E. Dungan, of the agronomy department; J. W. Lloyd, olericulture; T. W. Gay, dairy husbandry; J. L. Edmonds, horse husbandry, and James R. Holbert, of the U. S. Bureau of Plant Industry, Bloomington, who is cooperating with the college.

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Late Corn May Be Best Forage Crop On Illinois Farms

Despite probable damage by both chinch bugs and drouth, corn may yet prove to be the Illinois farmers' best bet as a forage crop this fall, in the opinion of G. H. Dungan, crop production specialist at the College of Agriculture, University of Illinois.

Corn is usually considered for its value as a grain crop, but in a forage shortage emergency such as may take place this year as a result of dry weather and chinch bug infestation, the plant may be called upon to exhibit its dual possibilities, it is said.

About the time the chinch bugs lay their eggs on the earlier planted corn, which usually occurs in Illinois about the last week in July, farmers may still plant corn that will develop a large amount of forage before the first killing frost, explains Dungan. Obviously such corn will not produce grain and it may not mature enough for silage, but it will prevent a forage shortage on many farms.

This corn should be drilled thickly at the rate of 1½ bushels of seed to the acre, in much the same manner as soybeans. Heavy seeding is advisable to prevent the plants from becoming too coarse for the best livestock feed. There is no particular choice as to the variety, for any well adapted seed will produce sufficient growth for forage purposes.

Sometime before the first killing frost, when the plants are tall enough the corn may be pastured or cut for hay as the farmer desires. The grain in corn plants, however, should not be pastured after the first killing frost because of the danger of prussic acid poisoning.

As a general recommendation, explains Dungan, soybeans, cowpeas, sudan grass, grain sorghum and millet are superior to corn for forage production. But this year reports indicate that most farmers have plenty of old corn on hand, while the seed of other possible crops is becoming both scarce and expensive. Thus, in the absence of other seed and in fight of threatening chinch bug damage, corn may prove the most practical emergency forage crop this fall.

-X-

Many Garden Crops Still Possibilities In Illinois

With the drouth being broken throughout most of the state, Illinois home gardeners still have time to produce considerable food for their families, if they plant the proper crops, says Leo A. Somers, horticultural extension specialist at the College of Agriculture, University of Illinois. Probably [illegible] may yet be planted in most Illinois counties with reasonable assurance of success.

Particular corn still get good, though late, crops of tomatoes, peppers, egg plant and [illegible] sprouts, if strong plants are used and growth is hastened as much as possible. Likewise, it is just the time of year to put out lima beans in northern and central Illinois, although a bit late for the southern part of the state. Furthermore, cucumbers, summer and winter squash and even an early variety of muskmelon such as Hale's Best may be planted, if no time is lost.

Sweet corn should be planted now and successively until as late as July 1, while string beans may be put out at regular intervals until late July. For those who like okra, a crop may still be had, if seeded promptly.

By dropping four or five seeds in each hill and later thinning out the plants until the most vigorous remain, Illinois growers may produce late cabbage and cauliflower crops. In the case of cabbage, however, only yellow-resistant varieties such as Wisconsin All-Head Select or Wisconsin Hollander No. [illegible] should be planted.

To supply summer greens, the season is not too late for Swiss chard, while other crops that may yet be planted include carrots, Detroit Red beets, Danish Ballhead or Copenhagen No. 1 potatoes, pop corn and dry beans.

-X-

Phosphorus Test Aiding Farmers In Pledging AAA Acres

Perfected before AAA programs were started, the [illegible] phosphorus soil test developed at the College of Agriculture, University of Illinois has come to the rescue of Illinois farmers who are participating in the government's adjustment program, according to reports by C. M. Linsley, soils extension specialist. More than [illegible] farmers in this state have signed corn-hog contracts and some 25,000 are cooperating in the wheat control campaign.

To take part in the adjustment programs, the farmers agreed to withhold from normal production at least 15 per cent of their former wheat acreage and 30 per cent of their usual corn ground. AAA regulations, however, permit the cooperators to use these contracted acres for certain purposes, one of which is the seeding of legumes for soil improvement and erosion prevention.

Desiring to grow certain legumes on the contracted acres, AAA contract signers must first know whether or not the contracted acres contain sufficient phosphorus to assure satisfactory growth. It was in such cases that the available phosphorus test proved its value in the government's adjustment programs. The soil acidity test recommended by the U. of I. College of Agriculture, likewise, was of value in determining whether the proposed contracted acres contained enough lime to grow alfalfa, red and sweet clovers.

How the phosphorus and acidity tests actually aided farmers in avoiding serious mistakes is revealed in the personal experience of H. B. Congram of Ford county as reported by Farm Adviser W. F. Purnell. Congram had decided to seed his AAA acres to alfalfa and had located this plot where it would be most convenient for his tenant. However, before seeding time Congram attended a soil testing meeting conducted by Purnell in cooperation with the extension service of the college of agriculture. He took with him soil samples from the proposed contracted acres as well as from another field not so conveniently located but still available for the purpose.

When the tests were made at the meeting, Congram was surprised to learn that the first field was medium acid and low in available phosphorus, and therefore unsuitable for alfalfa without treatment. Field No. 2 proved to be sweet, with a fair supply of available phosphorus, and hence in good condition for alfalfa production.

Like many other farmers in various sections of Illinois who had similar experiences, Congram made arrangements to change the location of the contracted acres to the second field, thereby probably saving his alfalfa seeding.

-M-

Peach Thinning To Be Profitable Where There Is Crop

With prospects for good peach prices this year, southern Illinois growers can well afford to thin out the set to obtain the greatest possible yield of fruit of marketable size, says M. J. Dorsey, chief, and R. L. McMunn, of the division of pomology, College of Agriculture, University of Illinois.

Since the crop to the north of Illinois was frozen out this year, growers of this state seem to be in a strong position in the market. This alone will repay orchardists for bringing on a high quality crop, it was pointed out.

The buds that survived the low temperatures of the past winter are, for the most part, located at the base of the shoots, it is explained. This has resulted in so uneven distribution of the buds over the tree that a different type of thinning should be practiced. The usual attempt to space the fruit should be omitted this year in favor of thinning according to the total load of the tree.

-M-

The Extension Messenger

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Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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Increased Industrial Activity Bolsters Farm Prices

Brighter days for Illinois farmers have been ushered in with the continued swell in factory payrolls, combined with increased industrial production, it is shown in a monthly review prepared by Dr. R. W. Bartlett, Agricultural economist, U. of I. College of Agriculture. With grains registering the most marked advances, the index of Illinois farm prices prevailing in May was 10 per cent higher than a year ago, the review points out.

Business conditions in May remained about the same as they were in April, and up to that time the course of business activity in the United States had been definitely upward since November, 1933, Dr. Bartlett said.

About 10 million dollars more was received by Illinois factory workers in April, the most recent month for which figures are available, than they received in April, 1933. Nevertheless, the April payroll this year was only 74 per cent of the April average for the years 1919 to 1927.

The total April income for factory workers in the country as a whole was 780 million dollars, which was an increase of 372 million dollars, or 73 per cent, over what it was in April, 1933, the review reports. However, the April U. S. factory payrolls in April of this year were only 67.3 per cent of what they averaged during April of 1923 to 1927.

The demand for food and hence the prices for farm products are influenced by such changes in payrolls of industrial workers, Dr. Bartlett explained.

"Prices of all Illinois farm grains in May of this year jumped 36 per cent above what they were a year ago. Oats, barley, wheat and corn made marked advances, while hay prices in May were 38 per cent higher than those of a year earlier.

"The principal advances in hay and grain prices can be attributed to actual or probable reductions in supplies resulting from the drouth, chinch bugs and farm adjustment programs, going along with a continued improvement in demand.

"Illinois livestock prices in May registered an 8 per cent increase over the mark of a year ago. Prices of lambs, sheep, horses, beef cattle and veal calves were higher than they were a year ago. The only classes of livestock to register a decline were hogs and milk cows. The average price of hogs was $3.15 a hundredweight on May 15 compared with $3.56 on April 15 and with $4.30 on May 15 last year. The decline for the past month was partly seasonal and partly the result of a larger than usual increase in slaughter.

"Average farm prices of Illinois livestock products in May were 16.5 per cent higher than a year earlier, with wool prices showing the most marked gains. Farm prices for eggs were 13.5 per cent higher; for chickens, 9.4 per cent higher; for milk, 13 per cent higher, and for butterfat 7 per cent higher than last year. Wool prices were 45 per cent higher than those of a year ago.

"Indexes of Illinois farm prices of products by months in 1934 compared with the same month of 1921-1929 were: January 56, February 56, March 56, April 56 and May 55. The Illinois farm price index for May, 1934, was 10 per cent higher than a year earlier."

-V-

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Lespedeza Straw Proves To Be Fair Dairy Roughage

Illinois dairymen faced with a shortage of forage for their cows as a result of the extreme drouth this spring will find threshed lespedeza straw a fair emergency roughage, suggests W. B. Mevens, associate chief in dairy cattle feeding at the College of Agriculture, University of Illinois.

Experiments just completed by the dairy husbandry department show that although lespedeza straw can not be expected to be as high in feeding value as well-cured lespedeza hay, it is nearly equal to early-cut, leafy, green soybean hay.

When 18 dairy cows were fed lespedeza straw, Mevens reports, they produced an average of 33.5 pounds of milk daily as compared to 35.5 pounds when fed soybean hay. The lespedeza straw in this case contained 7 per cent protein, while the soybean hay gave an analysis of 13 per cent protein.

Lespedeza is usually harvested for seed when the plants are well matured. At that stage the plants are lower in protein and are more woody than at an earlier stage when the best quality hay can be made. This probably accounts for the fact that the lespedeza straw was less palatable to the cows than the soybean hay. In spite of this difference, the cows consumed all but 17 per cent of the lespedeza straw, while they left 33 per cent of the soybean hay in the mangers in the form of coarse stems.

The lespedeza straw fed during these trials consisted of approximately 67 per cent leaves, 25 per cent stems and 8 per cent timothy stubble. This high percentage of leaves and the good results obtained can be accounted for by the fact that the lespedeza was cut before complete maturity. All of the leaves were carefully saved, the straw was free from mold and in good feeding condition. The leaves of the soybean hay, which was harvested very early, formed about 64 per cent of roughage, the stems 31 per cent and the pods 5 per cent.

Thus, when handled in a manner that will conserve its feeding value, lespedeza straw may be depended upon to give fairly good results as a roughage for dairy cows, says Mevens.

-W-

U. S. Inspections Speed Fruit And Vegetable Sales

Shipping point inspection service, now available in many parts of Illinois, is adding both speed and satisfaction to the sale of the state's $25,000,000 fruit and vegetable crops, says J. W. Lloyd, chief in fruit and vegetable marketing at the College of Agriculture, University of Illinois.

Illinois growers are finding that official certification of the grade and condition of their products is especially helpful in making sales on telegraph orders, since the information supplied by the inspection service is recognized as authentic in both the trade and the courts.

On a falling price market, explains Lloyd, a car of either fruits or vegetables with an inspection certificate is much less subject to rejection than a car without benefit of such service. This is a valuable advantage to the shipper. Likewise, on a rising market, the distant buyer is more certain of getting what he wants, if he buys only on the basis of official inspection. Thus more satisfactory dealing all around is made possible through the inspection.

This shipping point service is furnished by the Illinois State Department of Agriculture in cooperation with the U. S. Bureau of Agricultural Economics and may be obtained by grower, shipping agent or buyer in all localities where early apples, cabbages, peaches, tomatoes, and late apples are produced in sufficient commercial quantities.

-W-

Small Grain This Year Is Suited To Good Combining

While 1934 brought drouth, chinch bugs and unusually short wheat and oats, it also supplies optimum conditions to combine-harvest Illinois small grain crops, says A. L. Young, agricultural engineer at the College of Agriculture, University of Illinois.

In most parts of the state this season, it is possible to let standing grain ripen thoroughly. There is little danger of lodging, and there are few weeds to increase in size as the grain dries. The fact that the grain is short will prove more of an advantage than a handicap to Illinois combine operators.

As a result of these favorable conditions, however, there will be a tendency on the part of operators to thresh unusually fast, throwing a heavy load of grain and chaff on the cleaning sieves and screens. This should be avoided, explains Young, for it is likely to cause difficulty in separating even the dry foreign material from the grain. If the sieve openings are kept small enough to separate heavy foreign matter, rapid threshing will cause heavy tailings, resulting in a fairly large loss of grain in chaff and straw. Furthermore, this may cause crushed kernels when excessive amounts of threshed grain are returned to the cylinder.

Short and very brittle straw to be found in most Illinois grain fields this year will tend to increase the amount of chaff that works down through the straw rack. This will increase the amount of chaff that must be handled by the cleaning sieves. On some combines the size of the openings in the rack or conveyor can be made smaller to care for this condition.

To reduce the amount of chaff, it is generally best to use fewer concave teeth and keep them up well. Lowering the concaves may let an excessive number of heads pass through unthreshed, particularly when the straw is short.

Windrow combining this year is likely to prove somewhat risky. In fields where there are both short grain and weeds, operators should bear in mind that windrows not supported by a fair amount of stubble dry out very slowly if soaked by a rain. Moreover, when windrows that consist mostly of heads are picked up, the amount of grain left on the ground will be high. Then too, windrowing short oats where the corn stalks have not been cut into short lengths is seldom advisable.

-H-

Cultivating Orchards Being Stressed As Thing Of Past

Another of the older farm practices that is fast becoming a thing of the past in the 176,370 acres of Illinois orchards is clean cultivation, according to Dr. W. A. Ruth, chief in pomological physiology at the College of Agriculture, University of Illinois. Although it gave orchards a look of beauty and of well-being, clean cultivation is now known to do more harm than good, he said.

It is true that cultivation at certain times provides the best conditions for growth, points out Ruth, but it also paves the way for soil erosion which is always more serious than it appears. Furthermore, excessive orchard cultivation reduces the available water supply for the trees. By creating a dust mulch, which water penetrates only slowly, cultivation causes the rain to run off instead of soaking into the soil. Likewise, continuous cultivation destroys organic matter.

No definite rule for cultivation can be prescribed for all orchards, says Ruth. The age of the trees, the topography and physical condition of the soil must be considered for each individual orchard in light of the benefit or harm that may accrue as a result of certain cultivating practices.

-H-

The Extension Messenger

COLLEGE OF AGRICULTURE UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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Late-Sown Crops Must Produce Emergency Stock Feeds

Emergency feed to help carry the ten million head of livestock on Illinois farms can be obtained by planting grain crops as late as the middle of August, according to a new circular, "Late-Sown Emergency Feed Crops for Illinois," which has just been issued by the College of Agriculture, University of Illinois to help farmers cope with one of the most serious feed situations in history. Dr. L. H. Smith, of the department of agronomy, is the author of the new circular.

Soybeans, cowpeas, corn, sudan grass, rye, millet, sorghum, rape and buckwheat for emergency fodder purposes may be planted in favorable years as late as mid-August, the circular points out. It is too much to expect normal yields from these late-sown crops, even if the weather is favorable from now on, but they will enable farmers to make the best of a bad situation.

A further development in the drouth and chinch bug shortages of livestock feed is the lifting of AAA restrictions to permit Illinois farmers to plant fodder corn and grain sorghums on any or all of the 1,700,000 acres of land which are being rented to the government under wheat, corn-hog and tobacco contracts.

For the most part, farmers have little choice between the different emergency crops because seed of most of them is scarce, it is pointed out in the college's new circular. It is being suggested that farmers use such seed as is at hand. If corn is available, as it usually is, planting it promptly where it is reasonably safe from chinch bugs will probably give better results than delaying to search for some other crop.

Sudan grass has given reasonably good results at the U. of I. college of Agriculture when it has been planted for emergency purposes as late as the middle of August. It is a fast grower and can be used for hay, pasture or silage. On the experiment station farm it can be used for pasture as early as four to six weeks after planting. One objection, of course, is that chinch bugs like it. Large seed dealers may be able to furnish seed. It may pay, particularly where large quantities are desired, to inquire in Kansas, Oklahoma and Texas where sudan grass is grown.

Millet is another of the crops that can be sown late in the season. It is not so highly regarded as sudan grass, but seed of it can sometimes be obtained after the sudan supply is gone. This is another of the crops that the chinch bugs like.

Sorghum will withstand very hot, dry weather, but it is subject to chinch bug attack. There are many kinds of sorghum, and the crop can be used for hay, forage, silage, seed or the preparation of sirup.

Rape, one of the chinch-bug-proof crops, is used for pasture, especially for sheep and hogs. It should not be fed to dairy cows because it gives an off-flavor to the milk.

Buckwheat, another chinch-bug-proof crop, may be sown until midsummer for a seed crop. It will thrive on poorer soil than will many other crops.

A mixture of sudan grass and soybeans has given good results on the experiment station farm of the agricultural college.

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Banner Illinois Year Predicted For Legumes And Lime

With approximately 1,500,000 acres of Illinois corn and wheat land retired from normal production as a result of the government's adjustment programs, 1934 may become the banner year since 1930 in the application of limestone and the seeding of alfalfa and other legumes in this state, says C. M. Linsley, soils extension specialist at the College of Agriculture, University of Illinois.

This is borne out by reports from county farm advisers in all parts of the state. In all these reports there is evidence of a new and livelier interest on the part of farmers in the college's long-time program for more legumes and better balanced cropping systems.

Two of the most noticeable effects of the AAA in Will county are the increased demand for alfalfa and sweet clover seed and the increased use of the soil testing service to protect these new legume seedings, according to L. W. Braham, farm adviser at Joliet. "Up to May 1," Braham explains, "the demand for alfalfa seed increased more than 250 per cent and sweet clover seed 300 per cent over the amount purchased during the first four months of last year. As a protection for these increased purchases, samples of soil representing more than 500 acres were tested and mapped during the month of April alone."

Thirty-two carloads of limestone were ordered by Peoria county farmers during April and May of this year, reports J. W. Whisenand, farm adviser there, while in Carroll county 15 crushers have been operated at local quarries to supply the limestone demands of farmers. "It looks like one of the high years for liming and sowing alfalfa," is the comment of M. P. Rooke, Carroll county farm adviser.

Seedings of alfalfa in Stephenson county will be unusually heavy this year, if the number of soil tests and inquiries relative to the seeding of alfalfa can be taken as an indication, writes Farm Adviser T. J. Banter. In one month 467 acres of Stephenson county soils were tested for acidity and hundreds of inquiries received relative to legume production.

The corn-hog program has directed the attention of Douglas county farmers to the importance of crop yields, and as a result there is a growing interest in legumes this year, Farm Adviser Ward C. Cannon reports. A similar trend is noted in Edwards county where Farm Adviser T. D. Murphy reports gains in alfalfa acreage. Sales of alfalfa seed in DeWitt county have been several times higher than normal, in the opinion of Farm Adviser H. N. Myers, and E. J. Amrine, farm adviser in Wayne county, reports several hundred tons of limestone ordered for farmers in his county.

-M-

Use Of Tractors Making Abnormal Gains In Illinois

An abnormal increase in the use of tractors is taking place on Illinois farms today as a result of the steady decrease in available work horses and the improvement in tractors and tractor equipment, says R. I. Shawl, assistant chief in agricultural engineering at the College of Agriculture, University of Illinois. The latest available census figures credit Illinois farmers with nearly 70,000 tractors, or an increase of almost 61 per cent over the 1925 tractor enumeration of 43,565.

This trend in the use of mechanical power has been stimulated in the last few years by a decided increase in the over-all efficiency of tractors, resulting from improvements in design, material and construction. Quality, dependability, adaptability and long life are now demanded by and available to tractor buyers.

Furthermore, in their efforts to reduce crop production costs, Illinois farmers who grow row crops have been attracted to the modern general-purpose type of tractor with its multiple-row cultivating and planting equipment, explains Shawl.

-M-

Delayed Peach Spray Likely To Pay Well This Year

With prospects for higher prices this summer, Illinois peach growers who are fortunate enough to have a crop will save money and get better results if they delay applying the usual sulphur sprays or dusts until two or three weeks before harvest.

This is especially true this season because of the dry spring and the light infestation of curculio, advises H. W. Anderson, chief in pomological pathology at the College of Agriculture, University of Illinois.

Brown rot, the most serious fungous disease of peaches does not cause much damage until the peaches approach maturity, it is explained. In seasons of heavy, early-summer rainfall, some fruit rotting may occur four or five weeks before maturity, but this is rare under Illinois conditions.

Since sulphur sprays or dusts are good insurance against brown-rot damage, growers will make a serious mistake, if they neglect this practice and allow the disease to become established in their orchards. With a general scarcity of peaches and higher prices for quality fruit, the protective spray will pay good dividends on time and money expended.

The most effective spray schedule for brown rot is one application about two weeks before harvest and another as near harvest as possible. Wettable sulphurs which do not stain the fruit or lime-sulphur dusts should be used. Lead arsenate should not be added to the spray at this time, and lime may be omitted when the wettable sulphurs are applied.

Although some buyers are inclined to discriminate against fruit showing evidence of spray materials, neither the lime nor the sulphur is injurious. Furthermore, the presence of brown rot is likely to cause greater market loss than the appearance of a small amount of lime or sulphur on the peaches, it is said.

-M-

Big Investments In Livestock Justifies Having Shade

An investment of more than $1[illegible],000,000 which Illinois farmers already have in livestock readily justifies the small amount of money and labor that might be spent in supplying shade for their animals during the extremely hot days of midsummer, says W. A. Foster, farm building specialist at the College of Agriculture, University of Illinois.

Sunlight in the winter is a tonic, giving warmth and comfort to all animal life, points out Foster. But in summer it becomes so intense and severe that livestock should have protection from its blistering rays in the middle of the day. Today many Illinois pastures are void of shade and the animals confined in them must suffer from both extreme heat and insect pests.

If trees are not available for shade, artificial protection can be erected with small cost and a little labor, Foster explains. A few posts and poles covered with brush or wire, then a thin layer of stalks, weeds or straw will give adequate shade. The rain will pass through this thin structure, thereby reducing the dust caused by the stock stamping at flies.

In line with the renewed interest in soil conservation and reforestation, setting out a few trees in each field and pasture will supply a shade in a few years that will pay large returns on a small investment. In carrying out such a plan, farmers should use care in selecting the trees, choosing healthy, quick-growing varieties that will become beautiful, hardy specimens. A protecting barrier should be built around the trunks of these trees so they will not be injured by the animals. This will not only provide shade for the livestock, but will add beauty to the farmstead.

-M-

The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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First Illinois Corn-Hog Contracts Now In Washington

Approximately 1[illegible], [illegible] Illinois farmers who have signed corn-hog contracts are looking forward to the arrival of the first checks for close to $35,000,000 in benefit payments, following the announcement by officials of the College of Agriculture, University of Illinois that the first of the contracts from this state have been sent to Washington.

The first contracts--87 in number--were from Piatt county and were mailed to Washington Saturday night, July 7. As soon as the contracts are checked and accepted by the Secretary of Agriculture, the first checks for benefit payments to farmers in this state will be started back from Washington. All those in the first consignment were early payment contracts, that is, the farmers signing them agreed to accept changes in their contract figures without having the changes submitted for their approval.

Sixteen other counties made progress toward getting their checks when it was announced that they had adjusted the contracts of their farmers to meet the quotas of corn and hog production as set by the state board of review. Four other counties on [illegible], July 9, had all but completed the adjustment of their contracts for final approval and five other counties will probably get the work finished this week, it was announced by A. J. Surratt, state agricultural statistician and chairman of the state board of review.

The 16 counties that have just met their quotas are Boone, DuPage, Lake, DeWitt, Piatt, Effingham, Fayette, Monroe, Williamson, Saline, Wabash, Washington, Clark, Clay, Cumberland, and Moultrie. Six counties that had completed the work earlier are Cook, Will, Bond, Calhoun, Lawrence and Gallatin.

The four counties next in line to meet their quotas are Scott, Ford, Massac and Edwards. The five which probably will get the work done this week are Cass, Christian, Greene, Madison and Crawford.

After the counties have met their quotas, all that remains to be done is to get the contracts typed in final form, signed for the second time by the producers and then sent to Washington, after the necessary clearance papers have been obtained from the state board of review.

With the payment of benefit checks to corn-hog farmers just getting started, more than seven million dollars had been distributed up to the first of July, according to word received by the U. of I. College of Agriculture from AAA headquarters at Washington. Nearly 65,000 farmers had shared in these first payments, most of which went to those who signed early payment contracts.

Once they are sent in to Washington by the county corn-hog production control associations, the contracts are handled at the rate of 40,000 a day. A rate could be even speedier than this and the checks could be sent back still sooner if the contracts were absolutely free of mistakes. When examiners find mistakes and inadequate information in the contracts, the AAA must write a letter to the county corn-hog production control association to get the correct facts. This takes time, but care of this kind must be exercised in dealing with more than a million cooperating corn-hog farmers throughout the United States, it was pointed out.

-M-

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Details Of AAA Wheat Program Remain Much The Same

Approximately [illegible] Illinois farmers who are cooperating in the government's AAA wheat program were assured three million dollars, or about that much, in crop insurance and benefit payments on their [illegible] crop when Dean Herbert W. Mumford, of the College of Agriculture, University of Illinois, received official word from Washington relative to plans for the coming year's wheat program.

The required reduction on wheat seedings for harvest in [illegible] is to be [illegible] per cent from the base period of [illegible], the same as was the case last year. However, the announcement stated that more details were being sent in amplification of this point.

Benefit payments for making this adjustment are to be paid to the cooperating farmers at the rate of [illegible] cents a bushel on [illegible] per cent of their average production during the base period of [illegible], the same as was the case last year. The purpose is to give cooperators a parity price on that portion of their wheat which goes into domestic consumption, and that portion is about [illegible] per cent.

Twenty of the [illegible] cents is to be paid this October and the remaining nine cents less local administrative costs, next June.

The total benefit payments for the state figure up close to three million dollars less the cost of local administration.

The processing tax of [illegible] cents a bushel is to be continued as a means of financing the wheat program, according to the word received by Dean Mumford.

Announcement of the AAA wheat plans for the coming year continues a wheat adjustment program which Illinois farmers have been carrying on for about a score of years. Between [illegible] and 1933 farmers of the state, guided by the teachings of the extension service, U. of I. College of Agriculture and their county farm advisers, cut their annual acreage of winter wheat 40 per cent, or more than one-half.

-0-

Spreading Chinch Bug Fungus Fails To Check Insects

While some method of stamping out the chinch bugs now threatening Illinois corn fields would be welcomed, there is no hope that it can be done by spreading spores of the chinch bug white fungus disease or by putting out bugs that are infected with the disease, according to W. P. Flint, chief entomologist of the College of Agriculture, University of Illinois and Illinois State Natural History Survey.

If the weather should continue normally dry, the disease will not spread to other chinch bugs, and even the distribution of large quantities of the disease spores will have no effect on reducing the number of insects. If the Illinois corn belt should have an unusually wet summer, the disease will spread naturally without artificial propagation or spreading.

Fifty years ago, during the heavy chinch bug outbreak in [illegible] to [illegible] and for a number of years thereafter, experiments were carried on in Illinois by the late Dr. Stephen A. Forbes and Dr. Snow of Kansas in an attempt to kill the chinch bugs by spreading the disease among them. For a time it appeared that this method of control would prove successful. Continued studies, however, gave disappointing evidence.

The Natural History Survey from [illegible] to [illegible] developed a method of growing the disease on different types of media and was able to produce spores by the bushels. As long as the weather remained dry, it was found that putting out spores even by the peck in infested fields had no effect in killing the bugs. If the weather became wet for a considerable period, the disease always appeared naturally and there was no advantage in spreading diseased chinch bugs or disease spores.

-0-

Silos Aid Illinois Farmers In Acute Forage Shortage

Silos are coming into such importance as a result of the critical feed situation that one farmer even wanted to know how he could move a concrete silo instead of building another, according to W. A. Foster, farm building specialist of the department of agricultural engineering, U. of I. College of Agriculture.

Extremely dry weather and the chinch bugs have combined to reduce the amount of hay and other forage that are normally stored for winter livestock consumption. But on farms with silos, this loss can be overcome at least partially by putting up additional silage. Corn planted or re-planted too late to mature for grain will make good silage. Furthermore, such chinch-bug resistant crops as sunflowers, soybeans and cowpeas may be made into silage. Where grain sorghum is grown, this too may serve as a substitute for the more common corn silage.

Directions for successfully moving a concrete silo, which at least one farmer wished to do, would be hard to give, but if a new silo of any kind is to be built, there are certain things that must be kept in mind, Foster pointed out. In the first place, the structure should be strong enough so that it will not burst under great pressure. It should be smooth on the inside so that the ensilage will settle freely, and leak-proof so that the juices will not seep away and air enter to cause spoilage. The silo should be economical, of ample capacity, storm and fire-proof and attractive. The latter feature may not be essential, but it will add to its value as a permanent improvement in the farm building group.

Whether or not a silo is necessary on most Illinois farms is, of course, debatable in some cases, says Foster. However, with the increased difficulty of earning a livelihood out of the soil because of keen competition, insect pests, drouth and floods, late freezes and early frosts, the silo is becoming increasingly important in Illinois farm operations.

Silo filling is hard work, but it is all done in a few days in late August and early September. Then the farmer has available, in a 100-ton silo, sufficient feed to carry a herd of 25 cows through the winter with enough silage left over for four to six weeks feed during the summer when pastures are short.

-V-

Close Inspections Cut Repair Costs On Farm Tractors

Some kind of a long-distance record is likely to be claimed by a ten-year-old tractor at the College of Agriculture, University of Illinois, and many of the 70,000 tractors now being operated by Illinois farmers would do as well if they were given the proper care, says R. I. Shawl, of the department of agricultural engineering.

For the past nine and a half years, the U. of I. department of agricultural engineering has supervised the operation of a tractor during which time it has completed nearly 6,000 hours of general farm work. The average yearly cost of repairs for this machine has been $59.37. The tractor is still good for several more years of work and need not be "junked" until the hourly cost of operation exceeds that of the newer and better tractors of present manufacture.

No matter how well a tractor is cared for, there will be some wear, breakage and need of repair, explains Shawl. These repair costs, however, can be reduced to a minimum by daily and yearly inspections and the use of high-grade oils, greases and fuels supplied from clean containers. Checking over a tractor each year locates all the loose bolts and nuts and the parts that need adjusting or replacing, thus preventing serious delays in the field. Taking care of every repair or adjustment as soon as it is found also adds to the life of a tractor and reduces maintenance costs.

-M-

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Crop Acre Reduction Is Meeting Opposition

[illegible] agreement [illegible], [illegible] of Illinois corn and wheat land from [illegible] AAA [illegible] successful only if livestock [illegible] productio[illegible] in the opinion [illegible]. S[illegible], [illegible] at the College of Agricul[illegible], Univ[illegible] of Illinois.

[illegible] used to [illegible] old steady and give [illegible] cultural practices, he believes.

[illegible] cattl[illegible] to be gained by raising [illegible] of forage can be used [illegible], changes made by such [illegible] it. On the other hand, [illegible] even more difficult to [illegible] uses of corn and wheat.

[illegible] government's adjustment [illegible] restoring the fertility of high-[illegible] land. If [illegible] entirely removed from cultivation, it will [illegible] of harvested crops be main-tained [illegible] fertility. [illegible], soil manure has no equal.

For [illegible], [illegible] of burdensome surpluses [illegible] five million pounds [illegible] would supply the total [illegible] five million pounds of [illegible] present scale of beef con-[illegible].

[illegible] corn, but [illegible] oat crops, amounting to a few [illegible] on the grain market so long as [illegible] permit the utilization of the surpluses, [illegible] good the deficit by the varying [illegible]. Without [illegible] able to furnish this safety [illegible] have a great influence [illegible].

-k-

Cattle Feeders' Day To Be Held at U. of I. August 3

The annual cattle feeders' day will be held Friday, August 3, at the College of Agriculture, University of Illinois, it is announced by Prof. H. P. Rusk, head of the department of animal husbandry. Despite the poor season, some of the gains made by the steers in cattle this year beat those that have been made by any cattle of similar age and weight at the college experiment station during the past 20 years, it is said. The results will be available for cattle fattening investigations, on [illegible] and on maintenance of the breeding herd.

-k-

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Lazy Pigs Hogs Don't Paid A Profit For Thrifty Pigs

"Lazy" pigs will be no more profitable this year than they have been in recent years, in spite of the fact that the country's corn supply is one of the highest in years and the price of pigs is very reasonable.

This is the opinion of W. E. Carroll, extension animal husbandman of the College of Agriculture, University of Illinois, who says all the "lazy" type of hogs now being carried on Illinois farms will be unprofitable and should be disposed of before the new crop.

Never in the history of swine production in Illinois will corn be given more respect. Every bushel must be made to count by pushing the fattening period, Carroll said. Short feeding periods of 90 days, or less, are the rule rather than the exception. This is very different from the long feeding periods of 180 days, or more, that were the rule a few years ago. The difference in favor of the short feeding period is large. The explanation consists in the difference in rate of gain between rapid-gaining and slow-gaining pigs. It must be remembered that light-bred pigs are the ones that usually make rapid gains.

"Lazy" pigs that are allowed to feed on full feed for long periods usually require more feed per unit of gain, and so become unprofitable. They are likely to become runty. They do not respond to the feeding of tankage, minerals, or other supplements as well as the rapid-gaining pigs. They are the ones that usually get the worst of the fight at the feeding floor.

That slow-gaining pigs usually are unprofitable is shown by the results of a feeding trial with pigs fed individually at the University of Illinois. In this trial, 74 head gained more rapidly than the other 77 head and were classed as rapid-gaining pigs. The 74 rapid-gaining pigs, fed up to 200 pounds, required 4.5 bushels of corn per hundredweight gain, while the 77 slow-gaining pigs required 5.5 bushels per hundredweight gain. The 74 rapid-gaining pigs required 22 days less feeding than the 77 slow-gaining pigs, and required 99 pounds less corn per head. The 77 slow-gaining pigs required 99 pounds more corn per head than the 74 rapid-gaining pigs, and required 22 days more feeding to reach 200 pounds.

Spring-farrowed pigs that are fed for the early fall market before the corn crop is ripe, or those that must be carried over winter, usually do not gain as rapidly after they are put in the fall lot as they did on the summer pasture. With full-feed corn the relationship is usually less pronounced, but it is often important.

-4-

Tomatoes From Here or There Is A Health Factor

Practically all of the canned tomatoes packed in Illinois, and there are no worries about getting them to the factories, are grown on contract. The tomatoes are delivered to the market before the canning season, it is reported by W. A. Huelsen, associate chief in horticulture at the College of Agriculture, University of Illinois.

Along the northern border, where canning factories are few and far apart, the growers are contracting tomatoes for the first time. The end of the business is just as civilized as growing for market, and it does not necessarily fill and kill, Huelsen believes. The following are the things to be considered:

Practically all canning tomatoes in the northern part of Illinois are grown on rich river bottoms returning to cultivation after a short-term of several years. In addition many sections of northern Illinois are growing tomatoes for the first time this year on contract for a large eastern concern which is building a new factory in Chicago. In the year of 1926, over 7,000 acres were devoted to the canning tomato crop in this state.

-1-

Eight Mistakes Limit Profit Possibilities Of Pullets

Eight common errors are largely responsible for the worry, costly, non-laying pullets found among Illinois' 37 million farm chickens being housed at October 1 each year, says H. H. Alp, poultry extension specialist at the College of Agriculture, University of Illinois.

During the summer months many farmers are not "getting acquainted" and consequently neglect the care of the birds when they move into the roost. As a result of this neglect, the pullets are so stunted that they fail to produce the number of eggs that might ordinarily be expected of them. Pullets which were properly reared and cared for usually give satisfactory results in the laying house, and the poultryman finds that efforts to remedy the mistakes made in rearing, difficult and costly, usually bring disappointing.

Among the common mistakes listed by Alp are: Light brooders, empty water troughs, dirty brooder house, without screens, lice and mites in the brooder house, old contaminated range, outdoor feeding [illegible], overcrowding, sick birds allowed to remain in the flock.

Probably the greatest error in poultry management, after brooding is corrected, is failure to adjust the ration of feeds to suit the changing conditions and growing pullets. The mixture fed should be kept in the brooder house and so constructed that it will not only prevent waste and contamination of the feed, but will also keep the mash dry. Every laying house should be equipped with at least two good-sized feeders. Many poultrymen have found it convenient to use one for the mash.

Failure to move the feed hoppers is also a common error. Unless the feeder is placed on a wire platform, the ground around it will soon become contaminated with poultry manure, and the disease [illegible] and parasites are encouraged greatly.

Like the feed, the water should be protected from contamination. Cleanliness around the drinking trough is extremely important. A good idea is to place the trough on a large, wire platform so that the birds cannot be wetted in the mud caused by spilled water. Furthermore, the troughs should be filled often enough daily so that there is always plenty of water for the birds at all times.

-4-

Spring Cabbage In Full Garden Lists Solid Heads

Illinois gardeners whose spring planting is timed to mature cabbage [illegible] of the severe drouth from mid-April to mid-June will find Copenhagen or celery cabbage a worthy addition to the full garden for fresh heads, kraut and cooking, suggests H. L. Weaver, olericultural specialist at the College of Agriculture, University of Illinois.

Of the leading sorts, the narrow-headed types have been found to mature more rapidly, a higher percentage of plants head out under stressful conditions, they are fairly uniform in size and shape and will pack well for shipment. Three of the varieties, the P.T.I., Special Narrow Head and Pibilli, have been tested at the U. of I. College of Agriculture with good results.

For home use or local market, the Copenhagen and the Golden Acre yield much finer quality for salads or slaw than any narrow-headed type.

Seed of the main crop is usually sown in central Illinois about July 1, and August 1 plantings will mature if the fall is even moderately favorable for cabbage. Set plants late enough so they will not arrive too early. All planting should be made where crops can be irrigated, for poor results can be expected when water is not available.

-4-

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COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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Crop Prospects Indicate Improved Price Situation

With reductions in both carry-over and current production, Illinois farmers should enjoy a more favorable price situation this fall than they have in recent years, says R.C. Ross, assistant chief in farm management at the College of Agriculture, University of Illinois.

A summary of carry-over on July 1 shows that Illinois farmers had less than half as much corn and oats on hand as they did last year at this time and about two-thirds as much as in 1932. What carry-over in this state is 12 per cent less than a year ago.

Excepting possible further damage by the chinch bug, the 1934 corn crop may be about 81 per cent of normal this year. This will be 3 per cent larger than that of 1933 and 16-per-cent smaller than 1932. However, it is too early to fully estimate the probable chinch bug damage, points out Ross.

Illinois' spring wheat crop this year has been estimated at 89 per cent of normal or slightly larger than last year, but the oats crop is likely to be only 66 per cent of the 1932 crop and 71 per cent of the five-year average. Both drouth and chinch bugs have affected the spring, low oats production, while barley fared very well, it also ranging that a normal crop but on a much reduced acreage.

The hay crop for the state is estimated at 77 per cent of normal with timothy and clover being particularly short. Alfalfa, while reduced by the drouth, stood up much better than other hay crops. Soybeans have been planted 170 per cent over normal planting and are reported to be in the condition of 20 per cent. This represents a marked change in the crop, most of which is planted and harvested by the government under the Agricultural Adjustment Administration programs. A much larger proportion than usual of the soybean crop will probably be available to supplement the scant supply of other forage crops, it is believed.

Crop production for the country as a whole is also much below normal. Based on estimated acreages and yields in prospect on June 1 as compared for a period of years, corn will be 80 per cent of normal, all wheat 62 per cent, oats 48 per cent and hay 74 per cent. The cotton crop, however, is expected to increase 13 per cent above the five-year average.

—4—

Winter Kills May Be Outlook Of Chinch Bug Plague

If the winter turns dry, much bug may destroy between 30 and 40 per cent of the Illinois corn crop, according to estimates made by V. P. Flint, chief entomologist of the Illinois State Natural History Survey and of the College of Agriculture, University of Illinois. However, wet weather during the next two or three weeks will hold the bugs down to 10 per cent of the crop. Whether or not the insect will be abundant and destructive next year depends upon the weather between now and spring, Prof. Flint said.

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Illinois Farmers Making Record Use of Electricity

In spite of the fact that agriculture is just emerging from two years of record low prices, Illinois farmers are using more electricity today than ever before, it is revealed by a rural electrification survey recently completed under the supervision of the College of Agriculture, University of Illinois.

Farmers who recently have secured electrical service for the first time far outnumber those who discontinued the service as a result of the depression, the survey showed. Furthermore, in general those who have discontinued the service made little use of it when they had it.

The survey covered 12 representative Illinois counties and was made as part of a CWA project.

On the basis of findings made in the survey, 43,570 of the 214,495 farms in the state have electricity, while the remaining 170,927 would like to have it, according to E. W. Lehmann, head of the agricultural engineering department of the college. Although there are many farmers who are not financially able to have electric service, all of those interviewed said they would like to have it. Thus, if they had some satisfactory means of financing the building of lines, purchasing the equipment and buying energy, they would invest in this type of improvement as well as in automobiles and tractors, Lehmann believes.

Of the 43,570 Illinois farms which have electricity, 29,330 are on power lines while 14,240 have home plants. Likewise, the survey disclosed that 8,960 of the total number have electrically operated water systems, and 5,690 have electric stoves. There are 4,870 mechanical refrigerators, but since there was no distinction made between the various types of mechanical refrigerators, the survey does not indicate the number that are electric or gas operated.

There is a greater interest in the use of electricity for refrigeration than for cooking on Illinois farms. This is no doubt caused by the fact that fuel for cooking can be obtained easily on most farms and a reasonably satisfactory means of cooking is already available.

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Oats Sown With Alfalfa Lessen Damage From Erosion

Damage from dust storms which proved so devastating to young alfalfa seedings in sections of Illinois this spring, can be practically eliminated if oats is sown as a nurse crop with the new alfalfa seedings this fall, says C. H. Farnham, assistant in soil experiment fields at the College of Agriculture, University of Illinois.

Largely as a result of the poor stands of forage caused by the drouth this spring and the provisions of the AAA programs in which some 125,000 or more Illinois farmers are cooperating, it is anticipated that an exceptionally large acreage of alfalfa will be seeded throughout the state during the next six weeks. An appreciable amount of these seedings will be on sandy or light wind-blown soils which are subject to wind erosion capable of ruining seedings made during the latter part of the summer.

Tests at the Oquawka soil experiment field, maintained in Henderson county by the U. of I. College of Agriculture, show that this damage may be largely done away with by the use of oats as a combination nurse and cover crop for fall-seeded alfalfa on sandy land, points out Farnham. Observations made at the Oquawka field this spring disclosed no damage to alfalfa seeded last fall where surrounded by good oats growth. However, a few feet away where no oats had grown the alfalfa was either badly damaged or entirely killed by the wind-blown sand. In a larger unprotected area on the field, sand had drifted several inches deep, completely burying a strip of bluegrass.

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Washer Plans Aid Apple Men Meet New Residue Limits

Illinois commercial apple growers may not need to buy new washing machines, in spite of the more strict regulations placed on the amount of lead and arsenic residue permitted on apples for interstate and international shipment, in the opinion of R. H. Reed, agricultural engineer at the College of Agriculture, University of Illinois.

Remodelling the apple washing machines now in use so that the chemical washing solutions may be heated to a temperature of 90 to 110 degrees Fahrenheit will materially increase the amount of residue removed, and in many cases will eliminate the necessity of buying a new washer, says Reed. This heating can be accomplished with electric, hot water or steam heating systems as described in a mimeographed publication written by Reed.

Washing apples has come to be regarded as an accepted part of the production and marketing program of many Illinois fruit growers. In past years a few growers washed their apples to improve the appearance of the fruit, but since tolerance limits have been placed on the amount of spray residue that may be present on fruit to be shipped in interstate and international commerce, the washing practice has become more common.

Brushes, sprays and other mechanical means, as well as a variety of chemicals and wetting agents have been used to increase the percentage of residue removed. However, in seasons and areas where particularly heavy spray applications have been required to combat fruit diseases and insects, many of the washing machines in use will not remove enough of the lead and arsenic residues to meet present regulations. This problem brought about the development of the heating process.

Tests at the U. of I. College of Agriculture show that six times as much residue remains on apples washed in solutions at 65 degrees temperature as remains on those washed in the same type of machine at 110 degrees. Detailed information on installing the heating systems may be obtained by writing the department of agricultural engineering, College of Agriculture, University of Illinois, Urbana.

-M-

Six Contests Scheduled To Settle Team Pulling Honor

Two out of Illinois' 707,000 horses will be acclaimed the champion pulling team of the state following six horse-pulling contests to be held during the months of August and September, it is announced by E. T. Robbins, livestock extension specialist at the College of Agriculture, University of Illinois.

The first of the contests will be staged during the state fair at Springfield on August 21 and 22. The next will be at St. Joseph in Champaign county on August 28, and the third at Roseville in Warren county on August 31. Augusta in Hancock county will be the site of the fourth contest on September 4, while the remaining two will be conducted at Sandwich in DeKalb county on September 5 and at Tuscola in Douglas on September 15. Teams from all of the surrounding and nearby counties are expected to be entered in the respective pulling contests.

A dynamometer owned by the U. of I. College of Agriculture and operated by members of the agricultural extension service staff will be used in determining the pulling power of the teams taking part in the contests. Competing teams will be divided into two classes, those with a combined weight of less than 3,000 pounds and teams weighing 3,000 pounds or more.

Last summer the 4,000-pound team owned by Willard Rhodds, of Springfield, set the state record in the class of heavy teams by exerting a pull of 3,225 pounds for 7½ feet. This was equivalent to pulling five 14-inch plows cutting furrows six inches deep in stubble ground.

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Trench Silo Means Of Conserving Shrinking Corn Crop

With Illinois' corn crop threatened by the prolonged drouth as well as the ost serious chinch bug infestation in half a century, many farmers of the state may e able to save the maximum amount of their corn by constructing trench silos, suggests . W. Lehmann, head of the agricultural engineering department at the College of griculture, University of Illinois.

Reports indicate that the corn stalks are beginning to dry up in some areas. f extreme heat and dry weather should continue, farmers will want to take immediate teps to conserve as much of their corn as possible in the form of silage. In such ases, mimeographed instructions on digging trench silos, published by the U. of I. ollege of Agriculture will be of considerable value.

A trench silo is merely a large ditch with the ends on an incline so that a eam or tractor can be driven through it. Practically all construction may be done ith a clip scraper and consequently the expense is extremely small. The slightly loping sides are later smoothed off with a spade.

The size of the trench will, of course, depend upon the amount of livestock o be fed from it and the condition of the silage at the time of cutting. A good-size rench silo is about 8 feet deep, 8 feet wide across the bottom of the trench and 10 o 12 feet wide across the top. The length will depend on the amount of silage to be ut up. If allowance is made for spoilage, 50 to 60 cubic feet will be required to tore a ton of silage for feeding.

Selection of a site with good drainage is important in constructing a trench ilo. A soil which is too sandy or one in which the water table is too high is not atisfactory. An objection against trench silos is the accumulation of water when there s a heavy rainfall. This can be overcome to a large extent by laying a drain under he trench, or perhaps the trench can be located so that the lower end opens onto a lope.

Because trench silos are not very deep, the silage does not pack much by its wn weight, and thus should be tramped by men, animals or a tractor during and after illing. It keeps best if covered with straw and then several inches of dirt to make rounded top to shed water.

An experimental trench silo built in another state was filled with 115 tons f silage, and a shrinkage of about 14 per cent, or one-seventh, was noted. About half f this was spoilage. Most of the spoilage occurred at the top, indicating that it is ecessary to cover the silage well. When the silo is opened, the silage should be re-oved from one end and the silage taken from the entire end section each day so as to educe the danger of spoilage.

More detailed information relative to the construction of trench silos may be btained by writing the agricultural engineering department at the College of Agricultur niversity of Illinois, Urbana.

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Hail Damage To Corn May Not Entail Much Crop Loss

Corn struck by a hail storm such as visited several Illinois counties recently may not always turn out to be a complete loss, says G. H. Dungan, associate chief in crop production at the College of Agriculture, University of Illinois.

Much depends upon the severity of the storm and the stage of the corn at the time of the storm. Hail seldom removes all the blades, but more often splits and shreds the leaves to a greater or less degree. This type of injury is not so serious as complete blade removal.

Experiments conducted by the U. of I. College of Agriculture, in which the blades of corn plants were split as if hit by hail, showed only one-fourth the reduction in grain yields as compared to corn plants in which all the blades were removed, points out Dungan. This indicates that as long as a piece of green leaf is hanging on a plant, it is functioning in the direction of grain formation. For this reason, crop insurance adjustors usually like to wait as long as possible after a hail storm before appraising the damage. This gives the corn plants an opportunity to recover to the maximum extent.

Furthermore, if the storm should strike before the plants are tasseled and if the growing points are not broken out, corn can recover to a surprising degree. The emerging tassel brings along with it two or three blades which because of their newness and excellent exposure to the sunlight are very efficient aids in grain formation. However, if the corn is fully tasseled at the time of the storm and the hail beats off the blades, there will be little or no growth of plant or ear thereafter, explains Dungan.

Plants like soybeans and tomatoes which can send out new growth from buds that have been dormant may often even often show a marked improvement two or three weeks after a hail storm. Artificial hailing experiments with corn, however, show that it has much less capacity to survive a hail storm.

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Utility Instead Of Faddish Sires Best Profit Makers

Blue-ribbon-winning livestock fashions may come and go like feminine styles, but Illinois producers who strive to obtain the maximum returns from their meat animals should select their breeding stock more along utility lines, says E. J. Robbins, livestock extension specialist at the College of Agriculture, University of Illinois. Only farmers who raise the type and size of animals demanded by consumers can expect to sell their livestock for the highest prices, regardless of the latest mode at the livestock shows, he says.

At present many cattle raisers are finding that the fashionable little bulls beget calves that grow too slowly, points out Robbins. When ready for market these yearlings will weigh only 800 pounds, while somewhat coarser stock will tip the scales at half a ton. It is the larger yearlings that are making the most money because they more nearly fit the needs and desires of the market. Larger sires will aid many cattlemen in producing the larger, more desirable yearlings.

Likewise, early lamb producers are coming to realize that they need rams of considerable size, if they are to get the largest possible market returns. For this reason, many farmers are changing to the larger breeds of sheep. In the case of hogs, however, boars weighing considerably less than 1,000 pounds are more likely to fit the needs of most producers, rather than the excessively huge sires seen at fairs and livestock expositions.

Some breeds of livestock need more stretch while others need more compactness to supply sires for most farm herds and flocks. Thus the breeder who can keep his stock along utility standards will render a practical service for the livestock industry, says Robbins.

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New Steps Taken To Raise Quality Of Illinois Wheat

A new drive to further improve the quality of Illinois' wheat crop valued at an average of more than 1 million dollars annually is on, it is announced by J. C. Hackleman, crops extension specialist of the College of Agriculture, University of Illinois.

As part of the work, 10,000 bushels of seed wheat already have been signed up for a new cleaning service that has just been started in five soft winter wheat counties of southeastern Illinois. It is estimated that as much as 40,000 bushels of seed wheat in those five counties may be cleaned before seeding time. The 10,000 bushels already signed will seed approximately 8,000 acres.

Approximately 375 soft red winter wheat growers attended meetings which the extension service of the agricultural college recently held to launch the wheat improvement program in Gallatin, White, Edwards, Wabash and Lawrence counties.

This territory was once recognized as producing some of the best quality soft winter wheat in the entire winter wheat belt. In recent years, however the increasing amount of garlic, cockle, cheat and other weed seeds in the grain has lowered the quality and taxed growers with a heavy penalty in the form of price discount of from one to five cents a bushel.

It was also disclosed during the recent meetings that much of the soft winter wheat in southeastern Illinois is now infected with the serious disease, smut, or stinking smut. In some cases it is believed that buyers are not making bids on the grain but are merely taking samples and offering to buy to sell the wheat for the owning farmer for what it will bring.

Farmers are being urged to have their seed wheat run through a fan mill under a heavy blast of air and then treated with one of chemical dust treatments as a means of combatting the smut.

The 10,000 bushels of seed wheat that already has been signed up for the cleaning service and any that comes in later will be run through special high powered fan mills equipped to take out practically all the cockle and other seeds, shrunken wheat kernels and from 85 to 95 per cent of the garlic bulblets.

As a further step in the wheat improvement program, growers in the five counties will be encouraged to retain improved varieties with seed obtained from neighboring farmers having superior stocks.

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Short Peach Crop Does Not Eliminate Cover Crop Need

Although Illinois will market only about 300 cars of peaches this year as compared with a normal crop of some 3,000 cars, growers should not neglect the practice of supplying a cover crop this fall for soil improvement and erosion prevention purposes, says M. J. Dorsey, chief in pomology at the College of Agriculture, University of Illinois.

Where the soil has been cultivated around the trees, the fertility of the orchard is likely to suffer from soil erosion whether the present crop is large or small. Likewise, adding humus to the soil in the form of green manure is always a good way to improve the future productivity of the trees, points out Dorsey.

It is often surprising the amount of cover crop growth that can be produced between older trees during favorable seasons when the lower branches are not too close to the ground. The success of the cover crop will depend, of course, on the amount of rainfall following the seeding. Now even when the seeding can not be made early in the fall and the ground can be worked after a late, harvest will make as promising a looking cover crop as any.

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Position Of Soybeans Strengthened By U. of I. Tests

Experiments which the College of Agriculture, University of Illinois has conducted during the past year on the lower cost production of higher quality beef were concluded at the recent annual cattle feeders' meeting, with the best lot of steers returning 75 cents a bushel profit for the corn that was used. Approximately 700 farmers from Illinois and neighboring states attended the meeting to hear the results which Prof. H. P. Rusk, head of the department of animal husbandry, and Prof. R. R. Snapp, his associate, had obtained in a series of eight experiments with 200 Texas panhandle steers.

Outstanding in the results was the demonstrated merit of soybean oil, an Illinois-grown protein supplement, in comparison with the more common cottonseed meal for fattening beef cattle. Pasture studies which the college started several years ago also yielded striking results at a time when farmers are putting more land back into pasture and grass than ever before.

Poor results which cattle feeders had obtained last year and in previous seasons may have given rise to the fear that soybean oil meal was to blame, but the experiments this year, coupled with those of previous seasons, indicate that the Illinois-grown supplement is equal to cottonseed meal for producing quality beef at low cost. The results further fortify the position of soybeans, which are now being grown on an increasing acreage as a result of the AAA programs and other crop shifts. Illinois is the leading soybean producing state.

The three best lots of cattle in the experiment were steers that had been fed soybean oil meal as the protein supplement to their rations. The top lot of steers, which gain returned at the rate of 95 cents a bushel for the corn that was eaten, was so outstanding that the appraisal committee of packer buyers and commission men called it "as good a lot of yearlings as you will see."

These steers were carried on bluegrass pasture from December 22 until April 13 and then moved to dry lots to finish out the feeding period of 220 days. During the entire feeding period their average daily feed consumption was 12.4 pounds of shelled corn, 1.8 pounds of soybean oil meal, 5 pounds of corn silage and 1.5 pounds of alfalfa hay a head. They were valued at $8.50 a hundredweight in the lot on the college farm or $9.25 on the Chicago market. They gained an average of 2.36 pounds a head a day for the 220 days on feed.

To date the outstanding mixture in the pasture studies which the college started several years ago has been one including 15 pounds of brome grass an acre, 10 pounds of bluegrass, 7½ pounds of red top, and 5 pounds of white clover. Some volunteer sweet clover came up in the field. A test plot that was harvested in this pasture yielded at the rate of 5,125 pounds of feed reduced to a 15 per cent moisture basis, or more than 2½ tons an acre. Fifteen beef heifers pastured on the 10 acres for 56 days this spring averaged 2.48 pounds a head daily gain.

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Strong Soil Will Save Wheat Crop From Chinch Bugs

Wheat production, which has returned Illinois farmers as much as 20 to 30 million dollars in recent, more normal years, need not be abandoned because of the heavy chinch bug infestation this year and the threat of damage in 1935, in the opinion of the State Natural History Survey and the agronomy department at the College of Agriculture, University of Illinois.

If wheat that is seeded this fall is put on the more productive soils and the season is favorable, it will yield fair to good crops even under heavy infestations, it is said. This is borne out by observations made at many points during chinch bug outbreaks in the past and from a check on many Illinois farms in recent weeks. Care should be taken, however, to have a well-prepared seed bed, to seed a variety adapted to the locality and to plant late enough to avoid the Hessian fly.

If winter wheat, spring wheat, rye and barley were entirely discontinued next year in any area of the state and all the small grain acreage planted to oats, the latter crop would be heavily infested. Should weather conditions prove favorable, the chinch bugs would destroy the oats. In many sections of Illinois this year the oats were just as heavily infested as the wheat fields.

For the coming season, however, it would seem a poor practice to sow winter wheat except on strong land. On worn soils the crop is almost sure to be heavily infested and more or less damaged by the chinch bugs. Furthermore, if the chinch bug threat continues, it would be inadvisable to sow spring wheat or barley in areas where there is a heavy infestation, since these crops are especially susceptible to chinch bug attack.

In the northeastern part of the state, including Will, Kendall, Grundy, LaSalle and adjoining counties, the winter wheat during the past season was largely killed by the over-wintering bugs. This would not have occurred in a normal year with anything like an average spring rainfall. On the whole, in all other sections of the state the farmer planting winter wheat on strong ground has had far better returns from this acreage than from other small grains.

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Drouth Reveals Terraces As Conservers Of Moisture

Record-breaking drouth such as has extended over a large portion of Illinois this summer has demonstrated a new benefit of terracing sloping farm land--that of conserving the limited amount of rainfall, points out E. W. Lehmann, head of the agricultural engineering department at the College of Agriculture, University of Illinois.

Observations made in Bond county, Illinois, in former years of deficient rainfall have revealed that terracing and contour farming improved corn yields as much as 15 bushels to the acre. Like investigations in other areas and states have also disclosed the water conservation value of terracing. Heretofore, many Illinois farmers have thought of terracing mainly as a method of preventing soil erosion, especially in seasons of heavy rainfall. Now, however, they are beginning to realize that these same terraces have a value equally as great in years when there is only a small amount of rain.

Where terraces are constructed or where planting is done on the contour, a large part of the rain is held where it falls. The water soaks into the ground where it builds up reserve supplies that help carry crops through periods of long dry spells. Then too, the terraces catch and hold water as it runs off higher ground.

Reports from other states readily confirm the terrace observations made in Illinois. In some areas terraced land has held back and absorbed from 3 to 200 per cent more rain water than unterraced slopes.

Spreading Waste Straw Increases Corn Crop Returns

Whatever straw they have this year probably will be priced by most farmers, but any that might otherwise go to waste can be made to pay handsome returns by spreading it over land where sweet clover green manure crops are to be plowed down, it is reported by A. L. Lang, associate chief in soil experiment fields at the College of Agriculture, University of Illinois. If it were not for the drouth and chinch bugs, there probably would be thousands of tons of straw go to waste this year. Experiments have now proved that it has a high potential value if used on Illinois' million acres of sweet clover for soil improvement.

At the Dixon experiment field in Lee county operated by the U. of I. College of Agriculture, straw when applied to sweet clover ground improved the following corn yields from 7 to 21 bushels an acre, or a gain of nine bushels as an average for the last three years, explains Lang. Likewise at the Clayton field in Adams county, the growth of corn was improved when straw was spread over sweet clover, although no definite check on yields has been secured as yet.

Other studies at the Clayton test plots point to the fact that burning straw and stubble after the small grain crop has been harvested with a combine will completely destroy any young clover. Then too, it is found that burning straw on sweet clover land tends to reduce the returns from the succeeding corn crop.

The improved returns from spreading straw over fields carrying a green manure crop may be accounted for by three physical and chemical reactions, says Lang. In the first place, the straw itself furnishes organic matter for the soil—a necessary ingredient to give the proper balance of moisture, temperature and plant food elements.

Furthermore, a heavy growth of green manure legume material when plowed down alone often releases an excess of nitrogen for the succeeding crop. Straw as a highly carbonaceous material extends the period over which the nitrogen may become available and thus prevents excess loss by leaching. This makes a better balance between soil supply and plant demands.

It is also believed that the straw may furnish the necessary available potash that often becomes deficient during the rapid-growing season of the corn plant, especially on high lime soils and on ground being heavily cropped with sweet clover. This is particularly true on the lighter-colored soils.

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Illinois Elms Are Not Attacked By Dutch Elm Disease

Illinois elm trees are not dying this year because of the Dutch elm disease, notwithstanding widespread and alarming reports to the contrary, according to a statement issued at the College of Agriculture, University of Illinois, by L. R. Tehon, botanist of the State Natural History Survey. Dr. Tehon, who has been directing an investigation of elm diseases in Illinois for the past four years, says that to date not a single case of Dutch elm disease has been located in the state.

Root and trunk infections by fungi such as Xylaria or the lack of sufficient water are probably responsible for the apparently dying condition of many elm trees in Illinois this summer. The prolonged drouth and the series of dry years have tended to remove moisture from the upper soil and to lower the water table beyond reach of the root systems. This condition is noted by the browning of foliage over the entire tree.

Sudden wilting and death of elms in the central states is usually the result of attacks by one or the other of two fungi, Verticillium or Cephalosporium, both of which are relatively common parasites of the elm, explains Tehon. They produce symptoms much like those of the Dutch elm disease.

-M-

The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College,
Experiment Station, and Extension Service

Volume XVII August 1, [illegible] Number [illegible]

Illinois [illegible] [illegible] [illegible] [illegible] Short[illegible]

Illinois farmers, [illegible] [illegible] [illegible] [illegible] 1 million [illegible] of [illegible] [illegible] their crops, [illegible] [illegible] [illegible] the state, in the opinion of [illegible] [illegible] [illegible] [illegible], University of Illinois.

[illegible] until, [illegible] [illegible] their future seed needs, and [illegible] [illegible] hold [illegible] seeds to [illegible] [illegible], clover, alfalfa, timothy, rye, [illegible] [illegible] in some [illegible].

The [illegible] in Illinois [illegible] follow- [illegible] counties in the northern two-thirds of the [illegible] Extension [illegible] of the U. of I. College of Agriculture.

As a result of the drouth, [illegible] [illegible] is [illegible] short in [illegible] counties, [illegible] J. C. Hackleman, [illegible] of the College. [illegible] and in [illegible] [illegible] reserve [illegible] in from other [illegible]. The condition [illegible] quality [illegible] particularly clover. Furthermore, [illegible] this fall [illegible] spring.

The [illegible] conditions [illegible] and [illegible] in [illegible] counties in northern Illinois it is [illegible]. The [illegible] and [illegible] in the [illegible] neighborhood [illegible] failed. [illegible] exist, it is [illegible] having grain of [illegible] quality, [illegible] with their [illegible] immediately.

As [illegible] to [illegible] reserve [illegible] Illinois [illegible] spring [illegible]. It is also [illegible] in certain areas [illegible] than Illinois.

[illegible] does not [illegible] and does not know [illegible], [illegible] his county farm adviser. Likewise, farmers who [illegible] from either [illegible] or 1934 crops should list this seed with their county farm adviser or the College of Agriculture, University of Illinois, [illegible].

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The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Number 33

Illinois Has Farm-Grown Field Seed Shortage

Illinois farmers, during the years 1931 to 1933 used approximately [illegible] bushels of farm-grown hay seed to plant [illegible] acres. In the history of the state, [illegible] College of Agriculture, University of Illinois.

[illegible] farmers [illegible] their future seed needs, and [illegible] should take immediate steps to [illegible] blue oats, clover, alfalfa, [illegible] some areas seed corn.

The [illegible] in Illinois became apparent following [illegible] and probable [illegible] in 37 counties [illegible] two things: [illegible] the crop extension division of the [illegible] College of Agriculture.

[illegible] of farmers, [illegible] of seed oats is extremely short in [illegible], [illegible] J. F. Hickey, [illegible] crops extension at the college. [illegible] was harvested this year, and in [illegible] will not be but even with a [illegible] the state have no reserve [illegible] have to be shipped in from [illegible]. The [illegible] of seed [illegible] forage seeds, particularly [illegible]. Furthermore, [illegible] harvest enough corn this fall [illegible].

The [illegible] conditions are most [illegible] western and northeastern [illegible], but in [illegible] counties in northern Illinois it is [illegible] that [illegible] have been spotted. In some [illegible] the crucial time and as a result [illegible], while on other farms in the same [illegible]. Where these spotted conditions exist, [illegible] having grain of seed quality, [illegible] immediately.

A [illegible] is being made to locate reserve [illegible] during seed for their 1935 spring [illegible] may be found in certain areas [illegible] states less fortunate than Illinois. [illegible] for his needs and does not know [illegible], should see his county farm adviser. Likewise, farmers who [illegible] for 1934 crops should list this seed [illegible] of Agriculture, University of Illinois,

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Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, *Director*.

Silos Save Corn [illegible] Heat [illegible]

In spite of the damage from chinch bugs and drouth this summer, Illinois farmers will be able to save much of their corn crop by making it into silage, says W. B. Nevens, associate chief of dairy cattle feeding at the College of Agriculture, University of Illinois.

Immature corn that is drying up because of the lack of moisture and chinch bug injury will make a fair grade of silage, although its feeding value will not be quite equal to that made from more mature corn. Furthermore, chinch bugs do not seriously affect the palatability of silage.

To insure success in making silage from corn that is drying up, explains Nevens, the plant must have a moisture content of at least 65 percent, and best results are obtained when the corn contains 70 per cent moisture. If it is less than 65 per cent, water must be added.

To determine the moisture content of the corn, six or eight representative stalks should be cut into 1 to 1½-inch lengths. A three or four pound sample is then weighed out accurately and heated in an oven until it ceases to lose weight. This will usually require three to five hours at a temperature below that which will char paper. After the moisture has been driven out of the corn sample, it is reweighed.

The loss in weight of the sample, divided by the original weight before being heated and multiplied by 100 will give the percentage of moisture in the cornstalks. If the moisture is higher than 65 per cent the corn will keep in the silo, provided other conditions were good. If the moisture content is 60 per cent, 80 gallons, or 666 pounds, of water should be added to each ton of corn put in the silo. If the moisture content is 55 per cent, then 160 gallons of water should be added to the silage. For each drop of 5 per cent in the moisture of the corn being ensiled, an extra 80 gallons of water is added to each ton.

-L-

New Bulletin Is Aid To Illinois Farm Adjustments

With some 125,000 Illinois farmers adjusting their operations this year as cooperators in the government's AAA corn-hog and wheat programs, an interesting bulletin just issued by the College of Agriculture, University of Illinois, should prove unusually timely and helpful in making these changes.

Originally written in 1929 under the title of "Organizing the Corn Belt Farm for Profitable Production," the publication was revised this summer by H. C. M. Case, chief of the college's farm management division, and R. H. Wilson, associate chief, to bring it up to date in every respect. The practices, yields and incomes and expenses of hundreds of Illinois farms have been analyzed in determining the most profitable factors in farm management.

For example, a study of 67 farms in Woodford, McLean, Tazewell and Livingston counties revealed that during the five years of 1928 to 1932, the farm with the highest earnings made an average of 5.98 per cent a year on an average investment of $49,247. This income was the result of years of definite effort by the operator to put the farm on an efficient production basis.

The least profitable farm in the group, however, lacked $663, or 1.28 per cent, of making any return on the investment after operating expenses were paid. This difference in the two farms amounts to 8.26 per cent, or $4,142 a year on an investment of $53,781, which was the average investment of all the farms in the study.

That better earnings are realized year after year by some farms in a community than other farms operated under the same natural and economic conditions, is a matter of common observation, point out the authors. But the causes for these differences in net incomes are not so generally understood, and it was for this reason that the studies were made and the bulletin published. Copies of Bulletin 389, "Organizing the Corn Belt Farm for Profitable Production," may be obtained from county farm advisers or by writing direct to the College of Agriculture, University of Illinois, Urbana.

-L-

The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College,
Experiment Station, and Extension Service

Volume XVII [illegible] August [illegible], [illegible] Number 34

U. of I. State Fair Booth Aids Seed Survey

[illegible] attending the Illinois State Fair this year took part in the [illegible] survey [illegible] Illinois is in an effort to aid growers in the drouth-stricken [illegible] who have [illegible] been unable to harvest enough crops to supply [illegible] for their [illegible] planting.

The survey is a part of the emergency program of the newly-appointed State Seed Committee [illegible] all available supplies [illegible] to assist in the [illegible] seed needs of farmers in drouth areas, according to [illegible] Hutchison, [illegible] of the College of Agriculture, University of Illinois.

[illegible] at the U. of I. [illegible] agricultural exhibit under the grandstand at the fair, [illegible] whether or not they will have [illegible] corn, barley, rye, [illegible] for sale in the spring [illegible]. The survey [illegible] by L. F. [illegible], of the [illegible] agronomy department, [illegible] in charge of the booth. [illegible] information [illegible] compiled and [illegible] will [illegible].

It is estimated that for the spring planting season, Illinois farmers will need [illegible] bushels [illegible] to plant their [illegible]. In addition, they will need [illegible] bushels of seed for their small [illegible] million bushels [illegible] to be seeded for the production of grain. Other items [illegible] pounds of clover and timothy, [illegible] pounds of sweet clover and [illegible] pounds of alfalfa seed.

[illegible] counties, particularly in the [illegible] northern parts of the state, [illegible] their history, [illegible] on record, while [illegible] particularly clovers. [illegible], in [illegible] sections there is [illegible] shortage in good [illegible].

[illegible] counties in the state, however, were favored with fair to good yields [illegible]. Even in [illegible] of the most drouth-stricken sections, there are [illegible] rain at the crucial time [illegible] consequently were able to harvest [illegible]. These fortunate farmers will have [illegible] seed to sell, and it is the purpose of the survey to locate these supplies for the benefit of less fortunate producers.

The state committee, it is pointed out, will not buy or sell the seed. Acting in cooperation with local and county organizations, it will be a medium of information between farmers who have seed to sell and those who wish to buy it, thereby tending to conserve available supplies. Later, farmers who do not have enough seed for their needs and do not [illegible] sources, will be asked to register their wants with county farm advisers, who in turn will notify the state committee.

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Can Sow Alfalfa, Red Clover Now For 1[illegible] Crop

With most of the 1934 seedings of tame hay killed out by the drouth, Illinois farmers who have not already taken steps to replace this loss by summer seedings of alfalfa or red clover, should do so immediately, suggests J. C. Hackleman, chief in crops extension at the College of Agriculture, University of Illinois.

Experiments have shown that for best results alfalfa should be seeded during the latter part of July or early August, but this year it was too dry over much of the state to get a good stand at that time. However, where recent rains have supplied sufficient moisture and if favored by a comparatively late fall, there is still a good chance for alfalfa sown immediately to come through the winter and make a crop next summer.

That alfalfa deserves its title as the premier hay plant in Illinois is attested by the way it came through the hot, dry weather in much of the state the last two years. Although it represents only 16 per cent of the tame hay acreage of the state, it will produce approximately 4 per cent of all hay harvested in Illinois in 1934.

However, when seeding alfalfa for 1[illegible] harvest, Illinois farmers should bear in mind certain fundamental principles in the production of this legume, points out Hackleman.

First, the soil on which it is to be grown should be relatively sweet; it should test medium to strong in available phosphorus, and should be well drained.

Likewise, the seed bed should be well pulverized on the surface and compact in the subsurface. A loose, cloddy soil makes a poor seed bed for any hay seeding.

As another consideration, if possible, the grower should use a strain of seed that is comparatively winter hardy. Northern and northwestern grown seed is usually considered more hardy than that produced in the west and southwest. But if unable to obtain these hardy types, that from the central west is generally hardy enough to withstand at least two or three winters. Of course, if the field has not produced a good crop of alfalfa or sweet clover in the past, the seed should be inoculated.

If these same precautions are taken, August-seeded red clover should also come through the winter and make a good hay crop next summer, it is said.

-W-

Silage Loss Often Saved By Early Repairs

Repair parts for ensilage cutters that will fill Illinois' 90,000 silos may be more difficult to obtain this fall, particularly for the older models that are being dug out of fence corners for the first time in several seasons, says R. H. Reid, agricultural engineer at the College of Agriculture, University of Illinois.

Manufacturers will, of course, make every effort to supply prompt repair service for any machine in use, but farmers should not run a needless risk by waiting until the last minute to order a part that may have to be made at the factory.

The poor condition of the corn as a result of the extreme drouth and heavy chinch bug infestation, together with the fact that many fields may suffer additional damage if left too long, makes it more important than ever to have the silo-filling equipment ready on time.

An experience of an Illinois farmer several years ago might prove disastrous, if repeated this fall. He failed to examine his cutter until the night before the crew was to fill his silo. Several broken parts were discovered and it was two weeks before the machine was repaired and filling could be started.

The cost of the parts required for the machine and the labor involved in making the repairs were the same as if the work had been completed a month earlier, yet the delay caused a material decrease in the value of each ton of silage made.

Illinois Produces Most of World's Redtop Seed

While most people think of bluegrass as the major component of all lawns and pastures, the annual production and consumption of redtop seed in the United States has been nearly equal to that of the famed Kentucky product.

Furthermore, practically 75 per cent of the world's supply of redtop seed and 95 per cent of the total redtop seed in this country is produced in a dozen counties in southern Illinois.

These and other interesting facts are disclosed in bulletin just issued by the College of Agriculture, University of Illinois, under the title of "Production and Marketing of Redtop." Four specialists cooperated in preparing this attractive publication, the authors being W. L. Burlison, head of the department of agronomy; C. L. Stewart and R. C. Ross, of the department of agricultural economics, and O. L. Whalin, formerly in the department of agricultural economics.

The concentration of redtop seed production in Marion, Wayne, Clay, Richland, Edwards, Jasper, Fayette, Clinton, Jefferson, White, Wabash and Lawrence counties—all in southern Illinois—has been due to a combination of economic factors, favorable climate and soils not so well adapted to other crops.

During the 10-year period of 1924-1933 approximately 200,000 acres of redtop were harvested annually for seed, with average yields of 54 pounds to the acre. In the past three years, however, the threshing of redtop has declined largely due to the loss in market value. Prices of redtop seed fell to the low of 3.4 cents a pound in 1932 as compared to the high market of 70 cents a pound in 1925 and 1926, and the average of 17.3 cents during 1923-1931.

Copies of Bulletin 404, "Production and Marketing of Redtop," may be obtained from county farm advisers or by writing direct to the College of Agriculture, University of Illinois, Urbana.

-X-

One Good Cow Is As Profitable As 43 Culls

Many Illinois dairymen are, figuratively, milking 43 cows of low producing ability when one good producer would give them the same profit above feed costs, if records of individual cows on test in the Ogle County Dairy Herd Improvement Association can be considered as typical, says J. G. Cash, dairy extension specialist at the College of Agriculture, University of Illinois.

This is revealed in a summary of production figures kept by Ogle county dairymen which shows that there were 20 cows in the association last year that averaged only 167 pounds of butterfat and returned an average of only 18 cents a head above their feed costs. Such fat production is equivalent to the average for all cows in the United States. On the other hand, there were 19 cows on test that produced an average of 577.3 pounds of fat during the year and returned $76.14 a head above feed costs. Thus it would have taken 423 cows like those in the low-producing group to return as much profit above feed costs as one cow in the high-producing group.

Furthermore, the low-producing cows, and there are thousands of them on farms in Illinois, are daily adding to the burdensome milk surplus. They are steadily breaking down the market prices of both milk and butterfat without paying their owners even for the labor and feed they require.

Examples like this one, points out Cash, illustrate the value of cow-testing work to the dairy industry. Only by being members of a dairy herd improvement association can farmers discover which of their cows are returning only a few cents a year above feed costs and which ones may be netting as much as $76.14 a head.

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[illegible]

A thought-provoking [illegible] August [illegible] Dr. [illegible], [illegible] Veterinary Medicine, University of Illinois.

[illegible], rabies has [illegible] during the month of January, [illegible] in the state, [illegible] the [illegible] in the [illegible] of veterinary [illegible], [illegible] the human [illegible].

[illegible] In [illegible], [illegible] instruction of [illegible] been reported in [illegible] Illinois, [illegible] the disease has [illegible].

[illegible] rabies, [illegible] dog, cat, [illegible], [illegible] pathology laboratory in [illegible], [illegible] examinations [illegible] positively identifying.

[illegible] coincident with a bite [illegible] the virus to enter the [illegible] by the rabid animal [illegible] the hand of a person. It is [illegible] necessary that the wound be deep, although such [illegible] are [illegible] than [illegible] ones. The time required for the [illegible] to appear in the different [illegible], ranging from ten days to [illegible]. Cases have been reported, however, in which [illegible] has been [illegible] and the development of symptoms.

[illegible] control of rabies is [illegible] matter of prevention, Dr. Graham says. Five [illegible] such, if followed constantly, will go a long way in preventing [illegible] from this disease. His [illegible] are:

Avoid strange dogs or dogs showing [illegible].

[illegible] all [illegible] strychnine, but [illegible] suspects until [illegible].

[illegible] rabid dog [illegible] the [illegible] a local veterinarian as [illegible] and consult the local [illegible].

[illegible] by a dog, [illegible]. The Pasteur treatment is [illegible].

[illegible] to prevent the development of rabies virus.

If these preventive measures were followed up all people, Illinois would not [illegible] the total [illegible] as it too often [illegible] in this state. says Dr. [illegible].

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One Acre Of Rye Will Solve Spring Pig Troubles

An acre of rye sown between the first and twentieth of September will solve the major troubles Illinois farmers have in raising early spring pigs, in the opinion of W. E. Carroll, chief in swine husbandry at the College of Agriculture, University of Illinois.

The chief difficulty that many people have in handling early pigs comes from the fact that no quarters are free from the brood sow and other animals are available for the pigs soon after they arrive in February or early March. As a result parasite and filth-borne infections such as necro etc cut quite often the pigs so early that they have little chance of making rapid, profitable growth.

If a clean pasture is provided in a field where hogs have not been grazed in recent years, the sow and her litter can be hauled to this "new" ground where the pigs can grow without the handicap of worms and disease germs.

On the University of Illinois farm near Urbana, rye seeded in early fall will usually develop satisfactorily and be ready to graze by the first of the following March. The fall growth provides early grazing, while the early spring growth will be ready to supply forage after the fall growth has been eaten. Handled in this manner, an acre of rye has provided forage for more than half a herd of pigs and their mothers from the time the pigs begin to eat until they are ready.

It is customary at the university farm to start the pigs at the rate of 12 sows and litters to the acre at first, but by the last of March the rye will support 16 to 18 sows and litters to the acre.

The rye can be depended on to provide pasture until the middle or last of April, at which time the alfalfa or clover pasture is usually ready for brood sows. If moisture conditions are right, the acre devoted to rye may then be prepared and planted to corn, or in an unfavorable season it can usually be put in shape in time to plant to soybeans or silage crops.

-X-

Cattle Not Injured By Chinch Bug Infested Silage

Prevalent as chinch bugs have been this summer in some 70 to 80 Illinois counties, the insects will not affect the quality of the silage made from infested corn, according to T. P. Flint, chief entomologist of the State Natural History Survey and the College of Agriculture, University of Illinois.

Silage made from heavily-infested corn will usually carry a strong chinch-bug odor for three or four weeks, but this will eventually disappear, it is said.

During former chinch bug attacks, particularly the outbreak in southeastern Illinois in 1910-11, a large number of silos were filled with corn infested with the insects. In many cases the corn was so covered with bugs that the silage had the disagreeable chinch-bug odor, making it almost impossible to remain in the silos for more than a short time while they were being filled. After the silage had settled for three or four weeks, practically all of the chinch-bug odor passed away, the remaining odor being the same as ordinary silage.

There was no question but what this silage had a lower nutritive value than silage made from corn that had not been injured by chinch bugs, but it was readily eaten by the cattle during the following winter with no reported injurious effects.

"So far as our observations go," says Flint, "there is no danger in feeding such silage and so far as we have been able to learn, no injurious effects have occurred from feeding such material to either dairy or beef cattle. It is, of course, possible that some injury might occur, but this seems improbable in light of the past experiences of many Illinois farmers."

-X-

Machine Cutting Both Silage And Husking Corn

There never has been a year when it [illegible] that [illegible] farmers pick the best [illegible] of every bit of corn on their farms and now this year thousands of [illegible] are turning to both [illegible] and [illegible] as a means of conserving their [illegible] and [illegible] corn crop this fall.

This increased use of silos is likely to bring about greater demand for silage cutters than in any year in all [illegible] the past, according to R. B. [illegible], agricultural engineer at the University of Illinois.

While most farmers, [illegible] plan to husk a part of their corn in the form of silage, hope to own their own silage cutters, or to hire cutters from their neighbors, many may be forced to purchase new machines this fall, it is believed. To such farmers, [illegible] that [illegible] a type of machine that will cut and elevate [illegible] silos.

Ordinary silage cutters will not [illegible] husking corn, but most [illegible] will cut and [illegible] silage. [illegible] the corn cutter, the farmer will hold down his machinery investment and lower the unit cost required in operating two machines. In fact, one of the [illegible] objection to two machines in the past has been that many of the [illegible] and on many farms and their usefulness [illegible] limited to [illegible]. The newer cutters that will cut silage [illegible] have largely overcome this objection to eliminate this criticism. Extensive [illegible] in Illinois and other states indicate the [illegible] machine may be in the chopped corn.

Before investing in [illegible] machine, it would be well to check [illegible] buy before [illegible] it is, it would be [illegible] to purchase a machine that will serve both in husking and silage, points out [illegible].

-L-

Best Wheat For Farms Has Been Proved

With the possibility of another bumper production in 1937 and the near-present danger of winter killing, Illinois farmers should plant only those varieties of wheat that have proved the best in their respective parts of the state, says G. H. Dungan, associate chief in crop production in the College of Agriculture, University of Illinois.

The best adapted varieties are planted on strong [illegible], characteristics that fair wheat yields can be obtained in spite of [illegible] and [illegible].

In the central part of the state, [illegible] Dungan, Illinois Program, [illegible] has again demonstrated its ability to yield well. [illegible] considerable winter hardiness, superior grain quality and high yielding [illegible] on fertile soils. Wheats of the Purdue type [illegible] central Illinois and a variety that can compete with the best to be found. Illinois Program has done this for eight years in tests in central Illinois.

At the experiment fields [illegible] in northern Illinois, five wheat varieties stood out in front with [illegible] under the test there for years. They included Iowa B, Illinois Bluestem 2, Illinois 2, Purdue 6 and Minn. 13 Pedigree 2. These [illegible] relations the Purdue [illegible] in the [illegible] of the parents.

On the Alhambra experiment field in southern Illinois, the best [illegible] winter wheats [illegible] the best adapted, and here also [illegible] Illinois Bluestem, Wabash, Illinois Selection 1-1, Michigan Amber, Red [illegible] Fulhio. Of these, Illinois Selection 1-1 is the only variety not in the [illegible].

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The Extension Messenger

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Corn-Hog Checks In Illinois Pass $1, , ,000 Mark

Buying power of Illinois farmers has been increased by more than a million dollars in the past few days as a result of AAA corn-hog benefit payments, it is estimated by the College of Agriculture, University of Illinois. Furthermore, within the next few weeks the total in benefit checks to the 1 4,000 corn-hog contract signers in this state should reach nearly $17, , .

The first checks to be received by Illinois farmers cooperating in the government's corn-hog adjustment program began to arrive the last of July and by the middle of August the benefit payments aggregated $ 7,7 . Since then checks have been distributed so rapidly that an up-to-date total cannot be determined. It is believed, however, that the total amount received by Illinois farmers prior to September 1 will be well over the million dollar mark.

Present reports, it is pointed out, represent only about 6 per cent of the nearly $17, , ,000 to be received on the first benefit payments to corn-hog contract signers in Illinois, most of which will be paid by early October. Approximately $15, , will also be received by Illinois participants after November 15, when the second benefit checks become payable. A third and final payment totalling around $3, , , less local administrative expenses, will be made to cooperators in this state after February 15, 1935.

According to the latest available figures, Ford county leads the list in benefit payments received prior to August 17 with a total of $,777. Henderson county comes second with checks aggregating $, , while other counties that have received more than $, include: Greene, $, 7; Fayette, $,015; DeWitt, $30,236; Will, $, ; Logan, $, ; Clark, $, , Boone, $ 4, ; Macon, $22,884, and Cook, $, .

Corn-hog checks are being mailed out of Washington at the rate of nearly two million dollars a day to contract signers in all of the 4 states, it is said. By August , total disbursements by the AAA corn-hog section approximated $45, ,000, or about a third of the total first installments of some $1 3, ,000 to be distributed to signers of the 1 4 adjustment contract.

By mid-August Iowa farmers had received $,14 ,490 to head the list of states in total benefit money so far, while payments to other mid-western states included: Missouri, $4, 47, ; Ohio, $4, , ; Nebraska, $,796, ; Minnesota, $2,775,426; Indiana, $, , , and Wisconsin, $1, , .

—M—

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Smut In Wheat Reduced By Either Of Two Processes

In their efforts to protect their 1935 wheat crop from serious injury by stinking smut, or bunt disease, Illinois farmers have a choice of two effective chemical seed treatments--copper carbonate or Ceresan--either of which will be a profitable precaution this fall, says Benjamin Koehler, crop pathologist at the College of Agriculture, University of Illinois.

The copper carbonate may be purchased in either full strength or diluted forms, but for Illinois conditions the latter containing 12 to 15 per cent copper has been found satisfactory. If the grain is not discolored and does not have an odor, two ounces of copper carbonate to each bushel of seed is recommended. However, if the wheat is discolored and has a foul, smutty odor, then 2½ to 3 ounces should be used.

If Ceresan is used, the directions accompanying the compound should be followed. The materials and seed are mixed together in a tight mixing machine, similar to that used in treating seed corn, until all grains have been covered by the powdered chemical.

When comparing copper carbonate and Ceresan, it is found that each has certain advantages over the other. In the matter of dosage, there is no danger of damaging the grain by an overdose of copper carbonate, but using more than one-half ounce of Ceresan to the bushel is injurious. Furthermore, wheat treated with copper carbonate may be stored in a dry place indefinitely without deterioration, while Ceresan causes noticeable damage to the wheat germ after a few weeks' time.

Ceresan, however, has the advantage of not clogging the cylinders of the wheat drill as often happens when wheat treated with copper carbonate is allowed to remain in the drill overnight in damp weather. Then too, Ceresan does not require as thorough an application as copper carbonate because it acts to some extent as a gas as well as a contact disinfectant.

-M-

Cow Families Responsible For Best Dairy Herds

One or two foundation cows are often responsible for many of the most outstanding of the 1,026 herds in Illinois dairy improvement associations at the present time, according to C. S. Rhode, chief in dairy husbandry extension at the College of Agriculture, University of Illinois.

These cows, originally selected for their efficient milk and butterfat production, have become the dams of what are known as "cow families." Their daughters, granddaughters and great-granddaughters have proved as efficient producers as the foundation cows and have been retained in the herds from generation to generation until now they make up the major portion of the better dairy herds of the state. Gradually they are spreading the highly desirable influence of the original foundation cows.

Too much cannot be said regarding the importance of the herd sire, points out Rhode, but at the same time it should be recognized that the dam contributes as much to the offspring as does the sire. The bull, if he has the ability to transmit high productivity to his daughters, will steadily increase the efficiency of the herd. However, if high-producing dams are also used in the breeding program, the progress is much more rapid. The wise selection of both sires and dams of heifers for herd replacement offers a great opportunity for advancement for the average dairyman.

An example of an outstanding cow family is found in a herd in Kane county dairy improvement association No. 2. Pearl Burke DeKol Beets is the foundation cow and during five consecutive lactation periods she produced an average of 614.4 pounds of butterfat annually. Of her daughters, one produced 564.8 pounds of fat in a year's time, while two others have equivalent records. One granddaughter produced [illegible].7 pounds of fat as a five-year-old, and another 5[illegible].4 pounds. Three great-granddaughters have records that are equally as good, all of which contribute to the success of the herd.

-M-

Now Is Time To Begin Controlling Poultry Pests

Before Illinois farmers begin housing their more than 20 million chickens for fall and winter production, it will be decidedly profitable to thoroughly clean and treat the poultry buildings for lice, mites and other parasitic insects, suggests M. D. Farrar, entomologist of the State Natural History Survey.

Unless effective control measures are taken at this time, flocks often become so heavily infested with these insect pests that they become unthrifty, egg production declines and thousands of dollars in poultry profits are lost by producers.

Some of the more economical and effective oils to control mites, bed bugs and fleas in the poultry house are creosote, kerosene and waste crank case oil, applied with a brush or emulsified with soap and water and sprayed on the inside of the building. Dormant tree spray emulsions mixed at the rate of four or five gallons in 100 gallons of water are also efficient poultry insect destroyers, points out Farrar in a report to the College of Agriculture, University of Illinois.

Poultry lice spend their entire lives on the birds and thus must be controlled by treating the fowls. For this a good grade of sodium fluoride is economical. Each bird is dusted individually by applying a pinch of sodium fluoride under each wing and around the vent, roughing the feathers to allow the powder to sift into the plumage, or the birds may be dipped in a solution of one ounce of sodium fluoride in one gallon of water.

Where it is impractical to handle each bird, painting the roosts with 40-per-cent nicotine sulphate is recommended. A line of the disinfectant about one-fourth inch wide is applied along the roosts just before the birds retire. The nicotine fumes filter through the birds' feathers, killing the lice. This treatment should be repeated in 10 to 14 days as it does not kill the eggs. All lime or whitewash should be removed from the roost before the nicotine sulphate is applied.

-X-

New Circular To Aid Farmers Cut Tractor Expense

Whether the owners of approximately 70,000 tractors on Illinois farms derive the maximum service from their machines depends largely on the care exercised in their operation and maintenance, points out E. I. Shryl, author of a circular on "Tractor Repair and Maintenance", just issued by the College of Agriculture, University of Illinois.

As a result of proper care and maintenance, a general-purpose tractor at the College of Agriculture recently completed nine and a half years of service at an average repair cost of only $50.37 a year. During that time it completed nearly 6,000 hours of general farm work, and it was not until after the first five and a half years that any major repairs were necessary. The tractor is still good for several years of work and will not need to be junked until the hour-cost of operation exceeds that of the newer and better tractors now being made.

It is to aid Illinois tractor owners in holding down maintenance costs and to help them do some of their own repair work that the new circular has been prepared. The publication includes 48 pages of instructions dealing with common tractor troubles and their remedy, such as the grinding of valves, adjusting the carburetor, checking the ignition parts, repair of the cooling system, power transmission problems, lubrication suggestions and a discussion of types of tractor fuels. Well illustrated and thoroughly indexed, the circular provides a practical handbook for tractor owners. Copies of Circular 435, "Tractor Repair and Maintenance", may be obtained from county farm advisers or by writing direct to the College of Agriculture, University of Illinois.

-X-

The Extension Messenger

COLLEGE OF AGRICULTURE UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVII [illegible]tember 11, 1934 Number 37

Illinois Farmers Can Have Their Own Shelterbelts

Belt shelter for certain sections of Illinois would be just as beneficial to individual homeowners and to the state as the newly-approved 100-mile-wide federal shelterbelt will be to the [illegible], says I. E. [illegible], extension forester of the College of Agriculture, University of Illinois.

In the national program, the belt of trees will extend from the Canadian border down through North Dakota, South Dakota, Nebraska, Kansas and into the Texas panhandle and Oklahoma. But the thing it will do for the entire middle west could be done on a smaller scale by individual farmers throughout Illinois and the beneficial results could be seen throughout the state.

A shelterbelt around the farmhouse, the garden, the entire farmstead, points out Mr. [illegible], will make it a much more desirable place in which to live, as the presence of the belt of trees will break the velocity of the wind both in winter and summer. In addition to this, checking of the velocity of the wind will have a cooling effect on the surrounding territory. The presence of the trees will increase the humidity also, it may, in time, the trees can be planted so as to aid in the control of [illegible].

In the winter time, the living screen of trees will supply a number of benefits. Snow will be caught, and will be prevented from drifting on the roads, [illegible] will be protected from the cold winter weather, and the barn and other buildings will be more livable for the livestock.

Establishing shelterbelts is not a difficult nor an expensive task, when one considers the profit that could be realized for the average Illinois farm, says Mr. [illegible]. Within the [illegible] shelterbelts require a large area of land that could profitably be used for better purposes otherwise. The land that is required for such an improvement is more than offset by the added value to the farm and the improvement in the living conditions.

Much of the middle west has suffered severely from the prolonged drouth this summer. The economic and social consequences are serious, it is pointed out. The dust storm which blackened the skies during June from the Dakotas to the Atlantic seaboard was a reminder of the incipient desert conditions of the Great Plains.

Man cannot change all the forces of weather, but he can modify his own surroundings. He can improve the effects of the weather. If the surface velocity of the wind over a given area can be broken and decreased even slightly, soil will be held in place, the moisture of the soil will be conserved, and havens of shelter will be created for man, beast and bird.

The development of shelterbelts both on large and small scales is not entirely a new or untried activity, it is explained. On the contrary it is based upon the long-time experience of several European countries, particularly Italy, Hungary and Russia. In these countries shelterbelts have been used over a period of years and on an extensive scale, farming enterprises have been stabilized and have succeeded even in the worst crop years, when many of the other areas have suffered serious losses or total crop failure through adverse weather conditions, says federal authorities.

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New U. of I. Circular Pictures Dairy Cattle Types

Dairymen of this state who own more than 1,111,000 milk cows and heifers and who buy, sell and trade thousands of head annually, will find considerable assistance for their transactions in a new circular, "Selecting Dairy Cattle," just published by the College of Agriculture, University of Illinois.

Many thousands of cattle are bought and sold every year for dairy purposes merely upon the evidence which their external appearance gives of their ability to produce milk, points out the circular. In such dealings, the buyer who knows the characteristics of a good dairy cow has a distinct advantage, while the untrained buyer may be sadly disappointed in his purchase, once he has had an opportunity to test the animal's productive ability.

It is to assist in lessening the number of these disappointments and to aid in raising the standard of dairy cows in this state that the new publication has been prepared by W. P. Nevens and A. F. Kuhlman, of the U. of I. dairy department. The circular contains some 50 photographs and drawings which portray many of the desirable and undesirable characteristics to be looked for in dairy cattle. Jerseys, Holsteins, Guernseys, Ayrshires and Brown Swiss are among the breeds pictured in the booklet, with separate sections devoted to the selection of bulls, heifers and mature cows. The publication makes a practical handbook for teachers and students in vocational agriculture classes as well as for leaders and members of 4-H dairy clubs.

"Knowledge of the characteristics of good type in dairy cattle is important, not only to the buyer of new female stock, but also to herd owners who wish to raise heifers from their own best cows to replace cows no longer useful or profitable," explain the authors. "If the quality of the herd is to be constantly improved, ability to judge good type is essential." Copies of Circular 447, "Selecting Dairy Cattle," may be obtained from a county farm adviser or by writing direct to the College of Agriculture, University of Illinois, Urbana.

-X-

Local Sales Cut Costs In Year Of Light Apple Crop

With one of the smallest Illinois apple crops in the past 20 years, growers who are fortunate enough to have trees bearing this fall will have an excellent opportunity to dispose of their apples through local trade at a minimum expense, according to J. W. Lloyd, chief in fruit and vegetable marketing at the College of Agriculture, University of Illinois.

The state's 1934 apple crop has been estimated at approximately 1,614,000 bushels or less than a third of the average annual production during the past 10 years. Only in 1921 and in 1931 were the apple crops less than is estimated for this year. For the United States, however, it is believed that the total apple crop will amount to about two-thirds of the average for the past decade.

In seasons of a light crop like the present, the local demand for apples may well be given first attention by orchardists. From the standpoint of the grower, marketing locally has several advantages, Lloyd explains. The cost for packages and packing is much reduced, since the local purchaser usually brings his own packages and no facing is necessary. There are no freight bills nor brokerage charges to be deducted from the selling price, because the local buyer provides the transportation and business is transacted directly between producer and consumer. Handled in this way, a short apple crop is likely to net the grower a greater return than if the fruit were shipped to the large city markets.

To market apples successfully by this method, it is necessary for the orchardist to let the people of his vicinity know that or how apples can when they will be available. Reading notices in local papers usually serve this purpose adequately.

-X-

Cleaning Hints For Rugs And Furniture Explained

With fall house cleaning time just around the corner, homemakers everywhere are worrying about how they can brighten up the appearance of the living room rug or remove that ugly spot on the upholstered mohair or velour davenport.

To make this part of house cleaning as easy and as effective as possible, Miss Isabelle Hitchcock, home furnishings specialist at the College of Agriculture, University of Illinois, makes several timely suggestions.

For cleaning rugs or cloth upholstered furniture that are not badly soiled, mild soap flakes should be dissolved in warm water and stirred with an egg beater until there is a thick, dry lather, explains Miss Hitchcock. The suds should then be tested on an inconspicuous place to make sure that the fabric will not fade. A stiff bristle brush should be used, applying the lather only to a small section of the rug or furniture covering at a time and always working in a rotary motion until the lather is soiled. The soap should then be wiped up with a clean cloth or sponge wrung dry from lukewarm water. A generous application of suds will prevent uneven cleaning, but care must be taken to use only the dry lather so that the stuffing in the furniture will not become damp. Soiled furniture coverings such as tapestry, denim, rep or frieze which are fast in color may be freshened in the same manner.

Grease spots or oil stains may be removed from upholstered furniture and rugs by using naptha, chloroform, carbon tetrachloride or a detergent. When using naptha or chloroform, the furniture should be moved into the open air. Either of the liquids can then be applied to the stain, working from the outer edge to the center and allowing it to soak in well. A piece of blotting paper is then placed over the stain and pressed with a slightly warm iron. If carbon tetrachloride is used, the spot should be sponged thoroughly with a cloth saturated in the solution, using another clean cloth to absorb the soiled cleaning fluid before it evaporates. All rubbing should be done with the nap.

-K-

Fuel Expenses Can Be Saved By Small Home Repairs

Illinois farm families who wish to save money on the annual coal bill and at the same time enjoy warm comfort during the cold winter months should begin now to make certain needed repairs about the home, suggests T. A. Foster, rural architecture specialist at the College of Agriculture, University of Illinois.

Loose-fitting doors, rattling windows, cracks under the baseboard, in floors and plaster produce drafts that reduce the comfort of the home, cause grief to the occupants and add money to the coal man's purse. All of these are little things which should be fixed before winter comes and, fortunately, require very little material or expense. In most cases, a small amount of time and labor are the chief requirements, points out Foster.

Twenty feet of bronze weather stripping and 30 minutes time will make the door fit like new. A check of the sash and refitting of stops will improve the windows and stop the leaks there. Plaster repairs not only keep the cold air out of the house but improve the appearance of the home. Resetting of the corner trim or shoe mold will eliminate many floor drafts, while gun caulking may be purchased from the building materials dealer and applied with a putty knife or the screw-type grease gun.

All of these minor repairs may be done by the handy man in leisure time at a surprising low cost. The saving in coal alone will pay for the materials several times over each year, while the extra comfort and saving in health give added incentive to make the repairs. Count the cost of needed small repairs and compare it with the actual cost of repairs, and then you will wonder why the little jobs were not done long ago, says Foster.

-L-

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Timely Notes for Farm Advisers and others from the Agricultural College,
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Hold Regional Meetings Of County Corn-hog Delegates

First step in [illegible] the present [illegible] situation to all Illinois corn-hog producers and [illegible] on the question of [illegible] adjustment [illegible] conference of [illegible] delegates to [illegible] September [illegible].

Farm advisers and [illegible] of county [illegible] committees have been called to attend the [illegible] conferences which will be held under the direction of the extension service, College of Agriculture, University of Illinois.

The schedule of the meetings, by [illegible] districts, is: Northeast, September [illegible] at [illegible]; [illegible], September [illegible] at [illegible]; west, September 26 at Macomb; east, September [illegible] at Paxton; central, September [illegible] at Bloomington; west southwest, September [illegible] at [illegible]ville; southwest, September [illegible] at Pinckneyville; southeast, September [illegible] at [illegible]burg, and [illegible], September 26 at Effingham.

[illegible] regional conferences [illegible] in line with recommendations made [illegible] meeting which was held at Indianapolis, Ind., and which was attended by delegates from Illinois, Indiana, Michigan, Ohio, Kentucky and Tennessee. [illegible] the official Illinois delegation [illegible] Dean Herbert W. Mumford, of the U. of I. College of Agriculture, Prof. J. C. Spitler, state leader of farm advisers, and F. J. Keilholz, extension editor.

[illegible] of the state corn-hog production control committee also attended, including E. [illegible]. Eckert, Mascoutah, master of the Illinois State Grange; J. E. Fulkerson, Jerseyville, and Ray Miller of the Illinois Livestock Marketing Association.

After the 1934 corn-hog contracts terminate [illegible], there will be no control program in effect unless one is again taken up on [illegible] or unless some new plan is developed.

In the meantime, AAA officials believe, the corn-hog producers should get the facts [illegible] the present drouth situation with regard to feed and livestock and to express their opinion as to whether or not they wish an adjustment program in 1935 and what kind of a program that shall be.

The regional conferences will be in the nature of training schools for the county delegates. After their return they will assist in holding county meetings to which all community chairmen of the corn-hog production control associations will be called and at which they will be trained.

One or more teams will then be organized for holding a series of community meetings throughout each county with the idea of reaching all corn-hog producers. This series of meetings will be concluded in time for the Illinois vote to be sent to Washington before October 10.

-30-

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No Shortage Of Seed Corn Likely In Illinois In 1935

Unlike less fortunate farmers in some other states, Illinois corn growers should have plenty of seed available from the state's 1934 crop for planting a normal crop of around eight million acres next season, in the opinion of J. C. Hackleman, chief in crops extension at the College of Agriculture, University of Illinois.

Hard hit as it is, the state's 1934 corn crop will measure up to the seed needs for next year if farmers pick enough of the right kind of seed at the proper time and store it safely during the winter, Hackleman said.

In case there is insufficient good corn to seed will not be available for seed, 1933 cribbed corn can be used, but it is less desirable for seed purposes than good quality 1934 corn, it is said.

Following a trip through 37 northern and central Illinois counties, Hackleman reported that whole counties in some section and scattered parts of the other counties of the state may have an excess of corn for seed this fall. Farmers in other counties and parts of the state will probably have to import from 2,500 to 6,000 bushels each of seed corn from the more fortunate counties.

A shortage of seed from 1934 corn may be prevented to a large extent, if farmers in the more favored areas will select plenty of seed this fall so that it may be made available to farmers in the less fortunate areas, it is believed. It is recognized that the situation is so serious that it will be necessary for thousands of farmers to use old corn, but the number of such cases can be greatly reduced if Illinois farmers who have good quality corn will accept their responsibility and collect and store a surplus of seed this fall, Hackleman said.

When selecting seed corn, it is best to pick only those ears that are located on plants that are well anchored by the roots and that have matured. The husk and parts of the leaves should be green while the grain have turned to their color. Furthermore, the plant from which seed corn is selected should be free of smut and the ear should be supported by a sturdy, uniform shank. The husks should cover the ear well and the ear itself should not be unusually large in circumference as such ears dry slowly. Ears showing mold or insect injury should be discarded.

-X-

Farm Account Round-Up To Be Held In Ottawa, Sept. 27

M. L. Wilson, assistant secretary of the United States Department of Agriculture, is scheduled to be the headline speaker when farmers from seven northern Illinois counties gather for the farm bureau-farm management service round-up to be held at Ottawa, September 27, it has been announced by the College of Agriculture, University of Illinois. The meeting will be held in the Ottawa High School at 8:15 p.m.

How farmers who are keeping records in the service have improved their returns and put their business on a better basis in the face of conditions prevailing during the past several years will be told by representatives of the farm management division of the agricultural college. Approximately 150 farmers in Bureau, La Salle, Marshall and Putnam counties are cooperating with the college and their county farm advisers in keeping records in the service.

The round-up is a tri-annual event, the first having been held at Morris in 1928 and the second at Bloomington in 1931. All farm advisers and farmers in northern Illinois who have been cooperating in record-keeping projects as well as others interested in farm management records have been invited to attend the meeting.

-X-

Feed Outlook Puts Premium On Shrewd Buying In Cattle

Illinois farmers, who have been buying on average of more than 400,000 stocker and feeder cattle annually during the past several years, will have to be unusually shrewd in their buying this fall if they are to avoid disappointing results, in the opinion of Prof. R. H. Shepp, associate chief in beef cattle husbandry at the College of Agriculture, University of Illinois.

The critical feed situation will make it necessary to buy feeders on a different basis than has been the case for the past several years if the venture is to be a success, he pointed out. Only farmers with plenty of corn will be in a position to feed calves successfully, while farmers with limited supplies of corn will be wise to confine their purchases to yearling and two-year-old cattle, he believes.

It seldom pays, and certainly not this year, to buy cattle because they "look like a bargain," with little or no thought as to whether or not they are adapted to the feed supplies and shelter equipment available for them at their new homes, it was pointed out.

Because of the shortage of grain and the low quality of available roughage, most farmers are not in a position to feed calves profitably. However, the comparatively few farmers who are fortunate enough to have adequate amount of choice feeds on hand will make relatively good profits from feeding calves, Shepp believes. This seems likely because of a probable scarcity of choice, light weight slaughter steers next summer and fall.

Farmers with limited supplies of grain will do better to confine their purchases to yearlings and two-year-olds, since animals of these ages are well suited to utilize coarse feeds such as shock corn, soybean hay and corn silage. Furthermore, current market prices for both slaughter and feeder steers are favorable to the purchase of older and heavier cattle.

-M-

Subsoil Fertility First To Lose Plant Food, U. I. Tests Show

Contrary to popular opinion, the subsoils of Illinois farms lose their fertility first and more rapidly from continued cropping than do the surface soils, it is revealed by recent studies made at the College of Agriculture, University of Illinois.

Heretofore, it has been generally believed that the top seven inches of soil was the main feeding area of most farm crops and, where no effort was made to replace the consumed plant food, that the loss in fertility occurred from the top downward. This has been found not to be true, says R. H. Bray, soil analyst of the U. of I. agronomy department.

In light of this new knowledge, explains Bray, it would be more profitable and economical for farmers to begin replacing plant food either through manures or commercial fertilizers before the subsoil has been mined. To allow both the surface and subsoils to decline in fertility before treatment is started means that building up the productivity of the land will be slow, since it takes a longer time to increase the fertility of the subsoil than the surface soil. Experiments show that after the first initial increase in productivity resulting from surface treatment, a gradual increase in productivity occurs which is accompanied by an improvement in subsoil fertility.

When a soil improvement program is being planned, tests should be made of the subsoil at 10 to 12 inches and at 20 inches deep as well as of the surface soil, it is said. This is especially important where it is likely that the soil is low in phosphorus and highly acid, for such subsoils should be given special consideration in the treatment program.

-M-

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Forage Conservation Plans Under Way in 48 Counties

Farmers in [illegible] counties are in the midst of rounding up [illegible],000 tons of corn fodder and stover as Illinois' part in the AAA forage conservation program for the relief of the drouth-stricken west central states. A total of [illegible] million tons of forage is being sought at this present time in Illinois, Indiana, Ohio, Minnesota and other mid-west states [illegible].

[illegible] interested in seeing fodder and stover under the program [illegible] contracts by calling in the farm adviser's office, it was [illegible] information has just arrived from Washington, but as soon [illegible], [illegible] be given to the public in which farmers can file applications for corn [illegible].

[illegible] corn will yield [illegible] tons of corn stover, so [illegible] tons of fodder, [illegible] would be needed for the [illegible] of [illegible], [illegible] said. [illegible] that the shortage of corn in [illegible] farmers [illegible] of from one and three quarters million to two [illegible] farmers and land owners. Established rates for the corn fodder [illegible] $7 to $9 per ton.

[illegible] Illinois growers entering the deal will not be brought outright [illegible], it was [illegible]. However, all [illegible] signing the following Agricultural Conservation Program [illegible] forage conservation contracts [illegible]. The government will [illegible] contract to [illegible] fodder or stover will be brought to the [illegible] through [illegible] to be established in [illegible].

In case [illegible] on [illegible] by April 1 of next year, the government will [illegible] factory settlement provided the forage [illegible] grade No. [illegible] or better.

All corn fodder and stover [illegible] grades and established [illegible]. U. S. No. 1 of fodder or stover shall have [illegible] leaves attached and shall be green or green-yellow in color, sound and [illegible], well cured and shall not contain more than a trace of [illegible] material. Grade No. [illegible] shall have the majority of the leaves attached, may be [illegible] to yellowish brown in color, shall be well cured and may include not to exceed [illegible] per cent foreign material. All grades of fodder or stover must be at [illegible] when husked before being husked.

Tentative prices established for the different grades are: No. 1 corn fodder—whole, $[illegible] per ton; shredded or threshed, $[illegible]; No. 2 corn fodder—whole, $7.50; shredded or threshed, $6.75; No. 1 corn stover or sweet corn stover—whole, $[illegible].00; shredded or threshed, $[illegible].75; No. [illegible] corn stover or sweet corn stover—whole, $7; shredded or threshed $[illegible].

The prices are F.O.B., the farm with the [illegible] for baled stover or fodder. The secretary of agriculture will appoint inspectors who will inspect the fodder or stover before it is [illegible] by the [illegible].

-1-

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Illinois Farmers Sitting Outlook On Feed and Stock

Production of both grain and livestock threatens to pull out of bread again within a few years, thereby leaving farmers in another cycle of ruinously low prices unless producers plan accordingly.

This summary of the feed and livestock outlook, which is based on evidence collected by the Bureau of Agricultural Economics, U. S. Department of Agriculture, has just been presented to official county representatives in a series of nine regional meetings held by the extension service of the College of Agriculture, University of Illinois.

These regional conferences are the first step in a series of state-wide community meetings at which every corn-hog farmer will have a chance to get the facts on the present economic situation and to record his vote on the question of a control program for 1935. After the 1934 corn-hog contract terminates on November 30, there will be no control program in effect either for corn or livestock unless further plans are made.

Plans for the community meetings in the 102 counties of the state were started as soon as county farm advisers and members of the county corn-hog allotment committees returned from the regional meetings. Preceding the community meetings, a county meeting will be held in each county for all community committeemen of the corn-hog control association so that they can meet with the meetings in their respective neighborhoods. These community meetings will be open to all corn-hog producers, whether or not they were participating in the 1934 corn-hog program.

The economic situation that our livestock farmers will face in 1935 will be almost the opposite of conditions that existed at this time last year, it was pointed out in the regional meetings. Feed supplies have been cut into so heavily that they are now on the short side. Livestock supplies, too, have been cut very sharply, but the shortage in feed has been more than twice as great as the slump in livestock prices.

This has put a premium on feed supplies. On the basis of past experience this threatens to stimulate an immediate and large increase in corn acreage. This in turn would bring ruinously low feed prices and lead to an overproduction in livestock raising. Livestock prices would then collapse, and corn-hog producers might be right back in another of the disastrous cycles which they had with the present program of adjustment campaign.

The series of community meetings is being planned so as to get the results of the Illinois poll to Washington by October 1, where it will be considered along with the votes of the rest in other states.

-H-

Seed Oats Now Lying Fallow Would Bring Problem In Spring

Hard pressed as they are for feed to maintain their depleted or nine million head of livestock, Illinois farmers can hardly afford to continue seeding oats of good seed quality and adapted varieties, it is asserted by J. C. Hackleman, chief in crops extension at the College of Agriculture, University of Illinois. Oats on this acreage threaten to be so scarce that it will command a premium as seed next spring, he said. One county, Champaign, is conserving its supply by seeding oats, as well as barley and soybeans, under a plan similar to that used for the corn loans. Loans on the stacked oats, soybeans and wheat will be advanced at the rate of 57 per cent of market quotation.

-H-

Repetition Of "Lean" 1934 Crop Season Is Unlikely

A repetition of the disastrous crop season of 1934 is not likely in the immediate future, and therein lies hope for the farmer who is planning ahead, in the opinion of Dr. L. J. Norton, of the agricultural economics department, College of Agriculture, University of Illinois.

For the farmer who is looking quite a way ahead, the decreased numbers of hogs, cattle and sheep on account of the short feed supplies means that the balance between livestock and feed prices is likely to be more favorable to livestock after the 1935 crops are harvested than is the case at the present time, he said.

In view of this prospect, it will be profitable to maintain good foundation breeding herds wherever it is possible to do so in any way, even in areas where feed supplies are very short.

Reasonably favorable prices for feedstuffs and for fat livestock are in prospect for this fall and winter as a result of the short crops of feed grains and the prospect of short supplies of fat stock.

The balance will likely be in favor of feedstuffs, but they will not be so high in price or in relation to livestock prices as they would have been if production had not been so drastically curtailed.

"The 1934 crop of feed grains in the United States will yield about 56 pounds for every 100 pounds produced as the annual average from 1927 to 1931. The 1934 crop of hay will yield about 67 pounds for every 100 pounds raised in the 1927-1931 period.

"Although the Illinois corn crop is short, it is good in comparison with those in states where the midsummer heat and drouth practically destroyed the crop. In Illinois, for example, the crop is estimated at 60 percent of the five-year average, while in the five states of South Dakota, Nebraska, Kansas, Oklahoma and Missouri, the crop is only 17 per cent as large as the five-year average.

"In spite of the very short corn crop there is a better balance between hog numbers and feed supplies than would have been the case if there had been no AAA corn-hog adjustment program. The 1934 spring pig crop in the United States was estimated at about 70 per cent of the average of the past three years and the number of sows to farrow in the summer and fall of 1934 was forecast to be slightly more than 60 per cent of the average for 1931-1933.

"Usually curtailment in hog numbers follows short corn crops. The fact that hog numbers already have been greatly reduced will lessen the necessity for the drastic liquidation in hogs which usually occurs after short corn crops and will maintain a better balance between corn and hog prices during this winter than would have been possible if the control plan had not been in operation.

"Reports to the U. S. Department of Agriculture indicate that 30 per cent fewer cattle will be purchased for feeding this year than in 1933."

-W-

High Feed Prices Fix Doom Of Poor Types Of Animals

Mounting premiums on feed spell the doom of all the poorer animals among the eight or nine million head of livestock on Illinois farms, and getting rid of such stock is the first step in conserving short feed supplies.

This is the recommendation of members of the dairy and animal husbandry departments of the College of Agriculture, University of Illinois in a special leaflet which they have just prepared. It is designed to answer the many inquiries of farmers who are hard put to make their available feed maintain the livestock on their farms.

Feed not only will be too scarce but also too high priced to waste on low-producing or inferior animals, the leaflet points out. Not only low-producing dairy cows but also inferior animals of all kinds and ages should be disposed of as soon as possible, it was recommended.

-W-

The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College,
Experiment Station, and Extension Service

Vol. XVII [illegible], 1[illegible] Number [illegible]

[illegible]

[illegible] net income [illegible] of $3,97[illegible] [illegible] farm [illegible] 1951, 195[illegible] and 195[illegible]. These records were kept by farmers in DeKalb, Grundy, [illegible]rshall and P[illegible] counties [illegible] enrolled in the Farm Bureau–Farm Management project of the College of Agriculture, University of Illinois.

Approximately [illegible] the results of [illegible] recent "round-up" meetings of [illegible] farm accounts [illegible] points of their business [illegible] practices [illegible] farmers, it was pointed out by M. L. Mosher, of the Department of Agricultural Economics.

[illegible] U. S. Department of Agriculture, [illegible] must continue to be [illegible] production.

"The rewards for efficiency of production are [illegible] great as they ever were, and [illegible] have every reason to believe that they should be great [illegible] [illegible] efficient farms will be [illegible] without restraint [illegible] the world [illegible]," [illegible] said.

[illegible] most profitable farms in the group of [illegible] enrolled in the Farm Bureau–Farm Management project [illegible] net income [illegible] during the three years of 1951, 19[illegible] and 19[illegible]. In contrast [illegible] farms [illegible] average of $4[illegible] a year, making the difference [illegible] in their earnings [illegible] profitable farms total [illegible],77[illegible].

Greater returns [illegible] better crop yields, [illegible] labor, lower cost of power and machinery, better selection [illegible] grains and lower miscellaneous [illegible], [illegible] difference in earnings between the two groups [illegible].

Farms that were above average [illegible] net income of $1,[illegible] a year [illegible] in six or all seven of the factors [illegible] $1[illegible].

The importance of efficient production [illegible] in the [illegible] farms with the highest crop yields [illegible] $[illegible] a year than did [illegible] farms with the lowest crop yields. [illegible] bushels more corn to the acre, [illegible] bushels more oats, [illegible] [illegible] bushels more barley, 11.[illegible] bushels more soybeans, [illegible] half ton more of alfalfa [illegible].

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, Director

Silage Is Prized In Lamb Fattening Rations

Shrewd feeders, and especially those who own plenty of silage available, will be the ones most likely to cash in on the favorable outlook for lamb prices this winter, according to W. G. Kaupal, [illegible] of the College of Agriculture, University of Illinois.

Feed costs will be high and profits will be extremely narrow unless the lambs are fed to gain fast, he pointed out. Feeder gains generally are cheap gains, as they mean a minimum of feed and a wide improvement in the condition of the lambs.

"Feed costs will be even more important items in the economic returns of lamb feeding this season than they were a year ago. Feeder lambs, especially lambs, will cost at least twice as much, and all grains have advanced so that it will not be easy to get a margin even if prices.

"Silage is a relatively low cost feed and high quality silage is the only roughage for fattening lambs, if it is properly supplemented to make up for the lack of protein and mineral. When legume hay is not fed in addition to the silage, it is essential that a protein concentrate such as soybean oil meal, cottonseed meal or linseed meal be included in the ration. Likewise, an adequate mineral supplement should be provided over the silage. About one-fourth pound of the protein supplement daily for each lamb is usually enough.

"In a test last year at the U. of I. College of Agriculture, a mixture of equal parts of salt and finely ground limestone fed free choice was found adequate if one pound for each 50 lambs, as a means to provide enough mineral for the 120-day period. The average daily ration in this test was [illegible] pounds of corn, [illegible] pound of soybean oil meal, [illegible] pounds of silage and [illegible] pounds of salt and limestone.

"Recent rain which has improved fall pasture should add to the feeder's chances of making a profit. Grass is an inexpensive feed and lambs can't be beaten in utilizing it efficiently."

-H-

Soybean Seed Crop Ruined By Plight Disease

Welcome as the rains have been in most parts of the state, continued dull weather this fall may play havoc with the estimated [illegible] bushels of soybeans which Illinois farmers will have to sell, in the opinion of Benjamin Koehler, crop pathologist of the College of Agriculture, University of Illinois.

Exceptional moisture in late summer and early fall is particularly favorable to the development of what is known as "pod and stem" blight, and already reports have been received by Koehler indicating that the disease has broken out in epidemic form in several parts of the state.

The only practical remedy known at the present time, explains Koehler, is to harvest crops so that the beans are in as dry condition as possible when threshed. If there is considerable moisture in the threshed beans, the disease fungus spreads rapidly and multiplies the damage.

Symptoms of the disease are easily overlooked in the vines, but the seed damage will be readily observed when the beans are threshed next spring. In 1926, when a severe infection of "pod and stem" blight occurred in Illinois, many of the seed lots germinated less than 10 per cent upon being tested at the U. of I. College of Agriculture. Unless gently dry weather in late September should continue, the blight will undoubtedly cause considerable damage this year.

-H-

Drouth-Damaged Corn Not Likely To Hurt Farm Stock

There is little danger of serious loss of livestock or poultry from the use of corn that contains this fall, if samples sent to the College of Agriculture, University of Illinois are typical of corn throughout the state, says Dr. Robert Graham, chief in animal pathology and hygiene.

Immunizable impurities are overlooked by the U. of I. pathology laboratory relative to the possible poisonous properties of drouth corn, such as sudan grass, and apparently there is no danger of trouble from either of these sources.

Of the many samples of suspicious drouth corn that have been tested in the laboratory, to date not a single specimen has proved to be poisonous, Dr. Graham said, although it is known that sorghum plants can develop fatal amounts of hydrocyanic acid under arrested growth, the danger in the case of corn appears to be extremely doubtful.

The poisonous properties of sudan grass have also been recognized during certain stages of growth, but no case has been found where evidence of injury when fed to livestock was not obtained in the laboratory. Sudan pasture has been fed the year for a period of three weeks without showing any ill effects.

Illness which may be noted now and then following is sometimes caused by the sudden change in rations, Dr. Graham points out. This is particularly true in cases where the animals have been on short pasture and are in a rundown condition. Recent rains have improved the pastures and as a result cases of laminitis have been observed in horses that had nothing to eat but blue grass. This ailment is caused by digestional disturbance, the latter usually being the sudden change in diet or overfeeding animals in poor condition.

-H-

Home Fire, Smoke Damage Each Fall In Illinois

Nearly $20,000,000 in property is destroyed each year by fire in the United States, with Illinois one of the heaviest losers, because people fail to examine their chimneys, flues and other heating equipment before starting fires in the fall, says Miss Gladys J. Ward, home management specialist at the College of Agriculture, University of Illinois.

Commenting on the national observance of Fire Prevention Week, October 3 to 9, Miss Ward points out that fire caused the death of 1,15[illegible] persons in the United States in one year, almost 10 per cent of whom were residents of Illinois. In the past 10 years, approximately 4,200 people have burned to death in this state, a third of them being children under 10 years of age.

House fires which average nearly 1,000 daily in this country have caused property damage amounting to $1[illegible],000,000 annually, while the total loss from all types of fires aggregated more than $5[illegible],000,000 in 1[illegible].

Before lighting home fires in the early fall the time to inspect, repair and clean out defective chimneys, flues and fireplaces, if this work was not done during the regular spring house cleaning, says Miss Ward. Much of the loss of life and property also could be prevented, if a fire extinguisher were a part of the equipment of every home. Kept within easy access for quick use and inspected and refilled regularly, a hand extinguisher would put out the majority of the small fires before a great deal of damage was done. A metal bucket of sand kept in the cellar and near at hand are also excellent aids in putting out small fires. Keep a pail in the kitchen, since many of the fires started by grease and cooking utensils could be prevented by keeping ashes, sand or a fire extinguisher handy, it is said.

-H-

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Vol. VII [illegible] Number 41

[illegible] Favorable Sign

[illegible] things [illegible] agriculture [illegible] that [illegible] Illinois [illegible] Anderson, [illegible] students [illegible].

[illegible] barometer of [illegible] The other two [illegible] sessions of [illegible] and its extension activities [illegible] and homemakers throughout [illegible].

The increase in [illegible] gain of [illegible] reported. There is a 67 per cent gain in [illegible] and a 27 per cent gain in home economics students. [illegible] largest since 1930, [illegible] transferred to the College [illegible] this year [illegible].

[illegible] out [illegible] an [illegible] out of [illegible] junior [illegible] number [illegible] months [illegible].

[illegible] the 1,2 [illegible] are represented among those [illegible] agriculture and home economics, while 18 other states besides [illegible] and [illegible] foreign countries list [illegible] students studying at the college.

The enrollment for the entire university, as of October 1, was 10,616 students, a gain of 678 over the previous year or a gain of 6.82 per cent. About one-fourth of the gain in the entire university was recorded in the agricultural college.

-W-

[illegible] Extended To Take In Hay Crops

[illegible] shortages in the [illegible] are so critical that Illinois farmers can [illegible] contracts to [illegible], as well as corn fodder and [illegible] under the AAA forage conservation program. Announcement of this has just been made by C. C. Hinkelman, crops extension specialist of the College of Agriculture, University of Illinois.

The [illegible] fodder and straw production [illegible] a total of [illegible],000 tons in Illinois is [illegible] underway, but the feed situation in the state farther west has [illegible] that [illegible] will have now come out for hay too. Regional [illegible] appointed by the [illegible], as well as county [illegible] have been asked to take listings of [illegible] available supplies of [illegible], soybean, cowpea, [illegible] and all [illegible] hay. In some [illegible] have cut fodder [illegible] to [illegible] but it is [illegible] that [illegible] will be released [illegible] that might be [illegible] more than the corn fodder and straw would bring.

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Illinois Farmers Organize To Fight 1935 Chinch Bugs

Corn growers in Illinois are already arming themselves in science against a probable chinch bug attack in 1935, with farmers in southern Iroquois and Vermilion counties leading the way, according to W. P. Flint, chief entomologist of the Illinois State Natural History Survey and of the College of Agriculture, University of Illinois. Farmers in that section are campaigning to eliminate all small grains during the coming year.

At the present time the chinch bugs, which have destroyed millions of dollars worth of crops this year, are flying into winter quarters. Next spring, however, the pests will come out of hibernation and begin feeding on small grains, particularly wheat and barley. It is at this stage that the big corn growers in east-central Illinois expect to defeat the bugs, for there will be no small grains for them to feed on, if present plans are carried out.

Authorities at the U. of I. College of Agriculture do not recommend this particular method of combatting chinch bugs for the entire state, but the movement illustrates one way of fighting the destructive pests where farmers will organize in a concerted drive.

Early in September a group of farm leaders in the two counties met to consider what could be done to protect their 1935 corn crop from the chinch bugs. Sweet corn is an important cash crop in this area, and almost any method that will insure a minimum of insect damage is justifiable. Representatives of the U. of I. College of Agriculture and the Natural History Survey were called in to suggest ways and means of combatting the pest.

As a result of this and subsequent meetings, special agreement forms were printed, township chairmen were elected to lead the movement and approximately 80 per cent of the farmers in the area are believed to have pledged themselves not to grow wheat, barley, rye, oats or other small grains in 1935. The acreage formerly devoted to these crops will be planted to clovers, soybeans and other legumes that are not eaten by the chinch bugs, as well as some additional sweet corn acreage. Furthermore, the corn will be planted later than usual. Thus, when the insects come out of winter quarters next spring there will be a minimum of their favorite foods on which the first brood of bugs normally develops.

-V-

Illinois Farmers Aided By 35-Year-Old Liming Tests

Illinois farmers who had reasonably good stands of alfalfa and sweet clover this summer, while non-leguminous hay and pasture crops were withered by the drouth, reaped the benefits of 35 years of experiments in this state dealing with the value of limestone in crop production, it is revealed in a recent bulletin published by the College of Agriculture, University of Illinois.

Alfalfa and sweet clover, because of their deep-rooting characteristics will grow well in spite of prolonged dry weather, provided the soil is not in an acid condition. But in many fields the acidity of the soil must be neutralized by limestone before a good stand of legumes can be grown. Thus many farmers who have followed the liming tests conducted by the U. of I. College of Agriculture had hay and pasture this summer regardless of the drouth.

It was back in 1901 that the first of hundreds of field tests dealing with soil acidity were begun, explains F. C. Bauer, chief in soil experiment fields and author of the new bulletin entitled, "Response of Illinois Soils to Limestone." During the next 17 years more than 40 similar experiment fields were established in different parts of the state, 21 of which are still in operation to provide additional facts relating to soil management practices.

-V-

Corn Picker Must Work Efficiently To Pay [illegible]

Although Illinois' [illegible], [illegible] corn [illegible], dis[illegible] [illegible] the [illegible], [illegible] mechanical corn [illegible] full [illegible] efficient operation of the machines, in the opinion of [illegible], [illegible] the College of Agriculture, University of Illinois.

[illegible] corn [illegible] bushel [illegible]. With [illegible] loss through corn left in the field [illegible] shelled [illegible] pull [illegible].

[illegible] by the agricultural [illegible] U. of I. College of Agriculture [illegible] over [illegible] the [illegible] of the corn [illegible] been avoided [illegible] more [illegible] with [illegible].

With [illegible] corn [illegible], [illegible]. When [illegible] not [illegible]. [illegible] increase the [illegible] corn, [illegible] shelled [illegible].

[illegible] brittle, [illegible] the corn [illegible] been [illegible].

Other [illegible] on [illegible], [illegible] gather [illegible] the corn [illegible].

"[illegible] Sires Will [illegible] Dairy Progress

[illegible] "[illegible]" [illegible], [illegible] about the "[illegible]" of [illegible], [illegible] opinion of [illegible] in [illegible] the College of Agriculture, University of Illinois.

By the "[illegible]" [illegible] that large group of young Illinois dairy bulls [illegible] breeding [illegible] quality but [illegible] with [illegible] influence on [illegible]. These [illegible] duce [illegible] than [illegible] percent of all [illegible] dairy products consumed in the [illegible] from [illegible] inclusive.

[illegible] progressive dairyman [illegible] "proved" [illegible], [illegible] by [illegible] the bull's [illegible] explained. This [illegible]. However, [illegible] dairy bulls, [illegible], [illegible] not in [illegible].

[illegible] dairymen [illegible] regarded, [illegible] believes. [illegible], [illegible], [illegible]. In addition the [illegible] bulls [illegible].

The Extension Messenger

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Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVII October [illegible] Number 40

[illegible] Farm [illegible] At Farm Advisers' Conferences

[illegible] farmers' interests in Illinois will [illegible] in three district conferences of [illegible] farm advisers which the extension service of the College of Agriculture, University of Illinois, will hold this month.

Dean Herbert W. Mumford, director of the agricultural college extension service; Prof. J. C. Spitler, state leader of farm advisers, and other officials of the extension service will [illegible] the program.

[illegible] farm advisers [illegible] the extension service staff will attend the conferences, which [illegible] October [illegible] and 14, Springfield, October [illegible], and Mt. Vernon, October [illegible].

Whatever [illegible] has been one in which, [illegible] the U. S. farmers' cash income, including rental [illegible] AAA [illegible], is estimated to be close to a billion dollars [illegible] than [illegible] previous [illegible].

With [illegible] will be one of the prime objectives [illegible] program which will be discussed at the [illegible] district conferences [illegible] and will be sought through extension service activities which [illegible] and marketing costs. Raising the quality [illegible] production [illegible] overcoming the handicap of sluggish [illegible] and low consumer demand [illegible] in the discussions of the advisers.

[illegible] which will be planned at the [illegible] of [illegible].

This [illegible] will be sought through—[illegible], dairy herd [illegible], dairy herd [illegible] schedules, [illegible] of crop rotations [illegible] conditions and other [illegible] projects.

Following the conferences, farm advisers will outline the year's program of work in [illegible] of their [illegible].

-30-

Recent Changes In Advisers Affect Several Counties

[illegible] in October [illegible] in [illegible] county [illegible] in [illegible], it was announced by Prof. J. C. Spitler, state leader of farm advisers, College of Agriculture, University of Illinois.

R. H. [illegible], former farm adviser in Greene county, began work October 1 as the new adviser in White county, succeeding C. W. [illegible], who is now manager of a cooperative creamery at Olney. [illegible], former emergency adviser in Fayette county, is new farm adviser in Warren county, succeeding A. A. Olsen.

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Beef Cattle Conditions Now Forecast Higher Markets

Conditions which will result in reduced cattle slaughter and sales for higher cattle prices are reviewed in a beef cattle outlook statement prepared by a special committee of staff members of the College of Agriculture, University of Illinois. First, there is the great increase in the cattle population of the country as a combined result of the drouth, short feed supplies and the federal cattle buying program, and second, there is the smaller number of cattle likely to be fed this winter on account of the reduced corn crop.

Numbers of cattle began to increase in the United States in 1928, but the number of cattle marketed did not increase until 1934. This follows the usual tendency for changes in number of cattle to proceed to lag behind an increase in numbers in breeding herds. This has been lengthened out in this cycle by low prices for cattle which caused owners to hold them. Once the period of increased marketings sets in, it has usually run for several years, during which cattle prices, after a short period of readjustment, have tended to move about a fairly stable level.

The drouth of this summer, with the cattle purchase program of the federal government has concentrated into brief duration reductions which would normally have required several years. Through September, about six million head had been purchased by the government. The latest reports indicate total purchases will be from 7 to 8 million head. Although part of these will be shipped to southern and coast packing plants, the bulk of them have or will be slaughtered for relief purposes. This will reduce cattle numbers in the country by very substantial amounts. A drop of prices is likely to follow. More favorable price levels for cattle may be expected after this liquidation is passed.

Information collected by the U. S. Department of Agriculture about August 1 indicated a decrease of 30 percent or more in cattle feeding this fall and winter compared with a year earlier. Since that date, however, shipments of stocker and feeders from the corn principal corn belt have been unusually heavy, the total movement for the three months, July to September, being 50 percent more than that of a year ago but approximately the same number as in 1933 and 1934. In all probability these shipments include a considerable number of cattle which have been bought principally to utilize fall pasture and coarse roughages. Consequently these shipments will contribute much less to the fall supply than their numbers might indicate. Following the short corn crops of 1901 and 1934, the supplies of finished steers coming onto the market the following years were greatly reduced in comparison to receipts of "warmed up" and "short fed" cattle, creating a wide range between the prices of the better and lower grades. Reports indicate that a larger proportion of yearlings and a small proportion of calves will be fed, as heretofore, no doubt, because of adjustments to shortage of grain crops.

A factor of uncertainty in the markets for all farm products is the outlook for business and consumer incomes. A further improvement in these would reinforce the effect of smaller supplies on cattle prices. On the other hand, if there is little or no improvement in business conditions, the advances in prices will be much less marked. In spite of the setbacks which may take place in business activity in the last three months, the general trend in activity is probably upward.

Over a period of time changes in beef cattle and dairy cow prices show strikingly close fluctuations and higher beef cattle prices will tend to increase prices of dairy cows. Moreover, the increased slaughter of dairy cows and heifers in the first part of 1934 indicates that marketings were thirty percent larger than in the same period in 1933. These conditions point to higher prices for dairy cows.

Roofs Rate First Attention In FHA Repair Activities

Better roofs are fresh evidence that the current upsurge of the $7[illegible], 000,000 worth of building in Illinois farms, and now with Federal Housing Administration funds becoming available is the time to take care of that leaky roof, says W. A. Foster, rural architecture specialist at the College of Agriculture, University of Illinois.

Replacing old worn-out roofs now before the next rain will stop the damage to the building and its contents, will improve the appearance of the structure and add to its value, Foster points out.

The new roof should be selected on the basis of appearance, fire hazard, weather and salt water resistance, and cost, points out Foster. It is false economy to buy a poor roof that may be a liability in a few years, while a good one will need no attention for long years to come.

If the roof is to be [illegible] more durable, only those with heavy cuts and cut from sound stock should be used. When a metal roof is preferred, the material selected should be one on which the seal of quality is stamped on each piece. In the case of an existing roof, be sure debris is removed or treated with a fire-resistant paint. Usually give the greatest protection. If composition slate is to be used for the roof, three-piece units, rather than large pieces should be selected. A little investigation will be helpful in choosing the roof best adapted to the particular need. It should, of course, be laid according to the roofing specifications of the manufacturer.

Better roofs on the farm buildings of the state would stop more than one waste in returns and revenue, Foster reminds us.

The best roof cannot offer adequate protection to damaged stored articles than it will to those under the eaves. Defective roofs are the principal cause for salt water rust to implements and machinery and spoiling to articles made of wood. Painting [illegible] with white to woodwork, rots out rafters, and [illegible] rust [illegible] only a few of the hazards.

—/—

Horse Pull Mark Records Shot Three Ways Through

Horses for the [illegible] purpose of [illegible] judging from the way they came to the front in horse-pulling contests held by the College of Agriculture, University of Illinois boys throughout the state this summer and fall. More Illinois teams made good records than at any time in the past eight years, it is reported by L. P. Robbins, livestock extension specialist, who was in charge of the contests.

Although the state records established last year remained unbroken, three Illinois teams during the season just closed lifted [illegible] pounds the full distance of [illegible] feet, or the equivalent of pulling six 14-inch plows turning furrows six inches deep in stubble ground. One of these teams was a 4-pound pair owned by Charles Lett, of Sandwich; the second team, weighing [illegible] pounds, was owned by Homer Bradford, of Pontiac, while the third team to pull the full distance was a pair weighing 3,[illegible] pounds owned by Gordon Warner, of Allerton. This team lifted 67 percent of its own weight. Few teams have ever equaled the record, it is said.

The all-time records were set in [illegible] by two teams owned by William Stolls, of Springfield. In the light class a Shorthorn pair weighing [illegible] pounds pulled a load of [illegible], [illegible] pounds, while in the heavy class [illegible] pair of 3,[illegible] pounds.

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Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station and Extension Service

Vol. XVII October [illegible], 1935 Number 42

AAA Corn-Hog Plan Expected to be Announced Soon

The [illegible] 1935 and official hope to announce [illegible] the first of November and [illegible] the contract [illegible] from Agriculture [illegible] the United States, according to word [illegible] extension [illegible] College, University of Illinois [illegible] in November.

Plan [illegible] the early returns from the AAA [illegible] agricultural adjustment [illegible] the outcome of the ballot-[illegible] principal corn and hog states [illegible], 153,181 casting [illegible] ballots.

[illegible] indicate clearly that corn-hog pro- [illegible] the AAA corn-hog section. [illegible] definite plan as soon as [illegible] during the referendum, [illegible] 34 contract, involving control [illegible] both corn and hogs.

"[illegible] administrative procedure in [illegible] that developed in working [illegible]

[illegible] indicated the sentiment [illegible] workers from 18 [illegible] relative to the [illegible] orientation [illegible] J. B. Fulkerson, of Jersey [illegible] of the farm management division [illegible]

Under [illegible] the 1934 contract is deemed [illegible] prevent [illegible] from corn acreage and production and in hog [illegible] Implications are that the present relatively high [illegible] the drouth on supplies, will stimulate [illegible] as is the marked reduction in livestock [illegible] year ago. A return to the 1932-33 [illegible] small yields following severe drouths would [illegible] bushels in excess of anticipated requirement, it is believed. Assuming [illegible] near normal yields, a total corn acreage [illegible] would meet requirements and would leave a substantial [illegible] rebuilding reserves.

-M-

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Final Count Of Illinois Ballot Favors AAA Program

About [illegible], of Illinois farmers voting in the government's nation-wide AAA corn-hog referendum favored the adjustment program dealing with corn and hogs in 1937 by a count of [illegible],[illegible]1 to 1,[illegible]7[illegible] and approved the idea of a simplified, one-contract-per-farm program dealing with grains and livestock to become effective in 1938 by a poll of [illegible],[illegible]2[illegible] to [illegible],[illegible]74.

These figures are officially the final results of the referendum as conducted throughout the state by officials of county crop-production control associations.

The sentiment among the [illegible], farmers who voted was three to one in favor of the first question, or the adjustment program dealing with corn and hogs in 1938. A total of [illegible],[illegible]1[illegible] favored this question, while only [illegible],[illegible]4[illegible] opposed it. The total vote, including both signers and non-signers, was [illegible] to [illegible],[illegible]4.

In not a single one of the 102 Illinois counties did the corn-hog signers vote down the first question, while this was done in 16 counties only in three counties on the basis of the contract signers' votes. The second question lost by 1,1[illegible] in the Boone county vote of [illegible] contract signers, [illegible] to [illegible] by Stone county, [illegible] to [illegible], and [illegible] to [illegible] by Tazewell county, both of signers.

The [illegible] counties which lost on the second question when the votes of contract and non-contract signers were cast together. The margin was 17 to 1[illegible] in Boone county, [illegible] to [illegible] in Stone and [illegible] to [illegible] in Tazewell.

Three other counties, Grundy, Hancock and Schuyler, voted down the second question when the ballots of non-signers were added to those of signers. The margin was [illegible] in Grundy county, [illegible] in Hancock and 1[illegible] to 1[illegible] in Schuyler. However, these three counties were in favor of the second question on the basis of the vote of [illegible] contract signers alone.

Even when the vote of non-signers was added to that of the signers, the first question was defeated only in [illegible] Illinois counties and then by narrow margin. That was in Grundy where the total count was 1[illegible] opposed to the first question and [illegible] in favor of it. Among the contract signers alone, the first question carried even in Grundy county by a count of [illegible] to 1[illegible].

In staging the referenda, corn-hog production control associations held a total of 1,17[illegible] community meetings which were attended by a total of [illegible] farmers.

Before voting on the two questions, farmers heard an explanation of outlook information from the bureau of agricultural economics, U. S. Department of Agriculture, showing that the production bids of grains and livestock this year to get out of hand again unless farmers plan accordingly. Action was held to be necessary at this time, because after the 1938 corn-hog contract period ends November [illegible], there will be no adjustment program in effect either on feed grains or on livestock

Good Seed Curing And Handling Is Corn Crop Insurance

Providing good curing and storage conditions for their seed corn this winter, rather than poor or even average conditions, will be worth $1[illegible] an acre on next year's Illinois corn crop, should it fully be a normal year and corn prices remain at 65 cents a bushel.

This is revealed in eight years of records kept by central Illinois farmers enrolled in the farm management service conducted by the College of Agriculture, University of Illinois, in co-operation with county farm bureaus. In these records, involving the growing of approximately [illegible] acres of corn, the difference between good and poor seed corn curing and storage amounted to [illegible] bushels an acre in the resulting crop. Even average curing and storing conditions cut the resulting crop two bushels an acre below what it was from good curing and storage of the seed. Two bushels an acre on the average annual Illinois crop of [illegible] million acres, with corn worth 65 cents a bushel, would add to more than $1[illegible],[illegible],[illegible] in corn returns.

By good curing and storage is meant that the seed corn is dried rapidly and protected from freezing until the moisture content has been reduced, explains R. H. Reed, agricultural engineer at the U. of I. College of Agriculture. These conditions are not met where the corn is hung on the back porch or in the driveway of the corn-crib as is practiced on many Illinois farms.

Rapid drying of seed corn is impossible of course without artificial heat, unless the weather is unusually favorable. For small quantities, the ears can be hung in the kitchen, or in an upstairs room over the kitchen, or over an open hot air register. Large quantities of seed corn may be dried in the garage, crib or other buildings where a fire can be maintained. Care, however, should be taken to see that none of the corn is exposed to a temperature above 110 degrees Fahrenheit.

Ventilation is also an important factor in obtaining high quality seed corn, points out Reed. Unless the air in direct by around the ears is constantly changed, the atmosphere becomes laden with moisture, the drying will be much slower and an ideal condition is established for the development of molds.

—K—

State Vegetable Growers Will Hold Convention In [illegible]

Protecting Illinois' million dollar vegetable growing industry from "counterfeit" certified potato seed will be among the important problems to be considered at the fourth annual meeting of the Illinois Vegetable Growers Association to be held at Rockford, November [illegible] to [illegible], according to L. A. Somers, vegetable extension specialist at the College of Agriculture, University of Illinois. The organization with its membership of more than [illegible],[illegible] vegetable growers is expected to take a vigorous stand against the distribution of potato seed in bags bearing the word "certified" as an imitation of the official seal of growing certification, it is said.

—K—

Nut Interest To Mount In Tri-State Show On Nov. 15

Other towns and cities may have their world's fair expositions and their world's series baseball games, but little New Haven, famous as the center of the pecan growing industry of Illinois, will have a distinctive event of its own when the Tri-State Nut Show is held there November 15. Aimed to foster the fast developing nut-growing industry of Gallatin county, the show was started three years ago by H. C. Neville, county farm advisor, co-operating with the extension service of the College of Agriculture, University of Illinois. Heavy entry lists are expected for the 1935 show, which is expected to draw entries from southern Illinois, southwestern Indiana and southwestern Kentucky.

—K—

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Timely Notes for Farm Advisers and others from the Agricultural College,
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Volume XVII [illegible], [illegible] [illegible]

[illegible]

Only [illegible] been [illegible] in the prices [illegible] farm products, [illegible] analysis of farm price changes by Dr. L. J. Norton, [illegible] College of Agriculture, University of Illinois.

Fortunately, [illegible] in the present situation [illegible] point to [illegible] of time, [illegible], he pointed out.

[illegible]

[illegible] Illinois [illegible] Dr. Norton [illegible] prices [illegible] In [illegible], [illegible] prices they pay.

[illegible] greater [illegible] from [illegible] increase in prices paid by [illegible] it [illegible] cent.

[illegible] Illinois [illegible] about 40 per cent higher [illegible] the present one than they did during the same [illegible]. Only [illegible] of a list of [illegible] representative Illinois farm [illegible] than a year ago.

"[illegible]: [illegible] potatoes, [illegible]; [illegible] textile industries [illegible]; [illegible], reflecting lower wool prices, and [illegible], reflecting the tendency to liquidate [illegible] high prices [illegible] feeds."

[illegible] Illinois [illegible] higher prices [illegible] than it [illegible] per cent [illegible] two years ago. There [illegible] per cent advance in [illegible] a year ago, [illegible] per cent in [illegible], [illegible] per cent in corn, 4 in [illegible], 44 in hogs, [illegible] in butterfat, 14 in chickens, [illegible] in horses, [illegible] in beef cattle and 11 in [illegible]. [illegible] many farmers [illegible] concerned these higher prices are more than offset by reduced crops. [illegible], income may even be reduced.

Barley, oats, hay and [illegible] of the [illegible] representative Illinois farm products which [illegible] August-September [illegible] average. [illegible] existing [illegible] conditions [illegible] received in [illegible] can be expected only in the [illegible] where [illegible] conditions exist, Dr. Norton declared.

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Old Grib Built For Storing Higher-Priced Corn

[illegible] cent per [illegible] will not provide [illegible] store this bill with [illegible] more than four times [illegible] corn, according to W. A. Foster, rural architectural specialist at the College of Agriculture, University of Illinois.

Shrinkage, [illegible] corn [illegible] by poor storage facilities will not [illegible] corn when [illegible] But today with [illegible] per bushel [illegible] may easily add materially to the [illegible] farm income. The man [illegible] who finds the state bill [illegible] it profitable [illegible] that the new corn [illegible] will in the [illegible] condition.

To provide [illegible] tight floor, [illegible] and [illegible] Foster. It may be built in any one [illegible] for the most common crib in Illinois [illegible] high, 8 feet wide and any length desired. The floor should be at least 4 feet above the ground to allow room for the unloading device or the [illegible] will be based upon the amount of corn normally [illegible] by the [illegible] this state should provide with [illegible] for each [illegible] also provide [illegible] for wagon [illegible] other [illegible].

[illegible] crib [illegible] corn [illegible] from rain, [illegible] fall, [illegible] will be [illegible] corn is [illegible] crib [illegible] shift [illegible] Foster [illegible] cribs, it is suggested that [illegible] corn [illegible] not need crib storage, it may be more practical to shell out [illegible] and store it in a bin so that the best grade [illegible] available [illegible].

The Net Value of Agricultural Exports For Most Recent Year

[illegible] tion also will [illegible] the total value of agricultural exports is still shrinking, according to reports [illegible] College of Agriculture, University of Illinois, based [illegible] Bureau of Agricultural Economics, U. S. Department of Agriculture.

In total value [illegible] exports from the United States in the year ending June [illegible] less than the previous year although some important products showed substantial increases. The value index of exports of 44 leading farm products in the past year stands at [illegible] compared with [illegible] in 1932, when the export index of 1913-1914 is used as a base average of 100. This index of the volume of agricultural exports in 1913-1914 was the lowest since 1911-1912.

In spite of the decrease in the volume of exports, the value of the agricultural products shipped out of this country last year, exclusive of forest products, was greater than in 1932-33, or $[illegible], as compared with $[illegible], the year before, the federal bureau reports. This increase in the total value of the exports was brought about by the general rise in commodity prices.

Although the volume of exports of many farm products declined, there was an increase in the exports of several other products of which the United States regularly produces an exportable surplus. Notable were those for tobacco, fresh pork, canned pork, beans, oranges, prunes and certain other dried fruits.

Three Cheap Cuts of Beef Can Be Served in Family Budget

Stretching the family meat budget is not so difficult, in many cases, as it would be if housewives knew the cuts of beef that can be bought at low cost, especially this fall, according to Miss Bess [illegible], University of Illinois.

Porterhouse and sirloin steaks are delicious, but, owing to their limited proportions, are always expensive. There are, however, many other cuts of beef at more moderate prices. In fact some of them are more nutritious and the more aristocratic steaks and roasts. Furthermore, when properly cooked, they are quite palatable.

Many families prefer a rump roast to a sirloin roast, not only because it sells for about three-fourths as much as the sirloin, but because there is less waste, explains Miss Bull. Rump from old, thin cattle, however, should be pot-roasted rather than roasted. For the same reasons, chuck ribs and chuck roasts are often bought by shrewd housekeepers instead of the better-known rib roasts. Chuck is also tender, chuck pieces should also be pot-roasted.

Round steak, which is usually priced at two-thirds the cost of porterhouse and about four-fifths of sirloin, is another economical cut. If the steak is cut thin, it should be tried, but if cut thick and broiled or fried, it should be pressed or pounded, thereby overcoming its tough characteristics.

Savings are apt to be greater when there is a home in buying stewing meats. Neck, shank and brisket are quite suitable for this purpose and are economical as well as palatable.

Hamburger or ground beef is [illegible]. If one wishes high quality hamburger it is best to buy round steak and have it ground, but more than adequate quality can be had for the cost saved by having the butcher grind a piece of shoulder or rump. The cheaper cuts such as liver, heart and tongue are [illegible] but are relished by other members of the family and at the same time lend variety to the diet.

An economical feature of beef, Miss Bull says, is the fact that it does not require the addition of butter, cream or sauces to make it palatable. This is one of the many points in which it differs from pork, which is [illegible] to the palatability of other meat foods.

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Home Itself, Main Reason for Accidents to Children

While parents may feel that their children are safest at home, accidents to younger children there outnumber those occurring to older children, according to Miss [illegible] Ward, home management specialist in the College of [illegible], University of Illinois. Furthermore, accidents account for the [illegible] of the United States between the ages of 5 and 14 years than any one of the dreaded diseases, she said.

There are three possibilities for lessening the various hazards confronting children in the home, Miss Ward said. First, parents might well give greater care and thought to removing [illegible] from the home. Second, [illegible] the youngest members of the family be taught the proper use of matches, carving knives, heating appliances, electrical devices and firearms. It is better to explain how and when dangerous articles are to be used rather than allow the child to learn untaught experimentation. Third, parents may develop safety habits in their children by setting a proper example.

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Illinois Corn In Two Fields To Retain Honors

Although [illegible] years, the Illinois corn crop is better than [illegible] and consequently corn growers of this state have one of the best chances that they have had to win national and international honors, according to C. [illegible] Hackleman, crops extension specialist at the College of Agriculture, University of Illinois.

Entries [illegible] International Livestock Exposition, which [illegible] and the corn must be in Chicago by November 6.

The state will [illegible] to repeat the feat of last year when it took the "corning" crown of the world with a number sample of yellow utility type shown by C. Ward Holmes, [illegible], McDonough county, Hackleman said. It was the first time in [illegible] that any yellow grain from that the utility type had won the title, although it had been within recent years that such corn has been [illegible] special classes at the show. Development of utility [illegible] College of Agriculture to [illegible] and produce higher quality grain.

This year, although the crop is the shortest in more than half a century, it is of fairly good quality, especially in some sections of the state, Hackleman reported. In the states to the west, Nebraska, Missouri and some of the states that [illegible] than Illinois from the drouth will be [illegible] to put up the most strong competition at this year's hay and grain show, it was predicted.

Illinois' entries [illegible] to come from northern Iowa and [illegible], Growers in the latter state, especially, are out after Illinois' [illegible] corn championship and the grand championship of the show.

The [illegible] and Warren county, where Holmes, the present "corn king" of the world lives, is one of the [illegible] crop of promising quality this year, Hackleman reported. Other counties in that area with corn crops of fair quality are Warren, Knox, Henry, Whiteside and the eastern part of Henderson county and [illegible] county.

Some [illegible] samples also are expected to come out of an irregular shaped area in central Illinois including [illegible] McLean, Macon, Menard, Logan, Tazewell, DeWitt, [illegible] and Macon counties.

The [illegible] southern Illinois has a crop of fair to fine quality corn, Hackleman reported.

Whether Illinois corn growers plan to enter the hay and grain show or not, it will pay them to save all the seed they can this fall, in the opinion of Hackleman. With the likelihood that seed corn from the 1934 crop will be in heavy demand next spring, farmers will have a profitable outlet for all the good corn they can save this fall, he pointed out. Some farmers, when their corn is going into the crib, plan to pick out all ears that could possibly be used for seed and store them in a separate section of the crib.

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New Varieties Of Apples Ready For Illinois Orchards

Something new in apples will be offered fruit growers in a few years to [illegible] as a result of new varieties which are available to [illegible] commercial fruit growers for planting between now and spring, according to L. H. Mehrer, associate pomologist of the College of Agriculture, University of Illinois. Some of these new varieties undoubtedly will be put out by progressive nurserymen replacing trees that died during the summer or who are putting out new plantings this year, he said.

Nurserymen and experiment station plant breeders have made noteworthy progress in the last few years, not only in developing new varieties, but in propagating bud sports from some of the older and more common varieties of apples. These new propagations are being tested by the experiment station of the U. of I. College of Agriculture and by other investigators and can now be offered to orchardists with reasonable assurance of satisfaction.

Development of the new varieties marks an important step in improving the quality and increasing the market demand for the state's apple crop, which brought fruit growers an average cash income of $6,377,000 during the three years 1931-1933, Mehrer said.

Of these new varieties, many are sports or mutants of such well-known standard varieties as Delicious, Stayman, Jonathan, McIntosh, Rome and Parker. Most of them produce fruit of a much deeper red color than the varieties from which they originated, and the color develops on the apples much earlier than in the case of the standard varieties. These new characteristics are a distinct advantage to the commercial grower, because he can harvest the crop a little earlier and get fruit that will color up to U. S. No. 1 standard.

All of these sports are well adapted to the regions in which the parent varieties can be grown successfully, and they should be tried out in a small way either for commercial or home planting.

Several new apple varieties that are not bud sports are also available to growers. A few of these include Early McIntosh, Tioga, Haidi, Rowfant, Delburn, Melba and Red Bird. For the most part these new varieties originated in the northern part of the United States, are adapted to reasonably cold winters and can be expected to produce good crops in Illinois.

-U-

Poultry Outlook Encouraging Use Of Superior Rations

With the seasonal increase in egg prices and the encouraging outlook for the egg market this fall and winter, renewed interest is being taken in laying rations by Illinois poultrymen, whose flocks normally produce some two billion eggs annually, according to H. H. Alp, poultry extension specialist at the College of Agriculture, University of Illinois.

There are, of course, several good laying rations, but the one that gives good results at the U. of I. College of Agriculture consists of both mash and grain mixtures. The mash is usually made up in 500-pound lots by mixing together 155 pounds of ground yellow corn, 100 pounds of wheat middlings, 55 pounds of meat meal, 100 pounds of wheat bran, 20 pounds of dried milk, 25 pounds of soybean oil meal, 40 pounds of alfalfa leaf meal and 5 pounds of salt. For winter feeding one pint of cod-liver oil is added to each 100 pounds of mash. This is kept before the birds in feed hoppers at all times.

The grain mixture, when made up in 100-pound batches, consists of 40 pounds of corn, 30 pounds of wheat and 30 pounds of oats. This is hand fed, the birds being given 12 to 14 pounds for each 100 birds twice daily. Oyster shell, grit and any succulent green feed that may be available are given the birds free [illegible]

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Feeding Horses In Hot Weather Is Problem

Horses are ranging somewhere in [illegible] of the most valuable source of economical farm power will be cut in the [illegible], it is pointed out by W. L. Sauer, farm management specialist of the College of Agriculture, University of Illinois.

Next to labor, the cost of the horse is one of the largest items of expense on many farms in this state. This is particularly because horses are usually fed on farm crops which [illegible] outlet is necessary for their feed.

How widely the cost of keeping horses varies, depending upon their management is shown in a study of records kept by [illegible] and 11 Scott county farmers in cooperation with the farm management division of the U. of I. College of Agriculture. The net cost of keeping one horse for the year varied from $4.[illegible] to $76.[illegible], or an average of $[illegible].

The number of hours of horse labor per horse ranged from [illegible] to [illegible], 4[illegible] each, the average being [illegible] hours. The cost per hour of horse labor averaged 5.[illegible] cents. This variation [illegible] was due largely to the amount of [illegible] used on the farm with the higher cost per hour. The cost per horse hour was closely correlated with the number of hours worked per horse, while the total cost of keeping a horse varied widely, [illegible] horses worked an equal number of hours.

Feed accounted for [illegible] per cent of the average total cost [illegible] the horses, man labor [illegible] per cent, [illegible] under 14 per cent, shelter [illegible] per cent, interest on [illegible] per cent, depreciation [illegible] per cent, [illegible] 4 per cent, harness [illegible], and [illegible] per cent.

From these figures it is evident that the cost [illegible] horse power on farms can be reduced by cutting down the [illegible] expense and by increasing the [illegible] productive work done by horses. The first [illegible] and the latter [illegible] bringing more [illegible] horses, if horse power is to be economical. Depreciation [illegible] be reduced and an appreciation in the horse [illegible] by [illegible] per cent, states Mr. Sauer.

The number of work hours [illegible] horses can be increased by doubling the number of horses in relation to the amount of horse power [illegible] by planning field and other work in advance, by using the horses [illegible] for such work as fall plowing, by using big [illegible] hitches, by having fields properly arranged and by keeping the horses in good physical condition so that they will be able to stand up under heavy loads when necessary.

Poor Insulation And Repairs Cut Down Farm Heating Bills

Between [illegible] and [illegible] per cent of the coal bill for each of the [illegible],147 homes of Illinois could be eliminated this winter by using FHA plans to insulate and make minor repairs about the house, it is estimated by W. L. Foster, rural architecture specialist at the College of Agriculture, University of Illinois. The saving in fuel alone would go a long way in repaying the government loan.

Next to removing and repairing roofs, the most needed work for dwellings and other homes in this section is to build out the cold, outside air. Poor, loose construction and unmatched walls and roofs [illegible] Often weather-stripping a door or window will [illegible] of a broken glass in a sash or new putty [illegible].

No Winter Is Kind To Small Fruits Left Unprotected

Nobody knows what kind of a winter it is going to be, but the safest thing for Illinois small fruit growers to do is to protect their plants well before the first hard freeze comes, according to L. C. Snyder, specialist in small fruits at the College of Agriculture, University of Illinois. The state has been producing 2 million dollars worth of small fruits during the past several years, but the crop next year and the years after depend on how well the plants are protected this winter, he said.

"Mulching plants may be done at any time from now until the ground should be abnormally frozen. Its purpose is to keep the soil temperature as conserved for the plants. Then too, it prevents the soil from thawing later than they otherwise would be.

"It is especially important that strawberries be well mulched after the plants have become dormant and before the first hard freeze. Temperatures no lower than 15 degrees above zero should be considered. Strawberry plants are hardy, but subject to injury. Raspberries, blackberries and dewberries may be mulched lightly, much applied late in the fall.

"Straw, wild grass hay, hay, corn fodder, corn stalks, cut clover and soybean hay all make good mulches. Coarse materials should be used with care, as they pack. Mulching material should be free from weed seeds as possible, as they will foul the patch next spring. Old straw is undesirable if it has been left exposed for several months since threshing, as it may contain grain that has germinated.

"For strawberries the mulching material should be applied about two inches thick over the plants. Then the plants must be uncovered in the rows, leaving the middles to be cultivated during the growing season.

"Some growers have tried mulching the middles between the strawberry rows in the fall, but this should not be done if it is killed by frost. This is not recommended because the plants usually are not completely dormant, the mulch is not uniform and it rots during the winter, making conditions less satisfactory for picking the following season."

-M-

Money Spent For Poultry Leukosis Losses Only Wasted

Buying so-called remedies to rid farm flocks of leukosis disease, which includes such ailments as range paralysis, big liver disease, white eye, neuritis and leucemia, is likely to prove a waste of money for Illinois poultrymen, in the opinion of Dr. Frank Thorp, Jr., specialist in animal pathology at the College of Agriculture, University of Illinois. As yet there is no known cure for the malady.

Although comparatively new in this state, leukosis is currently spreading throughout many flocks and threatens to become a serious poultry problem, points out Dr. Thorp. It affects both sexes alike and usually occurs between the ages of 5 and 18 months.

In spite of the fact that birds recovering from leukosis cannot be cured, research investigations indicate that the disease can be controlled if poultrymen will carry out five more or less preventive measures, it is said. These include rigid culling to detect leukosis in the early stages of the disease, disposing of all diseased birds by killing and burning, buying bulk baby chicks, new breeding stock or baby chicks only from disease-free flocks and practicing strict sanitary practices. Since poultrymen believe that the disease is inherited and leucosis, immediate diagnosis can be made by a blood test therein.

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Popular Simplifications Made In 1935 Corn-Hog Plan

Lifting of the restrictions on all other crops except corn and the dropping of the "contracted acres" will be the most popular changes with Illinois farmers of all those that have been made in the new 1935 corn-hog contract announced Monday, November 19, by the AAA in Washington, in the opinion of officials at the College of Agriculture, University of Illinois.

The new contract also requires that farmers adjust their corn and hog production only 10 per cent below the average of the 1931-33 base years instead of 20 per cent in corn and 25 per cent in hogs, as was the requirement in the 1934 contract. In the case of corn, farmers may adjust anywhere from 10 to 30 per cent below the two-year base average and receive corn benefit payments in proportion.

If Illinois farmers participate in the new program about like they did in the 1934 plan, it will mean that they will get between 19 and 21 million dollars in benefit payments as a further addition toward having their purchasing power restored, officials of the agricultural college estimated.

At least four representatives from Illinois who were connected with the administration of the last corn-hog program also contributed in an official way to the mass of recommendations upon which the new 1935 contract is based. They are J. R. Fulkerson, Jacksonville, a member of the state corn-hog committee; J. S. Bumgarner, McNabb, president of the Marshall-Putnam County Corn-Hog Production Control Association; E. A. Eckert, Marcoutah, a member of the state committee, and P. E. Johnston, of the farm management department of the College of Agriculture and a member of the state board of review. All four were called to Washington when the 1935 program was being worked out.

Dropping of the "contracted acres," one of the most bothersome features of the 1934 contract, means that the land withheld from corn production can be used for growing any other crop for any purpose, officials of the college explained. Furthermore, there is no limitation on the total area devoted to cultivated crops nor on the total acreage of any particular crop, excepting corn.

The "contracted acres" feature was omitted from the 1935 contract partly to simplify compliance and partly to permit the greater flexibility in farming operations that will be essential in 1935 on account of the shortage of farm seeds and because of the destruction of many hay and pasture stands by the drouth.

Funds for the benefit payments under the 1935 contract will be raised by means of a processing tax beginning November 5, 1935, and continuing through one marketing year at approximately the current rate of $2.25 a hundredweight on hogs and 5 cents a bushel on corn. The 1933-34 emergency programs and the 1934 production adjustment program require the collection of processing taxes through two marketing years, ending November 4, 1935.

Dean H. W. Mumford, of the College of Agriculture, University of Illinois; J. C. Spitler, state leader of farm advisers, and F. J. Keilholz, extension editor, will be Illinois' official delegates to a regional conference to be held in Indianapolis soon after Thanksgiving, at which time the new contract and administrative rulings will be presented. Immediately following this conference, the program will be launched throughout the state, through county corn-hog production control associations.

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Pasturing Horses In Stalk Fields Will Be Dangerous

Heavy death losses among horses and mules throughout the farming area are likely to follow this winter by turning work stock out on cornstalk fields, according to a warning by Dr. Robert Graham, chief in animal pathology and hygiene at the College of Agriculture, University of Illinois.

It is true that feed supplies are the short at on record. Unfortunately, however, it will be especially dangerous this year to try to get horses and mules through the winter by pasturing them on stalk fields. Some of the worst corn- ar- worm damage that the state has ever had, coupled with heavy rains, has caused much rotting and molding of the corn.

Already reports are reaching the U. of I. animal pathology laboratory of the widespread occurrence of moldy corn stalking the old-fashioned cornstalk disease so prevalent about 10 years ago. The malady, however, is not caused by eating the cornstalks but by consuming the low-quality corn. Cattle also seem to be susceptible to the disease, although not so much so as horses and mules. Even horses pulling husking wagons have been known to develop the malady, points out Dr. Graham. Thus, Illinois farmers might well play safe by using mules instead of horses on the harvest while they are being used in cornfields this fall.

If cornstalks are used for feed, as they probably will on many farms this year, hogs and cattle can be pastured in stalk fields with less danger than any other farm animals, it is said. Even then, the animals should pasture only a part of each day and thoroughly inspected each night for possible symptoms of the disease. When feeding this year's low-quality corn, feed a liberal ration of the roughage for horses, mules and cattle.

The first symptoms of the disease usually start to be evidenced, sluggishness, or sleeping on the part of the horses, although the symptoms are not easily noticed without careful observation. When these evil symptoms appear, however, a veterinarian should be called immediately, for only by prompt treatment in the early stages of the disease can the effect on animals be averted. As the disease develops, the horses begin to walk in circles, stagger and press against their manger or fences. These symptoms indicate a brain disturbance that is much easier to prevent than to cure.

This disease should not be confused with hydrocyanic acid poisoning which some farmers feared might develop from feeding drought-damaged cornstalks this fall, or from feeding frosted millet, sorghum or sudan grass.

-M-

Rockford Host To State Vegetable Growers' Meeting

Although Illinois is usually considered as a corn-hog producing state, the annual meeting of the Illinois Vegetable Growers' Association to be held at Rockford on November 20 to 22, will be one of the outstanding farm conventions of the fall season, says L. A. Somers, vegetable extension specialist at the College of Agriculture, University of Illinois.

Out-of-state speakers will include J. G. Milward, who is in charge of the seed potato certification work at the University of Wisconsin; I. C. Hoffman, widely recognized authority on greenhouse vegetable production from the Ohio State University experiment station at Wooster; Walter A. Marion, of Columbus, Ohio, past president of the Vegetable Growers' Association of America, and Farm Brewer, of Detroit, Mich., one of the leading plant geneticists of the United States.

-M-

Too Heavy Cut In Dairy Rations Lowers Herd Profits

Feed prices may be advancing faster than the market value of milk and butterfat, but Illinois dairymen who attempt to produce economy by skimping too much on the grain fed their 1,111,000 cows may find that they have also lowered their profits, says C. S. Rhode, chief in dairy husbandry extension at the College of Agriculture, University of Illinois.

Some revision in the amount of grain fed should be made on a number of farms to meet changing price ratios, but where the economy is carried to excess the results are likely to prove disappointing, it is said.

This has been revealed in experiments conducted at the U. of I. College of Agriculture in which three groups of cows were fed different rations for a year. One group received only alfalfa hay and silage. Another group was fed hay and silage plus one pound of grain for each [illegible] pounds of milk produced. The third group was fed rather heavily on grain, receiving one pound for each [illegible] pounds of milk produced, but was given only a limited amount of hay and silage.

At the end of the year, it was found that the cows getting only roughage produced an average of [illegible] pounds of 4% milk, the grain limited grain feed cows 28.4 pounds of milk and the cows getting heavy grain rations 29.1 pounds.

With the value of the milk produced figured at $1.50 a hundredweight, the cows receiving a limited grain ration earned the most profit above feed cost, those fed only roughage stood second in profit abundance, and the group getting the heavy grain combination netted the least profit over the cost of feed.

When the value of the milk was raised the order of profitableness of the three groups was changed somewhat. When the milk was figured at $1.60 a hundredweight, the limited grain cows continued to return the most profit, or $47.31 each above the cost of feed. The heavy grain group netted a profit over feed expense of $45.79, while those fed only roughage showed [illegible] in excess of the cost of feed.

The grain was figured at $40 a ton, hay at $8 and silage at $3. Thus the average cost of feed for the roughage cows amounted to $21.61 each, the limited grain animals $16.[illegible] and the group receiving liberal amounts of grain $113.74 each.

-M-

Illinois Growers Finishing [illegible],000 Quality Turkeys

Illinois housewives will not have to depend entirely upon Texas range-fed turkeys to grace their Thanksgiving Day dinners this fall, for Illinois growers are now finishing off some [illegible],000 gobblers that have been raised in confinement to produce exceptionally high quality meat, says H. F. Alp, poultry extension specialist at the College of Agriculture, University of Illinois.

Illinois has been producing about 31,000 turkeys annually, according to the most recent census, but most of the turkeys sold to Illinois consumers have been shipped into the state from western range areas. During the past year, however, Illinois turkey growers have been cooperating with the U. of I. poultry extension service in an effort to produce birds of superior quality to those brought into the state. Furthermore, they have organized themselves into a state association to educate Illinois consumers on the better quality of turkeys grown in this state. As a result of these efforts, fully 25 per cent of the turkeys grown in Illinois in 1939 have been raised in confinement under the best of conditions. Growers also aim to be sure that their Thanksgiving Day meat will be tender and well flavored should ask for an Illinois-grown turkey when making their purchases, says Alp.

-M-

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[illegible]

[illegible] in the [illegible] are further [illegible] in developing the [illegible] benefit varieties [illegible] plant breeding [illegible] in Illinois [illegible] developed in parts of [illegible] in the [illegible] Mule, is not [illegible] able to [illegible]

[illegible] Agronomy [illegible] hybrid corn tests in [illegible] on the E. [illegible] Wilson farm in [illegible] Champion White Pearl, which [illegible] closely [illegible]

[illegible] Morrow Yellow [illegible] Champion White Pearl, while [illegible] Champion White Pearl. There [illegible] other variety, whereas the [illegible]

[illegible] U. of I. [illegible] were made this [illegible] during [illegible] Dr. C. H. Hill [illegible] as well as the Illinois [illegible]

[illegible] corn was hard [illegible] in much part of [illegible] were all susceptible. [illegible] other crops that had been [illegible] susceptible plants [illegible] soon after [illegible] because they [illegible] and colored lines [illegible] attributed to the [illegible] conditions.

-H-

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, [illegible] H. W. Mumford, Director.

Immunize Pigs Now to Check Fall Losses

Forty-two per cent of the pork crop was lost to farmers from the ravages of cholera each year in the United States, if the hog raisers failed to immunize their pigs against the disease, says Dr. Robert Graham, chief in animal pathology at the College of Agriculture, University of Illinois.

Immunization of hogs against cholera is a cheap form of insurance, but producers should wait until the pigs weigh 40 to 50 pounds or more before having them vaccinated. It is said that pigs respond better if the pigs have been weaned a short time, but generally the younger the pig the better.

To immunize a pig from cholera, a small amount of anti-cholera serum, explains Dr. Graham. With the serum at present prices, it costs about 3 cents to immunize a pig. This is a saving of $3 per head, when compared to the loss of $1 per pig if the hog had become afflicted.

That cholera is a filterable virus, has been demonstrated in scientific tests conducted in the laboratories of the College of Agriculture, veterinarians. Our research workers, of the College of Agriculture, differentiate between the germ and virus of hog cholera with potent anti-cholera serum and virus. Hogs exposed to cholera, and which have not been exposed to cholera either by vaccination or injection of virus.

Some of the immune hogs, during an epidemic, would prove to be susceptible to cholera, but could be protected if they were dosed at the time of vaccination but no immediately after the immunity. Instead, it is believed that the susceptibility to cholera in such vaccinated pigs may have been caused by the presence of acute respiratory infections, intestinal parasites and pig typhoid, which break down the immunity of the hogs. With the hog cholera serum serving to diagnose such diseases and treat them, or serum and virus at the proper time, both diseases can be handled at the same time, Dr. Graham believes.

-0-

Mice Moving In: Oil Burners Are Well Under Way

This is moving time for mice. The mice are now moving by the millions into houses, barns and other buildings to collect their share of the $, worth of grain which they will destroy annually in this country, says Albert E. Olsen, rodent specialist of the U. S. Biological Survey. Fortunately, it is believed, we now have a way to wait for mice to come and poison them. The most reliable method of using traps and poisoned bait will be as follows:

If used in a thorough way, traps are the most reliable. They kill quickly, furnish the cat with the best sport of pursuing the mouse after capture, and do not conflict with the Bureau of Biological Survey, College of Agriculture, University of Illinois, in the control of rodents in this state. The poisoned bait can be used safely, one-eighth cupful of ground oats mixed with one teaspoonful of bacon grease and then only into one quart of dry soiled cans. Punch a few holes in the cans and place bait in cans at intervals along walls where mice travel. Mice will soon learn where to easily find them will give effective control. Poisoned bait should be used, however, for the bait is equally poisonous to children or animals.

-0-

Terraces Are Not In Service On Soil On Sloping Land

Whatever else may be said to conserve soil moisture on rolling land used for the production of cultivated crops in Illinois will fail unless terracing is used the first step, according to R. B. H., agricultural engineer at the College of Agriculture, University of Illinois.

This fact, which figures on the program of conservation for soil conservation, has never been demonstrated more strikingly than on the farm of Theodore Reuss, Belleville, St. Clair County, Illinois.

Terraces originally laid out on [illegible] slopes and [illegible] for the successful [illegible] land, it was pointed out. The [illegible] the [illegible] and seed washed away, but the soil [illegible] and before crops were out started. If a terraced field is [illegible] the terraces must be well settled and established so that they will hold the soil from washing when corn and small grains are [illegible].

Nine years ago Reuss [illegible] his land in [illegible] of fertility as a result of sheet erosion. [illegible] the land with farm machinery was difficult. Later, [illegible] the slopes when attempting to [illegible] the productivity of the soil.

Acting upon the suggestion of [illegible], an agricultural engineer, Reuss built five terraces across this field in [illegible] a road grader, seeded it to alfalfa and secured [illegible]. While [illegible] sheet, the yield from the fields [illegible] for terracing.

In the beginning, St. Clair County [illegible] trouble with his terraces, but he now considers the [illegible] all the expert guidance in construction and maintenance. At the present time [illegible] to be rebuilt with a slip scraper. [illegible] that the entire field may be farmed on the [illegible] ditch, but properly built broad-based terraces [illegible] trouble. By cultivating this field on the contour and by back-furrowing to the ridges each time the plows, Reuss now has no difficulty in maintaining the terraces in good condition.

Hot School Lunch Facilities Lacking In Rural Districts

Illinois' [illegible], if rural school children would have more hot dishes to [illegible] better meals this winter, if all of the [illegible] not dish with their noon-day lunches, or the opinion of Miss Gleora A. Hoffman, foods specialist at the College of Agriculture, University of Illinois.

Only co-operatively [illegible] in the state serve hot lunches in spite of all that has been done and said for this practice, she reported. In recent years some rural teachers and parents in various parts of the state have been co-operating with the U. of I. home economics department in [illegible] for providing hot school lunches with the [illegible] at their command.

Studies made in these schools [illegible] that the hot lunches [illegible] the teacher, the parents and the pupils in a [illegible] for the small amount of [illegible] required. Fewer colds, improved work, better [illegible] in the rural school rooms and teachers have been noted. Parents also report [illegible], increased interest in school activities and [illegible]. The hot lunches have also offered practical [illegible] and food habits, especially when the children [illegible] food preparation and service.

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Investment Made in '[illegible] Still Pays This Farmer

Four years ago, just when other investments were shaky, Carl Bormet, a Cook county farmer, put some money into an investment which he says has turned out to be the best one that he has ever made.

He invested in limestone and rock phosphate, just as hundreds of other farmers have done who have followed the teachings of the College of Agriculture, University of Illinois on the testing of soils, the spreading of limestone and phosphate and the growing of more legumes.

This year in spite of the severe drouth, his [illegible]-acre farm produced plenty of home-grown feed for his 47 head of dairy cows. Twenty-five acres that were limed four years ago produced about two and a half loads of alfalfa hay to the acre for two cuttings this year, which will be enough to carry his cows through the winter.

Like hundreds of other farmers who have applied limestone to acid soil in order to grow alfalfa and sweet clover, Bormet is reaping the advantages of a very practical kind of drouth insurance, it is pointed out by C. M. Linsley, soils extension specialist of the U. of I. College of Agriculture. Less fortunate farmers in the state were compelled to buy feed even during the late spring and summer because they had no alfalfa or sweet clover pasture and many will have to continue to buy hay during the winter. The limestone and rock phosphate program carried on in Cook county in past years, however, has meant the difference between having hay to sell and having to buy hay in the case of many farmers, reports Farm Adviser C. G. Barrett.

The testing of Bormet's soil for acidity and available phosphorus by M. F. Decker, assistant farm adviser, was a money-saving guide in planning the alfalfa crops. One 11-acre field produced a good stand of alfalfa with limestone alone. Soil tests made in this field showed that there already was a good supply of phosphorus there.

An adjoining field, however, lacked both lime and phosphorus. In time all but three acres were limed and in addition half of the field was treated with 1,[illegible] pounds of rock phosphate to the acre. In 1933 that portion of the field which had received phosphate yielded five tons of alfalfa to the acre, while that which got only lime produced three tons. On the three acres where neither limestone nor phosphate had been applied the alfalfa was a failure. This year the phosphated land made a ton an acre more of alfalfa than the rest of the field.

The limestone and phosphate continued to return dividends this year even though it had paid for itself the first year. Approximately $5 worth of limestone produced three tons of alfalfa the first year worth at least $36. The 1,000 pounds of rock phosphate, costing $[illegible], used in addition to limestone, produced an additional two tons of alfalfa worth $ 4.

—M—

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Fruit Growers To Meet At Urbana, December 13-14

In alliance with federal regulations now under way to help relieve fruit growers of this state is to be the keynote of a number of discussions, when members of the Illinois State Horticultural Society hold their 67th annual winter meeting at Urbana, December 13 and 14, according to word received by the College of Agriculture, University of Illinois.

For several years increased government restrictions on the amount of spray residue that may be left on apples marketed in interstate commerce have been a problem with Illinois growers. To assist the society's members in coping with this difficulty, W. A. Ruth, chief in pomology in the U. of I. College of Agriculture, will open a program to tell of the experimental work done in residue removal. In addition, Albert Dver, of the Vincennes Agricultural Experiment Station, will discuss the services thereby rendered in this state in helping them meet the federal requirements.

Progress of the federal fruit and vegetable code authority and its possible future influence on Illinois growers will be reported by F. H. Bishop, of Elsah, past president of the Illinois State Horticultural Society and member of the code authority.

Among other speakers on the program will be C. E. Kiehn, U. of I. assistant pathologist; W. D. Pyle, chief entomologist of the Illinois State Natural History Survey and of the U. of I. College of Agriculture; H. A. Morrell, superintendent of the state division of fruit and vegetable inspection; and Fred Heaton, New Burnside, prominent apple grower of New Burnside.

Officers of the state association to be elected in charge of the convention include: George Shoff, Carmi, president; S. L. Smith, Elsah, first vice president; Fred Heaton, New Burnside, second vice president; Arthur Holt, Springfield, secretary, and W. S. Perrine, Centralia, treasurer.

-U-

Empty Stalls In Dairy Barn Mean Greater Profits

Empty cow stalls that have been created by culling out the lower producing cows have proved to be a profitable step Illinois farmers can take this winter, says Prof. L. S. Rhode, chief in dairy husbandry in the College of Agriculture, University of Illinois.

With the price of feeds increasing to rise faster than the market value of dairy products, only the better producing cows will be profitable enough to retain a stall, Prof. Rhode said.

Many Illinois dairymen are even making more money now than they did a year ago because they have stepped up the production records of their herds, have culled out the poor producers and kept the good ones, it was pointed out.

This is true in the case of a herd owner of the Champaign County Dairy Herd Improvement Association. His milking herd averaged 5,000 pounds of milk with a butterfat average of 194 pounds during 1932. This year the herd is producing 6,000 pounds of milk per cow with an average of 240 pounds of butterfat. The owner attributes the increase in production and the emptying of the stalls in his barn this winter to the fact that he has been feeding cows from the herd improvement association.

It is not the number of stalls that a barn will hold that determines the dairy income, Rhode pointed out. It is the relative price of dairy products as compared with the cost of feed during the year. Moreover, in some situations dairy cows must be fed with corn at 70 cents a bushel, and if grain or roughage must be shipped in, it is bound to be more expensive. Under these conditions, it is practically impossible to make a profit from low producing cows.

-U-

Christmas Gift Days Bring Accidents As Well As Joy

Christmas is usually the happiest day of the year, but at the same time it is a day in which many serious home accidents are likely to occur, unless certain precautions are taken, says Miss Gladys J. Ward, home management extension specialist at the College of Agriculture, University of Illinois.

In fact three times as many fatalities caused by conflagrations occur in December than in the month of July when the nation celebrates with fireworks, Roman candles and the like. About twice as many persons are killed from burns, scalds and explosions, exceptions to fireworks, during the last month of the year as compared with July, and there are twice as many fires and fatalities in the homes this month as there are in July.

Small lighted candles may add beauty to the Christmas tree, but they also add one of the most serious dangers of the holiday season, points out Miss Ward. Light-weight material, tree decorations or even "Santa Claus" himself may catch fire from the candles.

Candles burning in windows with lace curtains are equally dangerous as fire hazards.

The growing popularity of toys may be lessened by equipping them with electric flash and wall sockets have also added to the number of burns and fatalities in the home.

Falls from defective porch rails, or icy walks when they are covered with snow, are among the most common accidents of the yuletide season. Although it may give an unattractive appearance, scattering ashes or sand over the ice may prevent a broken arm or leg.

Sharp and bulky toys left on the floor, stairs or in doorways frequently cause injuries to those stepping on them. Some stores have eliminated this danger by having a special toy room in which the children may place their playthings before going to the next room.

Highly-polished, waxed floors and icy shoes form a combination that increases the danger from falls.

Fatigue from keeping late hours during the holiday season and the hurry associated with Christmas preparations are likewise conducive to home accidents.

-H-

Box Elder Bugs Best Killed By Nicotine Spray

Although box elder bugs entering Illinois homes do little damage to foods or fabrics, they are a nuisance that may be best by the use of nicotine sulphate spray, according to a new circular issued by the College of Agriculture, University of Illinois, by W. P. Flint, chief entomologist of the State Natural History Survey.

These little red and black insects are usually most abundant during a dry season. More frequently than any other winter insect, they attempt to crawl into houses to find shelter from the approaching winter weather. They only wish to obtain suitable protection until next spring when, in the normal course of events, they will leave the house and return to the box elder trees to feed and lay eggs for the next season's brood.

The fact that the bugs do not feed or breed in the house does not make all the more difficult to eradicate, explains Flint. Only by killing them by the with a contact spray can they be killed in any large numbers. The best spray for this purpose, because it kills all the bugs it hits, is made by mixing one tablespoonful of 40-per-cent nicotine sulphate in two quarts of water to which has been previously dissolved one-half cake of laundry soap. The spray should be thoroughly mixed and applied directly to the bugs. A strong nicotine dust is also effective and is sometimes easier and, [illegible]

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Farmers Robbed Nitrogen Losses Of Millions In Corn

Although Illinois corn crop this year is the smallest in 40 years, it removed more nitrogen from the soil than it ever did before. It will take more than 21 million dollars' worth of nitrate of soda to replace the nitrogen that was removed, according to F. H. Crane, assistant chief in soil fertility at the College of Agriculture, University of Illinois. For every bushel of corn that was produced, the land has gotten rid of a ton of nitrate of soda in the ground, plus what is contained in the nitrogen that had been removed. That is the reason why it takes [illegible] bushels.

But really, farmers do not have to buy the 21 million dollars' worth of nitrate of soda, for the part of the lost nitrogen chiefly through the use of legume for soil improvement or for feeding, provided the manure is taken care of in the right way, Crane pointed out.

[illegible] the secret in solution of many problems of soil management depends almost entirely on what will [illegible] the additional plants can give, he explained.

[illegible] of restoring lost nitrogen. Because, there is no fertilizer [illegible] of organic matter in the general term. Yet this organic matter, which is very much in demand as a soil conditioner and for keeping a soil in good working, [illegible] of the roots and tops of plants. When corn [illegible] or any other plant is turned under, 95 per cent or more of the weight [illegible] material to the soil. On the other hand, if the corn [illegible] removed, the loss of nitrogen from the soil is [illegible] per cent, in addition to the loss of organic matter.

It is fortunate that [illegible] not [illegible] the roots, explains Crane, for this part of the plant is the only practical means of getting organic matter into the soil to [illegible] depth. The [illegible] roots is an important factor in preventing soil erosion on the receding areas already eroded. The loss of plant food in the drainage will be partially controllable by having living plants on the soil as much of the time as is possible to take up the fertilizing elements.

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Most Hog Rations Deficient On Iron Salt And Calcium

[illegible] corn belt, hog rations fed to the more than 4,000,000 head [illegible] Illinois farms at this time of year contain all the minerals necessary [illegible] the growing pigs except salt and calcium, says W. E. Carroll, chief in animal husbandry at the College of Agriculture, University of Illinois. Too many producers [illegible] salt that no longer feed a mineral supplement they can safely neglect [illegible] fundamentals of [illegible] explains Carroll. There is no substitute for [illegible] tion, balanced rations, good breeding and efficient management, he points out. Minerals are essential, but with the exception of common salt and calcium they are found in ample portions in most hog rations.

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Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, *Director*.

U. Of I. Develops New Greenhouse Tomato Varieties

New and improved varieties of greenhouse tomatoes which promise to supply the discriminating Illinois consumer with a result of plant breeding work carried on at the College of Agriculture, University of Illinois, it is announced by W. P. Tufts, associate chief in olericulture.

In spite of the large quantity of fresh tomatoes shipped into Illinois, those produced in Illinois greenhouses during the winter and early spring are in greater demand than ever. The new varieties soon to be introduced to the market are expected to add to the popularity of these crops under glass. Greenhouse tomatoes have a flavor all their own in contrast to the watery, tasteless product, a difference which consumers appreciate.

In developing the new varieties, Professor Tufts has worked with tomatoes from China, Peru, Africa, Australia and New Zealand. Besides producing well, they are resistant to Fusarium, a serious parasitic disease to which many types of tomatoes are susceptible.

Two greenhouse operators confined their efforts to the regular field varieties and to those supposed to be adapted to indoor conditions. Ponderosa Pink and Globe were the most popular varieties at that time, but their late and early winter crops were not profitable.

To assist producers with this problem, three of U. Of I. horticultural department crossed a public, well-established variety with two well-known hothouse varieties. The Bloomington and the Lloyd Forcing are the results of 14 generations of selections out of the crossing. Both of these varieties are producing at the rate of 1.8 pounds of fruit to the square foot of greenhouse space between December 1 and February 1, which is more than twice the yield obtained from ordinary varieties planted in the same manner. The fruits are a little better than three ounces each in weight. In the spring the plants produce, even with poor culture, 2 pounds each, and the yields to the season run as high as three pounds.

The breeding of these and other varieties is carried further at the U. of I. college, resulting in two new varieties soon to be available to the public.

-U-

Orchards Hit By Scale Doubled In Course Of A Year

San Jose scale, chief orchard threat to the profits of Illinois fruit growers, has increased alarmingly during recent seasons that nine times as many orchards now have scale infestations as compared to conditions two years ago. The number of orchards infested is twice as great as it was last year. This was discovered in surveys which S. C. Chandler, assistant entomologist of the Illinois State Natural History Survey, has just completed in cooperation with the College of Agriculture, University of Illinois.

Only thorough applications of oil or lime-sulphur sprays this winter will prevent the insect from taking a heavy toll in the state's 1936 fruit crop, it is said.

Forty-two per cent of the apple and 71 per cent of the peach orchards which were surveyed showed evidence of infestation of San Jose scale. This is an average of 4 per cent of orchards infested, or nearly twice as many as were found in the 1935 fall survey and nine times as many as in 1934. The increase is believed to be the result of the moderate winter in 1935-36, to too much emphasis in spraying during the past year and to a long, mild autumn.

-U-

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Farm Is Worth Four Times Farm In Dixie

A farm's head may easily be worth four times [illegible] body, when it comes to producing [illegible], according to F. E. Hunkton, of the farm management division, College of Agriculture, [illegible].

Farmers who wish to prove this for themselves may do so by watching [illegible] this month and next to keep simple farm account books [illegible] Schools to help beginning farm operators get started will be held in [illegible] of the state by [illegible] extension workers. Farmers can enroll through their local [illegible].

Good farm [illegible] the value of the [illegible] out. However, even this [illegible] good managing ability, the farm [illegible] more.

[illegible] farmers in [illegible] college and their [illegible] record [illegible] come of $1,8[illegible] of only $[illegible] each. At last [illegible] management, the [illegible] much [illegible]

[illegible] count back [illegible] College of Agriculture, [illegible] phases of his [illegible] losing proposition [illegible] also predicted [illegible] compared with [illegible].

-W-

Farm Journal on R. F. D. Is Ten Star Feature

[illegible] it will be [illegible] American [illegible] Hackleman, [illegible] Illinois.

[illegible] the smallest [illegible] furnish [illegible] other localities.

Although the [illegible] Red Ru[illegible] port [illegible] tions [illegible] Red Ru[illegible] of [illegible].

Red R[illegible] about [illegible] freight.

The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVII — December [illegible], [illegible] — Number 51

[illegible] Activity May Continue Toward In Near Future

One of the encouraging signs for Illinois farmers is that the trend in business activity and prices is likely to continue upward in a moderate degree during the near future, in the opinion of Dr. L. [illegible] Norton, of the department of agricultural economics, College of Agriculture, University of Illinois.

If the total volume of [illegible] had been higher during the closing months of last year, the shorter supplies of livestock, meats and dairy products would have had far more effect on [illegible] prices, he explained.

Over all, prices of [illegible] products in October and November averaged about [illegible] per cent higher than in the same months of the previous year, according to an analysis which he made.

Wool and potatoes [illegible] were the only two of 19 selected products which were cheaper. Subsidies of the [illegible] textiles explained why wool was lower, while the larger crop of potatoes seemed to offer the explanation for their slump, Dr. Norton said.

Corn and hay [illegible] registered during October and November, the analysis shows. In general the largest increases were made by crops which were reduced by the drought and by the AAA adjustment programs.

Hay and corn were a little more than twice as high in price in October and November as they were during the same months of the previous year, while oats and barley were 75 and 81 per cent higher, respectively.

Wheat, on the other hand, was only 9 per cent higher in spite of the short crop. Hogs, beef cattle, horses and butterfat were 40 to 45 per cent higher. Chicken prices were up nearly [illegible] per cent. Smaller increases were registered by other products.

Shorter crops and either actual or prospective shorter supplies of livestock are the principal factors operating to cause the rise, Dr. Norton said. Also contributing to the increase was a slightly cheaper dollar and slightly higher consumer incomes. Factory payrolls were 67.5 per cent of 1923-1925 in October-November, 1933, and 80.7 per cent in October, 1934, or about 6 per cent higher than a year earlier.

Compared with those of the two previous months, prices of nine of the 19 products were lower in October and November after allowance was made for seasonal variations. Eight were higher and two were the same.

Real improvement in consumer income, which has a strong bearing on farm prices, must wait upon a similar revival in the construction industries, Dr. Norton predicted. As yet these have shown only very moderate signs of reviving. The high level of construction costs probably acts as a brake here, he said.

—M—

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, *Director*.

Bedding It Is Disease Is Not Fed In With Fodder

Contrary to the suspicions of some farmers and veterinarians, the so-called "hemstalk disease," which has been killing hundreds of horses in Illinois this fall, is not botulism, or "feed poisoning."

This has been established [illegible] in a laboratory investigation made by the College of Agriculture, University of Illinois, it is announced by Dr. Robert Graham, [illegible] Chief [illegible].

Although the cause of the disease has not yet been determined, it has been so serious that [illegible] prevent it they had created [illegible] 4 [illegible] of the disease. Botulism antitoxin has been used in some cases of the disease.

However, [illegible] horses being fed different samples of feed from different fields, [illegible] with symptoms of the disease [illegible] to have been fed hemstalk hay. Dr. Graham reported.

"If these findings [illegible] the cause of the disease, there is no scientific basis for the [illegible] antitoxin in the prevention or treatment of the disease," he added.

"In the [illegible] that [illegible] hemstalk disease is to [illegible] hemstalk hay. If hemstalks are harvested, as they usually are, [illegible] and the cattle pastured in stalk fields [illegible] other [illegible] when the cattle should be [illegible] of the [illegible] night for possible symptoms of the disease. [illegible] horses, mules and cattle, [illegible]. [illegible] investigation will [illegible]

Farm Bureau Asks Legislature To Abolish Fee System

As a [illegible] to solve rural-crime problems, the Illinois Farm Bureau [illegible] with the [illegible] system by which [illegible] this matter, [illegible] Illinois Agricultural Association, [illegible] of Illinois [illegible] rural districts [illegible] fees, [illegible] fees, [illegible] cattle [illegible] fees [illegible].

Rather than [illegible] "clean up" [illegible] as a small [illegible] fees, [illegible] that [illegible] Bureau [illegible] Illinois [illegible] Association.

Robbins [illegible] Bureau, of Mason county, who [illegible] to [illegible] their own communities. [illegible] will [illegible] cattle, [illegible] action.

George Dunbar, [illegible] Bureau, [illegible] heifers and silage [illegible] are not getting [illegible] Robbins, [illegible] believes the silage and [illegible] Dunbar, [illegible] neighbors at [illegible] meet, explains Robbins.

The Extension Messenger

COLLEGE OF AGRICULTURE - UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVIII — January , 1935 — Number

Agricultural Outlook For 1935 Is More Promising

The outlook for Illinois agriculture in 1935 is more favorable than it has been for the last few years, but there are still a number of dark spots in the prospect, according to the annual state outlook report released today by the College of Agriculture, University of Illinois.

There promises to be some increase in prices of livestock and livestock products in 1935, the report says. Prices of feeds should be fairly well maintained until the new crops are available. Crop yields will show further improvement, and this will mean increased returns to farmers. But burdensome surpluses have been eliminated, the report said, and adjustment progress, the report said.

On the industrial side, employment is expected to reach a high level and improvement in the construction industry, where unemployment is greatest, will probably be slow, the report states.

A brief summary of the essential features of the outlook report follows:

Farm family living—More money will be available for replacement of much-needed supplies and equipment. No great increase is expected in prices of goods for family use.

Feed crops—Production expected to increase materially. Feed available, a bad year, is now much below average. Acreage of chinch-bug resistant crops, such as soybeans, likely to be increased. Spring grains should be seeded early.

Corn—Some acreage increase anticipated. With average yields and fewer livestock, corn prices may be expected to decline with the new crop.

Oats and barley—Production of these, particularly barley, precarious, because of chinch bugs.

Wheat—Average yields will create an exportable surplus. This may drop prices to the world level, and large quantities probably would be fed.

Soybeans—Some increase in 1935 acreage is to be expected. Increased production and larger supplies of feedstuffs, which will be available if growing conditions are normal, will tend to lower prices on the 1935 soybean crop.

Dairy products—Long-time outlook is for a gradual increase in prices of dairy products as consumer incomes increase. Marketing of dairy cows is now tending to reduce size of herds.

Poultry and eggs—Poultrymen in position to stay in business should profit from the reduction in flocks that may occur as a result of high feed costs.

Hay and pasture—Retention of old meadows and pastures of fair stands is suggested on account of failure of 1934 seedings.

Forage seeds—Supplies of grass and clover seeds are about 50 per cent smaller than in the five-year period of 1928-32. Timothy, millet, sudan grass, alsike clover, red clover and sweet clover seem to be the most seriously reduced.

Hogs—Numbers of hogs for slaughter in 1935 will be the smallest in 20 years. With average yields for the 1935 corn crop, the hog-corn ratio should be favorable for hog feeding in the last few months of 1935 and in 1936.

(Continued on Page 2)

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, *Director*.

Beef cattle--Numbers reduced to approximately the low point in the last production cycle. Low supplies of feed will prevent the usual amount of feeding and will result in higher prices for well finished beef in 1936. Maintenance of established breeding herds that can be carried on home-grown feeds and roughages is desirable.

Sheep and wool--Some increase in prices is expected during 1936 compared with the last half of 1935. Sheep numbers have been reduced by drouth conditions.

Horses and mules--Prices for good horses and mules have continued to advance. The rate of decline in numbers is being checked. A good demand for chunks and light draft horses is likely for several years.

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Illinois Dairymen Juggling Feeds To Lower Expenses

With grain and hay supplies both scarce and high priced, Illinois dairymen may have to juggle their available feeds into unusual combinations to keep their 1,111,000 cows in economical milk production this winter, says L. E. Nevens, associate chief in dairy cattle feeding at the College of Agriculture, University of Illinois.

In sections where the supply of good legumes is limited, better results will be obtained if farmers will feed small amounts of it each day during the winter, rather than give liberal amounts at the beginning and end of the season, points out Nevens.

When silage is plentiful and hay is scarce, the silage may be used to replace much of the hay. Likewise, if the hay is cured and the silage is lost, the hay may be used as the sole roughage.

When legume-grass mixed hay, corn silage and stover are fed with some legume hay, the grain ration should contain not more than 12 per cent total protein. When good quality alfalfa or clover is available, the grain mixture need not carry more than 10 to 14 per cent total protein. If the cattle receive only a low-grade, non-legume hay and stover or straw, the concentrates should contain from 16 to 18 per cent total protein.

Feeding tests at the U. of I. College of Agriculture indicate that cattle do not utilize ground roughage any better than they do the unground.

If plenty of corn is available but the supply of good legume hay is limited, the grain problem is largely one of selecting the high-protein feeds. Cottonseed meal and soybean oil meal are about one-fifth more valuable than linseed meal as sources of protein, while ground soybeans are practically equal to linseed meal. Thus the price of each will be the factor to be used during the choice. However, it may be well to add some other feed such as wheat bran or middlings, says Nevens.

When grain must be purchased, dairymen should bear in mind that corn and wheat are of equal value, pound for pound, in dairy cattle feeding. Oats, by weight, has about five-sixths as much value as corn. Wheat bran is the best substitute for oats and may be cheaper in price.

Farmers who are able to buy wet brewers' grains should consider the fact that they contain considerable water and usually about one-fourth the nutrients contained in the dried grains.

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Preventing Falls Would Make Fine Resolution For New Year

A New Year's resolution every Illinois homemaker might well put at the head of her list would be to help prevent falls in the home, which in one year have killed as many as 13,700 people, it is suggested by Miss Gladys J. Ward, home management specialist at the College of Agriculture, University of Illinois. Most falls in homes which in one year killed 13,700 people might have been prevented, Miss Ward believes.

Supply Of Forage Seeds Only Half Of Five-Year Average

Only about half as much grass and clover seed as in the five-year period 1930-1934 will be available to farmers in Illinois and other states when the spring planting season opens, according to J. C. Hackleman, crops extension specialist at the College of Agriculture, University of Illinois.

About 247 million pounds of such seeds are used annually in the United States, 56 million pounds being sown in Illinois. The 1934 production plus the carryover from the old crop, however, totals less than 132 million pounds, or about 44 per cent of normal needs, it was reported.

Timothy, millet, sudan grass, Alsike clover, red clover and sweet clover, in the order named, seem to be the most seriously reduced.

The outlook for the supply of grass and clover seeds as summarized in the annual state outlook report just released by the agricultural college follows:

Alfalfa--Supplies of seed will probably meet normal planting needs, despite a 1934 production well below average and an unusually small carryover. An unprecedented heavy seeding of alfalfa was made in the late summer of 1934, with the probable result that somewhat smaller than normal seeding will be made during the coming spring. If spring seedings are normal there will be a deficit of about [illegible] million pounds of native seed.

Red clover--Available supply [illegible] 20 million pounds or nearly the average annual consumption in this country. The 1934 production amounted to 36 million pounds as compared with 57 million in 1933 and 74 million in 1932.

Alsike clover--An unusually small carryover and a short 1934 crop have made the supply of this seed extremely small. Prices are likely to hold fairly high.

Sweet clover--Although stocks are the smallest since the crop began to be grown extensively, the available supply is considered about equal to the average annual consumption. Prices will remain strong, but not so high relatively as either alfalfa or red clover seed.

Lespedeza--Seed production in 1934 is estimated to be one-third less than in 1933. Seedings last spring were much larger than in previous years, but the increased acreage was used largely for hay and pasture and less seed was harvested.

Timothy--It is estimated that approximately 9 million pounds of this seed were harvested in this country in 1934 as compared with the four-year average production of something less than 69 million pounds. The available supply is some 56 million pounds short of normal annual seed needs.

Kentucky bluegrass--Seed supplies seem to be sufficient to meet normal sowing requirements. The 1933 carryover was large enough to overcome the small 1934 crop.

Redtop--Seed is ample to meet all normal sowing demands.

Millet and sudan grass--Supplies for 1935 seedings are among the smallest on record. Available sudan grass seed is around 15 million pounds or about 55 per cent of average annual consumption.

The outlook report suggests the retention of old meadows and pastures where stands are fair and the conservative use of short seed supplies. There probably will be a deficiency of hay produced in 1935, owing to drouth and close grazing of pastures in 1934 and shortages of seed with which to make new seedings. Forage resources will be further depleted by probable early grazing of pastures next spring, the report points out.

-W-

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Wet May And June The Only Hope Against Chinch Bugs

Chinch bugs, which took an estimated toll of more than $1 million dollars in the 1924 Illinois corn crop alone, threaten to be worse over most of the state in 1925 unless May and June are cold and wet enough to kill them off, according to officials of the College of Agriculture, University of Illinois.

W. P. Flint, chief entomologist of the Illinois State Natural History Survey and of the agricultural college, has outlined three lines of attack which farmers can be urged to follow in combating the bug.

The first step, he says, is to plant the least possible acreage of crops on which the chinch bugs breed freely, such as soybeans, alfalfa, clover, cowpeas, buckwheat, rape and other weed-like crops.

Second, crops on which the bugs do feed should be so arranged as to avoid insofar as possible small grain and corn fields when the spring migrations occur. This will reduce to a minimum the number of rods of barrier that will be needed between small grain and corn fields when the spring migrations are expected.

Third, Flint says, [illegible] should be planted by themselves wherever possible [illegible] should be planted in corn.

The last crop [illegible] 1924 [illegible] 4 million bushels of [illegible] wheat, barley, rye and oats.

[illegible] reduce the number of [illegible] Flint recommended. Even more, there is little likelihood that the weather of the winter will kill [illegible] their hibernating places. [illegible] 90 per cent of the bugs were killed in this manner, he said.

Wet [illegible] bugs are still carrying [illegible] of the area infested [illegible] Illinois [illegible] Greene, Pike, Adams and Scott.

There is also [illegible] state in [illegible] serious damage will occur, Flint said.

Over the rest of the state, from Cook, Lake, Kankakee, Will and Lawrence counties to the north, the bugs are more abundant than they were last year. In many places in these counties many bugs are now in hibernation [illegible] 1925.

The bugs are now [illegible] winter quarters. Many more of them than in normal years are found in shocks.

There is very little [illegible] effective burning before the first of March, and it is doubtful if the best burning that could be done would destroy more than 10 per cent of the bugs over an area as large as a township or county, it was said. With the numbers now known to be in winter quarters, a 10 per cent reduction will not make any appreciable decrease in crop damage this coming year, the authorities say.

—M—

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Lespedeza Fits In Grains Makes Good Emergency Hay

Faced with the problem of providing an emergency hay or pasture crop in 1935, because of the drouth last summer, Illinois farmers may find the solution by seeding Korean lespedeza in winter wheat or rye late this spring, says Prof. J. J. Pieper, associate professor in crop production at the College of Agriculture, University of Illinois. Although the production of lespedeza seed in 1934 was about a third less than in 1933, it is probably enough to meet all demands in 1935, it is believed.

More than 150,000 acres of lespedeza were grown in Illinois in 1934, or approximately 60 per cent more than in the preceding year, it is estimated. Thus with such a large acreage increase in the state, this cover crop legume has become one of Illinois' rapidly growing crops.

Korean lespedeza may also be sown alone on land that is not too wet. This is especially true on the light-colored soils of central Illinois where washing are not serious. In this case the crop is seeded on the prepared seedbed. When lespedeza has not been grown before, the seed should be inoculated.

To make a hay crop the first season, lespedeza should be sown at the rate of 25 pounds to the acre, either with or without a companion crop. This may be done in early March on winter grain or at the time spring grain is planted. When sown in small grain about one-half ton of lespedeza hay per acre is cut in addition, while if sown alone the hay yield may total two tons or more.

When Korean lespedeza is seeded on winter wheat or rye oats, the grain may be cut as hay or allowed to ripen. If hay is cut, the producer will have two emergency hay crops, the wheat or oats in May or June and the lespedeza in late summer or fall.

Where lespedeza was grown in 1934 and a good volume of stand is available this year, the field may be disked and planted to oats, wheat or other small grain this spring. Tests at the U. of I. College of Agriculture have shown that the disking will increase the yield of lespedeza materially, while the companion crop may be planted and harvested as usual. Thus the farmer may produce two crops on the same land in 1935 with but little preparation and expense other than the cost of the grain seed.

—M—

Garden Failure Often Caused By Lack Of Planning

Lack of planning is the indirect cause of all too many failures of Illinois gardens, which if properly managed might easily be the most profitable crop on the farm, says I. A. Somers, vegetable garden extension specialist at the College of Agriculture, University of Illinois.

Detailed plans made well in advance of planting time make it possible to take advantage of favorable weather conditions, give more efficient use of the garden area and often reduce the labor required, all of which add to the profitableness of the garden.

Proper planning can best be done when the farm seed catalogs begin to arrive. A pleasant evening or two can be spent in selecting the varieties desired and in making out the seed order. Then when April comes, the gardener is ready to take advantage of the first good planting days.

In January a drawing can be made of the plot, showing the location of the different vegetables as they are grouped according to their cultural requirements. The succession of greens, salads and boiling vegetables may be determined as well as the needed quantity of each. The canning crops should be planned in view of the crops to be canned, those to be stored and those to be used fresh.

—M—

Stopping Insect Damage Seems Risk In Food Costs

Any increase in the cost of food which the fall season may bring can be partially offset by stopping the waste now being caused by insect damage to dried food products in homes, stores and other heated buildings, says H. C. Farrar, associate entomologist of the Illinois State Natural History Survey.

Contrary to the belief held by many people, even under certain conditions the damage done by insects to stored beans, peas, rice, breakfast foods, peanuts and all dried fruits may be just as great in winter as summer. In fact it is difficult to find a home, grocery, storeroom or factory that does not have at least a small infestation of insects feeding upon dried food products at some time of the year, Farrar pointed out in a report to the College of Agriculture, University of Illinois.

A forgotten candy bar, a piece of chocolate, a bag of peanuts or a slice of dry bread will furnish ideal breeding material for several of the most troublesome household pests. Examining a food package to make sure that it is free of insects before placing it in a cupboard is a good precaution. Sealed packages may contain insects, but this is less common than in the case of bulk foods. Insects in any food product can be destroyed by heating the material in an oven for three hours at a temperature of 145 degrees Fahrenheit.

When possible, large quantities of food products should be stored in tight containers in unheated rooms or buildings. Low temperatures prevailing throughout the colder months of the year will reduce the activities of most insects.

Beans and peas to be used for seed can be protected against weevil damage by mixing the seed with hydrated lime at the rate of 10 pounds of lime with each bushel of seed. When large quantities are stored in tight bins, mixing a heavy deposit of lime into the upper six inches of the beans will protect them from insect damage. The lime does not affect the germination and may be washed off of the peas or beans before they are used for human food.

-M-

Winter Pasture An Aid In Utilizing Poor Roughages

In spite of the fact that fall and winter pastures in Illinois have exceeded all expectations, livestock producers will do well to conserve them to supplementary feed to cheap roughages that may be available on the farm, according to F. I. Robbins, livestock extension specialist at the College of Agriculture, University of Illinois.

After the arrival of generous rains in late August, pastures made the usually heavy growth during the fall, and when not covered with snow will still supply considerable winter feed. Furthermore, livestock getting pasture consume poor roughages to greater advantage than when given the low-quality feed alone, points out Robbins. Cattle will graze stalk fields more closely, and it is better on them, if the animals have the run of an old pasture at the same time.

Farmers are warned, however, that too much reliance on winter pasture might prove to be false economy. There will probably be a deficiency of new seedings in 1936, as a result of the drought, too close grazing this summer, and the shortage of seed with which to make new seedings. Thus conservation of old meadows and pastures is an important consideration this winter. Many pastures were grazed too closely in 1934, and too heavy grazing during the coming spring months might add further to the destruction of forage resources.

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Experiment Station, and Extension Service

Volume [illegible] [illegible] Number [illegible]

[illegible] In Coming Months

[illegible] for the coming year in Illinois [illegible] optimistic, [illegible] producers who plan their [illegible] operations to [illegible] prices, in the opinion of [illegible] W. [illegible], chief in [illegible] of the College of Agriculture, University of Illinois.

On the [illegible], it [illegible] for dairymen to cull [illegible] production, [illegible] milk cows and other animals of doubtful value. [illegible] should be raised [illegible] from good cows [illegible] the average production of the herd.

[illegible] diseased animals. [illegible] that [illegible] contagious [illegible] non-reacting [illegible].

[illegible] for even the better [illegible]. [illegible] perennial [illegible] to supply their roughage needs. [illegible] winter.

[illegible] indicate [illegible], Dr. [illegible]. They include reduced supplies of [illegible] products [illegible] the close of [illegible] tendency to reduce the number of dairy cattle [illegible]; a decidedly diminishing feed supply for the first six months of [illegible], and [illegible] the relation between the price of feed and the prices of milk and [illegible] products.

As to [illegible] there will likely be a gradual though not large increase in the prices [illegible], said Dr. [illegible]. Likewise, the relation between the price of [illegible] and the price of milk will gradually become more [illegible]. After proper cow culling the price of the remaining dairy cattle should gradually rise, and the margin or difference between the price of [illegible] and good [illegible] will become somewhat wider.

-M-

Brighter Outlook [illegible] Farm Building Repairing

With [illegible] brighter outlook for [illegible], Illinois farmers feel encouraged to adopt one of two policies in repairing their [illegible] buildings [illegible] valued at more than $7[illegible],000,000, says W. A. Foster, rural architectural specialist at the College of Agriculture, University of Illinois.

Many farm owners will probably take the [illegible], conservative, [illegible] course of "[illegible] they go." They will [illegible] while other improvements will be made as such become [illegible]. Others will [illegible] cheaper, [illegible] method of doing the [illegible] work [illegible] during [illegible] over a period of [illegible].

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Alfalfa Gains Ne[illegible] In Drouth Area

Alfalfa, often called the "queen" of forage crops, will be even more popular in Illinois during the coming season as a result of its performance in the 1934 drouth, according to [illegible], Miller, associate in soil experiment fields at the College of Agriculture, University of Illinois. Last summer's dry weather kept the state's total crop production down to the smallest in over three years, but it seems to have been a boon for Illinois alfalfa fields.

Despite the drouth, alfalfa was practically normal, with some fields actually yielding more than the average for the past two decades. It is estimated that there were more than [illegible] acres of alfalfa in the state last year, and on many farms it proved to be a life-saver for dairy herds.

Records at the Mt. Morris soil experiment field in Ogle county, operated by the U. of I. College of Agriculture, reveal that in a rotation in which alfalfa is continued for four consecutive years, the average yield for the past 20 years has been 3.81 tons to the acre a year. The yield of alfalfa alone was 3.68 tons. These results were secured on land which had been limed and manured.

Under similar soil conditions at the Mt. Morris field, the long-time average for red clover has been 2.62 tons to the acre annually. In 1934 the red clover harvest fell to 1.1 tons. This was an unusually small clover yield under the drouth conditions of northern Illinois last summer, but the fields produced more than a ton to the acre. Even the [illegible] at the Mt. Morris field were only 50 per cent of the long-time average for a dry season, while the [illegible] crop turned out to be better than the 2-year average.

An excellent [illegible] for legumes, alfalfa and soybeans stood up well as compared with most other crops that were grown on the [illegible] fields. Attention to this legume is especially important, however, since alfalfa, soybeans, and sweet clover require a well-drained soil that is limed and [illegible] with available phosphorus, Miller pointed out.

—U—

Plant Hotbeds And Coldframes Early For Garden Vegetables

Plant [illegible] early garden vegetables by growing them in hotbeds or coldframes, according to [illegible] at the University of Illinois College of Agriculture.

For many gardeners a 3-foot hotbed frame is large enough to be a satisfactory size. It requires six [illegible] on each side and two end pieces. Use lengthwise to form a solid wall. The hotbed should be located to receive full sunlight possible, and usually runs from north to south. The north end is built [illegible] entirely of boards, while the south wall is made [illegible] with the [illegible] door.

Heat is supplied by an inexpensive [illegible] set up at the north end of the house. The pipe rises straight to the ridge pole and then runs the length of the house to emerge at the south end. Homes [illegible] can easily provide [illegible] with electricity, if the overhead [illegible] is not too costly. Otherwise a [illegible] water system or two stoves are used. Being 3 feet wide, the hotbed will [illegible] or two benches 2 by 12 feet each, [illegible] between them to the front [illegible] or the stove. This amount of bench space may be supplied by [illegible] rockets during the germinating period. Soils, [illegible], and [illegible] stored under the benches.

—U—

Early Planting Is Said Best for Late Carrots

Late-planted carrots usually produce the most tops and the least roots, it is pointed out by specialists in vegetable crops at the University of Illinois. Growers who plant to get the early market are the ones most likely to be disappointed, says Professor W. G. Kaelin, assistant in vegetable crops at the College of Agriculture, University of Illinois.

In view of the demand for fall and winter carrots, the advantage in following certain practices that will result in good yields of roots in late fall and early spring, it is said. Further information, however, is needed on the number of days required for growing.

Shallow cultivation is the best method to control weeds and Professor Kaelin said the best chance of getting nice roots is to be able to harvest the late crop in late summer, points out Kaelin. Early cultivation is usually more expensive, but the labor usually brings higher prices. On the other hand, profits may dwindle if marketing is delayed until after July 1. At that time or shortly before, there is a seasonal decline in prices which does not start to rise until winter.

To produce well-developed roots, the plants must have a good start and reach a good size that will withstand the heat, Kaelin explains. Water is the most important food the growing plant needs, but the roots do not start to develop their best qualities unless they come to the close of the growing season in good condition and well fed. To be well fed they must be given good room to grow. Irrigation may not be necessary before harvest, but it is a very important factor.

The soil must also be well fed, and it should be mixed thoroughly with fertilizer on all sides. Deep cultivation is also essential to loosen the soil, so that they are about to burst the skin. Carrots grown in heavy clay soil are likely to be misshapen or rolled over, or branched, and trim and shallow. Sandy soil, however, is better with some clay and organic matter added. Such soil will keep the roots well until they are ready for use, until October 1. The best time for planting is [illegible].

Storage Pits Across Are Best To Insure Carrots

Illinois now ranks fifth in total carrot acreage in the United States, but problems in this state might be overcome if growers knew how to store them so they could overcome the prejudice against them and dispose of the crop they produce and sell, in the opinion of J. W. Lloyd, chief in market and vegetable crops at the College of Agriculture, University of Illinois.

The winter demand in northern markets is supplied partly by frozen stored carrots shipped in from the south and west and partly by stored carrots produced principally in local areas. They command in the city a higher price than the fresh, young carrots over the stored product, even though the latter may be of the same size and shape as the former.

Any prejudice against stored carrots may be overcome in local areas by offering a high-quality product put up in attractive bunches, Lloyd believes. He suggests using a high-quality variety, planting so late that the roots will be young and tender when harvested for storage in the autumn, growing them in rich soil or much soil so that the roots will be smooth and free from branches and strong flavor to promote rapid growth if [illegible] are stored.

The roots should be stored in a suitable building or pit where they will keep cool and crisp. When the carrots are prepared for storage, the tops should be removed, leaving only a small piece of the crown. Roots with broken or damaged skin should be discarded and only clean, well-shaped roots should be packed. The roots should be packed tightly in moist sand, sawdust or other suitable container.

The Extension Messenger

COLLEGE OF AGRICULTURE - UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVIII | January 23, 1933 | Number 4

Corn Supplement In Pig Feeding Pays Higher Returns

[illegible] this w[illegible] fattening [illegible] culture, [illegible] the hog [illegible]

[illegible] cost about [illegible] weighing [illegible] results [illegible] 100 pounds [illegible] for pound [illegible]

[illegible] from [illegible] method, but the [illegible] all [illegible] so that all will [illegible] according [illegible] their [illegible]

[illegible] 10 to 12 [illegible] 100 pounds [illegible] pounds of corn, [illegible] pounds of tankage, [illegible] bushel of corn.

[illegible] meal by [illegible] Certainly the [illegible] to feed [illegible] great [illegible]

[illegible] used as the protein supplement, it should be fed at the rate of 18 to 19 pounds for each bushel of corn for pigs weighing up to [illegible] pound. Those weighing [illegible] pounds should get 12 to [illegible] pounds of the supplement for each bushel of corn, 100- to 150-pound pigs should get from 8 to 9 pounds of the supplement for each bushel of corn and those weighing [illegible] to 150 pounds should get 4 to 5 pounds.

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New Experiments May Help Revive Red Clover Growing

What was once the principal and about the only legume crop in Illinois now is headed for a comeback as a result of new experiments being conducted by plant breeders of the College of Agriculture, University of Illinois. Red clover is the crop. The plant breeders are uncovering new possibilities for improving it so that it can withstand the hazards which have slowly been killing it out.

Illinois was once one of the greatest states in the production of red clover, but plant diseases, insects and adverse weather have cut production so severely that the state hardly ever has even enough seed to meet its own needs. Red clover failures also have brought on feed shortages with subsequent losses to dairymen and stockmen.

Preliminary work by plant breeders at the U. of I. College of Agriculture has revealed that there are extreme differences among red clover plants in characters that are important from the standpoint of successful production of the crop. Hardly any two plants have been found to be alike. Also the difficulties in red clover improvement work have been more clearly recognized. However, it is believed that plants can be selected and new strains built up that will be superior and useful in overcoming present hazards, it is reported by Dr. C. V. Woodworth, chief in plant genetics at the college.

In the past plant breeders have avoided the red clover crop because it is so hard to propagate under conditions of controlled pollination. The plants are almost entirely self-sterile, insects being depended upon for pollination under field conditions. Hand pollination can be done on a small scale, however.

Evidence of neglect of this crop by plant breeders is seen in the few distinct strains now existing. Red clover seed is a conglomerate mixture as to color and will produce all types of plants. When the plants are spaced so that their distinguishing characters can be observed, they are seen to differ in leaf markings, flower color, growth habits, winter hardiness, resistance to disease and pests, etc.

-M-

Ordering Garden Seed Early Cuts Production Expenses

Always a good practice under normal conditions, ordering garden seed early takes on greater importance this year in view of the possibility of a scarcity of a number of vegetable seeds, says B. L. Weaver, olericultural specialist at the College of Agriculture, University of Illinois. Weather conditions were none too favorable for garden seed production last summer. This not only will make it advisable to order early but also to check up on any holdover seed that may be on hand from previous seasons. Such seed sometimes gives a higher germination test than new seed.

It is impossible to predict the hazards of the coming season, but if the vitality of the seed is known it will be possible to get an adequate stand at less expense than could otherwise be possible. Higher germinating seed may be sown thinner, thus making a material saving in the cost of seed as well as in the expense of thinning out the rows later on. Ordering early allows plenty of time for testing and adjusting in case the seed is of low quality.

Gardeners have likewise found that keeping a seed inventory is helpful in determining the seed needs each spring. When seeds are purchased the date is written on the packet, and in an inventory book is entered the name of the variety, amount of seed bought, the cost, the name of the company and the date of purchase. A glance at this list in January reveals information that will assist in making up the present garden seed order.

-M-

Leaf Curl Spray Will Protect Peach Crop Prospects

Bloom buds on Illinois peach trees give winter-time prospects for the largest harvest since 1931, and growers can protect their chances for a crop by spraying orchards now to ward off possible leaf curl damage this spring, says Dr. H. W. Anderson, chief in pomological pathology at the College of Agriculture, University of Illinois. The 1931 crop totalled [illegible] bushels [illegible].

Early spring spraying is essential because the fungus which causes leaf curl lives over the winter on the bud scales and may start infection during warm days in February before the buds are completely open, Dr. Anderson pointed out. The spray can be applied at any time when the temperature is above freezing and there is no danger of a cold wave. Some freezing at night will do no harm. Lime-sulphur spray at the rate of one gallon of the liquid concentrate to eight gallons of water may be used, but an oil spray in Bordeaux mixture is preferable.

When 100 gallons of the oil lime-Bordeaux spray is prepared at home, the tank should be partially filled and eight pounds of powdered copper sulphate added while the agitator is running. Eight to [illegible] pounds of hydrated lime are then mixed with a little water in a pail until it forms a thin paste, after which it is strained into the tank. In another container three gallons of stock oil emulsion is mixed with an equal amount of water and poured into the tank. Enough water is then added to make up 100 gallons. Following a few minutes agitation, the spray is ready to use. Every twig on the trees should be covered with the spray to insure sound fruit control.

If spraying is neglected and the weather turns favorable for the development of peach leaf curl, the bright outlook for 1932 peach returns might easily be turned into complete failure. If it is cold and rainy as the buds expand this spring, the infection is likely to be severe, while if dry, warm weather prevails for a week or so, no great damage will be done. Since it is not possible to predict the weather accurately, it is never safe to omit leaf curl sprays. This spray is especially important to apply as dormant spray, for San Jose scale is abundant in many Illinois orchards and the same application may be used for both scale and leaf curl.

-V-

Forest Program for Illinois Would Relieve Jobless

Non-competitive work could be provided for thousands of Illinois people now on relief rolls, if much of the state's cut-over woodland were converted into well managed federal, state, municipal or private [illegible] forests, in the opinion of L. E. Sawyer, forestry extension specialist of the College of Agriculture, University of Illinois and the Illinois State Natural History Survey.

Illinois has more than nine million acres of submarginal land that is better adapted to the production of trees of commercial value than it is to growing strictly agricultural crops. If properly managed forest land, this acreage would in time not only pay satisfactory returns on the investment but also would relieve the unemployment situation in nearly [illegible] the state, Mr. Sawyer said.

Already [illegible] are buying land in southern Illinois for that purpose, [illegible] are clearing land, making improving roads, digging deep wells, erecting fire towers, constructing telephone lines and [illegible] the acquisition of [illegible] tands of timber. If the owners of Illinois' potential forest land could be qualified as well as induced by the state, by counties, by municipalities or by private owners, thousands of men now out of work could be given permanent employment in the forests.

-V-

The Extension Messenger

COLLEGE OF AGRICULTURE UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVIII January [illegible]

Evidence Found That Local Markets Lower Hog Prices

Despite reports to the contrary, there is ample evidence that the so-called local livestock markets, like the more recent "direct selling," have depressed the general level of hog prices, according to results of studies which have been published in a new bulletin by the College of Agriculture of the University of Illinois.

The size of the bulletin, 192 pages, and the number of tables (187) in the text are indicative of the amount of work done in the study, the records of [illegible] hogs sold at [illegible] markets, etc. The records have averaged about a million [illegible] annually for the period from 1914 to 1928.

H. P. Ashby, [illegible] in charge of the meeting at the college, who conducted the studies, is author of the new publication. It is titled "Local Livestock Markets in Relation to Corn Belt Hog Prices."

To farmers who have been [illegible] livestock marketing methods during the ten years that local markets have been developing, Ashby points out, the situation is old today, stockmen now support and control the local markets—the latter [illegible] to be [illegible], he says.

Local markets have depressed hog prices because they have reduced hog receipts at many terminal markets and have forced a greater portion of hogs direct to the packers, thereby lowering the profits of the terminal markets and thus their ability to compete for supplies, Ashby concluded after his study. There has been further price-depressing effect in the fact that the packers, enjoying [illegible] weights and grades, have been able to buy hogs cheaper than they could at the terminals, Ashby found.

Along with the tendency to lower hog prices, there is [illegible] of local markets to [illegible] of accurate weights under non-competitive [illegible] and grading, no [illegible] of payment, [illegible] facilities for the disposal of [illegible], [illegible] and failure to [illegible] to stockmen their full share of the savings made by local marketing operations.

Advantages of local markets, as listed by Ashby, include convenience, prompt returns, [illegible] saving in hauling, yards and the avoidance of risk of price change while the hogs are on their way to [illegible].

Stockmen and stockmen's organizations may [illegible] in the operation and control of local livestock markets, Ashby found.

"Stockmen could solve their livestock marketing problems if they were sufficient [illegible] well organized and aggressive marketing programs. Unfortunately, they do not so organize.

"Terminal marketing costs could be reduced in two ways: (1) by consolidating livestock consignments in the hands of [illegible] enabling them by retaining order to operate both more economically and more profitably, and (2) by persuading stockmen to [illegible] only the amount of facilities required to [illegible] and [illegible] the remainder for other uses.

(Continued on page [illegible])

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"Local marketing cost can be reduced by decentralizing the movement to local markets. With present-day road and truck facilities it is now practicable to operate as many local markets as the livestock industry is now supporting.

"Railroads could aid in the solution of the local market problem by granting terminal markets in-transit privileges of changing destination, It is also probable, however, that such action will be taken.

"Packers could profitably conduct individual local markets if it were not for conflicts of interest between export and packer groups. Moreover, from the standpoint of the stockmen, it is desirable that the problem be solved by other means.

"Finally, the U. S. Department of Agriculture, under provisions of the Agricultural Adjustment Act, could initiate such marketing studies as might be necessary to deal with existing marketing conditions. There is no prospect of early remedy from other sources."

-X-

Soybean Oddities Deserve Attention As Crop Expands

Illinois' rapid rise to the position it already occupies in soybean production and the prospects for a still further increase in the near future during the coming years are drawing attention of farmers and plant breeders to marked differences between varieties of this crop, according to Dr. J. H. Woodworth, chief in plant breeding at the College of Agriculture, University of Illinois.

The record crop of nine and one-half million bushels in Illinois in 1934 was valued at more than eight million dollars and represented 34 per cent of the national production.

Soybean varieties have been found to vary not only in seed color but also in many other characters affecting their commercial production, Dr. Woodworth said. These differences will become increasingly important as the production of the crop expands, he pointed out.

"One of the important characters in which varieties differ is in the number of seeds to a pod. There are some pods with only one seed, some with two seeds, others with three and still others with four. Usually there are very few one-seeded and four-seeded pods in a given variety. Varieties also differ in the proportion of the different-sized pods. The Ito San, for instance, is predominately a two-seeded type and the Illini, a three-seeded type.

"In experiments on breeding soybeans a type was found with a very high percentage of one-seeded pods. Two or three newly introduced varieties from the U. S. Department of Agriculture show a higher proportion of four-seeded pods than any commercial varieties now being grown. It is proven that these varieties breed true for the particular proportions found, indicating that the character is inherited.

"Contrary to what might be expected, the varieties having a high proportion of four-seeded pods are not a good indicator of any varieties with a majority of two-seeded pods. The four-seeded types usually produce small plants bearing a much less number of pods than the taller-growing, high-yielding two-seeded varieties.

"Furthermore, it is difficult to combine the four-seeded character of a variety with the good characters of another variety. This is only one of the difficulties in improving soybeans for a still more important place in American agriculture."

-X-

Home-Butchered Pork Is Better Cut By Proper Plan

Farmers in Illinois have been butchering a much [illegible] million pounds worth of their own pork annually during recent years, but the best cut of the hog carcass to the best advantage is still a mystery to many of them, says Stanley Bull, associate chief in meats at the College of Agriculture, University of Illinois.

"Many farmers still spoil the best cut of pork, the loin, by cutting the carcass down both sides of the back bone with a cleaver. The better way is to split down the center of the backbone with a meat saw while the carcass is still warm.

"The carcass should then be allowed to cool at temperatures near 32 degrees for at least 24 hours before it is cut. The cooler should be kept dry so the meat will not freeze. The head is first cut off square across the neck, cutting out through the atlas joint where the head joins the neck. The jowl is cut from the cheek bone, flattened out by being pounded with the flat side of the cleaver or axe, trimmed and then cured with the knife for bacon or for boiling.

"The half carcass is then laid with the back toward the cutter and the feet cut off just above the knee and the hock. The shoulder is cut off with a square cut between the third and fourth ribs. The neck bones and the ribs are then taken out. The upper part of the shoulder, or the 'Boston,' is cut off two fingers' width where the shoulder blade shows on the rear edge of the shoulder.

"The 'clear plate,' or layer of fat on top, may be cut off and used for lard or cured for bacon pork. If it is to be cured, some of the lean should be left on with it. The Boston may be cooked for boiling, roast or chops, it may be ground or it may be boned and used for sausage. The lower arm, or 'picnic,' may be boiled for sausage or cured. The entire shoulder may be cured without division, but the results will be better if it is separated into the two, clear plate and shoulder.

"The ham is cut off about the lumbar joint of the pelvic, or the aitch-bone, the saw being held just in front of the hind leg. The ham is then trimmed so that there are no loose, thin, ragged pieces of meat on it. The tail and flank also are trimmed off. If the ham is very fat the skin and some of the fat may be removed from it. However, about one-half inch of fat should be left over the lean. Hams are usually cured.

"The leaf fat is then stripped out of the carcass for lard. The side, including both the loin and the fat belly, is cut from the belly by a wide cut of the ribs from the point just below the hock to where the shoulder was removed, a point just below the large muscle where the ham was removed.

"The 'flat back' is removed from the loin cut with a sharp knife, a thin layer being left over the back muscle. The flat back is used for lard. The loin may be cured for roasts or cut up into chops. In this case the fat should be left on the loin, the back bones and ribs removed and the whole back cured. Bacon is the [illegible]

"The spare ribs are cut from the belly and [illegible]. The belly is then trimmed so that all corners are square, the [illegible] and all ragged [illegible] is removed. Enough meat is trimmed off the [illegible] the jowl. The front or brisket, the flank and the [illegible] are trimmed off and used for sausage and lard. The [illegible] should be used for [illegible] rimmings should be used for [illegible] rimmings should be used."

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The Extension Messenger

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Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume X[illegible] February 6, [illegible] Number 6

Secret Of Butter Flavor Simplified In U. I. Tests

The secret of enhancing the flavor and aroma of butter, a practice which has been in use for [illegible] years, has been ferreted out in the laboratories of the College of Agriculture, University of Illinois, it is announced by Dr. H. A. Ruehe, head of the dairy department. The [illegible] now be applied in a more direct and more effective method than has heretofore been possible, he said.

Believed to have "great possibilities" [illegible] eventually may profoundly affect the billions and billions pounds of creamery butter manufactured annually in the United States. Plans are being made to patent the method and give it to the dairy industry for whatever benefits it may bring producers and consumers in the way of a higher quality of this desirable product, Dr. Ruehe said.

Working with him in the discovery of the new method was P. J. Ramsey, a member of the college dairy manufactures division. The process involves the distillation of the ordinary "starter" used in butter making. Concentrated quantities of the volatile flavoring principles which impart the desirable aroma or bouquet to butter are obtained in the distillate.

Their finding is an outgrowth and the latest improvement on the use of cultures, or "starters," in cream, a practice which has been employed for many years to develop flavor and aroma in butter. The Danish bacteriologist, Storch, who began his work in 1894, was the first to investigate butter cultures. Four years later the use of such cultures in pure "ripening" became a part of the commercial butter-making process.

Subsequently other investigators established the fact that two other organisms besides the one originally present in starters were necessary for successful results. Still later it was found that these organisms changed the citric acid of milk into acetylmethyl carbinol. This in turn was converted into the volatile chemical compounds which produce the aroma and flavor.

However, attempts to intensify the flavor of butter by the addition of synthetic compounds of this character have been regarded as adulteration and therefore an illegal practice.

The method developed by Ruehe and Ramsey not only makes it possible to isolate the flavoring principles from a starter but also to increase the content of them in that starter.

When the distillate obtained in the process is added to cream, the flavor and aroma are greatly intensified without increasing the acidity, or citric acid content, of the cream. Sweet cream treated in this manner produces a butter that had the high aroma and flavor of that made from ripened cream, yet had low acidity. The distillate can be added directly to the butter to obtain similar results.

—H—

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Many Growers May Find Model Use Of [illegible]

Finding [illegible] million bushels of corn with which to feed [illegible] crops of this crop in Illinois this winter [illegible] is not delay too long in ordering the [illegible], specialist of the College of Agriculture, University of Illinois.

The [illegible] bushels. Seed will [illegible] in the hands of Illinois farmers [illegible].

Farmers in [illegible] find good local varieties [illegible] seed stocks committee has [illegible] and will hold it until [illegible]. Limited [illegible] northern Illinois counties [illegible].

"Every farmer who does not have his seed corn tested should immediately contact his county [illegible]. There were [illegible] final listing of their needs which [illegible] director for Illinois [illegible], Indiana and Michigan [illegible].

"Buying seed corn [illegible] getting it from local elevators or [illegible] country is certain to [illegible] in the community, while their [illegible] quality and may even contain [illegible].

"Local [illegible] give farmers the [illegible] Those will include Gerber, Iroquois and [illegible] northern and central Illinois [illegible], Columbia and [illegible].

Illinois has averaged [illegible] years. There may be some [illegible] the boll weevil, but the crop will still be one of the [illegible] because of its place in crop rotation [illegible] feeding possibly will be [illegible] the total requirement will be [illegible].

Seed Dealers [illegible] Farmers' Needs

[illegible] drawing and [illegible] during the coming year, [illegible] the College of Agriculture, University of Illinois.

Without such [illegible] the enthusiastic reading of [illegible] or nothing," L. Lloyd points out, the [illegible].

[illegible] buying more seeds than [illegible] the grower. Further [illegible] would make up the major part of [illegible] will be grown each year [illegible].

Neither Dark Nor Moon Or Feathers In Brine Meat

Although some people are still superstitious, rather than accept the idea that the moon nor luck have anything to do with success in the cure-curing of the 200 million pounds or more of cure which Illinois farmers further annually, declares Professor Chester Hull, specialist charged with meat at the College of Agriculture, University of Illinois. Short cuts do exist, however, says the method which is used, he said.

The ideal temperature for curing meat is between degrees during freezing. Usually a cold room in the basement is the best place. The meats most often cured are the hams, shoulders or jowls and bellies or bacon. Other cuts which may be cured are jowls, or bacon squares, loins, ribs, pigtails and boneless hams or bacon.

A standard recipe for cured meats is 6 pounds of salt, 2 pounds of either granulated or brown sugar, 2 ounces of saltpeter and 2 gallons of water per 100 pounds of meat. The salt, sugar and saltpeter are mixed together and a sprinkling rubbed all over the meat, after which it is allowed to lie in a cool place over night. The remainder of the salt mixture is then added to the 2 gallons of water, boiled and the materials allowed to dissolve. After the meat has cooled the brine is strained off.

The meat is packed in a cool, dry cellar, skin side down, in a clean, scalded stone jar or barrel. The brine should be stirred again and poured over the meat until it completely covers it. Hardwood sticks are then placed across the meat until it lies flat. The brine is then poured on, care being taken that the meat is completely covered.

Hams and shoulders should remain in the brine three days or little longer for each pound they weigh. A 10-pound ham will be ready to cook in 30 days. Smaller cuts, such as bacon, picnic hams and jowls, should be given a milder cure by being removed after two days have been allowed for each pound. The brine should be stirred and reboiled at the end of the first week. At the end of the second week, the same brine is used, but is not reboiled.

As soon as it is removed from the brine, all meat should be soaked two to three hours and thoroughly scrubbed to remove the excess salt. This is important. The meat should then be smoked, strung in the smoke house and allowed to dry overnight.

Ice Water Chills Cows And Profit In Spending

About three-fourths of the dairy cows in the United States can be made to produce 10% more milk and butterfat if their drinking water is warmed to 50 degrees, according to observations made by Professor C. H. Eckles, specialist in dairy farming at the College of Agriculture, University of Illinois. In some instances as high as 30 per cent of the cows are affected, he said.

With feed as scarce as it is now, dairymen should do just as well as they did when many of them have been doing during the war times, he pointed out. Instead of milking more cows in an effort to balance the scales, dairymen should give their cows all but their better care, he said.

"If the cows that are eating the most feed are given the best care and the feed thus saved were given to the poorer cows, the herd average would be much better that the herd average would be doubled," he said. Many farmers continue to feed their good cows the same amount of feed as they did when feed was cheap and as high-priced as it is now.

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Volume XVIII [illegible] Number 7

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Soybeans Meeting Emergency In Wintering Farm Horses

Many thousands of Illinois horses have had their first taste of soybean hay this winter. They are on farms where soybeans were grown last summer for the first time. These horses have thrived on soybean hay just as other thousands of Illinois horses have done since and before it in the past. A few Illinois farms have used soybean hay almost exclusively for the horses during the past 3 years. Results have been uniformly good. The only precaution is to feed only a moderate amount of this rich hay, so that the horses eat all but the coarsest stems.

Soybean hay has helped greatly to maintain horses this winter. In some cases the horses have had plenty of this hay and have come through the winter in very good condition. The weed-covered stubble fields appear to be very dangerous horse pasture, and the college has repeatedly warned against their use for horses this season. In several instances horses which have had the run of stubble fields did better where soybeans had been grown in the corn. It is noticeable, too, that horses which are getting only stubble pasture, straw or dried grass which is still left in the fields thrive much better if they can have a small feed each night of soybean hay or other legume hay.

One of the difficulties this winter is the thin condition of many farm horses because of the scarcity of good feed. The use of soybean hay or other legume hay from now on through the winter will help these thin horses to improve. Also by March 1 it will help the horses keep well if they are stabled at night and fed a little grain. If they are not stabled it will pay them to feed a small amount of threshed oats during March. The feeding of soybean hay or legume hay will help the horses shed their winter coat and to be in better condition for spring work. By getting the horses on soybean hay in a short time before turning on grass they will have more strength, more endurance, more flesh, and stand the spring work better.--F. T. Forbing, livestock extension specialist, College of Agriculture, University of Illinois.

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Small Fruit Varieties for Home Use Still Growing

Now is the time for those who have an interest in small fruits or who are going to establish a planting. Probably never before in horticultural history has there been such a number of high-class small fruit varieties available. For a number of years small fruit breeders have been at work, and their results are now becoming available. Exceptionally hardy and vigorous and productive varieties bearing high-quality fruit and adapted to particular purposes may be secured and planted and, if given good cultural care, may yield both pleasure and profit.

Some of the new varieties of promise include: Alfred blackberry; Red Lake currant; Boerner gooseberry; Fredonia (early black), Portland (early white), Cayuga (late-season red), and Everbearing (late black) raspberries; Chief, Lathum, and Marlboro red raspberries; Logan and Sullivan black raspberries; Potomac purple raspberry; Blakemore, Dorsett, Fairfax and Redhill (fall bearing) strawberries.

Several of these varieties are rather high in price at present because the supply of nursery stock is low. However, this can be overcome and a good profit realized at home for an extensive planting. It is advisable to start with a small planting, gradually increasing the acreage if soil and climatic conditions are found to be favorable and a demand for the fruit develops.--H. B. Tukey, small fruit culture, College of Agriculture, University of Illinois.

-0-

R[illegible] H[illegible] For The [illegible] Spring Rush

It is [illegible] gardeners [illegible] feverishly in March to re[illegible] season. [illegible] the hotbeds with [illegible]. This is both dangerous and [illegible].

Use the [illegible] glass, brads, nails and putty on hand [illegible]. [illegible] up the sash [illegible]. R[illegible] broken glass [illegible] it with brads and putty. [illegible]. Use nails of the proper size [illegible]. Finally, give the sash a thorough [illegible]. A [illegible] it only [illegible] portion of it.

The [illegible] given it. [illegible] Platts, of [illegible] forty years. Many other [illegible].

February is [illegible] ration. [illegible] frames [illegible]. R[illegible] and [illegible]. Oil and repair the [illegible]. Have all seed on hand [illegible]—[illegible], vegetable gardening extension specialist, College of Agriculture, University of Illinois.

-jr-

Carryover Of Wh[illegible] 1934

The carryover [illegible] July 1, 19[illegible] is [illegible] to total 14[illegible], [illegible] bushels on July 1, 1934, according to [illegible] Agriculture, University of Illinois, now receiving [illegible] the Bureau of Agricultural Economics, U. S. Department of Agriculture.

[illegible] and there [illegible] bushels. [illegible] is [illegible]. The report says that "after [illegible] of wheat [illegible] this year, [illegible] bushels."

The bureau says that [illegible] the [illegible] of wheat available for export or carryover in [illegible] countries, [illegible] with [illegible] quantities [illegible], [illegible] this January 1 [illegible]. Wheat for [illegible] January 1 was [illegible] bushels [illegible] January 1, [illegible].

[illegible] estimated [illegible] bushels. The report says that [illegible] most [illegible] countries [illegible] during [illegible] crop [illegible], however, it [illegible] became [illegible] the year [illegible] in the world [illegible]."

Preliminary reports [illegible] in [illegible] year [illegible] nearly [illegible] Russia [illegible], [illegible] increase [illegible] year, says the bureau. Reports for [illegible].

-jr-

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Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVIII March [illegible], [illegible] Numbers 8, 9, 10 and 11

Hybrids ... New Advances In Production Of Corn

New possibilities for growing higher quality corn at cheaper costs through the use of hybrids are revealed in the latest bulletin just released by the experiment station of the College of Agriculture, University of Illinois. During the past five years the state's corn crop has produced an average annual value of approximately [illegible] million dollars. Results such as those reported in the bulletin open the way to the widening of the margin of net profit on the crop.

"Illinois Corn Performance Tests, 1930-1934," is the title of the new bulletin. The authors and the men who were in charge of the tests are [illegible] H. Dungan, associate chief in crop production at the college; J. R. Holbert, senior agronomist, U. S. Department of Agriculture; W. [illegible] associate in plant breeding at the college; T. H. Hagen, field pathologist, Illinois State Natural History Survey, and A. [illegible], assistant chief on the college's soil experiment fields.

In the tests the best ordinary open-pollinated types of corn were far ahead of the commercial hybrids in the trials. What was considered more important from the standpoint of future corn improvement was that the best commercial hybrids failed to measure up to the better experimental hybrids.

For the first time in the official history of corn improvement efforts, the varieties of corn were tested and rated not on yield alone but on the basis of four different factors entering into the profitableness of the crop. The four "yardsticks" were: (1) lodging resistance, (2) general quality of the grain, (3) total yield and (4) sound grain. The average score on these four points was taken as the "performance rating" of the variety under test.

Of the 177 different kinds of corn included in the 13 field tests in 12 different parts of the state, 45 were open-pollinated varieties and 132 were hybrids.

In the ten fields where comparisons were possible, the five best experimental hybrids had a "performance rating" of 96.5, the five best commercial hybrids 6 and the five best open-pollinated varieties a rating of 71.7.

The average yield of sound corn from the experimental hybrids was 46.3 bushels an acre, from the commercial hybrids 39 bushels and from the open-pollinated varieties 31.4 bushels. Many of the hybrids stood up outstandingly well against the heat, drouth and chinch bugs of the 1934 season.

The search for corn of better quality--corn better suited to the uses to which it is to be put, whether for feeding on the farm or for commercial purposes--may be expected to lead eventually to a more intensive study of the chemical composition both of grain and stover, the authors of the bulletin predict. The tests reported in the new publication are a part of the coordinated corn improvement program being conducted cooperatively by the College of Agriculture, University of Illinois, the U. S. Department of Agriculture and the Illinois State Natural History Survey.

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Vol. XVIII--No. [illegible], [illegible] 1, [illegible]

Oats Loss Last Year Is Being Avoided This Spring

About the quickest way for Illinois farmers to recoup their oats crop losses of the past year will be to start out this spring with hardy and superior varieties, in the opinion of George H. Dungan, associate chief in crop production at the College of Agriculture, University of Illinois. The 1934 Illinois crop of 53,814,000 bushels was the smallest since 1874 and was valued at only $[illegible], [illegible],000 compared to a high of $[illegible],[illegible],000 in [illegible] year like 1917.

Good quality seed oats will be scarce this spring, but whenever additional seed is bought, it will pay the farmer to [illegible] some well proved variety adapted to his locality, Dungan pointed out.

"Furthermore, with seed oats scarce and many farmers having to buy their supply, there will be a tendency to sow oats thinly in order to make the seed outlay go further. This will be hazardous in the case of the thinner bearded oats. The pests are much worse on thin crops than they are on thick ones. The danger of thin seeding may be avoided to a great extent by preparing the seed bed very well and by working on fertile soil which will give a free feeding to the plants. Seed loss can be avoided by sowing with a drill. The bushels [illegible] sown broadcast with a drill [illegible] equivalent to three bushels sown broadcast.

"The best varieties for the different sections of the state have been singled out in tests which the college has been conducting at Dixon Springs in southern Illinois, at Urbana in central Illinois and at Alton in southern Illinois.

"In northern Illinois Iowa 103, Columbia and Gopher are leading varieties. Columbia is an early, stiff-straw oat, suitable for growing on good land. Iowa 103 and Gopher are white oats suitable for heavier soil types.

"Leading varieties in central Illinois are Columbia, Fulton, Iowa 103 and Illinois 14. Burt [illegible] is also early, heavy yielding, but it is not as stiff-straw as either Columbia or Gopher. Illinois 14 is a new variety developed as a selection from Silvermine. There will be a small amount of seed of this oat for distribution to a few farmers next year for trial purposes.

"Varieties of the late season class for southern Illinois are Fulton, Columbia, Franklin, Burt (Nebraska 21) and Illinois 14. Fulton is a red oat which was developed for dry-land conditions in Colorado. While it is a good yielding variety, it has a weak straw and for that reason may not be a better choice than the Columbia. Franklin is also a red oat. It is later maturing than Columbia and heavier."

-M-

Fewer Livestock Is Cheap Evils Of Over-Pasturing

With almost a fourth less livestock on pastures this year as last, this will be a good season for farmers to breed out from the evils of overstocked pastures, says R. F. Cherry, associate chief in dairy husbandry at the College of Agriculture, University of Illinois.

In the past corn belt states have been carrying [illegible] cows on pasture, he said. Even distinctly [illegible] pasture carry the [illegible] horse for each 1[illegible] acres, while the most [illegible] pasture will carry only one cow or horse for each two acres, he pointed out.

"At this rate of stocking, few farms will [illegible] to meet their needs. The solution is to set [illegible] emergency pasture. Here again, however, [illegible]

-M-

[illegible] Disease Will Be Important This Year

Farmers who have to reckon on any [illegible] increase in the price of corn are getting ready now to protect their [illegible] against threatened heavy damage by corn diseases, says Benjamin Koehler, associate chief in crop pathology at the College of Agriculture, University of Illinois. Next year not only will be scarce [illegible] but also will be more [illegible] with the [illegible] diseases be prevented.

During the past [illegible] annual value [illegible] corn crop has ranged from a high of $[illegible] in 1917 to a low of $[illegible] in [illegible]. This year corn diseases will play a more important role than ever before in determining the fate of the crop, Dr. Koehler said.

"Seed infections known as [illegible] and Fusarium were both unusually prevalent in the state last season. While [illegible] from curing to seed kernel discoloration, there are many infected [illegible] which show no signs of infection until a germination test is made.

"Certainly when seed corn [illegible] this spring, it will be more important than ever to [illegible] the [illegible] corn in from each [illegible] to [illegible] sure there are no discolored kernels. The [illegible] such precaution will solve part of the disease problem.

"The best [illegible] will [illegible] to cull the seed ears closely and [illegible] germination test to every [illegible] for those which show poor vigor or disease infection [illegible] Treat the seed with a good disinfectant especially prepared for this purpose. Farmers who are not equipped to make a germination test and do not wish to [illegible] expense of having it done will still protect it by carrying out the other two [illegible], that is, culling and seed treatment. These may be done at home.

"Corn seed infections do [illegible] damage in early-planted corn where germination is slow. [illegible] corn is a long-season crop it must be planted in the first half of May in most parts of Illinois in order to make the best yields and the best quality of grain. If for some reason planting must be delayed until later, then seed treatment may or may not prove of value, depending upon the season."

-1-

Neglected Grape Vines Will Repay Careful Handling

The grape is believed [illegible] first fruit in history to be [illegible] vated, but nowadays neglect and improper pruning too often cut down the possibilities of the crop in a state like Illinois, according to Dr. [illegible] Selby, [illegible] fruit culture at the College of Agriculture, University of Illinois. Late is the time of the year to start restoring this fruit to its fruitful [illegible] bearing.

Many long neglected or improperly pruned grape vines will respond satisfactorily to heavy pruning and may be made profitable producers if the root system is healthy and vigorous and care is used in building the new top, Dr. Selby pointed out.

"Grape seeds have been found with studies in Egyptian tombs [illegible] years old. Perhaps the long period over which the fruit has been cultivated and developed accounts for the fact it will respond [illegible] to proper pruning and training. Furthermore, the grape is so highly developed that it will [illegible] growth and bear only a small crop of poor quality if neglected.

"Many neglected vines can be rejuvenated even though they [illegible] masses of old canes, poorly [illegible] with [illegible] and [illegible]

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The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVIII [illegible] Number [illegible]

[illegible] Hog Meeting [illegible] April 1

Rising hog prices [illegible] favorable market outlook are expected to swell the attendance of farmers at the annual swine growers' day to be held April 1 at the College of Agriculture, University of Illinois.

Unlike most other swine growers' meetings, this one will feature the sow and litter phase of the hog industry instead of the finished product—the fat market hog, according to Dr. W. G. Kammlade, chief in swine husbandry.

"Studies made by the department show that there is a wide variation in the cost of producing pork by the time the pigs are weaned that there is after they are weaned. In their work from weaning to market they can't afford to waste after they get them past the weaning stage than they do before that time.

"Since the cost of producing a pig up to the weaning time represents one-third of the total cost of raising it, the methods which the farmer follows in the early stage have an important bearing on his final returns.

At the time of the meeting tests on the feeding of sows and litters will be available from five [illegible] experiments conducted on this problem. Visitors will have an opportunity to inspect these tests first-hand at the College swine plant. Pastures of [illegible] will have a part in the tests, and rape and alfalfa pastures will be used. The [illegible] extend the suckling season one and a half months. Individual [illegible] and handling sows and litters in the farrowing pens will be [illegible]. An [illegible] type of farrowing crate also will be on display.

Following luncheon [illegible] Prof. H. P. Rusk, head of the animal husbandry department, and [illegible] with H. T. Cartright, a member of the swine division, will report results of experiments on feeding sows during gestation, and Dr. [illegible] will explain results of [illegible] on feeding sows and litters.

The future of the hog market will be discussed by R. [illegible] Ashby, associate chief in livestock marketing.

—H—

Diseases and Pests Threatening Profits In Tomato Crop

Now that the tomato has become the second most valuable truck and garden crop in Illinois, diseases and insects attack it in greater number and heavier toll than ever before if they are not controlled. The [illegible] has brought out a new circular just issued by the College of Agriculture, University of Illinois. It is entitled, "Tomato Diseases and Insect Pests: Identification and Control."

Disease-free seed, clean soil, soil sterilization and crop rotation are important factors in keeping diseases out of the plot, and are discussed as general control measures.

Twelve of the most serious diseases are dealt with in the section on diseases prepared by H. J. Snow, of the department of horticulture.

Control of nine different insects is explained by [illegible] Shropshire, field entomologist for the Illinois State Natural History Survey.

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Heavier Hatching Is Big Factor In Poultry Outlook

Future returns from Illinois poultry flocks will have to be figured on the prospect that there will be a big increase in the number of chicks hatched in the United States this spring as compared with the number hatched a year ago. This is shown in reports which the College of Agriculture, University of Illinois has received from the U. S. Department of Agriculture.

The prospect of heavy spring hatchings is based on the January report from the big commercial hatcheries of the country. This January report is said to be a good guide as to what the hatchery and poultry industries are planning to do.

Thirty-three per cent more, or about a third more, baby chicks were hatched in January this year by 147 big commercial hatcheries than were hatched last year, according to the report. Advance bookings in January were nearly 44 per cent higher than they were a year ago. At least some of the increased bookings are the result of the fact that under the PMA code, hatcheries are now encouraging their buyers to place more of their orders in advance.

Increased hatchings are the result of several factors, according to the authorities. First there was the favorable egg prices in December, January and early February. Second, farmers now had the prospect of higher egg prices this spring than they had last year. In the third place heavy mortalities both of young and old chickens as a result of last summer's drouth and later as a result of feed shortages reduced the number of chickens on farms to the lowest figure since the U. S. Department of Agriculture started keeping records 13 years ago. Farmers are started out to rebuild their flocks in the spring and as pullets will be coming into lay normal by next fall. That will be the time that early-hatched chicks will begin to buy.

-M-

Fewer Cows and Poor Pastures Help Hold Milk Prices

An estimated decrease of 3 to 4 per cent in the number of milk cows on farms coupled with the poor condition of many Illinois pastures this spring may shorten the annual spring drop in butterfat prices.

However, this annual decline in butterfat prices is only one of the spring worries of the cream producer. Aside from the lowering of cream tests, a decrease in the quality of cream and the development of objectionable flavors in the milk because of certain weeds which the cows eat, according to Dr. H. A. Ruehe, head of the dairy department at the College of Agriculture, University of Illinois.

Despite the drouth in 1934, the return of spring pastures will bring an increased flow of milk and a probable decrease in butterfat prices, he explained.

The quality of cream can be maintained in the spring to a large extent by more careful handling, Dr. Ruehe believes. He emphasizes cooling the cream promptly to a temperature of 60 degrees Fahrenheit and marketing at least three times a week. By observing these and other precautions, dairymen will be able to market quality cream which will command good prices.

Wild onions, abundant in many Illinois pastures in the spring, impart an objectionable flavor to cream, causing it to be graded down. The infected area should be fenced off or, in the case of bad infestation, the pasture should be abandoned until later in the spring when the onions have died.

Cream tests usually decrease in the spring owing to growth of pastures and freshening of cows. However, the increased volume of milk will usually more than compensate for the decreased test, Dr. Ruehe says.

-M-

A Thorough Dormant Winter Cleanup Of Codling Moths

Whether or not the codling moth will take its annual toll of about a million dollars from the Illinois apple crop largely depends on how thoroughly growers wind up the winter cleanup of this pest. This is the opinion of two different authorities, E. J. Chandler, field entomologist of the Illinois State Natural History Survey, and V. W. Kelley, horticultural extension specialist of the College of Agriculture, University of Illinois.

So serious was the pest in 1928 that it destroyed one-fourth of all the apples produced in the state or were infested with codling moth worms. The average annual value of the state's apple crop has been about a million dollars, and one of the most costly limits to this value has been the codling moth.

A thorough winter cleanup is one of the most telling ways of combatting the pest, the authorities pointed out. At this season the insects are in the over-wintering cocoon stage. For every one of these emerging from winter quarters and producing 50 eggs might yield 1,000 worms of the second brood and 1,000,000 by the third brood. This would be enough to ruin 1,000 bushels of apples. If the attack upon the pest is delayed until the end of the second brood, the destruction of 999 out of the 1,000 that started growing only one pound to injure about one peck of apples.

Cleanup work should start in the packing shed, especially if the grower raises fall and winter varieties. If it is possible the entire shed should be screened and kept closed until the moths have emerged and died. One grower who screened his shed with brown cotton cotton cheesecloth prevented the escape of 3,000 moths into his orchard at a cost of only $1.00 per.

If screening is impossible, the next best thing is to place all orchard crates and old used boxes and apple wrapping in a closed room which is moth-tight. Crates and baskets can be dipped in a hot soda bath in boiling water until the cocoons are separated.

In the orchard itself the work should be started during the winter prior to putting on the codling moth bands during the following summer. The rough bark which is scraped off should be burned. Pruning out dead wood, split branch ends and partially rotted knots destroys the codling moth in one of its favorite hiding places. Burning the pruning is important. Pruning so as to open up the centers of the trees will make it possible to get the codling moth spray into the inner branches.

Fruit picked up from the ground contains 40 per cent of the worms in a crop and are found in or on various objects on the ground under the trees. Consequently the cleanup is not complete until every piece of old basket crate, fertilizer sack and all other trash is burned.

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Chick Raising Is Mystery But It Can Prove Expensive

Buying baby chicks, the latest innovation in modern poultry raising, is no longer a fad or a mystery, but it may be of limited value to the general run of farm flock owners, according to H. H. Alp, poultry extension specialist of the College of Agriculture, University of Illinois. Interest in the question is at the present time with the baby chick season at its height, he pointed out.

Buying sexed chicks so as to get only pullets and no cockerels may be justified in certain instances, Alp said. On the other hand the flock owner should weigh the increased initial cost of the chicks, the heavier losses from mortality and poorer growth of the higher cost of the chicks and the loss of income from the pullets not started.

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Volume XVIII [illegible], 1928 Number 13

Tariff Cut Would Hurt Few But Help Many, To Workers

[illegible] preventing international trade and fostering [illegible] little if any threat to the welfare of wage [illegible]. That, while [illegible] sometimes made in many quarters, is borne out [illegible] the College of Agriculture, University of Illinois [illegible] Department of Agricultural Economics.

[illegible] tariff, [illegible] held to be a barrier to the revival of foreign [illegible] the ability of foreign countries to trade their goods for U. S. [illegible]

[illegible] workers in this country concerned, only a small part [illegible] would be affected by the tariff, it is shown in the report. In fact, [illegible] only 5 million gainfully employed workers. More than half [illegible] are in non-competing industries with which imports can not [illegible] to compete. That is, they are engaged in such industries as [illegible] transportation, power and electricity, banking and insurance, building, public service [illegible].

Of [illegible] manufacturing [illegible] were employed in industries for which [illegible] the export [illegible] or important group was employed [illegible] which could not [illegible] be affected by imports. These include [illegible] domestic industries [illegible] printing and publishing industries [illegible] building materials [illegible] protected against foreign countries [illegible] U. S. and industries using [illegible] of mass production in which [illegible] petition can not [illegible] withhold the efficient American producer.

It is estimated that [illegible] one American wage earner in six is competing [illegible] foreign workers. In making tariff adjustments the problem [illegible] is the [illegible] of the workers which [illegible] depends to some extent on tariff protection [illegible] eventually be benefited [illegible].

On the other hand, while some industries might contract their production if tariff reductions [illegible] increased international trade, others would expand [illegible] opportunities. Jobs in these [illegible] would consequently become [illegible].

-V-

Vocational Association Plans April Meet At U. of I.

[illegible] of the state are expected to have 1,000 [illegible] at the University of Illinois for the annual spring [illegible] of the Illinois Vocational Association on April 19 and 20, it is announced by Prof. [illegible], a member of the association board of directors and professor of industrial education at the university.

Marking a new advance in the field of vocational education, the convention, for the first time, will bring together the Illinois Association of Vocational Agriculture Teachers and the Illinois Industrial Education Association. The new set-up will be known as the Illinois Vocational Association. Vocational education interests represented at the meeting will include part-time, commercial work, agriculture, trade and industrial education, part-time education, home economics and guidance.

Pastures Holding Fat Of Illinois Dairy Returns

Few things will have as much bearing on the returns from Illinois' 1,178,000 dairy cows this season as the solution of the pasture problem resulting from last summer's hot, dry weather, says Prof. C. S. Rhoad, of the Dairy Department, College of Agriculture, University of Illinois.

There are at least three mixtures that are suitable for replanting permanent or rotation pastures, he said. Mixture No. 1 contains 4 pounds of bluegrass, 4 pounds of orchard or brome grass, 3 pounds of timothy, 1 pound of redtop and 2 pounds each of alsike, red, sweet and white clover. Mixture No. 2 is the same with the exception that no redtop is used, the timothy is reduced to 2 pounds and 3 pounds of lespedeza are included.

A third mixture contains 3 pounds of red clover, 3 pounds of sweet clover, 2 pounds of alsike and 4 pounds of timothy. Amounts included in each mixture are sufficient to seed one acre of land. If the soil is acid, sweet clover should not be used in any of the above mixtures.

These mixtures may be seeded early in the spring along with two bushels of oats to the acre. The oats serve as a nurse crop and also furnish some pasture. The ground should be disked before and after the oats are sown. The grass seed is sown after the ground has been firmed with a corrugated roller. The rolling operation should be repeated after seeding has been completed.

Oats also make good emergency pasture. Two bushels of oats to one and one-half bushels of Canadian field peas make a good annual pasture after the early oats are gone.

Another good emergency pasture mixture is 2 bushels of oats and enough seed of sweet clover or alfalfa for a legume mixture including red and alsike clover. For pasture during the hot, dry season, 1 pound of sudan grass and 1½ bushels of soybeans are usually satisfactory. This mixture should not be sown until after corn-planting time and may be planted as late as the middle of the summer.

-M-

Slump In Exports Shows Value Of Balancing Output

Steps which Illinois farmers are taking to adjust their production appear more sound than ever in view of the further slump in farm exports from the United States. The most recent available figures show, for instance, that in January the smallest volume of farm products in more than 25 years was shipped out of the United States, according to a report just received by the College of Agriculture, University of Illinois from the U. S. Bureau of Agricultural Economics. The January, 1933, index for farm exports was 57 as compared with 62 in December and with 93 in January a year ago.

All products except fruits were exported in less than pre-war volume in January. The index figures, as compared with 100 for pre-war, were: grains and products 17, animal products 33, dairy products and eggs 29, fruit 189, wheat and flour 14, tobacco 97, ham and bacon 18 and lard 45.

Exports of wheat and flour, including flour milled from Canadian wheat, were 1,310,000 bushels in January, one of the smallest monthly exports on record. Total exports of wheat and flour from July 1 to January 31 were 14,650,000 bushels compared with 18,807,000 bushels during the corresponding period of 1932-33.

Index of cotton exports in January was 68 compared with 109 in January last year. Exports this January were 486,000 bales against 783,000 bales a year ago. Total exports for seven months ended January 31 were 3,545,000 bales compared with 5,191,000 bales during the corresponding period of 1932-33.

-N-

The Extension Messenger

Better Days Are Seen For Production Of Small Fruits

Humble and neglected for many years, small fruit growing is now having its day, according to Dr. A. S. Colby, small fruit culturist of the College of Agriculture, University of Illinois. There is a brighter outlook for the home interest in such crops than at almost any time in recent history.

One factor which has stimulated interest in small fruit growing and holds out the new day for such crops is the present trend toward lighting and heating of the production, Dr. Colby explains. The cost, both in time and distance to market for quality fruit are expanding rapidly. Hazards from insects and diseases are being overcome through research. Protection is now available for those in search of high class small fruit varieties available there are now.

Exceptionally hardy, vigorous and productive varieties now available include: Alfred blackberry; Red Lake currant; Robinson gooseberry; Premier (early) dewberry, Portland (early) white), Clyde (mid-season) and Sharpless (late) blackberries; Chief, Latham and Newburgh red raspberries and Gill and Bloomfield cherries; Fay's prolific cyberry; Brockmore, Dorsett, Fairfax and Buckhill strawberries.

Several of the varieties are quite susceptible to rose rust of raspberry stock. However, this might be guarded against if the plants were brought from

Best results will be had if the varieties chosen are adapted to the soil and climate particular to the locality. It is now time to start with new and suitable to the needs of small fruit growing.

The plants require the best of attention and must be sprayed if they are to maintain their vigor and high-yielding qualities. If fruit is to be sold in the market, it must be picked and graded properly and packed in the standard containers and style demanded by the trade. It should be moved rapidly and carefully to market.

Small fruits combine well in connection with children, vegetable and flower gardens.

Farmers War On Rats. Death Will Be A "Dose" To Them."

Rats are the public enemy No. 1 on the farm at this season of the year, for they not only kill thousands of baby chicks, but destroy feed and other property, according to G. C. Ofenbaum, of the U. S. Biological Survey. He is cooperating on rodent control in this state with the State Natural History Survey and the College of Agriculture, University of Illinois.

Red squill is the best poison for fighting rats, since it is deadly to them but comparatively harmless to domestic animals and humans. The squill should be mixed with some fruit such as canned salmon, hamburger or a mixture of moistened rolled oats and corn. One part of poison to 10 parts fruit by weight is the correct proportion. The different baits should be put out in teaspoonful quantities so that the rats may enjoy their preference.

Even though red squill is comparatively harmless to domestic animals, care should be taken to prevent chickens, cats or dogs from eating large quantities of the poisoned bait.

Calcium cyanide fumigant is another rat exterminator which may be used successfully, especially in burrows, under concrete floors and other places where the gas can be confined. It should be applied with a foot pump duster made especially for the purpose. The operator should avoid breathing the poisonous fumes.

Other steps which will help rid the premises of rats include burning of rubbish and piling lumber and boxes so that there is no space underneath. Cooperative community rat campaigns during which poison is distributed all over the community at the same time are also effective.

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Volume XVIII	April [illegible],	Number 14

Illinois Co[illegible] [illegible] Programs In New Project

[illegible] soil conser[illegible] [illegible] to [illegible].

A [illegible] program has been set up to [illegible] work in Illinois. [illegible] College of Agriculture, University of Illinois, [illegible] W. Mumford is dean and director. [illegible], [illegible] of the college, is [illegible] in immediate charge of the program.

[illegible] is the [illegible] of one [illegible] experiment station and [illegible] and national forest [illegible] Illinois State Department of [illegible]; rural rehabilitation division, [illegible] Illinois State Natural History Survey, the Illinois State Department of Public Works and Buildings, and the Illinois State Planning Board.

A [illegible] engaged in soil [illegible] improvement [illegible] under direction of [illegible] Mumford.

[illegible] new Illinois [illegible] action whereby [illegible] soil [illegible] in the Department of Agriculture.

A [illegible] the College of Agriculture, University of Illinois has [illegible] working [illegible] with soil erosion problems since as [illegible] is to be [illegible] in the new program.

A [illegible] development, [illegible] soil [illegible] service of the U. S. [illegible] E. A. [illegible], [illegible] into the [illegible].

[illegible] sion, there are [illegible] farm[illegible], it is shown by the soil [illegible] million additional acres [illegible] charting, permanent [illegible] timber. There is [illegible] erosion control practices [illegible] to maintain [illegible] the [illegible].

F[illegible] the new Illinois [illegible] program [illegible]de a survey of soil [illegible] problems, [illegible] adoption [illegible] practices and the adaptation of [illegible] problems of soil conservation and improvement.

Farm advisers, members of [illegible] extension service staff of the agricultural college and representatives of other [illegible] involved in soil erosion and conservation projects in Illinois will [illegible] a series of regional [illegible], April [illegible] further [illegible] of the new coordinated program.

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Farmers May Lose Selling Their Stock To Speculators

Rising livestock prices have sent a swarm of special cash buyers into the country, it is reported by E. T. Robbins, livestock extension specialist of the College of Agriculture, University of Illinois. Farmers run the risk of losing much of the benefits of the price boom if they sell to these buyers instead of consigning their stock themselves to the central markets, he said.

"Farmers have nothing to fear from honest, legitimate buyers, but in times like these it is more important than ever that producers be sure of their ground before making a deal on their stock. Only by visiting a market frequently and noting the quality of cattle and the kind of prices they bring can any farmer realize the changes which have taken place. Many grades of cattle are twice as high as they were a year ago.

"Speculative buyers now swarming the country may quote a price which looks attractive to the farmer but which may still keep him out of an additional return that he might get by selling some other way. Farmers have even been called out of bed in the eagerness of buyers to offer them practically as much for their stock as it would bring on that day's market. The activity also has extended to the buying of hogs, which have advanced considerably since the first of the year."

Although the market does not always operate to make this possible, the farmer, shipping his own stock to the central market, stands the same chance of making a profit as does the speculative buyer, it was pointed out.

"In the long run farmers probably get the most money for their stock when they consign it to the central markets or have their local cooperative marketing associations do it for them. At these central markets the animals sell strictly upon their merits at prices set by competitive bidding. It is not necessary for the farmer to be fully informed upon the last day's values in order to sell his stock as high as it can be sold. The commission men take care of that."

-M-

New Standards In Apple Cooling Set By Recent Tests

New standards for the refrigeration of apple shipments have been set up as a result of further experiments by the College of Agriculture, University of Illinois to reduce present heavy losses in fruit marketing. Reports of the latest studies are given in a new bulletin just issued by the experiment station of the college under the title, "Factors Influencing the Refrigeration of Packages of Apples," by J. W. Lloyd, chief in fruit and vegetable marketing, and S. W. Decker, associate.

Findings made in the study have an important bearing on the marketing of the Illinois commercial crop, which amounts to nearly 60 per cent of the state's total estimated crop of 5,000,000 bushels.

The experiments were carried out with special apparatus which the investigators constructed to produce conditions similar to those found in refrigerator cars.

Use of the lined tub bushel, bushel hamper or ventilated corrugated bushel box as an apple container allowed fairly rapid cooling of the fruit to the desired 45 degrees Fahrenheit. Unventilated corrugated boxes or the lined western apple box retarded cooling, as did also the use of oil wraps around the individual apples.

In addition to this information regarding the relationship of the package to rate of cooling, the experiments showed that size of the fruit had little to do with the rate of cooling but that the velocity of the air was an important factor when it got above 100 feet a minute. Pre-cooling was shown to have a decided influence in preventing spoilage.

-M-

Beef Consumers Can Blame Woes On Ravages Of Drouth

Increasing complaints about the price of beefsteak going up while the quality is going down are just another result of the late drouth and neither the farmer, the packer, nor the butcher can be blamed, according to the College of Agriculture, University of Illinois.

Fortunately, there is still plenty of nutritious beef to be had, provided consumers know what to look for, it was pointed out by Prof. Sleeter Bull, associate chief in meats. The housewife can still get her money's worth if she will put a little added skill into her selections of beef, he said.

"Prices of beef have been forced up by the drouth because short feed and water supplies compelled farmers to sacrifice livestock as quickly as possible with the result that today there are fewer cattle to go to market. At the same time the general quality of beef has been temporarily lowered as an aftermath of the drouth because underfed cattle yield meat that is less fat and tender.

"Consumers in some markets may be able to get beef that is graded for quality and if so, these grades will assist them in making a more satisfactory selection of meat. For all consumers, however, there are a number of tips which will enable them to do their own grading when they go to the butcher shop or meat market.

"In looking for 'prime' beef, consumers are likely to find that it is very scarce, even when fat animals are plentiful. The color of the lean in such beef ranged from bright pink to bright cherry red with tiny white lines of fat called marbling running through it like vines. The meat is covered with a thick, even layer of firm, white fat. Cut surfaces are smooth and firm.

"'Choice' beef has about the same characteristics as 'prime,' but is not so fat. 'Good' is considerably above the average and good enough for most people in the best of times. 'Medium' and 'common' are not so well fleshed, the lean is a dark red in color with no marbling and the fat is thin and yellow. Such meat usually comes from older cattle of dairy or scrub breeding. However, it is quite nutritious and if properly cooked is also palatable.

"Color and marbling are the easiest items for the amateur grader to remember. The lean should be bright cherry red with at least some marbling running through it. The fat should be white or creamy white."

-M-

Sound Program Now Needed In "Boom" Of Small Fruits

With small fruits staging a comeback in Illinois, a sound program of variety selection, planting and culture is needed to head off disappointments which would come from a hit-or-miss rush of farmers into the small fruit field, according to a new circular just issued by the College of Agriculture, University of Illinois. Entitled, "Bramble Fruits," the new circular outlines new and improved methods of growing raspberries, blackberries and dewberries in Illinois.

Cultural practices are dealt with in one section by Dr. A. S. Colby, chief in small fruit culture; bramble diseases and their control in a second section by Dr. H. W. Anderson, pathologist in the horology division, and insects and their control in a third section by W. P. Flint, chief entomologist of the college and of the State Natural History Survey.

The value of sanitary measures in the culture of brambles is stressed in the circular, and a recommended spray schedule is included.

-L-

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COLLEGE OF AGRICULTURE UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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[illegible]

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Good Oils Would Add 140,000 Years to Tractor Life

As much as 140,000 years and possibly 210,000 years of service might be added to the 70,000 farm tractors in Illinois through proper crank case oiling and maintenance, says R. I. Shawl, of the department of agricultural engineering, College of Agriculture, University of Illinois. Seven years is the average life of a tractor, while machines given proper care are still in service after nine or ten years, he said.

Importance of using proper crank case oil in prolonging tractor life has been brought out in studies which the college has been conducting since 1928. A cardinal principle established in these tests is to pick the lightest grade oil of the highest quality that can be used without increasing oil consumption or crank case dilution. Such an oil, it was found, will be the cheapest, will last longest, cut down repair bills and give the most in addition to prolonging the life of the tractor.

Three samples of heavy oil have shown excellent resistance to heat and crank case dilution. However, these oils were found too heavy to give proper lubrication except when the piston and cylinders were badly worn. Making needed repairs is more satisfactory than the use of extremely heavy oils when the motor becomes worn, Shawl believes.

Two samples of light oil showed good lubricating qualities, but were too light to prevent dilution and excessive oil consumption. A slightly heavier grade gave much better results.

Cheap oils used in the tests proved unsatisfactory. They did not give proper protection to working parts nor did they resist heat and dilution. Some of the cheap oils thinned out under excessive heat, while others thickened to the extent that they could not reach the points of friction.

-30-

Seed-Type Soybeans Are Best But For Record Acreage

Record plantings of 1,062,000 acres of soybeans which are indicated for Illinois this year are likely to yield farmers the best harvest of hay or of beans if they are made with the varieties that ordinarily are thought of as grain producing types, according to W. I. Burlison, head of the department of agronomy, College of Agriculture, University of Illinois.

Experiments which he and his associates, J. C. Hackleman and C. A. Van Doren, have conducted for five years show that the grain producing types of soybeans also have superior hay producing qualities. The grain, or seed types averaged 3.41 tons of hay to the acre as compared to 3.07 tons for the hay varieties.

Where several late-maturing hay type soybeans are being compared with seed type varieties, the latter have continued to outyield the hay types for hay as well as for seed.

While the seed types may not produce more forage than the hay types in all sections of Illinois, crops specialists believe the dual purpose qualities of the seed types may make them worthy of consideration.

The seed types used in the five-year tests were: Dunfield, Mandarin, Manchu and Illini. The hay types were: Kingwa, Peking, Ebony, Wilson V and Virginia.

Farmers who intend to plant either the seed or hay type varieties this spring should get their seed supplies as soon as possible, Burlison said. About half of the 1934 soybean crop of Illinois was sold by December 1, 1934, leaving approximately 5,000,000 bushels in the hands of growers.

At least 2,000,000 bushels will be required to plant the anticipated 1935 acreage in this state. Increased seed demands from states where the drouth has reduced feed supplies would indicate that soybean seed may be scarce later in the season.

-30-

Gains In Control Of Fruit Insects Held By Spraying

Advantages gained by Illinois fruit growers in their campaign of protection of their crops may be further increased this year by proper spraying, says the College of Agriculture, University of Illinois. Latest information and details are outlined in a new circular, No. 369, which the college has just issued under the title, "Directions for Spraying Fruits in Illinois." It was prepared by H. W. Anderson, chief in fruit investigations, and W. P. Flint, chief entomologist of the Illinois State Natural History Survey and of the Agricultural Experiment Station.

Practically every variety of fruit now growing in the orchards of Illinois responds to the importance of spraying at the prescribed intervals, the authorities point out.

Last year many apple growers failed to follow the recommended schedule for controlling codling moth infestation in their orchards, and as a result more than 50 per cent of the crop was wormy in many cases. Insects and diseases attacking other fruits were similarly controlled where proper sprays were applied. While it is too late for the dormant sprays, the later applications will do much to maintain the control established last year, Anderson and Flint believe.

"Public enemies" of the fruit grower and the fruit consumer are listed and control measures outlined in the circular. They include codling moth, San Jose scale, plum curculio, canker worms, oyster shell scale, aphids, fungous diseases of apples, leaf spots, pear scab, bitter rot of apples, brown rot, bacterial spot, thrips, leaf spot, anthracnose, red spider and flea beetles, with other diseases and insects that prey on fruit and plants.

Spraying schedules are provided for apples, peaches, pears, cherries, plums and the various small fruits grown in Illinois.

There is also a complete section on the preparation and use of oil emulsions, bordeaux, zinc sulphate and lime-sulphur solutions. Control directions for spraying as well as precautions to be observed are included.

-0-

Improved Poultry Houses Will Help Fortify Profits

Any profits resulting from better poultry and egg prices may be more certain if good poultry houses are provided, in the opinion of W. A. Foster, rural architect in the College of Agriculture, University of Illinois. This spring, when roofing and building projects are being pushed, is a good time to start getting the buildings in shape for the fall and winter season, he believes.

To assist Illinois farmers and poultrymen in building better houses, the college has assembled some 20 blue-printed plans for poultry houses and equipment. These plans are supplemented by college circulars No. 361 giving directions for construction of the straw-loft house, and No. 363 with instructions on building the shed-roof type. These plans are also included in the blue prints available.

All of the plans are based on observations made by Foster in cooperation with the poultry husbandry division. They include information on the construction of houses, building equipment, water apparatus, laying boxes, and brooding houses and equipment.

Reduced farm incomes during the past few years have caused many poultrymen to neglect making repairs on their buildings and equipment. This has added to the demand for information on repairs and alterations. The popularity of poultry as a means of adding to the income of low-paid workers and subsistence families has also created a demand for cheap but satisfactory poultry equipment built, if possible, from used lumber.

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[illegible] Club Girls Will Help Boys For [illegible]

Many of the worries about "It is going to rain" and what is going to happen to it can be quieted by [illegible] some [illegible] Illinois farm and small town girls [illegible] Club [illegible], [illegible] A. McK[illegible], junior club specialist of the College of Agriculture, University of Illinois.

The [illegible] not [illegible] but [illegible] the morale of the girls, [illegible]. [illegible] them [illegible] and enthusiasm, [illegible]. The [illegible] year, the [illegible] the farming [illegible], the [illegible] and the starting [illegible].

As an [illegible] of what may be [illegible] from your boys this year, they [illegible], [illegible]. In addition, [illegible], garments [illegible], [illegible].

Activities [illegible] complete [illegible], [illegible] meals, [illegible] and [illegible]. [illegible] of dry [illegible], [illegible]. They [illegible].

[illegible] the [illegible] articles of the home furnishing [illegible] state [illegible]. They added to the comfort, [illegible] through their [illegible].

All club work in [illegible] being [illegible] responsibility [illegible] being practical [illegible].

Girls who [illegible] in clubs [illegible] munities, should [illegible], Miss McK[illegible] says.

-M-

C. L. Frank Succeeds To W. A. Farrington In McHenry

W. A. [illegible], formerly farm adviser [illegible], and C. L. [illegible], farm adviser in [illegible] county, [illegible] in the two most important changes in the [illegible] Illinois farm advisers, it is announced by Prof. [illegible], [illegible] farm advisers [illegible] College of Agriculture, University of Illinois.

Mr. Farrington resigned April 1 to accept [illegible] the farm bureau [illegible] management service of the department of agriculture [illegible]. Mr. Frank [illegible] Mr. Farrington's [illegible] county [illegible].

-f-

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Farmers Delay In Getting Soy Seed Will Be Too Early

Farmers intending to plant soybeans this spring will do well to obtain their seed supplies before the last minute, in the opinion of C. E. Hackleman, crops extension specialist at the College of Agriculture, University of Illinois. An estimated 11 per cent increase in the national soybean acreage indicates that there may be a seed shortage, he said.

Factors pointing toward increased soybean acreage are: Danger of chinch bug infestation; new land available for soybean planting through provisions of the soil conservation contracts; a favorable seed price; the need for legume hay; increased capacity of processing plants; and increased need for soybeans.

In addition, it is expected that seed demand from the South Areas will be strong.

With millions of chinch bugs coming out of winter quarters, many Illinois farmers will find soybeans valuable this spring because of their bug-proof qualities. Then too, Hackleman explains, last summer's drouth damage to pasture has increased the need for legume hay which may be grown on land taken out of corn production.

The chances are, he says, that soybean seed prices may be somewhat lower than during the January and February sales, but they will still be high enough to afford the grower a profit. Additional processing plants were built in 1936 and more are planned for this year. These plants are mainly to take care of the demand arising from soybean drinks, breakfast foods, macaroni, noodles, ice cream and dozens of other new products made from this crop.

-M-

Record Planting Puts Premium On Soybean Inoculation

With Illinois farmers preparing to plant a record soybean acreage this spring, L. F. Allison, Assistant in soil biology at the College of Agriculture, University of Illinois, points out that inoculating the seed bed with nitrogen-fixing bacteria is one of the two or three most essential steps to success with the crop. Good inoculants bought from a reliable firm will be of even greater importance for soybean crops this year, as in every other year, Allison said.

Nitrogen is necessary for the satisfactory growth of soybeans. The cheapest available source is the free nitrogen in the air, but it must be fixed by the bacteria before it can be used by the plants. Acid soils or those on which legumes have not been grown for some time are usually void of the nitrogen bacteria, and, consequently, produce very poor soybeans unless inoculated.

The best inoculation method, Allison says, is that of adding the bacteria to the seed just previous to planting. Through this method, the bacteria cling to the seed and penetrate the roots as soon as the seed germinates. Inside the roots they form nodules which are soon filled with more nitrogen-fixing bacteria.

A plentiful supply of nitrogen is essential to high yields of good corn as well as to high protein content of the beans. The feed value of both the hay and beans is increased by high protein content.

Another important point stressed by Allison is that plants supplied with plenty of nitrogen are better equipped to withstand dry weather.

Commercial legume inoculants may be procured in two types, the pure culture or jelly type sold in bottles, and the type having either a humus or soil base.

-N-

Pullorum Disease Call In Undermining Poultry Profits

Farmers and poultrymen were [illegible] by disease [illegible] of their flocks and thereby sacrificing future returns [illegible] to be [illegible] disease, or bacillary white diarrhea, according to [illegible] issued by the College of Agriculture, University of Illinois. Prices are rising and the outlook for the industry is [illegible], the investment a more costly one [illegible], it was pointed out. Dr. Robert Graham, chief in animal pathology and hygiene, is author of the new circular.

First of ten practices which he outlines for the flock owner's defense against the disease is to avoid buying eggs or breeding stock from infected flocks. The disease is one of the few diseases that can be transmitted directly through the egg to the chick.

Other safeguards in the [illegible]-point defense set up by Dr. Graham are: (2) Disinfect incubators, brooders, [illegible] (3) [illegible] eggs from reactor and non-tested birds in the same incubator; (4) [illegible] clean grass range, which must not be [illegible] for [illegible] or more years; (5) [illegible] up the old ground promptly; (6) [illegible] (7) [illegible] resistance to disease.

(8) Avoid [illegible], (9) [illegible] burning; (10) [illegible] and [illegible] and test infected flocks monthly, until all reactors are [illegible]: (1) promptly [illegible] all reactors, and (2) keep [illegible] for the brooder stove and disinfect once a month or as often as necessary [illegible].

Fowl Pox Looks As Though It Is Getting Early [illegible]

No matter how high [illegible] may be, [illegible] of layers which [illegible] spreading [illegible] profits if fowl pox gains a foothold, according to a new circular on the disease just issued by the College of Agriculture, University of Illinois. Designed to [illegible] disease, the circular was prepared by Dr. Robert Graham, chief in the animal pathology and hygiene division, and Dr. T. T. Tyner, assigned to that division from the state department of agriculture.

Outbreaks of fowl pox, if promptly diagnosed, may be suppressed by proper cleaning and disinfection of the premises and by destruction of all infected birds. If a large number of birds are infected, [illegible] is [illegible] sanitation combined with vaccination according to the circular.

All birds on the flock should be [illegible] symptoms of the disease are detected or if there is danger of fowl pox being introduced into the flock. Either fowl-pox or [illegible]-pox vaccine may be used, but pigeon-pox vaccine is less effective according to the circular. Its use is best limited to [illegible] may cut egg production or injure young birds. Methods of vaccinating are given in the publication. Immunity to the disease lasts for [illegible] life of the bird.

The best time for vaccinating flocks on infected premises is [illegible], at least two months before the birds begin laying. Birds to be vaccinated should be given sufficient time to recover completely from the effects of the [illegible] and treatment before entering production.

-M-

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Inferior Seed Is Barrier To Chances Of Corn Crop

Chances of the Illinois corn crop [illegible] this year are being undermined by the fact that [illegible] seed of [illegible] vintage and uncertain germination is being offered for sale at comparatively low prices, according to J. C. Hackleman, crops extension specialist of the College of Agriculture, University of Illinois.

Any money which farmers save at planting time by buying such seed will be lost many times over through poor yields and low quality grain, he pointed out.

Not for several years [illegible] that [illegible] small [illegible] crop that [illegible] said. [illegible] acreage of corn [illegible] this year is 8,718, [illegible] the crop [illegible]

The [illegible] is shown by the fact that [illegible] produced [illegible] nearly four bushels more [illegible] acre last year than did [illegible] uncertain quality. [illegible] made [illegible] farm bureau-farm management service [illegible] in McLean, Livingston, [illegible] counties.

Tests conducted [illegible] College of Agriculture [illegible] from [illegible] to 19[illegible] [illegible] annual average [illegible] $11, [illegible] where good [illegible] quality [illegible] poor seed corn was [illegible] and the crop was [illegible] an average loss of $[illegible] an acre was recorded.

While it [illegible] $1.60 an acre for [illegible] quality [illegible] this [illegible] acre [illegible] cover the cost of the highest-quality seed corn in the state, Hackleman said.

Up-to-date lists of quality seed corn available in Illinois this spring may be found in the offices of all farm advisers. These lists give names and addresses of growers, [illegible] for sale [illegible]

-M-

Black, New Chief Of U. S. Bureau, Is Illinois Man

[illegible] native [illegible] graduate of the College of Agriculture, University of Illinois, has been brought into [illegible] prominence with the recent appointment of Dr. A. G. Black as chief of the Bureau of Agricultural Economics, U. S. Department of Agriculture. He succeeds Nils A. Olsen who resigned April [illegible].

Dr. Black was born in Peoria on April [illegible], [illegible], the son of Mr. and Mrs. Judson H. Black. He was graduated from the U. of I. College of Agriculture in [illegible]. Shortly after his graduation from the University of Illinois, Dr. Black was employed as agricultural economist for the Federal Farm Loan Bureau at Washington, D. C. He remained at Washington until [illegible] when he became associated with the Joint Stock Land Bank of Dayton, O. It was in [illegible], that he left this position to become assistant professor of agricultural economics at the University of Minnesota. From [illegible] until [illegible], Dr. Black taught at Minnesota and did graduate study. In [illegible], he became head of the department of agricultural economics at Iowa State College. He went to Washington, D. C., in [illegible], to serve as chief of the AAA corn-hog section. On February [illegible], [illegible], he was placed in charge of all livestock work, including that involving corn-hogs, cattle and dairy.

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3 Million Less Acres Needed For Corn In This Plan

Three million fewer acres would be required to produce Illinois' average annual corn crop if all farmers used limestone and either barnyard manure or green manure in a good rotation, including clover, according to I. R. Miller, associate in soil experiment fields at the College of Agriculture, University of Illinois.

Such a change would cause a direct saving of many millions of dollars each year in production costs. It also would greatly reduce the annual losses from erosion and leaching and in the end would prolong the life of corn belt soils for future generations, he pointed out.

The estimate that the total size of Illinois corn fields could be reduced by three million acres is based on ten-year average results from 24 soil experiment fields which the agricultural college maintains in different parts of the state. Corn yields on these fields were improved 15 to 18 bushels an acre by the use of limestone and either barnyard manure or green manure in a crop rotation system including clover.

In contrast to these results, mineral fertilizers have improved corn yields only 2.4 bushels an acre. This is the average for 405 trials which the college made in farmers' fields under many different soil conditions. There were a few special soil conditions where mineral treatment was profitable, owing to potash deficiencies, but in the more normal soils the response from mineral fertilizers usually was not enough to justify the expense and the trouble.

Interest in fertilizing the corn crop to get the most efficient and the most profitable yields is reviving this year because of the higher corn prices, Miller pointed out. If money is to be spent for this purpose it is best spent for limestone and for seeding soil improving legumes, he recommends. Corn needs a soil high in organic matter, and this can not be bought in a fertilizer sack. It can, however, be produced on the farm as barnyard manure or crop residues and green manure.

The average annual yield of Illinois' nine million acres of corn has been approximately 37 bushels an acre with little variation during the past 40 years. The benefits of new varieties and better cultural methods have just about balanced the increasing damage done by plant diseases, insects and soil depletion.

-M-

Old Clover May Make Profitable Seed Crop This Spring

With a 20-million-pound shortage of red clover seed supplies in prospect this year, Illinois farmers may be able to help matters some by saving any three-year-old red or mammoth clover fields which they have, it is pointed out by J. J. Pieper, associate chief in crop production at the College of Agriculture, University of Illinois.

Although it is not generally known, either red or mammoth clover that was planted in 1943 is capable of producing hay and seed this coming summer if there is still a good stand of the crop, Pieper says. Red and mammoth clover are both perennials, but are usually killed out by the clover root borer during their second year.

This borer destroys many of the roots and weakens the plants to the point that they usually winter kill during the second winter. For some unknown reason, the root borers have not been effective in Illinois recently. Consequently, there are many three-year old fields of red and Mammoth clover in good condition this spring.

These fields, under normal conditions, should produce one good hay crop and a good seed crop this coming summer, Pieper believes.

The national average production is 60,000,000 pounds annually, with 1944 production down to 34,000,000. This amount plus 12,000,000 pounds carryover is still 20,000,000 pounds short of the average annual consumption.

-M-

Poisonous Weeds Worse Threat To Stock This Spring

Danger of livestock losses from poisonous plants has been heightened in Illinois this spring by short pastures and the lack of feed with which to finish the winter season, it is reported by Dr. Robert Graham, chief in animal pathology and hygiene at the College of Agriculture, University of Illinois.

Requests for information on the treatment of farm animals poisoned by whorled milkweed and other poisonous plants have already started coming to the college. With winter feed supplies lower than usual, he expects early grazing to result in a greater than usual number of horses and cattle being poisoned this year.

Quite often the farmer is not aware of the danger until he finds some of his animals dead, Dr. Graham said. This is especially true where poisoning has resulted from the first growth of cockle burrs. This weed is highly toxic in the early stages of its growth and works rapidly. However, cockle burrs do not appear until later in the spring.

In many cases, the farmer may notice such symptoms as weakness, paralysis, abnormal sleepiness, rapid loss of weight or a tendency to stumble and fall. As soon as such symptoms are noticed, a graduate veterinarian should be called to administer stimulants and purgatives. With the slower acting poisons, prompt treatment by the veterinarian may often result in a cure.

The best measure is to keep poisonous plants out of reach of the stock, says Dr. Graham.

Ripened seed pods of the so-called coffee bean tree, as well as pods from black locust trees cause considerable poisoning in the spring, according to J. J. Pieper, associate chief in crop and soil at the college. Several reports of poisoning from these sources have come to the college this spring. The best preventative is to keep the stock away from the ripened pods, says Pieper.

Leaves of wild cherry trees are also poisonous and care should be taken to clean up fallen branches after storms or heavy winds.

Some of the more common poisonous spring weeds of Illinois are: Dutchman's breeches, larkspur, buttercup and the roots of water hemlock. The roots of the hemlock are often uncovered by gully washing and apparently have an appetizing flavor. They are exceedingly toxic and cause death in a comparatively short time.

While ripened pods of honey locust trees are not ordinarily considered poisonous, there are indications of some danger from these pods so it will pay to keep them out of reach of livestock.

-M-

Food Costs Jump Only Half As High As U. S. Payrolls

Food prices, frequently discussed these days, may be going up, but during the past two years factory payrolls in the United States have increased nearly twice as fast as retail food prices, it is pointed out by R. W. Bartlett, of the department of agricultural economics, College of Agriculture, University of Illinois.

The total cash income of factory workers in February, 1935, the most recent month for which figures are available, was $613,000,000, which was an increase of $258,000,000 over the amount for February, 1934. This was a net increase of 73 per cent. During this same period food prices increased only 34 per cent.

The total cost of living during February of this year was 13 per cent higher than during the same month of 1933. The very small increase in fuel, light and housing costs during the two-year period accounts for the very moderate increase in living costs.

For the city consumer, fuel and light costs went up about 1.4 per cent. Housing costs increased approximately 2.3 per cent. Clothing costs showed a greater increase with prices climbing 24.4 per cent during the two years.

-M-

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Rural Communities Planning Center Of Key Training

Illinois farmers and homemakers are doing more and more of their own program planning right in their communities, according to D. E. Lindstrom, rural sociology extension specialist at the College of Agriculture, University of Illinois. Meetings were held in 1, of rural communities in 1934 to assist in improving agriculture and homemaking through better application of programs and projects offered by the extension service of the agricultural college. This year the idea of group planning by rural community units is going ahead with new enthusiasm, he reported.

New community units are being organized to supplement those already established and county wide meetings are being initiated as a means of correlating the plans of the various units. In all of these activities the main thing is the use of organization to make extension work in farming and homemaking more effective in the community.

As an example of the planning activities going on over the state this spring, Saline county community workers, in cooperation with the college, will hold a series of three meetings in each of eight rural communities during the spring and summer.

The first of the series will be held in May and will be devoted to discussions of AAA work and livestock marketing problems. Two more meetings will be held during which the outlook for farm prices as well as the future of agricultural planning will be under discussion. The fourth meeting will emphasize community organization and will be devoted to the life of the community.

Interest in county wide meetings was illustrated recently when people got together in Knox Island county to lay further plans for the organization of community units, to correlate community plans and to suggest county wide programs. A similar meeting is planned for Union county with eight communities scheduled to organize this spring.

Five communities in Pulaski and Alexander counties held open meetings to discuss the many problems of the 4-H extension work and to learn more about present and future AAA programs.

Units of long standing which are securing splendid results for the newly organized groups include 4 in Champaign county, 17 in Henry, 11 in Shelby, 8 in Randolph, 7 in Sangamon, 11 in Ogle, 7 in Livingston, eight in Ford, seven in Kankakee and a number of from three to ten each in many other counties.

The community unit is the ideal organization for promoting better farming and homemaking and community betterment, Lindstrom believes. Activities this spring indicate a definite trend among rural folks of Illinois to do more of this kind of planning, he said.

-H-

No Magic Method Is Short Cut For Reducing Weight

Women, and even men, will succumb to the temptation to try a magic method that there are no safe short cuts and no magic methods by which weight may be lost, according to a new circular, "Some Reducing Diets and How to Plan Them," which has just been issued by the College of Agriculture, University of Illinois. Miss Hazel T. Parks, assistant professor of foods, is author.

While there is no magic method, it is not necessary to resort to semi-starvation or to peculiar combinations of food entirely unlike customary diet in order to lose weight, Miss Parks explains. Planning a generally adequate diet, for such a diet differs from a good diet for a person of normal weight only in the number of calories it supplies, she said. Reducing menus for one week are printed in the circular.

-L-

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Limited Grazing After Wheat Will Not Hurt Pastures

Even though drouth and hot weather have cut pasture in many sections of Illinois lately, care to conserve grass at this critical time of the year is urged by , and C. J. Pieper, chief in charge of production of the College of Agriculture, University of Illinois. However, for pastures to furnish additional feed over their usual grazing this spring.

Where the growth will be , grazing may be further delayed to give . Light to moderate rotational grazing is the best treatment for pastures in the opinion of Messrs. Dodd and Pieper. Rotational grazing, he explains, will help the pasture to withstand drouth. Where rotational grazing, started early in May, is , the grass will grow more vigorously and will not injure the pasture.

Bluegrass pastures in sections of the state have been severely damaged by the lack of moisture. The soil, in many cases, has become woody. Under such conditions, the grass will probably lose much of its palatability.

Even now and then a shower will bring relief to pastures that have suffered from last year's drouth. Under such conditions, rotational grazing would be the best treatment. Where rotational grazing is not done, it will be beneficial.

Where the supply of pasture is not adequate, some corn may be needed to fill in during the summer. Some farmers have found that sudan grass seeding will help out. Experiments at the University of Illinois have shown that sudan grass seeding will yield as much as two bushels of soybeans to the acre when planted in corn.

Ordinarily, fields from which wheat has been harvested may be grazed by July 10 or 15. Fall growing crops will prefer to allow a growth and until fall.

—H—

An Extra Dollar Is Easily Earned If Wool Is Well Handled

Prospects for wool prices are more or bright now than they have been in months and the shearing season is at hand, but an extra dollar may be earned if care is taken to put out a quality product, according to Messrs. W. G. Kammlade, extension specialist in animal husbandry division, College of Agriculture, University of Illinois. All those who raise sheep in the state would make more money if they would put more effort into the production of wool. It would be to grow, handle and market their wool clip. Illinois ranks fifth in number of sheep in the United States, but is only seventeenth in the production of wool, it was pointed out.

The quality of wool depends, first of all, upon the breeding of sheep. Well bred sheep will produce a heavier fleece of better quality than poorly bred animals. However, even the best quality wool may be ruined by careless shearing and handling.

Before being shorn, sheep should be kept in a clean enclosure. Shearing should never be done when the wool is wet. This is very important. The use of sisal or jute twine for tying the wool is to be discouraged. Fibers from these twines may remain in the wool and cause imperfections in the cloth made from the fleece.

Wool should be carefully skirted before it is rolled. Skirting consists of removing the dirty wool from the edges of the fleece, so that it will not contaminate the rest of the fleece. Skirting will help to produce a more uniform grade of wool and the buyer. Stop to think the wool for a moment before you begin to skirt it. Remember to the clip, and it pays to do it.

—H—

The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVIII [illegible]

[illegible]

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Spread of Cattle Diseases Through Warning Proved [illegible]

[illegible]

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, Director.

Young People's Work To Be Further Abandoned By [illegible]

Work with rural young people, one of the newer activities of county farm and home advisers and the extension service of the College of Agriculture, University of Illinois, has been given new impetus in the announcement by Director C. W. Mumford. Two staff members of the college, C. F. Reynolds and Miss Ella Gardiner, formerly 4-H club workers, have been appointed to give their full time and attention to work with rural young people.

Programs for rural young people are now under way in 58 different counties of the state as a result of work begun by the extension service of the agricultural college and county farm and home advisers. Many more counties are planning to start such activities, ranging from the farmers' short course for young people's rural life conferences held at the college.

Planning and interesting programs for rural young people will be one of the most significant developments in extension work in agriculture, Director Mumford said. The program is designed to meet the needs and wants of young people beyond the 4-H club age and the project of scholarship training.

Holding of the rural young people's conferences at the agricultural college was a step in the development of the new activity. A total of [illegible] attended the conferences held.

Numerous requests already have been received for help to be given by the extension service of the agricultural college in which young people of the different counties can make plans for a program of their own living. In the discussions at the recent conferences the young people were interested in programs of learning such things as land, finance and the best methods to be used in getting up farming, soil conservation, home services, recreation and farm planning.

-M-

Neglect Rules Fire As Destroyer Of Illinois Buildings

At the present rate, it would require fifty years for fire to destroy all of the farm buildings in Illinois. Neglect would do the job just as completely in one fifth the time, or 50 years, declares W. A. Foster, rural architect at the College of Agriculture, University of Illinois.

Neglect, while less spectacular than fire, is the far more damage to Illinois buildings every year, states Foster. One of the most important things needed is the proper use of paint. Paint is an excellent preservative of both wood and metal. It is very useful in preserving, not only protecting against moisture and the consequent damage by freezing and thawing.

Properly applied in the right colors, paint not only adds to the life of farm buildings but also adds to their beauty.

Good roofs and prompt repairing are also factors in preserving the life of the buildings. A good roof prevents damage by keeping rains and snow from reaching the inside timbers. In addition it protects the hay, feed and other things stored in the building. A few [illegible] shingles, if allowed to remain on a building, will cause rotten apples. If it is not promptly removed by repairing, the fruit will not spread, but neglect will cause the damage to increase.

Wind takes its toll of buildings in the state, but even this damage can be decreased through proper design and management, Foster points out. Buildings should be placed so that large flat surfaces will not be exposed to prevailing winds. Keeping the doors carefully closed keeps the wind from "getting under" the building and forcibly unroofing it or at least surrounding the frame work.

Since buildings, like automobiles, are bound to wear out of date, they can be kept in form only by careful repairing and the installation of new equipment.

Termites Collecting Heavier Tax Than Any Chinch Bug

While the chinch bug topped the list of tax collectors with an estimated assessment of $[illegible] against Illinois agriculture in [illegible], the termite outdoes the chinch bug in point of average annual cost to citizens of the state over a period of 10 years. That is reported by W. P. Flint, entomologist of the College of Agriculture, University of Illinois and the Illinois State Natural History Survey.

Termite infestation is especially bad in southern and central Illinois where houses, barns and fence posts are being destroyed after years by these insidious little wood-eating insects.

Unable to exist in bright sunlight, the insects make their entry into the wooden parts of buildings and other structures from the soil. The ground or earth nest is always in the ground, and it is from this nest that the workers enter the building. Consequently, the use of concrete or metal termite shields in foundations will usually prevent infestation.

Keeping the premises free of lumber, trees, boxes, buildings with dead stumps also will help to prevent termite infestation of buildings, the entomologists point out.

Infestation is often first indicated by swarms of dark brown, four-winged insects about a third of an inch long which emerge in great numbers from the building. These are the adult males and females or young kings and queens. They fly from the nest to start a new colony. If they succeed, they shed their wings, mate, and the royal couple starts egg laying.

Building codes in all communities provide for the protection of buildings from termites by using metal shields. However, since such provisions are not contained in the codes, it is necessary to specify that the contractor erect the building termite-proof. Complete information on the control of termites may be obtained from the agricultural editor at the Illinois State Natural History Survey.

-X-

Leaf Hopper Starts To Bring Out A Rather Large Brood

It is too early in the season to tell whether a great brood of hoppers will be identified equal to many previous years, but the pests are there. However, the hoppers frequently are held in check by fall rains. Experiments show that dusting or spraying the leaves with a copper compound will give good control measure, according to L. H. Shrader, assistant entomologist of the Illinois State Natural History Survey.

Unprotected leaves showed 70 per cent less injury than those that had been sprayed or dusted in tests conducted at the Cook County branch experiment station of the College of Agriculture, University of Illinois.

A copper dust containing tobacco and gypsum is one of the dusts and sprays that has proved effective in controlling the leaf hopper during the tests. It was applied at the rate of about 30 to 40 pounds to the acre. Applications were made first on [illegible], beginning as soon as the plants were well above the ground and continuing until five applications were made.

The 4-4-50 Bordeaux spray also proved effective, but was not quite as good as the dust. Nicotine sulphate spray had little value in controlling leaf hoppers.

Potato leaf hoppers do not hibernate in the northern parts of Illinois, but migrate to the south late in the spring. They do not attack corn, the worst enemy of beans and frequently infest Illinois gardens in large numbers.

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Experiment Station, and Extension Service

Volume XVIII [illegible] Number [illegible]

[illegible] Army Worms [illegible] Illinois

One of [illegible] army worms [illegible] recent years [illegible] be on guard [illegible] Flint, chief entomologist of the Illinois State Natural History Survey [illegible] College of Agriculture, University of Illinois.

Although [illegible] of the state, [illegible] during the next month [illegible].

W[illegible] fields of small grain [illegible] controlled by [illegible] baits. [illegible] When this is thoroughly [illegible] molasses, [illegible]

A [illegible] Illinois State Natural History Survey, [illegible] control, [illegible] C. A. B. [illegible] is used. However, the bait should be thoroughly [illegible] oil gets on every particle of the bran. Tests have shown that this bait is [illegible] to the molasses and is [illegible] tested against the army worm.

Whichever bait is used should be applied evenly and uniformly over the ground at the rate of [illegible] the bait should be sown [illegible]. The molasses bait should be [illegible] evening. The oil bait can be put out earlier in the day [illegible] bait.

Either [illegible] baits [illegible] danger if no more than [illegible] bait is [illegible] an end [illegible] distributing the bait [illegible] by a man on horseback having [illegible] the bait attached to the [illegible].

Warning [illegible] outbreak of army worms is [illegible] on the heavy flight of adult moths during the last month. The [illegible] will lay their eggs in [illegible] of grain such as wheat, [illegible] as pasture. Each female lays about [illegible] eggs. The worms [illegible] from these eggs are very tiny at first and [illegible] feed for [illegible] without being noticed. Then they begin to grow very rapidly [illegible]. In this stage they sometimes destroy all the food in the fields where they [illegible], and the growing worms march out seeking new sources of food. They feed on all kinds of grasses and to a slight extent on legumes, although they [illegible] do not [illegible] serious damage to red clover, sweet clover or alfalfa.

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Value Of Zinc Sulphate Established In U. I. Tests

Possibilities of zinc sulphate as a preventive for the orange that "sloughed" arsenical sprays seem to Illinois' fruit men to have been more fully established as a result of tests made by the College of Agriculture, University of Illinois. Results of the experiments are reported in a new bulletin just issued by the college, "The Role of Zinc Sulphate in Fruit Sprays," by H. J. Eidow and H. F. Anderson.

Although the tests demonstrate the value of zinc sulphate as a corrective agent in spray mixtures, they also show that this chemical has little value as a fungicide or bactericide for combating the diseases common to the state's fruit raising industry. Neither did the material show any stimulating value as a plant nutrient under Illinois conditions, except in a few isolated tests. The real value of zinc sulphate in the Illinois fruit spray program lies in its ability to produce injury to such trees from lime-sulphur sprays.

The lime-sulphur spray mixture is long established as an effective weapon against various insects and fungous diseases of fruit trees. However, this mixture may cause injury if not properly compounded or applied. The injuries include bud killing, leaf injury, fruit checking and the killing back of the entire tree, according to the bulletin.

This injury is caused by the oxidation of insoluble arsenic acid through the rapid carbonization of the lime. The addition of zinc sulphate to the spray mixture cuts down the rate of carbonization and thereby prevents the formation of arsenic acid, which is the direct cause of the injury. The zinc sulphate also precipitates an insoluble zinc arsenate which is never present until it is formed.

The exact method for the most economical use of zinc sulphate in combination with lime, sulphur and lead arsenate is explained in the bulletin.

-L-

Soil Testing Pro[illegible] The Best Bet [illegible]

With a [illegible] lime crop [illegible] Illinois farmers this spring, [illegible] farmers to [illegible] work [illegible] of their planting by testing the soil for acidity, it is reported by T. H. Pinkley, soils extension specialist at the College of Agriculture, University of Illinois.

Practically [illegible] tested their soil [illegible] farms of Whiteside county, according to a report from Farm Adviser F. H. Stark. Another leading county in this work was Madison county. During [illegible] tons of limestone were used to sweeten the soil for alfalfa and clover planting, said Farm Adviser T. W. Lay.

These farmers have learned, along with thousands of others in the state, that the chances of getting a good stand of alfalfa or clover are much better if the soil is tested and sweetened with limestone if necessary before being seeded. This is especially true during dry seasons such as 1930, Mr. Pinkley said.

Occasionally, when there is plenty of rain, alfalfa and clover may make a fair stand even though the soil is somewhat sour. During average seasons, however, the crops will burn out in acid soils. The weather usually gets the blame when the soil conditions are really more at fault, adds Pinkley.

Where the soil is tested and sweetened, as was done by the Whiteside county farmers, vigorous growth-producing plants are produced, and there is less chance of getting a supply of feed in years when the corn and oats are stunted by dry weather. This was well illustrated in 1930, Pinkley adds.

-2-

Still Feeding Gets Most Out Of Hogs and Feed

With [illegible] approximately $[illegible] [illegible] higher [illegible] they [illegible] age [illegible], Illinois [illegible] [illegible] [illegible] profit from their [illegible], especially if they [illegible] feeding corn [illegible] [illegible] of alfalfa [illegible] and protein supplements, in the opinion of W. P. Garrigus and W. H. Smith, of the Swine Division, College of Agriculture, University of Illinois.

The possibility of putting [illegible] [illegible] of alfalfa, [illegible] protein supplement [illegible] by figures, [illegible] feeding tests [illegible] at the college [illegible].

In six lots of [illegible], [illegible] prices, [illegible] basis of recent prices, were made [illegible] corn and protein [illegible] cost of [illegible] to 1 of protein supplement and giving [illegible] pounds, [illegible] pigs [illegible], [illegible] for 100 pounds gain, considering [illegible] spring pigs [illegible], $[illegible]. The lot fed a ration of corn and [illegible] supplement [illegible] [illegible] cost of $7.61. However, the addition of alfalfa, [illegible] reduced the cost to $7.05, [illegible] the high [illegible] [illegible].

Allowing the hogs free choice of corn, not in self-feeders but [illegible] down the supplement cost but increased [illegible], [illegible] pounds gain, costing $7.07. The addition of alfalfa [illegible], [illegible] to $7.[illegible] a hundred, but the hogs were [illegible] and [illegible] longer in finishing. This is an important [illegible] since early sales often [illegible] [illegible].

The most economical ration, [illegible] [illegible] between corn and protein supplement prices, was [illegible] [illegible] [illegible], more corn and no alfalfa pasture. At present prices, [illegible] [illegible] pounds of gain [illegible] required from seventy to [illegible] days longer to finish [illegible].

Generally speaking, the 17-to-1 corn-protein [illegible] [illegible] along with alfalfa pasture [illegible] [illegible], [illegible] cost is comparatively low, gains are [illegible] and [illegible] gains to producer come [illegible] the sale of hogs.

-M-

Horse Comeback Brightens Outlook For Colts

Colts now being produced by Illinois farmers [illegible] find a good market at [illegible] prices [illegible] ready for work, in the opinion of E. T. Robbins, animal husbandry specialist of the College of Agriculture, University of Illinois.

Horse numbers in the United States have been declining steadily for the past 17 years. During most of that time the horse [illegible] about a half million a year, but has slowed down recently with last year's [illegible] amounting to 1[illegible],000. With the horse [illegible] [illegible] dropping about [illegible] per year, [illegible] should continue to be good for another few years.

The decrease in numbers [illegible] but [illegible] of high-priced [illegible] replacement of horses and mules by tractors and trucks. During recent years, however, feed prices have been low, making the horse a cheaper source [illegible] than the tractor on many farms. This [illegible] [illegible] [illegible] farmers [illegible]. Higher prices have been received at the markets [illegible], and more horses and mules have been sold than for several years. Horses are scarce and the farmers [illegible], as shown by the fact that most of the horses are going to the country, Robbins said.

-M-

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[illegible] Bait Offers Cheaper Control of Cutworm Damages

Cheaper control of the [illegible] army worms, cutworms and grasshoppers which [illegible] Illinois this summer is [illegible] through the use of a new poisoned bait which has been tested by the Illinois State Natural History Survey, it is reported by J. H. Bigger, assistant entomologist in the College of Agriculture, University of Illinois.

With army worms [illegible] promising to be worse in the state this year, the new bait will save farmers many [illegible] dollars if it proves successful under [illegible] conditions, Bigger points out.

The new bait, which [illegible] 1913 and 1914 tests, is a variation [illegible] time-tried [illegible] formula. The main difference is that lubricating oil is substituted for the [illegible] molasses. The bait is made by combining 25 pounds of bran, [illegible] pound of either paris green or [illegible] with enough lubricating oil of S.A.E. [illegible] viscosity.

In this bait the oil replaces the usual three quarts of molasses and three gallons of water. It is easier to mix and handle, may be applied any time of day or night and is cheaper. A [illegible] bait, which was found, during the tests, to be entirely satisfactory, but was [illegible] is also described.

While the oil bait is still in the experimental stage, it was tested side by side with the regular poisoned bran mash during 1913 and 1914 and gave just as satisfactory results against grasshoppers in all cases, Bigger said. In 1913 the bait was used against cutworms in Shawnee, Morgan and Pike counties with good results. While the new bait has not been thoroughly tested against army worms, experience with other baits leads Bigger to think that the oil bait will also be satisfactory against these pests.

—H—

Destruction Of Corn Weeds Helps Check Flea Beetles

Thorough destruction of weeds in corn fields is the only effective means of protecting the young corn from flea beetles, which threaten to be plentiful this spring, according to J. H. Bigger, Illinois State Natural History Survey entomologist, cooperating with the College of Agriculture, University of Illinois. Abundant rainfall and early weed growth before the corn was planted has encouraged the beetles, since they [illegible] until the corn starts growing.

The flea beetle is a tiny black or greenish insect and derives its name from its habit of jumping like a flea when disturbed. Until the corn is up, the insect feeds on such weeds as purslane, lamb's quarter, ragweed and smart weed. As soon as the corn appears, the beetle turns its attention to the corn leaves, eating small round holes in them.

Where the flea beetles are numerous, they chew the corn leaves so seriously that the plants lose vitality, turn yellow and often die.

Killing weeds out of the field before and after the corn is planted will do much toward controlling the insects, since they make their homes in the weeds until the corn appears above the ground. Vigorous, fast growing corn will often outgrow the pests. Hence, it is advisable in many cases to delay planting until the ground is warm.

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Higher Prizes For Horse And Mule Pulling Contests

Higher prizes and the increased [illegible] are [illegible] increasing interest to the Illinois horse-pulling contests which will be held again this year for the eleventh season by the College of Agriculture, University of Illinois, it is announced by E. T. Robbins, livestock extension specialist.

Eleven contests are already scheduled for August, and more may be held if local arrangements can be made, Robbins reported. The opening contest this year will be at the Chicago Tribune show at Wheaton, July [illegible]. August, however, seems to be the favorite month with six shows scheduled. Competitions will be held at the Perry County Fair, Pinckneyville, August 1[illegible]; Edwards County Fair, Albion, August 1[illegible]; Iroquois County Fair, Milford, August 1[illegible]; Illinois State Fair, Springfield, August [illegible] and [illegible]; Warren County Fair, Roseville, August [illegible], and the St. [illegible] Fair, St. [illegible], August [illegible]. Other contests are scheduled for the [illegible] County Fair, Augusta, September [illegible]; DeKalb County Fair, Sandwich, September [illegible]; Lawrence County Fair, Bridgeport, September [illegible], and DeWitt County Fair, Farmer City, September [illegible].

The contests are used [illegible] studying body measurements and other characteristics which influence the pulling [illegible] horses and mules. Since the events were started, the college [illegible] measurements and [illegible] records [illegible] more than 1,500 horses. Pulling power of the teams is accurately measured by means of the university dynamometer.

Pulling contests [illegible] with the interest of both team owners and spectators [illegible] when the contests were first started. Competition is divided into two classes, [illegible] teams weighing less than [illegible], and the other for those weighing [illegible] or more.

The light-class [illegible] by William [illegible] still stands [illegible] record, [illegible] Springfield.

Oscar Crawford, of [illegible] in the heavyweight class. This record [illegible] the Century of Progress [illegible] in August, 19[illegible]. The [illegible] team, weighing [illegible] pounds, [illegible] 7½ feet on the dynamometer. This is equivalent to starting [illegible] several times in succession [illegible] pulling [illegible]-inch [illegible] turning furrows six inches deep in stubble ground.

--B--

Fowler's Solution Found Injurious To Animal Health

Fowler's solution, often [illegible], was proved injurious to animals after a six-year test conducted by Drs. E. Roberts and W. M. Dawson at the College of Agriculture, University of Illinois. Facts concerning the experiment and the results are contained in the recently published college bulletin, "[illegible] of Fowler's Solution on Animals."

The solution, which contains arsenic, [illegible] fitting show animals for the ring in the belief that it aids in putting on flesh and giving the hair a more glossy appearance. The tests, however, [illegible] lowered the reproductive capacity [illegible] the experimental rabbits which were used in the study.

In addition, the mortality of the young was more than double [illegible] the [illegible] given Fowler's solution. Growth of [illegible] animals was also [illegible] use of the solution. This effect, however, was probably caused [illegible] increased susceptibility to disease. [illegible] respiratory diseases, and the solution caused injury [illegible].

--B--

Four Counties Are Made Areas For Farm And Home Advisers

With the appointment of Miss Bernice Smith as home adviser in Greene county, 35 Illinois counties are now carrying on organized home or farm extension work under the direction of the College of Agriculture, University of Illinois, it is announced by Mrs. Kathryn Van Arsdel Burns, state leader of home extension extension.

Three counties among the 35 with advisers now serving, bring the total of the 102 counties of the state in agricultural extension service. Work also has been announced by Prof. L. C. Spitler, state leader of farm advisers.

Miss Smith, the new home adviser of Greene county, was graduated from the University of Illinois in 1927 and has been teaching school at Illiopolis. She is the thirty-fifth home adviser in the state. Seven of them have two counties, which accounts for the fact that a total of 42 counties have this service.

In the ranks of the farm advisers, E. C. Johnston has been promoted, as farm adviser in Piatt county to succeed E. C. Irving, who resigned April 15. During the past two years Mr. Johnston has been serving as extension agent in the crop-variety program and more recently has been connected with the office of A. C. Garrett, state agricultural statistician, Springfield. Mr. Irving started work in May.

H. H. Gordon, farm adviser in Jefferson-Alexander counties, resigned April 1 to accept the position of assistant manager in the AAA land-utilization section. He will be in charge of the southern Illinois forest project and will have headquarters at Anna.

W. E. Gould, Johnson county farm adviser, resigned May 1 to become project manager of the Robbs project, Robbs, for the Illinois Rural Rehabilitation Corporation. Successors to Mr. Gordon and Mr. Gould have not yet been selected.

-M-

Added Nitrate Needed In Cabbage This Spring

With rainfall in most sections of Illinois above normal, it may be necessary to apply nitrate of soda to young cabbage fields this spring, in the opinion of E. J. Weaver of the vegetable gardening division, College of Agriculture, University of Illinois. The lack of nitrates in the soil will be evidenced by the yellowed color and stunted growth of the young plants.

This shortage of nitrates is especially apparent when the weather is cool as well as damp. Such weather slows down the activity of soil organisms and is one of the main causes for a nitrate deficiency. On the other hand, hot weather and lack of moisture, such as was the case in 1934, bring about an accumulation of small amounts on the surface of the soil. Any addition of nitrate fertilizers under such conditions will probably damage the crop.

Wherever yellow color and poor growth indicate shortage of nitrates in the soil, the deficiency can be overcome through the use of nitrogen fertilizers such as nitrate of soda, Weaver said. It is usually best entirely to make the application over a period of several days with the total amounting to about 100 pounds to the acre.

Fortunately, the lack of nitrates does not permanently injure cabbage plants if the deficiency is taken care of before the plants get too large. In fact the nitrates and other nutrients in the soil are quickly available so plants fed liberally will make almost as good growth as those which have had sufficient nitrates from the start.

Cabbage plants supplied with nitrates and other plant foods usually head and have matured earlier than the same variety grown without the nitrate fertilizer in tests conducted at the college vegetable gardening plots.

-L-

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New Illinois Mark in Dairying Is Set by Herds

Despite unprecedented drouth and feed shortages last year, a new state standard which is anything but a mark for dairymen to shoot at in future years was set up for milk and butterfat production by Illinois dairy herds, it is announced by Prof. C. F. Rhode and G. G. Cash, dairy specialists at the College of Agriculture, University of Illinois.

The highest average production in the 27 years' history of dairy herd improvement association work was made in 1926 by the 395 herds belonging to three associations, it is shown in the annual report which Rhode and Cash have just released on the work of these groups. The average for each cow was 7,477 pounds of milk and 324.9 pounds of butterfat.

During the same year the average production for all cows in the United States slipped to the lowest level in 15 years. The estimated average production of all cows in the state is estimated at about 140 pounds of butterfat.

By comparison with these marks, the new state record for the association herds is a tribute to the progress which the member dairymen are making toward more profitable production through better breeding, breeding and management of their herds, Rhode and Cash pointed out.

More than two-thirds, or [illegible], of the association herds had an average of 300 pounds or more of butterfat for each cow.

Out of all the 21,[illegible] cows that were tested for milk and fat yield by the associations, the highest producer was a purebred Holstein in the herd of Moosheart Farm, Moosheart, that produced 18,[illegible] pounds of milk and 974.[illegible] pounds of butterfat during the year. The Ellwood & Nelson herd, DeKalb, had the next two highest-producing cows; Moosheart, third and fourth; Rock River Farm, Byron, fifth; Ellwood & Nelson, sixth; Moosheart, seventh; F. G. Friess, Altamont, eighth; Gohlbeck & Lange, Mountain, ninth; and Moosheart, tenth.

The highest producing cow in the grade-cow group also was from Moosheart. She had a record of [illegible],187 pounds of milk and 734 pounds of fat. Zimmerman Dairy, Washington, had the second best cow in the grade class; Illinois State Penitentiary, Stateville, third; F. S. Priess, Caledonia, fourth; and Alexander Guernsey Farm, Bloomington, fifth.

As to herd averages, Moosheart Farm and the Palmolis Farm No. [illegible], Palatine, tied for first place with butterfat production averages of [illegible].3 pounds a cow. This is the fourth consecutive average of more than 500 pounds for the Palmolis herd. Both of the top herds were in the class of those having more than 10 cow years. Other herds in the class included the herds of C. J. Mellord, Newton, third; John Ellsworth, Harvard, fourth; and Gohlbeck & Lange, fifth.

In the class of herds having from five to ten cow years, the herd of Oscar Anderson, Simonark, was first with an average of [illegible].3 pounds of butterfat. C. W. Guthrie, Charleston, was second; F. G. Friess, third; C. C. Beebout, Clifford, fourth; and Keenan Brothers, Leland, fifth.

—M—

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Better Supply of Milk Is Memorial For Late Addams

Among the memorials to the late Miss Jane Addams, founder of Hull House and social settlement worker of Chicago, will be the pioneering work which has been going on in connection with the College of Agriculture, University of Illinois for the improvement of city milk supplies.

Prompted by Miss Addams' interest in the welfare of children in their communities, have their food tested for purity, it is pointed out by Dr. F. H. Tracy, associate chief in dairy manufactures at the college. Indirectly, this work and its subsequent development can be credited with bringing about improvements in many city milk supplies, he said.

Alarmed at the high rate of milk being offered to mothers in the vicinity of Hull House, the late Miss Addams in 1911 enlisted the cooperation of the experiment station, College of Agriculture, University of Illinois. Work was started, she, with Dr. H. S. Grindley, professor emeritus of animal nutrition, reported their findings in Circular No. 17, published in December, 1917, by the experiment station, on the subject, "A Study of the Milk Supply of Chicago."

"Overwhelming proof" that the milk supply of Chicago was remarkably poor was presented by the authors, they held that the sale of impure milk should be remedied immediately and urged that immediate action be taken to improve the city milk supply, thus guarding the health of the people.

Since that time many improvements in the supply, the most recent advance being the adoption of the Daily milk ordinance which is modeled after the U. S. Public Health Service model milk ordinance.

Almost 20 years ago when the late Miss Addams and the agricultural college were pioneering for an improved quality of Chicago's milk supply, the chief concern was the matter of "Watering," or adulterating milk.

The college's first chemist, Dr. Grindley, with Miss Jane Addams figured, has been followed by other studies and activities, all of which have played a prominent part in establishing the high standards of the present day, Prof. Tracy said.

-3-

Chopping Hay Will Help End This Season's Losses, Morris Warns

With a record soybean crop in prospect, Illinois farmers are urged to look for means of reducing hay storage space to make room for the record soybean yield as well as for the additional hay from the beans. Chopping hay is a practical way of reducing the barn room needed for storing livestock feed, according to F. H. Tracy of the agricultural engineering department, College of Agriculture, University of Illinois.

Chopped hay requires from one-half to two-thirds less barn space than long hay. This extra room may be used for other purposes if the barn is strong enough to carry the added weight. Not only does chopping the hay make available more room for the storage of other feeds, but also waste is reduced, Professor Tracy said. With long hay, tests have shown that as much as 30 per cent may be lost. When chopped hay is fed, waste may be reduced to a minimum of 5 per cent.

Convenience during the winter feeding season is another asset of chopped hay. It is easier to pitch down from the mow than long hay, he added. Since chopped hay has less bulk, a day's supply or more can be placed in the feeding racks or mangers at one time.

The cost and speed with which hay can be stored by chopping will vary with individual farms. Where a hay crusher with a downward feeding mechanism is available, the hay can be put into the mow faster than by other methods. An ordinary feed cutter does not speed up the process, Professor Tracy said. With the equipment available on most farms, the cost of storing chopped hay is about the same as for long hay.

-4-

[illegible] Is Used In Feeding [illegible]

While Illinois [illegible] may not be [illegible] commercial [illegible]-producing [illegible], [illegible] possibility of becoming [illegible] poultry, [illegible] Ass'n, poultry husbandry [illegible] Illinois.

Corn, [illegible] feed for producing [illegible] flour, [illegible]. The [illegible] "marbling" [illegible]. [illegible] by experiments [illegible]. [illegible] not only made [illegible] cent animal protein, [illegible] Alpheus Wood.

In addition [illegible], [illegible] to farmers of the state [illegible]. During the week [illegible], the highest [illegible]. An [illegible] ground for [illegible] revives.

With [illegible] available in [illegible], [illegible] feeds for [illegible], [illegible]. It [illegible], "Liver Fattened," could become [illegible] poultry. [illegible] poultry husbandry [illegible], with little [illegible] the production [illegible] poultry [illegible] in [illegible], [illegible].

-F-

Sanitation Will Prevent Sour Milk And Cream Troubles

Sour milk, [illegible] bacteria [illegible] quality [illegible] product [illegible], [illegible] organization of milk, according to Dr. W. A. Ross, [illegible] College of Agriculture, University of Illinois.

Prevention of [illegible] all the more important [illegible] dairymen do not [illegible] in the form of rising [illegible] production costs, it was [illegible] by Dr. Ross.

While [illegible] milk is [illegible], [illegible] it. Consequently [illegible] is bound to lose [illegible], [illegible] disease.

The little [illegible] could [illegible], [illegible] in dirt, surface water, straw, [illegible] after it has been drawn. They will not [illegible] prevents their growth.

If the cow's flanks and udders are [illegible] the milker's hands disinfected, the chances of the bacteria getting into the milk will be greatly reduced. All [illegible] should be washed with [illegible], [illegible] chlorine solution, Dr. Ross said.

Best sanitation will prevent [illegible], [illegible] is not exposed to contamination after it [illegible].

Where milk is [illegible], [illegible] is suffering from mastitis, [illegible].

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Vol. VIII [illegible] 5, Number [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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Vol. XIII-No. 27 [illegible]

Terrace Demonstration [illegible] During the Coming Year

With [illegible] years, [illegible] in conserving [illegible] agricultural [illegible] of Illinois.

However, [illegible] waning, [illegible] said.

Keeping [illegible] the [illegible] wide, flat channel [illegible] maintained with little [illegible]

[illegible] terrace [illegible] Each [illegible] terrace [illegible]

[illegible] operations, [illegible] acres [illegible] year. [illegible] heavy rains [illegible]

Terracing [illegible] amounts [illegible] [illegible] conservation [illegible] terrace [illegible] act [illegible]

[illegible] considered [illegible] terrace [illegible] be [illegible]

-1-

[illegible] Hay for [illegible] By Irrigation

[illegible] and [illegible] garden [illegible] Prairie [illegible]

[illegible] crops [illegible] In [illegible] the [illegible]

[illegible] wet [illegible] the [illegible]

Getting [illegible] fact [illegible] [illegible]

[illegible] plant [illegible] [illegible]

Breeding Tests With Artichokes Will Aid The Crop

Any possibilities which the American artichoke holds as a new crop for Illinois farmers are expected to be opened up through experiments which the College of Agriculture, University of Illinois is now conducting on improved methods of propagating the plants.

While the artichoke has possibilities as a livestock feed and as a cash crop for farmers in this state, it has not been introduced except in experimental plots and, to a very limited extent, on farms, according to C. M. Woodworth, chief of the college plant genetics division.

One advance that has already been made in the experiments which the college has been conducting during the past three years is the discovery that hill selection is an ineffective way of propagating the plants. Since artichokes are cross-fertilized, the resulting seedlings vary greatly in height, number of branches, mildew infection, leaf blight, resistance to rust, [illegible], and yield, size, shape and color of tubers. When propagated from the tubers, however, the plants [illegible] uniform.

This discovery has opened up the possibility of developing new strains by crossing desirable self-fertilized plants and propagating the new [illegible] with tubers obtained from the superior hybrids. While no results are promised during [illegible], the tests are being continued this spring with tubers from more than [illegible] seedling plants, Woodworth stated.

The artichoke is a good feed for hogs, cattle and other livestock, it has been demonstrated by experiments. In addition its value as a human food has been proved. Not only can the plant be used as a vegetable but it also can be processed to produce both sugar and syrup.

Levulose sugar, produced from the artichoke, is a better preservative than cane sugar for canned fruits and is a very effective sweetener wherever sugar is needed. Syrup, produced at the college, has been pronounced of very good quality by those who tasted it.

-M-

This Is The Year To Hit Codling Moth A Hard Blow

This is the year to hit the codling moth a hard blow, said V. W. Kelley, horticultural extension specialist at the College of Agriculture, University of Illinois. Codling moths, which have damaged Illinois apple crops to the extent of a million dollars some years, were defeated in 1934 by hot, dry weather and effective spraying. They must be kept on the run this year by effective spraying or they will reorganize and return with [illegible].

Like any military barrage, the spraying must be done thoroughly this summer so that every possible hideout of the moths will be reached by the deadly mist. In addition the entire surface of every apple must be covered with the spray if the fruit is to be protected.

The codling moth larva has no preference as to sides. It is just as likely to enter the apple from the side toward the center of the tree as from the outside. Consequently, it is necessary to cover the surfaces of the fruit on both sides. This can be done only by the use of proper spray guns in the hands of [illegible] who understand the problem and are conscientious in their [illegible] of spraying, Kelley stated.

After the spray has dried, any spots that have been missed can be seen. By climbing the tree, the orchardist can inspect the surface of the fruit next to the center as well as the top part of the tree. Finding the unsprayed spots and giving them a dose of the spray will go a long way toward assuring production of [illegible] apples this year.

With large trees the spray should be applied both from the inside and the outside.

-M-

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Soil, Crop, Spring [illegible]

[illegible]

Eradication of Moles Will Yield Big Dividends

[illegible] moles [illegible] Berkhir, [illegible] Biologist [illegible], who is [illegible] with the College of Agriculture, [illegible] Illinois [illegible] Survey.

While various preparations will [illegible] moles away from the [illegible] garden [illegible], trapping is the most effective method of getting rid of [illegible], otherwise. The traps should be set along the main burrows or those which appear to be [illegible] now. The traps should be [illegible] frequently, especially during the early [illegible] and late afternoon when the moles are most active. The choker and scissor type traps are the most efficient, although the [illegible] type is satisfactory if it is firmly [illegible] in the soil and the trigger is set in contact with the surface of the runway. In setting any type of trap, the operator should first [illegible] lightly on the surface of the runway and then [illegible] trap with the trigger in close contact with the soil, [illegible] mark it.

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Ponds Purchase "Cure" Cutting Chain Letter Racket

Chain letters have had their try, but the cure for Bang's disease of cattle is still being sold to farmers for $ to $ a head, according to Dr. Robert Graham, chief in animal pathology and hygiene at the College of Agriculture, University of Illinois.

Just as there is no cure "get rich quick" scheme, there is no cure for the costly Bang's disease, and it is a shame that it is sometimes allowed to exist, he said.

One typical "cure" recently sold in Illinois was found to be ordinary permanganate with just enough potassium manganate added to make a pink solution in water. A pound of the combination costs only a few cents, yet the manufacturer was selling it to farmers at from $ to $ for cattle weighing from a pound to a pound and a half. The permanganate portion of the mixture may be helpful in treating certain minor ailments, Dr. Graham stated, but it will not cure Bang's disease, and at $ to $ a head will keep the racketeers rich.

Since Bang's disease is so prevalent in the herds in many parts of Illinois, many farmers are willing to try some "miracle" cure, no matter how fantastic, that promises relief from the disease in the herd. Some credence is given to these claims by the fact that some cows have a resistance to the disease, or else the germs have left them. Often the quack remedy is given credit for this natural occurrence.

Even though the germ responsible for Bang's disease is capable of spreading to the rest of the herd, it may be handled safely by isolating the infected animals and eliminating them from the herd as the farmer sells his cattle, Dr. Graham explained.

For a tailor-made disease fighter, livestock men would scarcely do better than to offer the services of a veterinarian. Failing that, it would be essential. At the present time the federal government is carrying on a campaign against Bang's disease in Illinois and other states while offering indemnities to owners for cattle removed from the herd. In addition, the college is anxious to point out that the veterinarian may be depended upon to give farmers a chance to test their cattle and eliminate reactors.

-M-

Pressure Cooker As Economy, But Be Sure Jars Seal

Far from being an expensive luxury, the pressure cooker will be an economy at Illinois housewives who plan to can their winter's food supply by canning fruits and vegetables this summer, says Miss Grace A. Henderson, foods and nutrition specialist at the College of Agriculture, University of Illinois.

Pressure cookers can be bought for as low as $8 although the average price ranges from $11 to $17. Even at that, a housewife will be able to provide her family with safe canned foods and also prevent spoilage, especially of the non-acid vegetables and meats, thus saving many times the cost of this piece of equipment. Since there is practically nothing to wear out, the equipment will last for years.

The pressure cooker operates on the simple principle of increasing the boiling point of water by increasing the pressure. With the cut-out released, the steam returns normally, but no higher than 212 degrees Fahrenheit at sea level. With the cooker, however, much higher temperatures can be reached by closing the steam vent valve.

Non-acid vegetables may spoil in the boiling water bath because they require the higher temperatures available only in the pressure cooker. In non-acid foods, there is decomposition by the formation of clostridium botulinum, a germ which gives off poison. While it may be recognized in the pressure cooker, the high temperatures are necessary for the successful canning of these foods.

-M-

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[illegible]

[illegible] disease, or infectious abortion, [illegible] revised circular which the [illegible] University of Illinois has just issued to help farmers [illegible] their [illegible]. The circular is entitled, "Brucellosis in [illegible]," [illegible] Dr. Robert Gr[illegible], chief in animal pathology [illegible].

Twenty six [illegible] have been found in [illegible] different counties of the state during the [illegible], but [illegible] this undoubtedly [illegible] out. [illegible] birth of pigs [illegible].

[illegible] infection are ineffective in [illegible] the disease [illegible] the animal [illegible]. No [illegible] has been found for the infection.

The disease [illegible] the herd without the [illegible] knowing it because infected sows [illegible] litters and show no signs of harboring the malady. On the other hand [illegible] not necessarily [illegible] infectious abortion. [illegible] purchase of [illegible] actually infected herd [illegible] means of spreading the disease from herd to herd.

The disease is [illegible] through contamination of [illegible] feed and water and from infected boars [illegible] during the breeding season.

[illegible] tests are available for ascertaining whether or not hogs are infected with the disease. The blood agglutination test, [illegible] positive, is a definite indication that the animal has the disease. Even more definite is the finding of the microorganisms causing the disease. This is accomplished through microscopic ex[illegible].

[illegible] having their herds [illegible] abortion [illegible] veterinarians [illegible] Agri[illegible] College of Agriculture, [illegible] Illinois, [illegible] three [illegible] Department of Agriculture.

[illegible] with the [illegible] elimination of [illegible] the pens, hog houses [illegible] satisfactory for [illegible].

[illegible] hogs having Brucellosis [illegible] skim [illegible] in handling [illegible] carcasses.

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[illegible] of Pest Insects for [illegible]

In the fruit [illegible] sent to the College [illegible], University of Illinois [illegible] many are so badly [illegible] to W. P. Flint, chief [illegible] History Survey.

One danger [illegible] some part [illegible] might be easily and [illegible]

There are [illegible] all of which [illegible] the [illegible] make [illegible]

The [illegible] climate [illegible] machine. The [illegible] homeowners [illegible] possible when the [illegible] leg or wing [illegible]

One of the [illegible] tin tobacco box, [illegible] specimens [illegible]

Another [illegible] bottle and [illegible] weld [illegible] ease into the [illegible] is sold [illegible] or [illegible]

Whatever [illegible] the chief [illegible] sent by [illegible] and [illegible]

—3—

[illegible] Best Way [illegible] Strawberries

Strawberry [illegible] ore strawberries [illegible] ated on [illegible] mit [illegible]

The yellows [illegible] of the plants [illegible] ore strawberry [illegible] out [illegible]

Consequently, [illegible] plant [illegible] the individual [illegible] setting out [illegible] the bed during [illegible] plants have formed.

—4—

Vol. XVI I

Readers [illegible] Grow About Egg Loss Of Five [illegible]

Readers h[illegible] will [illegible] are found out to prevent [illegible] of the College of Agri[illegible] that avail or not w[illegible] rices. It represents [illegible] he said.

The direct [illegible] eggs must yield [illegible] ly said. Altogether it [illegible] to Illinois farmers [illegible].

Where eggs [illegible] eggs are culled out [illegible] is not practical [illegible] are dark [illegible] as well illustrat[illegible] ½ cents a dozen [illegible] flock" gra[illegible] ing wider [illegible]

[illegible] to hatch, but [illegible] especially [illegible] from the [illegible]

[illegible] comes gray. [illegible] ides in good br[illegible] eggs which [illegible]

Drought-[illegible] Have Held [illegible]

[illegible] r, [illegible] n dis[illegible] rought-[illegible] ood in [illegible]

[illegible] re still [illegible] ground under the [illegible] ented by three or four [illegible] ut out of the [illegible] or replacement next spring.

Damage done by the drought drew home the fact that [illegible] of the weed lot, sayer said. Livestock damage [illegible] ears, but the accumulated [illegible] In fact, the worst [illegible] getters. Livestock [illegible] get a better sweep close to the ground. This [illegible] In addition, the ground is [illegible] and natural mulch are [illegible] ground rather than scouring in. Evaporation is [illegible]

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Volume XVIII [illegible], 19[illegible] Number 26

[illegible] Land Was In [illegible] Farm Value

With [illegible] in [illegible] Illinois, high-grade farm lands [illegible] setting the pace in the increase of farm [illegible], according to C. [illegible] Stewart, chief in land economics of the College of Agriculture, University of Illinois.

High-grade land has shown an average of between [illegible] and 77 per cent increase since 1910 as compared with [illegible] and poor grades. With a large share of the top-grade land in the central part of Illinois, farmers in that section were faced with greater relative increases than were those in the poor-land sections, mostly in the northern and the medium-grade land in the southern sections.

The widening [illegible] between high and low prices of land is the reverse of what happened in Illinois during the [illegible] between 1910 and 1920, when prices of farm land were falling. The [illegible] observed a leveling of prices on good and poor land.

Approximately [illegible] per cent of the farm land in Illinois is rated as top grade, as compared with [illegible] per cent high-grade classification of land in the United States. The second, third and fourth grades are rated at [illegible] per cent each, while the fifth, or poorest, grade makes up [illegible] per cent of the farm land in Illinois.

Farm [illegible] in Illinois are [illegible] in the following proportion: [illegible], [illegible] per cent; second, [illegible] per cent; third, [illegible] per cent; fourth, 1[illegible].1 per cent; and fifth, [illegible] per cent. Only two states, Iowa and Nebraska, have a larger proportion of [illegible] land than Illinois.

[illegible] in farm land [illegible] in relationship to [illegible] and in farm [illegible], which [illegible] recent years has lessened the [illegible]. In fact, this [illegible] influence in increasing farm land values than [illegible] prices or profits, Stewart believes.

-M-

[illegible] Of Trees Is Caused By Anthracnose Damage

Spotting, withering and falling of leaves from sycamore, oak and maple trees that is now [illegible] is the work of the anthracnose disease, says Dr. [illegible] Tehon, botanist of the Illinois Natural History Survey, cooperating with the College of Agriculture, University of Illinois.

Almost complete prevention of anthracnose can be obtained by spraying susceptible kinds of trees with [illegible] mixture. The spray should be applied while the leaves are unfolding. If wet weather continues, the spray must be repeated at intervals [illegible] ten days in order to prevent the occurrence of new infections. Even if the first spray is missed, much of the infection can be prevented and the beauty of shade trees largely preserved by beginning to spray as soon as anthracnose infection is observed. Trees that have suffered severely can often be induced to make [illegible] growth if they are supplied with nitrogenous fertilizer.

An epidemic of this disease is always to be expected in wet cool springs. As a rule trees suffer very little permanent damage from the anthracnose attack.

-M-

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Insects Brighten Chances For Seed Crop Off Clover

This may be one of those rare years when insects will come to the aid of farmers and give them the benefit of a cash seed crop from the first cutting of red clover, according to W. P. Flint, chief entomologist of the Illinois State Natural History Survey and of the College of Agriculture, University of Illinois.

In answer to numerous inquiries, he is recommending that farmers let the first crop of red clover stand for seed if enough heads have bloomed to produce a profitable crop of seed. However, if heads are so scarce that only a light seed crop can be expected, farmers may as well follow the usual practice of cutting the first crop for hay, and letting the second crop stand for seed, he said.

Shortages of clover seed following the 1934 drouth and the increasing acreages of legumes throughout the United States have combined to put a premium on the production of seed crops, it was pointed out. Success of the clover seed crop, however, depends largely upon the presence of certain insects that pollinate the seed heads, Flint said.

This year it just so happens that there are rather large numbers of clover pollinators present. Farmers can expect a good crop of seed in the heads that bloom for the first crop. Ordinarily only the second crop of clover is used for seed, because by that time there are usually plenty around bumble bees to insure a good crop of seed, although this seed may later be destroyed by other insects.

The chief threat to a good first-crop clover this year is the clover bud weevil. It has destroyed so many of the clover buds that it is doubtful if enough heads will form in many fields to make a profitable seed crop in the first cutting.

Any seed that the farmer can get from the first crop undoubtedly will be worth saving, inasmuch as the parasites of seed-destroying insects that were fairly abundant this year and that are likely to cause more or less injury to second-crop seed, Flint said.

-M-

Danger Of Deadly "Stalk" Disease Still In Old Corn

With sporadic outbreaks of the so-called cornstalk disease still occurring in Illinois, farmers can not afford to take chances feeding either grain or fodder of the 1934 crop to their horses, said Dr. Robert Graham, chief in animal pathology and hygiene at the College of Agriculture, University of Illinois.

The outbreak which was at its peak during the winter is estimated to have caused a loss of nearly half a million dollars among farmers in the central sections of the state. Estimated loss during the winter period amounted to approximately 1,000 horses.

No definite conclusions have been reached as to whether the grain or the fodder has been the cause of the trouble. The disease was reproduced experimentally by placing horses in a 55-acre corn field in Champaign County during the winter. Confirming observations by veterinarians and stockmen indicated that damaged corn, such as that grown during the drouth of 1934 may, in some way, be responsible for losses of horses from the disease.

Old corn has been fed with safety to hogs and cattle on the same farm where the horses died.

Since there is a strong indication that the old corn is at the root of the trouble, oats should be used as a horse feed until a new corn crop is available, according to Dr. Graham.

Early treatment of the diseased horse by a local veterinarian will often result in a cure. The first symptoms are sluggishness, staggering and evidence of sleepiness and blindness. When any of these first symptoms appear, the veterinarian should be called. After the horse goes down and is in bad shape, death usually follows.

-M-

Tiny Bacteria Are Worst Enemies Of Milk Producers

Even though it would require about eight billion [illegible] to equal the size of an ordinary cigarette, these small [illegible] are the [illegible] worst enemy when it comes to keeping the market quality [illegible] of milk, according to J. M. Brannon, dairy [illegible] assistant at the College of Agriculture, University of Illinois. The toll taken by [illegible] bacteria will be greater from now on as the weather gets hotter, and yet there are many producers still about that [illegible] like bacteria [illegible] in milk, he said.

They not only are guilty of souring milk but also change its color, flavor and consistency. Souring is especially prevalent during the summer months, [illegible] the bacteria involved in the [illegible] thrive at the temperature at which [illegible] generally kept during that season.

[illegible] cooling of the milk [illegible] is [illegible] the only effective ways of combating sour milk, until [illegible] modern refrigeration and sterilization equipment, [illegible]. Incidentally, the bacterium causing sour milk is used [illegible] bulgaricus milks, [illegible], French [illegible].

Some [illegible] in milk [illegible] its [illegible], others spoil its [illegible]ness and nearly all of them [illegible] flavor. While a few of the bacteria thrive in low temperatures, [illegible] toward [illegible] conditions.

-M-

Thin Strawberry [illegible] For [illegible] Crop

With [illegible] of the best strawberry seasons ever recorded in Illinois [illegible], growers [illegible] their [illegible] this summer, it is pointed out by [illegible], [illegible] the College of Agriculture, University of Illinois. [illegible] they have just had may mean that they will have a [illegible] next year, he said.

[illegible] or "thinning out" the strawberry patch [illegible] this summer will [illegible] more vigorous runner plants for the coming year and [illegible] various insect and disease pests that attack strawberry plants.

Each spring the mother plants send out runners [illegible] the fruit crop is reduced. If the old plants are not [illegible] thinned, the patch will be a tangled mass of old and new runners which will yield inferior berries. After the patch has been renovated by a thorough mowing, [illegible] and burning, the [illegible] should be "barred off" with a plow or disc, leaving a ridge of plants only a few inches wide. Then the old plants can be thinned to a distance of nearly three feet apart.

After the patch has been renovated and thinned, it should be cultivated to keep down the weeds and to prevent the formation of [illegible] cultivated. If fertilizer is needed, it may be worked into the soil near the row during cultivation.

Each row should be [illegible] to a width of about [illegible] inches. New plants coming from each mother plant should be limited to six [illegible]. Such vigorous varieties as the Blakemore should be held to even less.

Along with thinning the plants, the renovation practices will help clean out the diseased plants and [illegible] insects. Because of this strawberries can [illegible] be grown successfully without the use of sprays. Not more than two crops should be grown on the same ground in succession unless the vigor of the plants can be maintained at a high level.

-M-

The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVIII | July 1, 1[illegible] | Number [illegible]

Drouth Broken But Bugs Still Cost Gardeners Fortune

While Illinois gardens are not being ruined by drouth this year, gardeners and vegetable growers still stand to lose between four and five million dollars from insects if the season is average. This is pointed out in a new circular, "Saving Garden Crops From Insect Injury," which has just been published by the College of Agriculture, University of Illinois.

Insecticides are essential in the control of garden insects, but cultural practices are also of great benefit in reducing the damage, according to the circular, which was prepared by L. H. Shropshire, field entomologist, and C. C. Compton, associate entomologist, Illinois State Natural History Survey, who are cooperating with the college.

Some 54 insects which usually attack garden plants are listed in the circular. A description of each insect, its habits, method of injury, life history and and the best means of control is given. Illustrations are included to help gardeners recognize the various kinds of harmful bugs.

Insects attacking each of the major vegetable and truck crops are grouped separately and control measures outlined for each of these. There are separate sections for insects attacking cabbage and related crops, potatoes, sweet corn, tomatoes and eggplant, vine crops, onions, peas and beans, asparagus; beets, spinach, lettuce, celery and dill; carrots and parsnips, horse radish and sweet potatoes.

With insecticides playing an important part in the control of garden insects, the circular explains the composition, the kinds of insects against which each type of poison is effective and the precautions which must be observed in handling the insecticides. Arsenate of lead and the fluosilicates are not recommended for plants where the treated portions will serve for food, since there is slight danger of poisoning.

The two general types of insecticides, stomach and contact poisons, are described in the circular and directions given for mixing, applying and handling them.

—X—

Safety In Homes Would Reduce Bill Of [illegible] Millions

With home injuries costing people of the country [illegible] million dollars a year, the Fourth of July is a good time to start an intensive safety campaign in your Illinois home, in the opinion of Miss Gladys J. Ward, home management specialist of the College of Agriculture, University of Illinois.

Homes seem to be getting more dangerous instead of safer on the basis of the evidence that there were 3,[illegible] more fatalities from home accidents in 1934 than there were in 1933, she said. The total for the past year, according to figures from the National Safety Council, was 3[illegible], the largest since the council started making estimates of home injuries and deaths.

The estimated total of both fatal and non-fatal injuries in the home during the past year was 4,[illegible]. The cost of these injuries, including wage loss, medical care and overhead expense of insurance amounted to [illegible] million dollars.

—X—

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914 W. [illegible]

Threshing Season Is Welcome Relief To Stock Feeders

Opening of the threshing season in Illinois is more welcome than ever this year, for it means the end of growth feed shortages for stockmen who have been forced to buy corn, said E. T. Robbins, livestock extension specialist at the College of Agriculture, University of Illinois.

When corn is worth 61 a bushel, wheat is worth a dollar for general feeding purposes, rye 90 cents, barley 77 cents and oats 51 cents. This difference between the price of corn and of small grains allows for the grinding of small grains in most cases. The best results are usually obtained when the small grain is coarsely ground, Robbins stated.

For fattening cattle not more than half of the ration should be composed of any one small grain. Equal parts of wheat and oats form a satisfactory cattle fattening ration, especially when supplemented with one pound of cottonseed meal to each seven pounds of grain fed with clover hay.

Such a ration has been fed to steers at the college with good results. The steers averaged 1.36 pounds of gain daily for three months. At that time corn was 77 cents a bushel, wheat 71 cents and oats 31 cents. A greater profit was returned on this ration than where corn or other grain combinations were used with the same supplements.

Pigs growing and fattening on pasture do well even though wheat replaces all of the corn in the ration. A ration of shelled wheat and tankage, free choice, and pasture has also shown good results. The addition of a small amount of wheat oats or up to one-third of the grain content on ground oats improved the ration.

—o—

Guernsey Field Day Is Set For July 15 Near Wheaton

Recent encouraging upturns in the dairy industry are expected to help swell the turnout of Guernsey cattle breeders for the annual field day of the Illinois Guernsey Cattle Breeders' Association which will be held on the St. James Farm, near Wheaton, on July 15.

Approximately 300 probably will attend, according to those in charge of the program. Prof. I. S. Rhoda, of the dairy department, College of Agriculture, University of Illinois, will be master of ceremonies for the dairy program, and E. I. Pilchard, boys' 4-H club specialist of the college, will be in charge of a Guernsey judging contest open to teams of 4-H club members from any part of the state.

In addition to the contest other features of the program will include an inspection of the St. James herd, which is one of the best representatives of the Guernsey breed in the state. Outstanding animals as well as methods of feeding, breeding, and managing the herd will be attractions.

L. R. McNeil, Tuscola, is president of the Illinois Guernsey Cattle Breeders' Association, which is arranging the field day. H. C. Hornaman, Danville, is secretary-treasurer, and directors are F. W. Winker, Belleville, R. E. Middelberg, Carbondale, and L. C. Studer, Roanoke.

Plans for the meeting have the advantage of being laid at a time when Guernsey breeders and other dairymen are taking stock of a number of encouraging features in the industry. Prices of dairy products are nearly 10% higher than they were last year, and with the short storage stocks and a fairly steady demand should maintain a reasonably firm position, economists believe. Pasture is much improved over what it was a year ago, thereby easing the feed situation, while butter imports, which amounted to 70 million pounds during the first five months of the year, have largely ceased owing to the disappearance of the import margin between New York and London prices.

—7—

Farmers Are Out To Save Timothy And Red Clover Seed

With supplies of red clover and timothy seed [illegible] and [illegible] of such seed being used for soil conservation and crop adjustment purposes, there will be an added premium on all the red clover and timothy seed that Illinois farmers can manage to save this season, [illegible] of [illegible] Pieper, [illegible] production specialist of the College of Agriculture, University of Illinois.

Fortunately, [illegible] favoring increased [illegible] present this year to produce seed in the first cutting of red clover. Ordinarily, however, the first crop is cut for hay and the aftermath left for seed. The amount of seed produced by this second crop depends largely upon bees. Since the pollen of red clover is heavy and sticky the crop will not fertilize unless there are plenty of bees to scatter the pollen. Bumble bees, the large woolly bees of the adults of extinct, and many wild bees are the best carriers of pollen.

Red clover should be cut [illegible] when [illegible] said Pieper. If the crop is cut too early, the seed will shrivel. Delay to cutting means that a lot of the seed will be wasted by shattering.

While there is both a [illegible] shortage of timothy seed, the [illegible] will be the easiest to make up, [illegible] Pieper. A large [illegible] might have done well recently seeded alfalfa and other forage crops will [illegible] this year. Consequently, enough timothy should be left [illegible] to meet the farmers' own needs for seed next year.

The best time to harvest timothy seed is when most of the heads have turned brown and the seed is just beginning to shatter from the outer tips of a small portion of the earliest heads.

-0-

Heavy Rains Cause Need Of Efficient Water Equipment

Heavy rains in Illinois during the past [illegible] have emphasized the need for proper construction of livestock [illegible] so that the [illegible] become mud holes filled with dirty, [illegible] water, which is a serious menace to livestock health, said W. A. Foster, rural [illegible] of the College of Agriculture, University of Illinois.

Keeping plenty of clean, fresh water in every pasture and feed lot is a basic principle of good livestock management and one practical safeguard against spread of disease. The supply may come from a well, spring or stream, but the actual watering place should be so constructed as to protect the water from contamination.

Where the source of the water is a pond, the water will recede as the dry season of the year approaches. This will necessitate the livestock wading more deep through mud to reach the stagnant, impure water unless special provisions are made to avoid this.

One of the best watering systems [illegible] can be made by building a short concrete trough in a spring run and providing a corresponding concrete approach. This arrangement makes the water easily accessible for the herd and does away with the mud hole menace.

Watering places which prevent contamination, [illegible] of water are not only useful during wet seasons [illegible] but also well worth the money during dry seasons such as the summer of [illegible]

Where plenty of gravel or stone is available, [illegible] these materials may be substituted for concrete in the construction of [illegible]. Earthen reservoirs should be avoided, since they may [illegible]

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Welcome Rains Destroy Millions Through Soil Erosion

Welcome as they have been, record rains throughout Illinois this spring have cost farmers millions of dollars in soil erosion and left damage which will take years to repair, it is estimated by Dr. T. L. Burlison, head of the Department of Agronomy and chairman of the soil conservation committee, College of Agriculture, University of Illinois.

Fortunately, farmers and the general public have been so struck by the damage that there is now a more concerted effort than ever before to halt erosion and keep farm lands and valuable soil fertility at home, he said.

Streams and rivers filled with muddy water, fields striped with newly formed gullets, gullys that have widened and deepened and ditches that have been silted full or partly full have all served to bring home the irreparable damage which erosion has done to unprotected fields, according to Dr. Burlison.

In May alone almost double the normal amount of rainfall was reported by 101 weather stations of the state, Dr. Burlison said. The average was 7.78 inches, whereas the normal amount is 4.1 inches. Heavy damage rains were reported in 97 of the 102 counties of the state.

Erosion this spring washed away three million acres of Illinois land that should never be farmed, or "Marginal" land. Less severely hit were another three million acres that are subject to serious erosion and that are suitable only for orcharding, permanent pasture or timber. There is an additional area of more than 12,000,000 acres in the state where erosion lowered the productivity of the land unless it was protected, and little of it was, he said. Soil washing even added to the load on 18,000,000 acres of relatively flat land in the state where erosion occurs on the longer slopes.

Erosion was all the worse during the heavy rains because of the dried effects of the 1934 dry weather, Dr. Burlison pointed out. In many fields the earth was dry and powdery when the heavy rains came, and tons of valuable top soil went down rivers and streams to make them still muddier than they already were, he said. With the top soil washed away, valuable fertility elements were lost and the raw subsoil was brought nearer the surface. Once erosion has advanced to the place where the subsoil is exposed, Nature can build it into tillable top soil only after thousands of years, Dr. Burlison said.

The fact that many fields also were stripped of vegetation as a result of the 1934 drouth made erosion losses heavier this year, Dr. Burlison said.

Seriousness of soil erosion this spring has given new impetus to the work which the College of Agriculture, University of Illinois has been carrying on for years to help farmers cope with this problem. One of the most recent developments in this work has been the inauguration by Dean H. W. Mumford of the state coordinated soil conservation and improvement project which brings together the forces of all agencies now active in this field.

-M-

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, *Director*

[illegible] Drill [illegible] Lumber Is Saved [illegible]

A brief [illegible] patience and the [illegible] of [illegible] ers [illegible] overcome [illegible] strawy mud [illegible] in preparing the [illegible] , [illegible] cars of wheat, [illegible] , corn [illegible] this season. [illegible] O. [illegible] Vance, agricultural [illegible] at the Ball [illegible] Experiment [illegible] of Illinois. Many [illegible] have made [illegible] from [illegible] , said.

Until [illegible] wheat [illegible] -fill usually [illegible] a muddy field problem for the [illegible] , [illegible] binder. The [illegible] binder, whether [illegible] it with [illegible] , [illegible] a muddy field, since the [illegible] [illegible] work.

The only [illegible] for this problem is [illegible] engine attached to the [illegible] cutting [illegible] of the machine, [illegible] .

Lodged [illegible] [illegible] , said [illegible] . Extension guards attached to the [illegible] [illegible] straightening the [illegible] . Lodged [illegible] the field. If the [illegible] is [illegible] , it may [illegible] to cut in the direction, that is [illegible] the [illegible] .

Cutting with [illegible] [illegible] with [illegible] [illegible] with [illegible] [illegible] as [illegible] .

During rainy [illegible] , [illegible] [illegible] , [illegible] [illegible] , [illegible] [illegible] will [illegible] .

-V-

Fireworks Crash Hunters Enjoy Fun Fireworks

Fourth of July, with all its [illegible] , brings [illegible] beautiful fireworks [illegible] , [illegible] , but [illegible] may [illegible] fireworks , [illegible] and [illegible] will [illegible] .

[illegible] of the [illegible] , [illegible] , [illegible] small [illegible] .

[illegible] .

-W-

Good Pastures Do Not End Risk Of Snakeroot Poison

Heavy rains which have made Illinois pastures luxuriant this year have not ended the danger of white snakeroot poisoning to men and to livestock during the next few months, according to a warning in a newly revised circular, "White Snakeroot Poisoning," which has just been issued by the College of Agriculture, University of Illinois.

Even though pasture grass is abundant, animals may eat the leaves of the poisonous white snakeroot weed from time to time. Overstocking pastures, even if they are good ones, increases the risks from the poisoning, which occurs every year in Illinois, the circular warns.

Persons using dairy products or meat of animals affected by "trembles," as white snakeroot poisoning is known, may contract milk sickness, an ailment which runs a rapid course and has a high mortality rate.

Keeping livestock away from white snakeroot and eradicating the weed from pastures and woodlots are the only known ways of preventing the poisoning, according to the circular. Treatments tried for livestock have proved unsatisfactory. Tremetol is the toxic agent in the plant and is absorbed into the animal's system when the plant is eaten, according to the circular, which was written by Dr. Robert Graham, chief in animal pathology and hygiene at the college, and his assistant, Miss V. M. Micaud.

The plant is a tall, slender perennial herb which usually grows in partially cleared woodlots, swampy areas, shady ravines and in groves along streams. The greatest danger is from July until late in the fall. This is especially true during dry years when pastures are short and dry. White snakeroot can generally be recognized by its broadly oval leaves, set opposite each other and having sharply-toothed, or serrated, edges. The non-poisonous varieties usually have narrower leaves.

In small patches the weed is best eradicated by pulling each plant by the roots. In large patches proper cropping is the most satisfactory means of eradication. Livestock should be kept out of pastures containing any of the weed.

Weakness, loss of appetite, constipation and a trembling of the voluntary muscles when the animal is forced to move are among the early symptoms of poisoning. When these symptoms are observed the stock should be taken from pasture and a reliable veterinarian called. The immediate attention of a physician should be given to cases of milk sickness among humans.

-H-

Chinese Elm Is Not As Sturdy Shade Tree As Believed

A new threat to shade trees in the form of a trunk canker affecting Chinese elms has just been found in Illinois, while a root rot has been reported attacking this particular type of elm throughout the Great Plains region, according to Dr. J. C. Carter, tree disease specialist with the Illinois State Natural History Survey, who is cooperating with the College of Agriculture, University of Illinois.

These developments are a warning, he said, that persons who plant Chinese or other Asiatic elms in place of the American elm may be disappointed if they expect these new varieties to be entirely free from disease attack.

The Chinese and other Asiatic elms, while resistant to the Dutch elm disease, are susceptible not only to the two recently reported diseases but also to several others. Among the more common diseases which attack Chinese elms are root and branch cankers and a number of leaf spotting diseases.

-V-

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Chinch Bugs Dying In All But A Few Scattered Areas

Chinch bugs have now been nearly wiped out in Illinois for this season and probably will not recover from the setback for four or five years, according to W. P. Flint, chief entomologist of the Illinois State Natural History Survey and of the College of Agriculture, University of Illinois.

Except in a very few scattered areas over the state there are not many chinch bugs left, he reported.

By putting an end to the farmers' chinch bug worries for this year, the heavy rains which came just at the right time have been worth more than 4 million dollars to Illinois grain growers for the corn crop alone, Flint said. Damage to this amount was done to the state's corn, wheat and oats by the 1914 infestation, and if the weather had not been favorable to the insects, the fall this year probably would have been even heavier, for nearly all the old bugs came through the last winter to start the new infestation which was the heavy one in 1914, he pointed out.

Only in a few scattered areas in the state are there still bugs thick enough to make it worth while for farmers to build barriers or protecting corn fields against the migration of the bugs to the small grain fields at harvest time, Flint said.

Farmers of the state last year built more than 20,000 miles of resistant barriers, without which the 4 million dollar fall crop ruined by the bugs would have been even higher.

There could be no more striking demonstration that the weather is the most important factor in the control of chinch bugs than has taken place this year, Flint pointed out. Cool weather early in the season kept the old bugs in winter quarters and thus delayed their egg laying. Later the heavy rains drowned the old bugs and beat the young as they hatched in the grain where they were "boiling" in and died. Dampness and high humidity were favorable to the spread of the white fungous disease which attacks the bugs.

The few bugs that were produced and survived from the first brood are now in cornfields or soon will be, Flint said. If they have not already done so, they will very shortly grow wings. There will then be a general flight and the bugs will scatter over the cornfields, finally finding the thinner stands of corn in order to avoid dampness and shade.

During the next three months the bugs from the first brood will remain in the corn. During this time a second brood will be produced.

Wet weather in August will greatly reduce the second brood and thereby lessen the danger of damage next year, Flint points out.

Any bugs that survive from the second brood will start their flight from the cornfields to winter quarters about the last of August. The movement will be completed by the first of November or earlier.

-M-

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. McAfoon, *Director*

More Seeding Of Alfalfa Likely On Illinois Farms

There will be a wave of new plantings of alfalfa and sericea in Illinois this fall, and many farmers already are laying their plans for seed bed preparation, according to J. C. Hackleman, crops extension specialist of the College of Agriculture, University of Illinois.

Hay shortages resulting from the 1934 drouth, as well as the loss of alfalfa seedings from late cutting last fall and from ice sheets in the winter, have made new plantings more urgent this year, he said.

In the northern section of Illinois alfalfa does best if seeded between July 30 and August 15. In the central and southern sections August 1 to 15 is the best period, Hackleman stated. Those farms that seed bed preparation must begin immediately after the small grain has been removed from the field.

Proper seed bed preparation is one of the most important factors in the successful raising of alfalfa, Hackleman believes. The ground should be well pulverized, firm and settled. It neither will hurt nor sweet clover to turn it under in the field before, in fact this is a necessity. All soils should be tested for acidity before being seeded to alfalfa. Where limestone is needed, the safest method is to work it into the soil late this summer and then seed the alfalfa next spring. This method will give the limestone plenty of time to sweeten the soil.

In choosing seed the farmer should consider variety, natural climatic conditions, and the possibility of bacterial wilt. Variegated varieties such as Hardigan, Grimm and Canadian variegated are generally better adapted to the northern sections of Illinois, since they are extremely resistant to cold. However, they are short-lived in the face of wilt. Where bacterial wilt is known to be in the soil, a good quality western-grown seed will be better for two years, which is the average length of life for alfalfa in wilt-infested soil, regardless of the variety.

Where the winters are not too severe, the northwestern common alfalfas grown in Montana and the Dakotas, as well as Nebraska and Kansas common, will be satisfactory.

With the exception of Hardigan seed which is limited, seed of most of the varieties can be obtained without difficulty. However, growers should obtain seed of known origin and quality, preferably that which has been certified, Hackleman stated.

Twelve to 15 pounds of seed to the acre is the best seeding rate for Illinois conditions. This is on the basis of high quality seed having a high germination test.

-k-

Good Oats Crop Will Help Fill Feed Worries For Hogs

Prospects for a better than average oats crop as the harvest season nears are more cheering than ever to many Illinois farmers this year, since there will now be plenty of hog feed to supplement the short corn crop, from the 1934 crop, according to W. E. Carroll, chief in swine husbandry at the College of Agriculture, University of Illinois.

Oats is worth 90 to 95 per cent as much as corn for hog feeding, if the oats makes only about one-third of the ration. This has been shown in extensive feeding tests on the college farm. Consequently the present price ratio between oats and corn makes it profitable for most Illinois farmers to replace at least a third of the corn in their grains ration with oats. Where oats has been the only grain fed exclusively, the oats are worth only 75 to 80 per cent as much as corn, Carroll states. Gains are slower as the percentage of oats in the ration increases and more feed is needed for a given amount of gain.

-k-

Record Soybean Crop Will Build Up Reserves Of Hay

A record acreage of soybeans offers Illinois farmers an excellent way of rebuilding hay reserves this year, and the problem of rainy weather hay making will be minimized if the beans are cut at the right time, according to J. C. Hackleman, crops extension specialist at the College of Agriculture, University of Illinois.

The beans may be cut for hay any time from the forming of the seeds in the pods until they are about three-fourths ripened. The best time, weather being favorable, is when the seeds have developed just enough to touch each other in the pods. At this time there are few if any dry leaves at the base of the plants, and the farmer will get the maximum yield of good quality hay.

Since soybean hay is slow to cure after the fall weather begins, it should be cut as early as possible after the seed begins to form, Hackleman said. For most of Illinois the last week in August is generally the most ideal time for putting up soybean hay. The weather is usually dry and fairly hot, and the heavy dews and cooler days of fall have not yet come.

Bean hay may be cut either with a mower or a grain binder, although the mower is usually the most satisfactory for Illinois conditions. If cut with a mower, the hay is generally allowed to cure to some extent in the swath and then raked into windrows before the leaves are dry enough to shatter. Some farmers, however, prefer to rake the hay immediately after mowing and allow it to cure in the windrow. This has been found an excellent method if the weather is dry and hot.

A grain binder can be used in dry weather, but the bundles must be small and loosely tied. If fall rains occur as they did in 1934, each bundle will probably develop a moldy core about two or three inches in diameter.

-M-

Rainy Weather Making Lespedeza a Popular Hay Crop

Lespedeza, the legume which has spread faster than any new crop introduced into Illinois in recent years, is gaining added popularity in a season like this when farmers are beset with the problem of curing hay between rains, according to W. B. Nevens, dairy cattle feeding specialist at the College of Agriculture, University of Illinois.

Being light stemmed, later to mature and comparatively quick to cure, lespedeza fits into a summer like the present when frequent rains hamper the putting up of alfalfa and similar crops which require a longer time to cure properly and must be cut early in the season.

Tests at the college have shown that Korean lespedeza and alfalfa are practically equal in feeding value. The only noticeable difference is that the cattle show a slight preference for alfalfa when both hays are available.

Lespedeza, cut at the full-bloom stage, has been found to have 50 per cent leaves and to show 14 per cent protein and 3 per cent lime. Good quality alfalfa hay is slightly less leafy, registering 49 per cent. However, alfalfa has 16 per cent protein and 4.5 per cent lime.

Milk production is practically the same whether cows are fed alfalfa or lespedeza. In college tests average daily production has been approximately 4 pounds of 4 per cent milk for each cow regardless of which hay has been fed. Nevens stated. Nor have the two hays shown any variance in their ability to produce gains when fed to young dairy cattle.

To make the best quality hay, lespedeza must be cut at about the full bloom stage, which is late August or early September in Illinois. As the seed stage approaches, the hay loses its palatability. Korean lespedeza reaches the full bloom stage in southern and central Illinois in late August or early September.

-M-

The Extension Messenger

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Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVIII | July 24, 1935 | Number 30

Cross-Cultivating In Laying By Corn Checks Erosion

Destructive erosion on more than 6½ million acres of Illinois farm land can be materially reduced during the remainder of the year if farmers will only cultivate across the slope when they "lay by" their corn for the season according to H. L. Buckardt, chief soil erosion extension specialist of the College of Agriculture, University of Illinois.

More than 75 per cent of the estimated 7,589,000 acres of corn in Illinois this year is on land where erosion will wash away top soil, drain off valuable fertility and jeopardize future crops unless proper protective measures are taken, he said. If the corn is cultivated across the slope at the last cultivation, each shovel mark will serve as a little furrow terrace to help check the flow of run-off water, he pointed out.

"Experimental results at Bethany, Mo., show that as much as 74 tons of soil an acre can be lost annually from land sloping 7 per cent that is growing continuous corn and that is cultivated up and down the slope, Buckardt reported.

"The common practice in Illinois is to check the corn rows the long way of the field, which in many cases results in corn rows running up and down slopes. Consequently after the corn is cultivated, each row serves as a surface drainage unit for the slope.

"The one-time favored opinion that crops should be planted up and down the slope so that each row could take care of its own water is no longer a desirable one. The best practice is to plant and cultivate corn so that the rows run across the slope. Each row or ridge then acts as a check to the flow of run-off water and thereby reduces the losses from erosion.

"While cultivating across the slope is always sound erosion prevention, it is most important when the corn is laid by at the last cultivation. The field will, in most cases, remain without further cultivation throughout the summer, fall and following spring. If the common practice is followed, the plow ridges and furrows up and down the slopes during this long period of time will create ideal conditions for serious losses from erosion."

Cultivating across the slope is only one of the practices which must be more generally adopted if soil erosion is to be controlled, it is pointed out by specialists of the college. Seriousness of the problem is revealed in the soil survey reports of the college which show that there are more than three million acres of Illinois land that are so subject to destructive erosion they should never be farmed. There are another three million acres that are subject to serious erosion and are suitable only for orcharding, permanent pasture or timber. There are more than 12,000,000 acres where erosion control practices are necessary to maintain the productivity of the land.

-M-

U. Of I. Station, W I L L, Reporting Grain Markets

A five-minute report of the Chicago grain market is now being broadcast daily except Sunday at 9:50 a.m. 10:55 a.m. by the University of Illinois radio station, W I L L. It broadcasts on 890 kilocycles.

-M-

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Wet Weather During Haying Heightens Danger of Fire

An estimated annual loss of one million dollars in Illinois from fires caused by the spontaneous combustion of wet hay may be increased this year unless farmers take extra measures to prevent the heating of hay which has been dampened by the frequent rains, according to E. W. Lehmann. He is head of the department of agricultural engineering at the College of Agriculture, University of Illinois.

Hay which goes into the barn or stack while it is damp from rains or dew is almost sure to heat. In many cases the temperature only gets high enough to spoil the hay, but there are frequent cases where enough heat is generated to start a fire. The heat is caused by bacterial and chemical actions which are speeded up by the presence of excess moisture.

The best preventive is to avoid putting damp hay into a barn or stack. However, frequent rains this summer have made that impossible in many cases, Lehmann said. If the moisture is only slight, the sprinkling of salt on the hay as it goes into the barn or stack will usually slow down the heating enough to prevent combustion. Not more than 20 pounds of salt should be used to each ton of hay.

Spreading the damp hay out in a thin layer will allow it to dry more rapidly. However, such hay should not be placed on top of dry hay, as the dry hay will burn much more readily and may catch from the heat of the damp layer on top.

Where long hay begins to heat, it is dangerous to move any of it until the whole pile has been thoroughly soaked. A slight disturbance may admit enough oxygen to cause the hay to burst into flame. Chopped hay can be handled readily provided enough water is handy to sprinkle any burning portions which may be removed from the pile.

A leaky roof is a possible source of danger as well as the means of spoiling considerable hay.

-M-

Alfalfa Is Good Summer Pasture When Bluegrass Fails

With the bluegrass pasture season rapidly coming to a close in most sections of Illinois, the record acreage of alfalfa growing in the state this year offers a satisfactory substitute, said J. C. Hackleman, crops extension specialist at the College of Agriculture, University of Illinois. Alfalfa is especially good in maintaining the flow of milk from dairy cows.

Danger of bloat is very slight if stockmen will follow a few simple precautions, Hackleman said. In fact, there is little more danger than in pasturing red clover.

Two general precautions should be observed in pasturing alfalfa. First, it should not be pastured when it is wet nor when the cattle are hungry. Second, the cattle should be fed plenty of dry forage and have access to plenty of water at all times.

Alfalfa that is wet, either from rain or a heavy dew, is much more likely to bloat the cattle than is alfalfa that is dry. The danger of bloat is increased when the cattle are turned on to the pasture while hungry, for they will gorge themselves with the green, succulent feed. A regular feeding of grain and good forage just before the cattle are turned on to the pasture will cause them to eat more leisurely and in smaller amounts. Thus the alfalfa becomes a part of the summer ration rather than the entire ration.

Such dry forage as alfalfa hay and oats straw along with plenty of water at all times will aid materially in avoiding alfalfa bloat.

Pasturing of alfalfa will not injure the crop if the pasture is not overloaded, Hackleman stated.

-M-

Proper Timing Of Peach Picking Increases Prospects

With prospects for the best crop in years, Illinois peach growers can still further increase their advantage this year by delaying harvest a week or so longer than is the usual practice, according to M. J. Dorsey, chief in pomology, and R. L. McMunn, associate, at the College of Agriculture, University of Illinois. Prospects now are for a fine quality crop of 3,420,000 bushels, which is double the five-year average for 1928-1932.

Tests made at the college show that the same number of peaches which will make only 100 bushels if picked on August 1s will make 134 bushels if not harvested until a week later. Harvesting at the right time thus allows the peaches to reach their maximum size.

Many peach growers in the past have harvested the major part of their crop during the early part of the ripening season just after the color of the fruit began to change from green to yellow. This was done in the belief that early marketings would net greater cash returns, ship better in transit and escape brown rot.

Early-picked fruit does not reach its maximum size. Consequently the yield is below that of peach crops harvested later in the ripening period. The advantage gained from early marketings as well as from the better shipping qualities of the fruit picked at the half ripe stage are outweighed by the smaller size of the peaches, it has been indicated by the college tests.

Elberta and other yellow varieties of peaches are at the ideal harvesting stage when the skins have changed from green to a light yellowish green and have about a 25 per cent blush appearance. At this stage the fruit will be of almost maximum size, but still be firm enough to withstand shipping.

Peaches should never be left on the trees until they become "soft ripe." While they may be excellent to eat fresh at this stage, they will not withstand shipping or storage.

-M-

Using Resistant Wheat Only Known Way To Check Rust

Planting resistant varieties is the only known means by which Illinois wheat growers can control outbreaks of yellow leaf rust such as have occurred quite generally over the state this year, said Benjamin Koehler, crop disease specialist at the College of Agriculture, University of Illinois. Being a fungus disease, yellow leaf rust is spread by spores. Moist weather increases the chance of infection. Unlike some kinds of rust it requires no alternate host, since the spores infect the new crop of winter wheat in the fall and live there until spring. So far, the development of wheat that is resistant to leaf rust is still in its infancy, according to O. T. Bonnett, plant breeding specialist at the college. However, a few varieties that are partially resistant to the disease have been developed and are available.

-M-

Rabies Control Hinges On Full Use Of Simple Measures

Instead of increasing as it now is, rabies among dogs and other animals could be practically eliminated if every person would follow a few simple precautions, according to Dr. Robert Graham, chief in animal pathology and hygiene at the College of Agriculture, University of Illinois. Last year Illinois had 2,000 dog cases and eight human fatalities as compared with only 191 dog cases and four human fatalities in 1930. Avoiding the handling of strange dogs, eliminating ownerless or stray dogs, placing rabid dog suspects under observation, consulting a physician in the case of dog bite, vaccinating all dogs annually and obtaining prompt diagnosis of rabid dog suspects are the chief precautions in suppressing rabies, Dr. Graham said.

-M-

The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College Experiment Station, and Extension Service

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Peach Prospects Drop, But Quality ... Best in Years

Although the Illinois peach crop will be much smaller than earlier prospects indicated, consumers have something to look forward to in the way of higher quality in the fruit which will be on sale this year, according to V. W. Kelley, horticultural extension specialist in the college of agriculture, University of Illinois. The Illinois peach crop is expected to be harvested between August 5 and 20.

Recent experiments with ... have clearly demonstrated how both quality and yield of peaches are improved. ... picking has paved the way for the higher quality which consumers of Illinois peaches will get this year, Kelley said. Convinced by the results of these tests, many growers are expected to let the fruit ripen on the tree somewhat longer than has been the practice in the past, with the result that the natural flavors will develop, Kelley explained.

"Peaches picked too green before the ground color begins to turn yellow never acquire the natural flavors and aroma which are essential to that high degree of palatability that is expected in this fruit. Because peaches are generally picked somewhat green for distant shipment from one state to the other, Illinois consumers are more likely to get highly-flavored fruit when they buy Illinois-grown peaches.

"Not only does delayed picking improve the quality of the peach, but also it greatly increases production because of the larger size of the fruit. In the 1934 experiments fruits harvested seven days after the normal picking date made about 25 per cent more fruit than they would if picked at the usual time. That is, each 100 bushels harvested on the normal picking date had increased to 125 bushels seven days later. The fruit not only was larger but also was superior in transit and storage and was of much better quality when the fruit picked earlier."

late estimates place the Illinois ... at not more than half the bumper crop of 4,000,000 bushels of 1934. Damage by hail and a late drop after thinning are largely responsible for the smaller estimate. Because of the reduced yield the Illinois crop is expected to move at a price which should bring a fair return to the grower, Kelley said.

-M-

Shows And Fairs Keeping 20,000 4-H Club Members Busy

Illinois' 25,000 4-H club members are in the midst of their busiest season with an estimated 150 shows and fairs of various kinds scheduled between August 1 and December 15, according to reports reaching the extension service, College of Agriculture, University of Illinois. The majority of these events will take place during the coming six weeks.

Thirty-eight club shows will be held in 25 counties during August, it is shown by partial reports from those counties. The same reports indicate that July, with 19 shows already held, will probably be the second busiest month. September comes third with 17 club shows scheduled, while October has two and November and December each have three. Club workers at the college estimate that approximately half of the club shows and fairs were included in the partial report from 45 counties.

-M-

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Pastures Will Be Made Or Ruined In Next Few Months

Pastures have recovered remarkably from the drouth damage of 1934, and farmers can hold their gains by careful management during the rest of the summer, according to crops specialists at the College of Agriculture, University of Illinois. Protecting pastures at this critical period of the year also will help promote the shift from grain to more grass and legumes, it was pointed out.

Overgrazing, poor soil, dry weather or any other condition which tends to slow the growth of pastures will give weeds and brush a chance to get started. Last summer's drouth, which killed out large patches of pasture grass, gave the weeds an excellent chance to get started.

Getting rid of these weeds is one of the first measures to be followed in the pasture management schedule for the rest of the summer, the specialists say. While the small patches may be mowed out or killed with chemicals, mowing is the best eradication method for large areas. Mowing prevents many annual plants from producing seed and at the same time discourages growth of the perennials.

Mowing, grubbing and poisoning will not get all the weeds the first year. These practices must be continued from year to year, and the farmer will need to be on the alert for new patches of weeds.

Use of adapted seeding mixtures and proper fertilization will help combat the weed menace and at the same time will build up the pastures. One mixture which has given good results on the college farm is composed of 8 pounds of Kentucky bluegrass, 3 of red top, 12 of brome grass and 2 of white clover. A good mixture for northern and central Illinois pastures where the soil is sweet and contains medium to high amounts of available phosphorus is composed of 4 pounds of sweet clover, 4 of red clover, 1 of white clover, 6 of bromegrass and 4 of timothy. A recommended combination for northern and central Illinois pastures with sweet soils but which are low in available phosphorus includes 4 pounds of sweet clover, 3 of alsike clover, 4 of lespedeza, 4 of timothy and 6 of red top.

A mixture that can be used on southern Illinois pastures with slight to medium acid soils that are medium to high in available phosphorus contains 2 pounds of alsike clover, 3 of lespedeza, 4 of bluegrass, 3 of orchard grass and 6 of red top.

Many times weeds get into the pasture through impure seed. This can be avoided to a large extent by the purchase of guaranteed seed from reliable dealers.

-M-

Culling Will Fit Flock For Better Poultry Outlook

A favorable fall and winter outlook for egg prices promises added benefits from the careful and thorough culling of the laying flock this summer and fall to get rid of the non-layers and other "boarders," according to H. H. Alp, poultry extension specialist of the College of Agriculture, University of Illinois.

Good layers not only will produce more eggs for the favorable markets that are now in prospect but also will pay better returns on the feed they eat, he said. Since the average hen uses six to seven pounds of feed a month, non-layers can soon "eat their heads off," he added.

How close to cull the flock depends upon its size, average production, number of pullets available for replacement and other factors. In a high-producing flock the culling can be done very closely, since the percentage of non-layers will be small. On the other hand the producer who has only a limited number of pullets coming along may wish to cull rather lightly in order to avoid depleting his flock.

-M-

Prospects Of Soft Corn Put Trench Silo In Limelight

With condition of the state's 7½ million acres of corn, mostly late planted, continuing below average, trench silos bid fair to become an important factor in the preservation and use of soft corn which may be prevalent in many sections of Illinois this fall, it is said by E. W. Lehmann, head of the department of agricultural engineering at the College of Agriculture, University of Illinois.

Soft corn is difficult to store in cribs, bins or barns, but makes excellent silage. Since it is cheap, simple to construct and costs less to fill, the trench silo appears to be one of the best means by which Illinois farmers can store this soft, immature corn. The only construction equipment needed is a plow, slip and tractor or team of horses. Two men with this equipment can construct a trench silo in from two to four days depending upon the size.

The silo should be constructed with a slight slope in the sides and on high ground where there is less likelihood of standing water. If a bank or slope is available, the lower end of the "trench" may be left open as a natural drain.

Silage must be well packed and kept higher in the middle than on the sides during the filling process, says Lehmann. This causes the silage to settle in a rounded manner and prevents the development of hay stack. Covering the silage with about a four or 4 inch layer of fine dirt immediately followed by a layer of dirt will help keep out air and prevent moldings.

-M-

Hog Prices Put Brighter On Curbing Loss From Disease

Smaller numbers of hogs combined with higher prices now make it more worthwhile than ever for farmers to vaccinate their pigs and take other precautions against losses from cholera and other diseases, it is pointed out by Dr. Robert Graham, chief in animal pathology and hygiene at the College of Agriculture, University of Illinois.

Vaccinations should be performed by a competent veterinarian and certain precautions taken, Dr. Graham said. Chief among these precautions is to keep the hogs on light feed during the vaccination period.

Hogs that are fed heavily before, during and just after vaccination occasionally fail to become immune to cholera, experimental tests have shown. While they may be safe from the disease for a short time, they will become susceptible as soon as the effect of the serum wears off and may even develop the disease from the vaccine.

The best method of handling hogs that are to be vaccinated against cholera is to put them on a very limited feed for at least three days prior to vaccination, Graham said. They should be kept isolated from untreated hogs and gradually brought back to full feed after being vaccinated.

Another question which always arises when hog cholera is in the vicinity is that regarding the means of spreading the disease. Experiments at the U. of I. College of Agriculture and in other states have shown that the stable fly which bites animals and humans so viciously about this time of the year is one of the more important factors in the spread of cholera.

The stable fly appears to be a worse offender than the house fly, although house flies have been known to transmit the disease.

Indications are that man is of less importance than was formerly thought in spreading cholera. In fact man has been shown to have very little effect as a spreader.

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The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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[illegible]

S[illegible] of Illinois land, [illegible] soils in the state [illegible] of the College [illegible].

[illegible] with many sub- [illegible] soil survey [illegible] supervised by F. S. [illegible]

[illegible] far more des- [illegible] places where the [illegible] the organic [illegible] serious erosion is [illegible] and the land [illegible]

[illegible] have impermeable subsoil [illegible] rally after heavy rains. Consequently, [illegible] drainage, carrying much of the valuable [illegible] southern Illinois where clay [illegible] slopes are steeper than [illegible] allowing more of the [illegible]

[illegible] Illinois farmers are faced with an [illegible] and packed glacial deposits which [illegible] southern Illinois as to their [illegible]

[illegible] prevent erosion, since it in- [illegible] the soil and makes for good [illegible] serve as binders in preventing excessive soil wash[illegible] characteristic of soils in the less eroded sections [illegible].

[illegible] the southern sections of the state [illegible] matter is present. On the [illegible] This is illustrated by the fact that [illegible] glaciers leveled off the surface. [illegible] subject to wind erosion. However, this [illegible] with only about 192,000 acres [illegible] located in Kankakee, Henderson, [illegible]. This is but a small part of total area of eroded land [illegible]. Altogether there are about 2½ million acres of [illegible] seriously eroded and about 12½ million acres where [illegible] to prevent serious damage. On 16,640,000 acres there is [illegible]

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[illegible] Chorus Of [illegible] To Be Featured At State Fair

A [illegible] voices assembled from nine different counties that will be competing for [illegible] in prize money will be featured on the August 23 program of the Illinois State Fair at Springfield, it is announced by D. E. Lindstrom, rural [illegible] extension specialist at the College of Agriculture, University of Illinois.

The contest is under the supervision of Lindstrom and is one phase of the musical recreational work being carried on in various parts of the state by the extension service. The [illegible] recital which will be held in front of the grandstand at 1 [illegible] will be conducted by Lyman F. Deming, instructor in music at the U. of I. At the present time Deming is visiting the various competing counties to assist the choruses in rehearsal for the state contest.

Counties entering are Boone, McHenry, Kendall, McLean, Champaign, Iroquois, Shelby, Sangamon and Livingston. First prize will be $150, second $110, third $100, fourth $90, fifth $80, sixth $70 and the last three $60 each. Additional prizes will go to the three groups present the largest [illegible] number.

Judging this year will be on the basis of the number in each chorus distance traveled to reach the state fair and degree of balance among the various parts of the [illegible].

The [illegible] numbers will be used for recitals during the recital. In addition, two special features [illegible] value to Deming will be presented. The four choruses [illegible] in the competition choruses are: "I Love Thee, Country," by Eichberg, "The Harry Dance," by [illegible], "My Bonnie Lass," by Bottomley and "Break Forth O Beauteous Heavenly Light," by Bach.

The [illegible] in charge of the groups in the various counties are as follows: Boone, Merle Dillman, Belvidere, chairman, and E. C. Bailey, farm adviser; Champaign, Mrs. E. T. Tallman, Urbana, chairman, and Mrs. Virginia Conn White, home adviser; Edwards, W. E. [illegible], farm adviser; Iroquois, Miss Grace Burnham, Watseka, director, and Dr. Ruth Brumm, [illegible] director; McHenry, V. T. Miller, farm adviser; McHenry, Mrs. Clara Grimes Sweet, [illegible], McLean, Mrs. T. [illegible] Kwasigroh, Randolph, chairman, Miss Clara Brian, home adviser; Sangamon, Mrs. Homer Kearnaghan, Springfield, director, and Edwin Bay, farm adviser; Shelby, Mrs. Winifred Bohlen, Moweaqua, chairman, and W. S. Bates, farm adviser.

-M-

Consumers Have Rare Opportunity In 1935 Peach Crop

With Illinois about to harvest the best peach crop in five years, consumers have a rare chance to fill their cellar shelves with jars and lay in a supply of quality peaches against the years when the crop will again be short or a failure, it is pointed out by V. T. Kelley, horticulture extension specialist of the College of Agriculture, University of Illinois.

Wise housewives with an eye to their food costs and their storage cellar supplies are planning to can and preserve enough peaches for at least a two years' supply, he reports.

The Illinois crop of Elbertas, the principal variety in the state, is expected to be harvested [illegible] August 15 and 25.

Not since 1931 have consumers had a chance at an Illinois peach crop that is [illegible] and there this year, it means no certainty as to when there will be another one. The peach is a tender fruit which seldom survives temperatures colder than 15 degrees below zero. Consequently production is somewhat irregular in the Illinois and the Middle West. The Illinois crop this year is estimated at about [illegible] bushels, or 4,000,000 bushels in 1931.

-M-

Present-Day Hogs Not Best Suited For Market Needs

None of the present-day types of swine effectively meet current market requirements being set by the low foreign demand for pork and lard and the new stiff preference for small, lean, firm cuts, finished bellies and a minimum of lard, according to experiments conducted at the College of Agriculture, University of Illinois. The tests have just been summarized in a new bulletin, "Value of Present-Day Swine Types in Meeting Changed Consumer Demand."

Of the swine types now common on farms of the country the intermediate comes nearest to meeting present-day demands, it was found in the tests by Sleeter Bull, associate chief in meats; F. C. Olson and J. E. Hunt, formerly assistants in animal husbandry; and T. E. Carroll, chief in swine husbandry at the college.

An ideal hog would combine the quality and plumpness of the intermediate type, the length of the rangy and the early maturity of the chuffy.

Intermediates rated good as to gains and dressing percentages, size and cutting percentages of wholesale cuts, quality of loins and loins and amount of lard stock produced. Their market grade was good in most cases but a few lacked finish, according to the bulletin.

Poor finish and firmness of the meat, especially the bellies, were the main defects in placing the chuffy type second. There was also some tendency toward too much lard production from this type.

The rangy type, which was rated third, showed favorable gains and dressing percentages, good cut sizes, good quality lean, fair loins and the right proportion of lard stock. However, the bellies were unfinished and soft, and the carcasses generally were lacking in firmness.

-M-

$20 Cave Pays Big Returns In Protecting Egg Quality

Twenty dollars' worth of material and a few days labor put into the construction of an egg storage cave have helped Lyman Bunting of near Albion prevent low quality eggs which cost Illinois poultrymen thousands of dollars every year. Bunting, who has been cooperating with the extension service of the College of Agriculture, University of Illinois, on improved poultry practices for several years, has added approximately 5 per cent to his egg sale returns by building this cave, it is estimated by H. H. Alp, poultry extension specialist at the college.

Having built up production of his flock of S.C. White Leghorns to a high point by following approved practices, Bunting recently became interested in getting a better cash return from the sale of his eggs. His first step was to start grading the eggs at home and shipping them direct to distributors who were paying prices based on grades. This practice brought considerably higher returns than the old method of selling the eggs on the count basis.

With the coming of warm weather, low grade eggs were found in each shipment despite the fact that Bunting gathered the eggs several times daily, graded them according to size and color and shipped them frequently. His difficulty was a lack of cool storage space.

He built a small cave about six feet wide, 10 feet long and seven feet deep. Cull bricks secured from a local brick yard at a small cost were used in construction, the cave, which is covered with dirt and vines to hold, being cut into a hillside. Trays built of hardware cloth are set up in the cave so that freshly gathered eggs may be layed out in single layers to cool rapidly.

Because of this rapid cooling and storage of the eggs until they are ready to be shipped, Bunting is finding that fewer of his eggs are culled out because of spoilage.

-M-

The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVIII | August 14, 1 .6 | Number 33

New Crop Is Bidding for Place as a Leading Legume

Lespedeza, a relatively new crop already grown in Illinois to the extent of 1 ,[illegible] acres, promises to become one of the leading legume crops of the state, especially on soils of lower productive levels, according to experiments conducted by the College of Agriculture, University of Illinois during the past [illegible] years and reported in a new bulletin, "Lespedeza in Illinois."

The crop's true value is a matter to be determined as it is both resistant, fairly free from [illegible] seasons and insect pests, and has a relatively [illegible] seeding of stock, it is stated in the bulletin prepared by [illegible] Stuber, crop production specialist; O. H. Sears, soil biologist; and F. [illegible] Fuller, chief in soil experiment fields, all of the college.

Lespedeza is valuable not as a substitute [illegible] because it crop [illegible] legume, but for its ability to thrive where alfalfa, red clover and sweet clover will not grow satisfactorily. While it grows best on well drained, non-acid soils, lespedeza will do fairly well on soils relatively poor in quality.

Thus it provides farmers with a legume which will set in motion the processes of soil improvement and erosion prevention without a large initial outlay for fertilizing materials.

Although the legume will grow successfully in all parts of the state, it is better adapted to the southern and central portions, since it is resistant to dry, hot weather and susceptible to freezing weather in early spring and late fall, the bulletin stated.

Thorough inoculation is necessary where lespedeza is grown on soil for the first time. If the soil is acid, liming is desirable.

The legume is valuable mainly as a pasture or soil improvement crop, although it produces a very satisfactory hay, and is useful in retarding soil erosion. As a pasture crop it furnishes the best pasture beginning about July 1 and continuing until late fall. It is also valuable as a seed crop, although the increasing acreage indicates seed will become less important as a cash crop in the future.

Annual varieties best adapted to Illinois conditions are headed by Korean, although under certain conditions Tennessee 76, Kobe and Common may be preferable. In the northern part of the State Harbin is the only variety that may be expected to be self-seeding. Sericea, a perennial, is showing promise as a hay crop for southern Illinois, according to the bulletin.

—M—

[illegible] To Become Farm Adviser In Pulaski-Alexander

L. L. Chivis, former vocational agriculture teacher at Chester, will start work September 1 as farm adviser in Pulaski-Alexander counties with headquarters at Mounds, it is announced by F. [illegible] J. C. Hilton, state leader of farm advisers in the College of Agriculture, University of Illinois. He succeeds E. E. Gordon, who resigned April 1 to accept a position with the AAA land policy section.

—M—

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Smaller Peaches Are Not Bargain When Waste Counted

Unless small peaches are offered at extremely low prices, consumers will be money ahead if they buy the larger, high-quality fruit being harvested from Illinois orchards at the present time, stated M. J. Dorsey, pomology chief at the College of Agriculture, University of Illinois. Too much of the "bargain" prices that are paid for small peaches goes into seeds and peeling, he pointed out.

A bushel of large peaches two and one-half to two and three-fourths inches in diameter contains only three pounds of seeds, according to tests made at the college experiment station. In contrast a bushel of small peaches one and one-half to one and three-fourths inches in diameter contains about six and a half pounds of seeds with a consequent decrease in the amount of useable fruit flesh.

Not only do small peaches have a greater proportion of seed to flesh but also they are more tedious to clean, peel and prepare for canning, Dorsey explained. Those three inches in diameter run about 176 to the bushel, while those measuring two inches run close to 300 and the smaller ones approximately 1,000. Since each peach must be handled separately in the canning process, the size becomes an important factor in the use of time.

Another fact brought out by tests on the various sizes of peaches is that the smaller fruits have far more skin to the bushel than do the larger sizes. The smaller sizes have about 35 square feet of skin while the larger sizes run as low as 23 square feet. Since peeling involves both time and some waste of fruit, the smaller amount of skin is a point in favor of the large peaches.

Small peaches are seldom economical in the long run, except where the fruit is to be used for spicing. In that case the smaller sizes may be advantageous if the price is low.

-oOo-

Quality Of Onions Kept By Proper Harvesting Methods

Onions both in home gardens and on commercial truck farms are of unusually good quality and size in Illinois this year, according to reports reaching B. I. Weaver of the vegetable gardening division at the College of Agriculture, University of Illinois. By following the best harvesting and curing methods, producers can preserve the quality of the product either for market or for home storage, Weaver said.

When an onion ripens properly, the neck shrivels first and the tops fall over while they are still green. After the tops have fallen, they gradually turn yellow and finally become dry and brown if the onion is not pulled. The best time to harvest is just after the tops have started to turn yellow, Weaver stated. If left much after that time, the onions are likely to start a second growth, especially if a few good rains fall after the onions have ripened. Those that have once started a second growth are useless for storage and must be used as soon as harvested.

When the leaves of the onion start drying from the top down while the neck remains rigid, the vegetable is not ripening properly and should not be saved for storage or shipment.

Onions may be dried, or "cured," either by placing them in windrows or in shallow crates. Where they are placed in windrows, the tops should be left on to protect them from sunburn. This method is satisfactory where good weather prevails. It is safer, however, to twist the tops from the onions as they are pulled and place them in shallow crates, Weaver said. The crates should have slatted bottoms and sides so that air may circulate freely among them. The common standard crate is four feet long, three feet wide and four inches deep.

-oOo-

Interest In Horse Pulling Contests Showing Increase

Growing interest among farmers in more and better horses and the consequent strengthening of horse prices is reflected in the rising popularity of horse pulling contests being staged in Illinois this summer and fall, according to F. T. Robbins, animal husbandry extension specialist at the College of Agriculture, University of Illinois.

Contests have already been held at Wheaton on June 15, Charleston on August 5 and Mt. Sterling on August 8. Other contests on the list are Pinckneyville, August 13; Albion, August 15; Watseka, August 17; Springfield, August 31 and 1; Assumption, August 23; Pontoniac, August 24; St. Joseph, August 27, LaFayette, August 29; Augusta, September 3; Sandwich, September 4; Knoxville, September 5; Bridgeport, September 6; Monticello, September 7, and Farmer City, September 10.

These contests, supervised by Robbins, have been useful in illustrating the pulling value of horses, as well as the importance of proper breeding and training to increase the pulling efficiency of horses.

Adding interest to the contests this year is the fact that a new State record has already been established for teams weighing more than 3,000 pounds. This record was established at Wheaton on June 15 when a pair of grade Percheron geldings owned by Charles M. Hutt, of Sandwich, lifted 5,140 pounds 27 feet on the U. of I. dynamometer. The former record was 5,050 pounds. This team, weighing 4,000 pounds, defeated several of the best teams from neighboring states, as well as Illinois entries.

In the class for teams weighing less than 3,000 pounds the record established by the team of Willard Rhoads, Springfield, in 1934 is still unbroken. These two horses, weighing 2,800, lifted 4,740 pounds to a height of 27½ feet.

Scheduling of a stallion pulling contest at Lincoln Buelle, Crete, on October 12 marks the first time in the history of draft horse breeding that ability to move a heavy load in a public contest will be used as a standard of merit for draft stallions according to J. L. Edwards, chief in horse husbandry at the College of Agriculture, University of Illinois.

This contest, the first of its kind in the world, is being held by the Horse and Mule Association of America in cooperation with the college. The pulling power of the stallions entered will be measured by the U. of I. dynamometer under the supervision of F. T. Robbins, animal husbandry extension specialist. Ten cash prizes totaling $1,50[illegible] will be awarded to the owners of the 10 best sires.

—H—

Rust Apple Rust Not Likely To Damage Much Quince Crop

Apple producers of Illinois, beset by the quince rust disease which is causing some losses especially in the western part of the state this year, may console themselves by the fact there will be practically no damage from this disease in 1935, according to H. W. Anderson, fruit pathology specialist at the College of Agriculture, University of Illinois.

Quince rust, a fungous disease rarely observed on apples before this season, spends a part of its life on the red cedar trees that grow in many parts of the state. The spores which would normally attack the [illegible] apple or pyrus destroyed to a large extent by the hot, dry weather of 1934. Consequently, little infection is expected next year.

The rust attacks the apple, affecting the fruit tissue rather than the leaves. At the black rust spot. As the apple grows a crater like depression is formed in the diseased area, disfiguring the apple and reducing its value either for marketing or home use. Quince rust does not ordinarily attack the leaves as do apple rust and hawthorn rust.

—H—

The Extension Messenger

COLLEGE OF AGRICULTURE UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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More Youngsters Becoming Active In Local Affairs

An increasing number of Illinois rural young people are becoming factors in the betterment of their home communities through their activities as groups, it is reported by the extension service of the College of Agriculture, University of Illinois. These groups not only help improve farming and homemaking but also contribute to a richer and happier social life. Active in two counties in 1941, such groups may now be found in 49 counties.

Counties in which young people older than 4-H club age but still too young to take their places among the grown-ups have become active since 1941 are: Adams, Bond, Boone, Bureau, Champaign, DeWitt, DuPage, Edgar, Edwards, Effingham, Hancock, Henderson, Iroquois, Jo Daviess, Kane, Kendall, Knox, Lake, LaSalle, Lawrence, Livingston, Macon, Macoupin, Madison, Marion, Marshall, Mason, Massac, McDonough, McHenry, McLean, Mercer, Henry, Pike, Piatt, Pope, Pulaski, Putnam, Randolph, Richland, Scott, Shelby, Tazewell, Warren, Washington, White, Whiteside, Will and Woodford.

Activities of these young people's groups are varied. Twenty-five Kane county youths entered community affairs by staging a series of meetings two weeks apart and bringing other young people to each of the meetings to interest them in the county's problems and possibilities. Richland county youngsters operated all concessions during a recent farm picnic and turned the profits over to local agencies working for the betterment of agriculture and home economics.

Other groups have attacked economic problems of the home and community. In Adams county the young people are making studies to determine whether or not older children remaining on the farm can produce additional income to compensate for their living expenses.

Fifty-three Macon county young people are attempting to enlarge on the recreational and good fellowship facilities of the county as well as to find ways of broadening their general knowledge. Livingston, Hancock and Bond county groups are interested in "Know Illinois," one of the projects prepared recently by the extension service to meet the needs of young people's groups.

Older boys and girls of Scott county have found the "Building an Outdoor Home" project attractive. They have also shown interest in drama production, as has the DeWitt county group. These projects along with "Know Illinois" were arranged by G. S. Randall and Miss Cleo Fitzsimmons, junior club extension specialists at the College, in response to demands from the groups. Assistance in preparing the "Build an Outdoor Home" project was given by Max Adler, landscape gardening extension specialist, while D. E. Lindstrom, rural sociology extension specialist, has helped with the project on drama.

In Woodford county a group of young women are making detailed studies of everyday art as applied to their individual needs in clothing designs and colors. In addition this group is finding foreign cookery not only interesting but also helpful in bringing new foods to the party table.

Many other activities are reported from among the 49 counties, but in all cases the young people's groups are attempting to follow a balanced program [illegible] promotion of better home and farm practices and happier community life.

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Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, Director.

Fertilizer Trials Solve Problem In Sweet Corn Crop

Although growers of sweet corn, one of Illinois' most important crops, have all but abandoned use of commercial fertilizers because of poor results, it has now been demonstrated in six years of experimental work by the College of Agriculture, University of Illinois that proper use of such fertilizers markedly improves both the yield and time of maturity of sweet corn.

The test results are reported in a new bulletin, "Fertilizer Requirements of Sweet Corn," by W. A. Huelsen, division of olericulture, and E. C. Gillis, former member of the division, who conducted the experiments.

Illinois is the leading state in acreage and production of sweet corn, but growers have taken losses for some time because yields, quality and maturity of the grain were not what they should be. Although commercial fertilizers have been resorted to, their use has been abandoned in all except isolated instances because of very slight or even negative results. Up until the time of the Illinois experiments but little reliable information was available as to the cause of this disappointing showing and the best methods of using fertilizers.

Of 65 different fertilizer combinations which were tried out during the six years of the tests, the one which gave the best and most consistent results was an 0-16-12 formula (no nitrogen, 16 parts phosphorus and 12 parts potassium) applied at the rate of 400 pounds an acre and supplemented with 80 pounds of side-dressed sodium nitrate. This treatment used in a rotation system including legumes increased the yield of marketable ears 41.6 per cent.

Under some conditions the 0-16-12 analysis may be reduced with advantage to 0-16-6, but the amount of nitrate used as a side-dressing should not be changed, it was brought out in the tests.

Other recommendations growing out of the tests were: (1) Use a rotation including legumes in order to get maximum responses from commercial fertilizers. (2) Where nitrogen is omitted, drill at 400 pounds of an 0-16-6 fertilizer an acre. (3) If it is desired to apply less than 400 pounds of fertilizer (without nitrogen) an acre, an 0-16-6 combination will probably prove superior to 0-16-3. (4) Mineral fertilizers applied without nitrogen should contain not more than 6 per cent potash. (5) An application of 400 pounds of an 0-16-12 fertilizer plus side-dressed sodium nitrate at the rate of 80 pounds an acre may prove profitable under some conditions. (6) Nitrate of soda should be applied 30 to 40 days after the corn is planted.

-M-

Illinois A Leading State In Meeting Of Nut Producers

Illinois will be well represented at the twenty-sixth annual convention of the Northern Nut Growers' Association at Rockport, Ind., September 9 and 10. With six people on the program, it is announced by Dr. A. S. Colby, chief in small fruit culture at the College of Agriculture, University of Illinois.

Heading the convention will be President Frank H. Frey, of Chicago, who will open the program September 9. Development of the nut industry in Illinois will be discussed by L. E. Sawyer, forestry extension specialist at the college, during the evening session of the first day. During the morning session of the second day Dr. Colby will outline the next steps to be taken by nut growers of Illinois. He will be followed by R. B. Endicott, of Villa Ridge, who will discuss chestnut growing in southern Illinois.

A.W. Whitford, of Pekin, will tell the delegation something about air-layered nut tree propagation during the afternoon session of the second day, and J. S. Thomas, of Shattuc, will discuss the new Kaskaskia River pecans and hickories.

-M-

Plenty Of Feed Brightens Dairy Prospects In State

With plenty of good roughages and grains being produced in Illinois this year, dairymen can forego the skimpy rations of drouth times and again feed their cows more profitable and better balanced combinations, says C. S. Rhode, dairy husbandry specialist at the College of Agriculture, University of Illinois.

Those who cull out their lowest producing cows and use the plentiful feed as a basis for adequate rations will probably be able to make a reasonable profit during the coming winter. With milk cow numbers now 6 per cent less than the record number a year ago, the six-year expansion in the state's dairy herds has been ended. Continued close culling of lower producing cows and the feeding of better rations will further strengthen the dairymen's position, it is believed.

Not since 1931 has the state had a hay crop as large as the indicated harvest of more than four million tons for 1935, according to reports of A. J. Surratt, state agricultural statistician, Springfield. Feed grains this year are more than double the 1934 crop, and the corn crop, estimated at 74 per cent of normal on August 1, may be nearly twice as large as the 1934 crop. Soybean prospects are good, and the crop is in the making on the largest acreage in the history of Illinois.

Considering the roughage and small grains already harvested and the prospects for those not yet gathered, there seems to be no reason for feeding cows inadequate rations this winter, especially if the corn crop makes good, Rhode said.

Equal parts of ground corn and oats along with a liberal allowance of good legume hay as the only roughage makes an excellent ration for milk cows. If soybeans are available, they will furnish the needed protein concentrates. Where both legume hay and plenty of silage or good fodder are available, a satisfactory grain ration may consist of 5 parts ground corn-cob meal, 3 parts ground oats and 1 part ground soybeans.

-M-

Bagworms Arrive To Menace Shade Trees In Illinois

Newest arrivals among insect enemies of Illinois trees this year are bagworms on many evergreen trees as well as on some of the box elders, soft maples, lindens and willows, it is reported by W. P. Flint, chief entomologist for the College of Agriculture, University of Illinois and the Illinois State Natural History Survey.

The worms appear during August in little moveable cocoons hanging from the leaves. They are not actual cocoons but little houses for the worms and give the bagworm its name, Flint explained.

Worms are numerous this summer and are attacking both deciduous and evergreen trees. However, they are more injurious to evergreens since one stripping of such trees kills them.

While sprays should have been applied earlier in the summer just after the worms were hatched, many of the pests will be killed if a lead and lime spray is thoroughly applied during August. The most satisfactory mixture is made of 4 pounds of lead arsenate, 8 pounds of lime and 50 gallons of water. The lime is sometimes added to prevent burning of the foliage by water-soluble arsenic in the spray.

During the coming winter further control may be obtained by pruning the bags off the smaller trees. The bags should be burned.

The ideal time to spray for bagworms is just after they have hatched. In southern Illinois they begin to hatch about June 1, in the central part of the state June 10 is about the date, while June 20 to 25 is the hatching date in the northern sections.

-M-

The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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Record Meeting Of Cattlemen Is Expected At U. of I.

Because of the unusually large number of Illinois farmers who plan to market a good share of their prospective corn crop in the form of cattle this fall and winter, a record crowd is expected to attend the eighth annual meeting of Illinois beef cattle feeders September 1 at the College of Agriculture, University of Illinois, said H. P. Rusk, head of the animal husbandry department at the college.

Visitors at this year's meeting will have the opportunity to inspect more than 300 head of experimental cattle divided into 11 lots no two of which have been fed exactly the same way, Rusk stated. The chief object of interest will be eight lots of yearling steers which have been furnishing daily information during the last seven months on the value of protein supplements, blue grass pasture, corn silage and other feeds in producing choice market cattle.

Another point of interest this year will be the experiments which have indicated that a ton of soft corn properly stored and fed will produce as many pounds of gain as a ton of hard corn. This experiment has taken on added significance because of the late corn crop in many sections of the state and the prospects for a considerable amount of soft corn this fall.

Until the new corn crop becomes available, cattle feeders are using to good advantage various combinations of small grains recently threshed on Illinois farms, according to E. T. Robbins, livestock extension specialist of the agricultural college. With favorable cattle prices in prospect, it is best plan to keep the animals gaining as rapidly as possible and then cut on the finish with the new corn this fall.

Among the combinations showing good results are oats and wheat, oats, wheat and barley, or oats, wheat and corn where corn is available. These grain rations along with good pasture and hay, so plentiful in the state this year, have produced good gains and furnish a fairly economical way of keeping cattle gaining until more corn is available, Robbins stated.

Some operators are buying corn at 90 cents a bushel to continue the feeding program which they started in the spring. In cases where cattle fed in this manner have been sold, they have paid a good return on the feed and risk which was involved in the venture.

Cattle feeders are also making plans to conserve all the roughage available for next winter's feeding, since last winter they found that roughage is an economical feed for wintering cattle as well as a good supplement to grain rations where the animals are being fattened for market.

The silo is expected to be the most popular place for the storage of corn fodder and corn stover as well as many other types of roughages, Robbins stated. Pit silos are especially suitable, since they may be constructed at a relatively small cost to take care of the extra amount of roughage crops expected this year.

-M-

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[illegible] Are Worth While For Egg Producers

Value of proper incubator management and marketing of eggs is practiced by several southern Illinois poultrymen is illustrated by one farmer of this section who has received greater returns and higher profits from his flock this summer than have many of his neighbors, it is reported by H. H. Alp, poultry extension specialist at the College of Agriculture, University of Illinois.

Because he fed and managed his flock for high production of quality eggs, handled and graded the eggs carefully, turned them regularly and marketed them on the grade rather than on a flock basis, this poultryman has thus far this summer received 4 cents a dozen, or more, above, and sometimes as much as 10 cents above, the local "country run" price of [illegible].

First of all [illegible] the hens were given free range during the hatching season. Consequently all of the eggs produced were of normal size, shape and color were intertile, and spoilage was held at a low level. The hens were fed a good commercial laying mash and had access to oyster shell and water. Under this management the flock [illegible] eggs per hen.

Eggs were gathered [illegible] times a day and stored in a cool egg cellar. Dirty, cracked or misshapen eggs were kept out of the cellar and consequently were not sold. Each egg was candled [illegible] and placed in wire [illegible] trays.

In order to [illegible] the poultryman packed the eggs according to size and sold only the large eggs. [illegible] small and dirty eggs were used at home, Alp said. Each week the poultryman checked up to see that the buyer had paid a balance on the grade [illegible] the eggs. If two grades were included in one, the buyer was notified. All eggs were protected from the sun and heat while in the incubator [illegible].

Since [illegible] before leaving them, they [illegible].

-3-

[illegible] If Wilt Is Present, Plant Wilt Resistant Green Peas

Insects [illegible] usually [illegible] generally fair the year, but [illegible] will [illegible] of Illinois, according to E. E. Weaver, [illegible] College of Agriculture, University of Illinois.

The [illegible] thought to be due to the dictator now, Weaver said, but [illegible] should be [illegible] and [illegible] to wilt. If peas [illegible] they [illegible] higher [illegible] spring. Fusarium wilt [illegible] to treat [illegible] in Illinois [illegible] any other disease with the exception of [illegible]. It [illegible] parallel only [illegible] planting of resistant varieties.

Among the varieties resistant to Fusarium wilt are Freezer, Early Perfection, Illinois Pride, Marrowfat, and Pritchard. The first three of these have been developed at the College [illegible] and will be used [illegible] for the [illegible].

Fusarium wilt is often carried [illegible], but more [illegible] is likely to live in the soil for [illegible] if the host plants are [illegible]. Thus the wilt may be spread by the [illegible] of manure [illegible] to uninfected soils. Soil mixing, that is, [illegible] the [illegible] through the tissue. Consequently the possibilities of preventing [illegible] by planting [illegible] on clean ground is small.

In [illegible] soil sterilization is effective, but it [illegible] practicable [illegible] in any field [illegible].

-4-

Record Hog Price Sets New High Mark For 4-H Members

The new world's record price of $1.[illegible] a pound for fat market hogs, which was recently established by an Illinois 4-H boy's sale, sets a new all-time high in achievements of rural farm boys and girls of the state who are enrolled in 4-H pig club work under supervision of their county farm advisers and the extension service of the College of Agriculture, University of Illinois.

The holder of the new world record on fat hog prices is Willard Brittin, a 16-year-old 4-H club member of Sheldon, Iroquois county. It was established during one of the night society horse shows at the Illinois State Fair when Willard's 17-pound Berkshire barrow was sold to a Chicago meat packing company for a total of $187.[illegible].

All of Willard's 5,000 fellow pig club members in Illinois are being trained in modern and approved methods of breeding, feeding and managing hogs under direction of their county farm advisers, local leaders and the extension service of the agricultural college, but the new price of $1.[illegible] a pound is expected to stand for some time.

Less than a year ago this boy paid $[illegible] for $1-7. Part of the money he had earned on his hogs, he had invested $[illegible] of it in a registered Berkshire gilt. With this as a start he hopes to build up a purebred herd of his own on his father's farm. With the remainder of the money he intends to [illegible] establish his own breeding herd to replenish in order to get more money for his competition at the fair.

Previous to the sale of Willard's pig at $1.[illegible] a pound, the best mark was $1.[illegible] and before that it was 77 cents.

Willard will be a junior in the Wilmington high school this fall and is now in his third year of 4-H club work.

He has two brothers, who are also future farmers. Farms in the area of land, specializing in Berkshire hogs and purebred Hereford cattle.

Their county fair, which was the feature of the state fair 4-H club show in which approximately [illegible], 4-H boys' and girls' 4-H club members of the state competed for a share of the $[illegible] in prizes won.

-H-

Tomato Juice Can Now Be Canned In The Home Kitchen

Tomato juice, the ever increasingly popular health drink, may be made in the home kitchen this fall especially since the Illinois tomato crop is showing a fairly good yield of desirable fruit, said Glenna A. Harrison, foods extension specialist at the College of Agriculture, University of Illinois.

The juice is extracted by pre-cooking the tomatoes only until soft at a temperature of from 17[illegible] to 18[illegible] degrees, or slightly below boiling if a thermometer is not available. The hot, softened tomatoes are then put through a colander or sieve. Skins should be removed before the tomatoes are cooked.

The juice should be reheated once after it has been put through the sieve, poured into sterilized containers and then processed in a boiling water bath for 10 minutes. Salt may be added if desired in the proportion of one-half to one teaspoonful to the quart. It is more desirable to add the salt a few minutes before the juice is used.

Only a small amount of tomatoes should be worked at a time, and neither the cooked tomatoes nor the juice should be subjected to [illegible] any longer than is absolutely necessary during the processing, since heating the air will destroy the flavor as well as the health-giving vitamins. Jars should be filled with hot juice.

After the tomato juice has been canned, it should be [illegible] in a cool, dark place.

-H-

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Record Soybean Crop Brings Danger Of Soft-Pork Loss

A record crop of soybeans in Illinois this year will mean heavy losses from soft pork if farmers attempt to use the whole soybeans for fattening hogs, according to a warning by Prof. Chester Bull, associate chief in meats at the College of Agriculture, University of Illinois.

While whole soybeans produce soft, flabby pork that is of inferior market quality, soybean oil meal used as a supplement for corn in hog rations will make firm pork, Prof. Bull points out. At the same time soybean oil meal will produce faster and more economical gains than can be obtained with whole beans.

It is suggested that farmers trade any whole beans which they would feed to hogs for soybean oil meal, thus securing a valuable home-grown protein supplement for their corn and at the same time avoiding the risk of soft pork losses.

It is to the advantage and profit of farmers to do everything possible to avoid soft pork, since neither shippers, feeders, meat packers, canners nor consumers want such meat, Prof. Bull said. The soft pork problem may become so serious that "soft" hogs will have to be discriminated against. A few loads of such hogs from any one shipping point would be sufficient to give that territory a reputation for inferior pork, with the subsequent danger of price penalties to producers.

An added inducement for using soybean oil meal instead of whole soybeans is the fact that it produces just as good gains as tankage and linseed meal and at present prices is more economical than these two supplements, Prof. Bull said. Experiments at the U. of I. College of Agriculture have shown that 14 pounds of soybean oil meal and four pounds of alfalfa meal are equal to the standard corn belt supplement of eight pounds of tankage, four pounds of linseed meal and four pounds of alfalfa meal. At present prices the soybean oil meal would be the more economical feed.

Other experiments in Illinois, Indiana and Ohio have demonstrated that soybean oil meal used to balance corn produces 10 to 20 per cent more rapid gains than whole soybeans, shortens the fattening period one to two months, and from 10 to 20 per cent of the feed and makes firm pork of high quality, Prof. Bull reports.

Corn and soybean oil meal fed at the rate of one bushel of corn and nine pounds of soybean oil meal with alfalfa meal makes a good ration for fattening hogs. However, a mineral mixture should always be fed when soybean oil meal is used in the rations. A good home-made one can be mixed from 2 parts ground limestone, 1 part steamed bonemeal and 1 part salt.

Cooperation among farmers in avoiding the feeding of whole soybeans will protect their shipping point against getting a reputation for soft hogs, Prof. Bull pointed out. At present market prices of soybeans and soybean oil meal 100 pounds of farm pork can be produced quicker and cheaper than 100 pounds of soft pork. Furthermore, the reputation of the community for producing good hogs will add much to the profitableness of future operations, he said.

—X—

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12-Year-Old Soil Plan Paying Dividends On Fulton Farm

Twelve years of rebuilding and maintaining the fertility of his 250-acre farm through the use of limestone and legumes are now paying dividends in the form of feed, better balanced rotations and reduced costs of production for L. F. Randolph, of Fulton county, it is reported by C. M. Linsley, soils extension specialist of the College of Agriculture, University of Illinois. Randolph has limed about 200 of the 250 acres of his farm, and the rest probably will be limed within the next two years.

This year 20 acres of sweet clover on limed land pastured 25 head of cattle, 20 sows with 145 pigs and six horses. The pasture could have carried almost double that number of livestock, Linsley believes.

This same 20 acres, once considered the poorest land on the farm, furnished 14 loads of sweet clover hay and plenty of pasture for 25 cattle and six horses during the drouth last summer. The clover came up as a volunteer crop last spring and took a poor crop of oats. Its excellent growth in spite of the drouth was possible because limestone had been used to sweeten the soil, Randolph believes.

Another proof of the value of limestone is shown by the fact that corn yielded 45 to 50 bushels to the acre on limed land at Randolph's farm last year, Linsley stated.

"Nothing can beat lime and sweet clover for putting life in the soil," declares this Fulton county farmer. He has found limestone profitable, since it has enabled him to maintain soil fertility and obtain better than average hay and pasture crops from legumes.

During the past two years shifts from surplus grain crops to alfalfa and clover have been much easier for Randolph because much of his soil is limed and grows these soil-building crops readily, said Linsley.

Randolph's farm is an example of hundreds of Illinois farms on which soil fertility and earning power have been maintained and increased by the use of limestone. Many farmers have found that acid soil must be limed and clovers grown regularly in the rotation if the land is to continue earning enough to support the farm family.

Where the common practice of grain cropping is followed, fertility of the soil will be depleted and crop yields will decrease year by year. Eventually a stage of soil depletion may be reached when the income from poor crops will not furnish a living for the farmer. When conditions get this bad, it will be too late to make any investments in soil improvement, Linsley declared. Many Illinois farms are not far from this stage now, he said. The longer liming is postponed, the more difficult it will be to finance this soil improvement work.

-M-

Good Feed Supply Ends Need For Late Alfalfa Cutting

With supplies of feed, especially good roughage, plentiful in Illinois this year, there is no necessity of injuring alfalfa stands by late cutting, declared J. J. Pieper, crop production specialist at the College of Agriculture, University of Illinois.

To avoid winter injury to their alfalfa, Illinois farmers should not cut hay crops later than six weeks before the first killing frost. For northern Illinois the average date for the first killing frost is about October 16, which means that alfalfa should not be cut later than the first week of September.

In central sections of the state killing frosts occur a few days later, averaging about October 18 to 19. They may be expected in the southern third of Illinois about October 24. Frosts have killed vegetation in all of these sections during September, occurring as early as September 14 in the northern and southern sections and on September 16 in the central section. However, such early frosts are the exception, and most alfalfa will be safe if not cut after the first week in September, Pieper said.

-M-

Soft-Corn Rush Urging Farmers to Temporary Silos

Possibilities of a large amount of soft corn in Illinois this fall have turned farmers to preparations for temporary fence silos and other emergency means of saving as much of the crop as possible, according to the agricultural engineering department, College of Agriculture, University of Illinois.

While corn is making rapid growth, there is danger that frost will catch some of the crop before maturity, it is shown in reports coming to J. J. Pieper, crops specialist at the college. The fence silo offers an economical and satisfactory way of preserving this soft corn for winter use.

Most common among the temporary fence silos are those constructed of the familiar picket, or snow, fence. Woven wire fencing is also used to some extent. The fence is set up in a circle of the desired diameter after the ground has been leveled for the base. The inside is lined with heavy building paper and filled to within about six inches of the top before the second section is fastened on top, said W. A. Foster, chief in rural architecture at the college.

Diameter and height are governed by the capacity desired, although a height of not more than the diameter will assure greater stability. A silo 12 feet in diameter will hold approximately 50 tons of silage, while a 20-foot silo will hold about 96 tons. A complete table of sizes and capacities as well as instructions for building fence silos and pit silos are available at the agricultural engineering department of the college.

This information gives details for determining the size of silo needed, laying out the ground, constructing the silo, filling it and preparing the ensilage for better keeping.

-M-

Silos Make Good Storage For Extra Supplies Of Hay

Since hay mows are already bulging with good legume hay, silos probably will be pressed into the unusual service of furnishing storage space for much of the additional hay crops being raised in Illinois this year, said W. E. Nevens, associate chief in dairy cattle feeding at the College of Agriculture, University of Illinois.

Contrary to the popular opinion, most legume hays make excellent silage for dairy cows if handled in the right way, Nevens declared. Alfalfa, soybeans and the various clovers, all of which are growing in abundance in the state this year, can be made into palatable, nutritious ensilage.

The only difficulty with legumes as silage is that they will develop a strong, unpleasant odor and become unpalatable if put into the silo too green. This is caused by deterioration of the large amount of protein in such crops. This condition not only reduces the feeding value of the ensilage but also is likely to taint the milk, since the odor will pervade the entire barn. Some of the taint also is carried to the milk from the silage eaten by the cows.

Allowing the legume hay to wilt and dry out after it is cut will help prevent the unpleasant odor and taste. The surest method of preventing the development of these damaging qualities, however, is to mix fairly green corn with the legumes half-and-half by weight or not less than one load of green corn to two loads of legumes. The additional sugar in the corn causes an acid to form, thus preventing deterioration of the protein and the development of the bad odor and taste, Nevens explained.

Another method which may be used where green corn is not available is to mix black strap or sugar beet molasses with the hay at the rate of 4 to 5 per cent, or 3 to 4 pounds to the ton.

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Volume XVII [illegible] Number 37

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Published in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, *Director*

Well-Ventilated Cribs Will Help Save Late Corn Crop

Since much of the Illinois corn crop of an estimated [illegible] million bushels will be late in maturing, cribs which not only are tight but also give plenty of ventilation for drying [illegible] cribs will [illegible] light [illegible] losses, it is believed by W. A. Foster, rural architect at the College of Agriculture, University of Illinois.

Facilities [illegible] those which will [illegible] in the field, Foster said. In addition to plenty of air circulation, the crib should [illegible] against [illegible] rats, mice and other destructive [illegible] corn.

The [illegible] provision [illegible] important [illegible] Commodity Credit Corporation [illegible] ALL [illegible] offered. [illegible] protected.

In figuring [illegible], the farmer can base his estimates on the fact that [illegible], will [illegible] small grain [illegible]. [illegible] crib [illegible] feet high [illegible]. [illegible]

[illegible] scattered [illegible] farmer who is just starting [illegible] crib [illegible] selected site [illegible]. [illegible] a driveway between. [illegible] and [illegible].

[illegible] constructed. [illegible] crib between the [illegible]. This [illegible] floor [illegible] best [illegible] hardware cloth.

Details [illegible] the department of agricultural engineering [illegible].

-M-

[illegible] Fall Culling of All Pullets

[illegible] for fair [illegible] made [illegible] careful culling [illegible] all [illegible] put in [illegible] house this fall, it is stated by [illegible] Alp, [illegible] College of Agriculture, University of Illinois.

In [illegible] practically every [illegible] individual [illegible] laying [illegible]. [illegible], [illegible] feed [illegible].

The [illegible] transferred to the laying [illegible] able to start [illegible], [illegible].

-M-

[illegible] Makes Valuable Erosion-Preventing Crop

[illegible] importance in Illinois this year be- [illegible] rops and their ability to fit into the [illegible] ps, according to J. J. Pieper, crops [illegible], [illegible] ny of Illinois. Nor have these new [illegible] ll pasture as a feed saver and [illegible].

[illegible] ter wheat, barley and rye make excellent [illegible]. W[illegible] ral favor in the southern section of [illegible], [illegible] the other grains without danger of in- [illegible]. I[illegible] stage four to six weeks after [illegible] into the early winter. October 1 [illegible] mall grains this year, Pieper said.

[illegible] crops if they are used as nurse crops [illegible]. Pasture mixtures which are [illegible] small grain. The grain will furnish [illegible], [illegible] grass will become available later next [illegible]. [illegible] the small grain next year with- [illegible] grain, Pieper declared.

[illegible] will include timothy, brome grass, [illegible]. [illegible] most sections of Illinois in- [illegible], [illegible] lover, alsike and white clover in [illegible].

[illegible] that new areas be planted in sub- [illegible] convenient and effective method of [illegible]. [illegible] will help [illegible] and the soil and minimize the [illegible] spring rains. The addition of the [illegible] roll feature of the crop.

[illegible] is for use as pasture crops on acre- [illegible] nsult their county or community com- [illegible] form to terms of their contracts.

-M-

[illegible] Hauling Limestone Lowers Cost

[illegible] ods of hauling and spreading limestone, such [illegible] last spring, have enabled Illinois farmers to [illegible] at less material than formerly, it is believed by C. M. Linsley, [illegible] College of Agriculture, University of Illinois.

[illegible] ose followed by E. E. Porter, of Winnebago [illegible] is have been eliminated. The limestone is moved [illegible] lime shovel to the crusher where it is pulverized [illegible].

[illegible] enough to allow five-ton trucks to back under the [illegible] shoveling, Linsley said. The trucks, of the power [illegible], [illegible] with [illegible] ver attachments. Consequently, the limestone is [illegible] to the field where it is spread by operating the [illegible] to feed into the spreader as the truck is driven across [illegible]. [illegible] lowed, the limestone is dumped from the trucks into [illegible] by tractors. By this method all of the [illegible].

-M-

The Extension Messenger

COLLEGE OF AGRICULTURE - UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College Experiment Station and Extension Service

Volume XVIII | September 1, 19[illegible] | Number [illegible]

Milestone Is Set In Study Of Farm Farming Methods

A milestone in the study of farm business methods has been set with the holding of a "get-together" meeting at the College of Agriculture, University of Illinois, according to Dean H. W. Mumford, head of the department of agricultural economics.

Ten years of records in the College farm business-management service project were compared and studied by several hundred farmers attending the meeting. Sixty-three farmers who have kept records during the ten consecutive years of the project were paid special tribute by Dean H. W. Mumford of the agricultural college.

This is the first time that farmers have met for comparing accounts in connection with their farm advisers and the agricultural college. The farm business-management service, which now has approximately 1,000 farmers in 18 counties as enrolled, remains the only project in the development of this movement.

Through their records farmers have found out how well they are running their farms as compared with their cooperating farmers and they have been aided in applying to their own farms the practices that have proved profitable on other farms of a similar type.

One of the outstanding results of the record keeping has been a development of good farming. This has been built up by the college through a half century of experimental work supplemented by the records which the cooperators have kept during the past score of years and the service has developed during the last ten years in the farm business-management service project.

The seven points of the record are: (1) planned rotation of crops and good field management; (2) keep the kinds and amounts of livestock that are well suited to the farm, the farmer and the market; (3) produce high yields of crops; (4) produce good returns from feed fed to livestock, crops, and labor; costs low in proportion to income; (5) keep power, farm machinery and livestock equipment costs low in proportion to income; and (6) keep building, and fence costs low in proportion to income.

Among the 63 farmers who have kept records throughout the ten years of the project, the one farmer whose farm excelled in all seven of these factors had an average annual net income of $4,[illegible] during each of the ten years. The six farmers whose farms excelled in six of the seven factors had an average annual net income of $2,[illegible].

Farms strong in five of the seven factors had an average annual net income of $[illegible]; those strong in four factors showed an average annual net income of $[illegible]; those strong in three, $1,[illegible]; and those strong in only two factors, $1,[illegible]. The farm which excelled only in one or none of the seven factors had an average annual net income of only $966 for each of the ten years.

Some farms not making high records in farming at the present time are building the productivity of a badly-depleted soil and getting high-grade, live stock herds established. With good farming practices these farmers will be able to increase their earnings materially in years to come.

-E-

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Erosion Control Will Be Aided By New Soil Studies

Control of soil erosion on thousands of acres of Illinois farm land is expected to be aided through new studies started by the College of Agriculture, University of Illinois, to find out how water appears to rainfall on different soil types.

Samples of soil from eight extensive soil types have been "planted" on the college farm as a basis for the studies. These include soils from as far south as Madison county, as far north as Lee county, as far west as Hancock county and from other places within this general area.

By measuring the amount of surface run-off from these soils and the rate of water percolating through the soil, the investigators hope to secure information needed in the development of more effective erosion control methods in the state. Findings made in the Illinois soil survey show that there are more than 4 million acres of Illinois farm land that are subject to destructive erosion and should never be farmed, more than 3 million additional acres that are subject to serious erosion and suitable only for pasturing, and more than 19 million acres where erosion control practices are necessary to maintain the productivity of the land.

One question to be answered by the tests is all on these different soils is it possible to [illegible] control methods, it was pointed out by F. S. Stelter, associate [illegible] in charge of the new studies.

The samples used in the studies were taken by forcing hollow cylinders, 36 inches in diameter [illegible] soil. The cylinders with the soil core in them were then brought back to the college where they were set up so that water falling on the surface is free to escape as run-off or by percolating through the soil.

Both the run-off and the percolation are measured. A rain gauge near the sets records total precipitation. Thus the disposal of the water falling on the surface can be calculated. While the test has not been in operation long enough for any definite conclusions to be drawn, it is hoped that within a relatively short time accurate information may be available as a help in meeting soil erosion problems.

-M-

Water As Well As Feed Needed For Production Of Eggs

Hens need water as well as feed to produce eggs, according to H. H. Alp, poultry extension specialist at the College of Agriculture, University of Illinois. This is true since hens have very little water storage capacity, water must be supplied at all times if the flock owner expects to take advantage of higher egg prices when they are at hand.

Approximately nine pounds of water are required for each dozen eggs laid, according to records of the daily water intake of 60 White Leghorn pullets at the college over a period of four weeks.

Another significant fact brought out by the trials was that egg production increased almost in direct proportion to increased consumption of water. During the first week the hens drank approximately 2.16 pounds of water each. Egg production during the same week averaged 2.99 eggs to the hen.

During the last week of the trials water consumption averaged 3.08 pounds, or about 140 per cent of the first week's average. Egg production during the last week averaged 4.19 eggs, or approximately 140 per cent of the first week's production. These figures indicate that where the ration is adequate, plenty of drinking water will help boost the laying efficiency of hens, Alp stated.

-M-

Lamb Profits Up When If Feeders Use Sound Methods

For other lamb feeders who will follow the practices that Illinois feeders have found to yield a fair profit from cheap feeder lambs, the outlook, as pointed out by the specialists, is favorable. Prof. W. G. Kammlade, sheep husbandryman at the College of Agriculture, University of Illinois, says:

A shortage of lamb slaughter of 19[illegible] to-date has reduced the number that will be available for the fall and winter. This indicates that prospects during the next few months should be favorable for those who follow the right methods. Illinois feeding conditions have enabled many western growers to secure a fair profit by substituting Illinois farm-grown feeds for high-priced concentrates. Illinois farmers also will have the advantage of plentiful supplies of home-grown feed, Kammlade stated. A good feeding ration will include one-half as much corn as in the past, he added.

All these factors indicate that feeder lambs can be purchased profitably if they are bought right and handled properly. Since they may have been in transit from one to three days, they should be brought to the farm when they arrive. Consequently they should not be fed heavy rations of grain, given ample time to rest and water.

Palatable, clean, bright timothy, alfalfa, or clover hay and a small amount of salt is an ideal ration for the first few days. Keep troughs under the racks to catch the hay. They should be clean, dry, and free from drafts. Some type of shelter, Kammlade said. This early care is highly important, since many of the lambs, weakened by the trip, may develop scours as they are changed to their new feeds unless they are handled carefully.

Clean, well-ventilated shelter of sufficient capacity to keep the lambs without crowding has been found to contribute to healthy, fast gaining flocks. The shelter should contain feeding racks so that lambs will not have to eat in the open during cold, rainy weather. Plenty of water should be available at all times.

The lambs should be transferred gradually from roughages to concentrated feeds to avoid losses from digestive disturbances. Even after the lambs are on full feed, plenty of palatable roughage will be needed to guard against over-eating of concentrates, according to Kammlade. Detailed information on the care and feeding of lambs is available in circular No. 415, "Feeding Lambs on Illinois Farms," available at the college.

-X-

Butter Imports Show Record Decline Since Last Spring

A marked falling off in foreign butter imports has occurred, coupled with increased domestic production and decreased consumption this summer, according to reports received by the College of Agriculture, University of Illinois, from the U. S. Bureau of Agricultural Economics. No New Zealand butter has been imported since April, it is stated in the report. European imports totaled [illegible],000 pounds in July this year as compared to 1,407,000 in June and 2,000,000 in May.

While imports have been decreasing, domestic production has been increasing. June butter production this year amounted to approximately 191 million pounds as compared to 183 million last year. Consumption, however, decreased from 14[illegible] million pounds in June, 1934, to 175 million in the same month this year, the report says.

Under the February London and New York price conditions, importers could pay the 14 cent import tariff on each pound of butter brought into the country and still have a margin of profit. However, as the spread between New York and London prices decreased, the margin disappeared and imports declined.

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Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

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Hog-Corn Silage Best Way To Save Corn Hit By Frost

Any of the 7½ million acres of Illinois corn which may be caught by threatened frosts this fall can easily be utilized by being snapped, husk and all, and made into hog-corn silage, according to H. P. Rusk, head of animal husbandry at the College of Agriculture, University of Illinois.

There have been six soft corn years since 1916, and the college has worked out the best methods of saving the grain by running extensive feeding tests.

Corn that has been injured before maturity usually is too high in moisture content to keep if placed in a crib. In fact, moisture content above 25 per cent is too high for cribbing corn safely, Rusk says. Tests during such soft-corn years as 1913 have shown that soft corn rarely contains less than 25 per cent moisture.

Running the immature corn through the ensilage cutter and putting it in a silo helps to conserve much of the feed value of the immature grain, conserves storage space, lightens the feeding work during the winter and is the most satisfactory way of curing soft corn, according to tests made at the college.

During the three years soft corn has been fed in this way produced 281 pounds of gain on a head of steers. The next best gain amounted to 196 pounds gain to the acre when the soft corn was stored in the shock and fed from the shock as needed during the winter.

When the corn was pastured in the field and nubbins not husked, steers made 187 pounds gain on beef steers. Pasturing proved to be the poorest method with each acre of soft corn producing a gain of only 17 pounds when the steers were allowed to run in the field and eat the corn from the stalks or ground.

Use of rape in these tests showed gains with hogs, although hogs following steers fed shocked corn did the best, making about 50 pounds total gain from each acre of corn fed in this manner.

-M-

State Contest In Corn And Poultry Judging In Oct. 2

Out-lumbered of the best judges from among the 4-H Illinois farm boys and girls who are enrolled in 4-H corn and poultry projects will battle for the state championship judging honors in these two lines of work in a contest to be held at the College of Agriculture, University of Illinois, October 2, it is announced by O. I. Pilchard, boys' club specialist.

This year the poultry judges will be required to judge eight classes of four specimens each, Pilchard said. Four classes will be judged according to American standard of perfection rules and the other four according to utility conditions. The breeds which may be used will include Barred Plymouth Rocks, Rhode Island Reds, White Wyandottes and White Leghorns.

The corn judges will be required to place three classes of corn consisting of four 10-ear samples each. The classes will include two samples of utility type yellow corn and one sample of utility type white corn.

-M-

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Tests Show Safe Methods Of Meeting Spray Tolerance

With a large crop of apples to be moved in Illinois this fall and lower spray residue tolerances in effect, growers can protect themselves by following successful methods of spray removal worked out in experiments by the College of Agriculture, University of Illinois, according to fruit specialists of the institution.

Lead tolerance has been reduced by law to .018 grains to each pound of fruit during 1934. The arsenic tolerance remains at .01 grains. If the lead tolerance is met the arsenic tolerance almost invariably will be met also, it is stated by W. A. Ruth, chief in pomological physiology, and K. J. Kadow, associate pathologist.

The tolerances established by the government must be met before the apples can be sold. Shipments which do not meet the specifications are liable to seizure. Because of this regulation consumers may rest assured that there is no danger of spray residue from fruit that has reached the market.

Since the tolerances are relatively low, growers are faced with the problem of removing the spray residue without injuring the fruit. The process consists in washing the apples, usually in hydrochloric acid or sodium silicate followed by acid. Usually one application is sufficient. Acid injury may be caused by too high a concentration of acid, too warm a solution or too long an exposure of the apples to the solution, Ruth and Kadow state.

Variety and condition of the apples also may influence the injury. Apples picked prematurely usually are more sensitive to the treatment. The safest procedure is to run tests with the different varieties of fruit and vary the methods of washing until the injury is reduced to the smallest possible degree.

Acid solutions for the test runs should be made up with about 1½ per cent actual acid and held at a temperature slightly above 100 degrees fahrenheit. Acid injury shows up in minute pits usually at the calyx end of the apple.

Silicate injury is caused by the lack of thorough rinsing after the apples have been washed in sodium silicate. Such injury is indicated by a round, burned area at the calyx end of the apple and sometimes cracking similar to that caused by acid.

It is suggested that analyze a sample of the apples before washing to determine tentatively the proper method of solution needed. The apples should be analyzed after the washing to insure the residue is down to government specifications.

Detailed information on washing and testing apples is available from the horticultural department at the college.

-M-

New-Type Cotton Eases The School Clothes Problem

Cotton fabrics that have anti-crease qualities and resemble wool to the extent that they may be substituted satisfactorily in many cases are now available to simplify the winter school clothing problem for many Illinois mothers, according to Miss Edna P. Gray, clothing extension specialist at the College of Agriculture, University of Illinois.

With these developments cotton is destined to become more popular as a fabric for school clothing, since it possesses many other qualities, both from the economic and comfort standpoints, which adapt it to the school child's needs, Miss Gray believes.

Information on the buying and construction of school and play clothing is available at the home economics department of the college. In addition, three recent U.S.D.A. publications, No. 52, 54 and 80, describing the construction of suits for boys, dresses for girls and play suits, are available at a small cost at Washington, D. C.

-M-

Ten-Year Records Fix Value of Good Farming Methods

A new price tag can now be put on good farm management methods as a result of ten years of records which Illinois farmers have kept in the farm bureau-farm management service project of the College of Agriculture, University of Illinois, according to Prof. M. L. Mosher of the department of agricultural economics.

The figures on the price tag, or the value of good farm management, may be a surprise to those who have underestimated the worth of good crop yields, livestock efficiency and other recommended practices in safeguarding farm earnings and promoting general farm prosperity, Prof. Mosher pointed out.

Records kept by the farmers who have been enrolled throughout the ten years of the farm bureau-farm management service project form the basis for the new price tag. Fifty-seven of these farmers operated the same farms during the ten years and otherwise operated their land so that it was possible to make direct comparisons between them.

Ten of these 57 farms made more marked improvements in their farm management methods than others during the ten years of the project. However, during 1906, 1906 and 1907, the first three years of the project, before the improved farm management began to make itself felt, these ten farms had an average annual income of $1,105 less than the average for the whole 57 farms.

During 1916, 1917 and 1918, the last three years in the ten-year period, each of these ten farms on which the farm management practices were improved earned an average annual net income of $5,[illegible] more than the average for the whole 57 farms.

These farmers improved their position, Prof. Mosher explained, by using their records and by trying to find out how well they were running their farms as compared with other cooperating farmers. They also applied practices that had been proved in the records to be profitable on other farms of a similar type to theirs.

Thus in ten years these farmers, as a group, advanced from a position far behind the average for all farms in the project to a position well ahead of the average.

-M-

Fall Festival To Put Show Watermelon Fame of State

Illinois' fame as a watermelon state will be proclaimed in the first annual fall watermelon festival at Bowen, September [illegible] to 21, according to L. A. Taylor, vegetable gardening extension specialist at the College of Agriculture, University of Illinois.

Some of the state's finest melons will be "on parade" at this show. The Cuban Queen, recently introduced into Illinois by the extension service of the agricultural College, will be a featured variety.

The festival, supervised by the Illinois Valley Watermelon Growers' Association, is the first of its kind in the state and was organized to improve the melon growing industry in Illinois, an industry which produces annually more than $[illegible],000 worth of fruit.

Melon growers managing the festival plan to appeal not only to the appetites but also to the appetites of visiting melon fanciers, farmers state. They expect to ship 5,000 of their finest melons into Bowen to be given to visitors as a sample of the quality of their product.

Varieties of melons which will be on display will include the Tom Watson, which is gaining rapidly in popularity in the state, as well as the well known standard varieties such as Dixie Belle, Tom Watson and Kleckley Sweet.

Another feature of this colorful show will be the crowning of the watermelon queen. The queen-to-be and her two ladies-in-waiting will be selected by the growers' association. Prizes will be announced during the festival.

-M-

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October 2, 1935 Number 40

Erosion Problem On Three Fronts

hers working to check soil losses on more than 19
a are attacking the problem from three different
rosion extension specialist coordinator at the
il nois. These are: mechanical control, vege-
cluding good management.
udes properly constructed terraces, gully control
Terraces, carefully maintained, help to prevent sheet
gu s are already formed, check dams and other struc-
ca s soil to be deposited rather than carried away,

he o water, allowing much of it to be absorbed
f and erosion. Such furrows are particularly adapted

ve ve control methods, such cover crops as wheat, rye,
ec ive in controlling erosion. Experiments have
s lost from fields growing good stands of cover
g ra Permanent vegetation, where it is adapt-
ent means of preventing soil washing. Alfalfa
ps for erosion control, Buckardt said. Where the
ee are superior to grass and hay crops.
ase of erosion control, crop rotations, controlled
ecial practices are considered the most important.
egumes increase the organic matter content, thus
ng. Controlled grazing prevents the surface from being
tion, while the use of special practices such as contour
meet special problems on the individual farms or fields.
college which contain valuable information on various
ude a mimeographed leaflet, "Grasses and Legumes for
ement" and Circular No. 290, "Saving Soil by Use of Mangum

-M-

Winter Oat Varieties Not Adapted To State

ead search which they are now making for new crops to adjust
ions, Illinois farmers should beware of the so-called winter
arning by J. C. Hackleman, crops extension specialist at the
niversity of Illinois. Winter-hardy varieties of oats
to the central and northern parts of the state and are ques-
southern part, he said.

-M-

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[illegible] Plants [illegible] Way to Protect Livestock

[illegible] from poisonous plants such as white [illegible] coping with this danger, said [illegible] at the College of Agriculture [illegible] poisoning from various parts of Illinois.

[illegible] especially danger us at this [illegible] age after many other plants [illegible] grazing horse and bull [illegible] crop production [illegible] usually thrives in cultivated [illegible] fewer. The [illegible] smooth edges. [illegible] weight from [illegible] edges. The [illegible] pot.

[illegible] ing, [illegible] ss of weight. [illegible] If a graduate [illegible] able to save [illegible] from these [illegible].

[illegible] weeds, many farmers [illegible] or noodlots. Only [illegible] careful observation [illegible] poisoning. Sus[illegible]

-M-

[illegible] of Plant [illegible] Frost

[illegible] the many green [illegible] by homemakers and gar[illegible] Mrs. Grace E. Armstrong, foods [illegible] of Illinois.

[illegible] green tomatoes picked [illegible] pantry can be used for any [illegible] It will ripen gradually or [illegible]

[illegible] tomatoes, vine and all, [illegible] as needed. An [illegible] from shriveling.

[illegible] is to slice them, dip [illegible] gravy made in the frying [illegible] fair garden [illegible] even more delicious.

[illegible] making mustard pickles or as one of the [illegible] Miss Armstrong states. In addition, [illegible] marmalade, mince meat and green tomato pi[illegible] according to [illegible] of Home economics at Washington, D. C.

-M-

t rage Prolongs Benefits From Good Fall Garden Crops

c sh in on the muc better crop of fall vegetables in evidence in
year is t store them where they will keep for winter use, said
ardening extension specialist at the College of Agriculture,
P ty o stored vegetables will help save money on living
h hful variety to winter meals.
carrots, beets, turnips, rutabagas, celeriac and winter
amage from freezing, rotting or drying out. Consequently
a d 32 degrees and in a damp atmosphere. Such vegetables
moist sand in the cellar or in sunken and covered

and salsify, not being subject to freezing, can be
t at little or no precaution is needed to protect

s d outdoors by pulling them, roots and all, and placing
low ridge, Somers explained. This ridge should be
th the soil layer being increased as colder weather
cabbages should be cut out of the crown, the dis-
emoved and the heads stored on slatted shelves near the
cellar. Onions and sweet potatoes should be stored
y are thoroughly cured and before cold weather arrives.
and squashes are not subject to drying out, they may be
similar to those used for sweet potatoes. However, they
n the vine and removed by cutting the stem an inch or

kal d parsley can best be stored by being taken up with a
g the roots and placed on the floor of the cellar.
bs olutely necessary by applying water to the soil. Such
ed in trenches out of doors.

-M-

tive Ba To Kill Webworms Before Next Summer

this fall to rid Illinois trees of the webworms which
present time in the form of small, light green, fuzzy
. Flint, chief entomologist for the College of Agriculture,
and the Illinois State Natural History Survey. To be effec-
cticed next summer. These worms have been more troublesome
year, and their unsightly webs can be seen on many shade

combating the webworm include spraying, hand picking or pruning
burning with a torch. The cheapest and most effective method is
shrubs about August 1. Two pounds of lead arsenate to 100
the best spray. The worms now in evidence will soon find pro-
e ground where they will spin flimsy cocoons and develop into the
winter. About June 1 of next year a snow white moth will emerge
ree to 300 eggs on the undersides of leaves. These eggs hatch
illars which spin a web over the leaves and feed together under this
lly is enlarged as the caterpillars seek more leaves for food.

-M-

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[illegible]

[illegible]

[illegible]

[illegible]

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[illegible] Being Suppressed By Testing Of Herds

[illegible] costly losses from Bang's disease of cattle [illegible] animals infected with the malady were removed [illegible] cation program during the year ending [illegible] the College of Agriculture, Univer- [illegible] of agriculture. More than 70,500 cattle [illegible] effort to weed out diseased stock.

[illegible] -third of their cash income from milk, [illegible] million dollars in a year like 1934, and [illegible] the dustry. It is a contagious breed-

[illegible] been made in the federal eradication [illegible] dmen who are cooperating with [illegible] years ago, according to Dr. [illegible] eme at the college. His records show [illegible] the extension service project. [illegible] ogram in 1934 has materially speeded [illegible] according to Dr. Graham. Under this [illegible] tered with the work receiving an [illegible] ed to remove infected animals at [illegible] through approved methods of sani-

[illegible] d States during the year ending [illegible] with the disease, the federal [illegible] than 300,000 cattle tested were infected.

-o-

[illegible] As A New Source Of Food

[illegible] mature shelled beans are fast becom- [illegible] as stated in a mimeographed circular [illegible] sity of Illinois. As a revised edition [illegible] the current publication contains many [illegible] d soybeans.

[illegible] Woodruff, associate chief in foods [illegible] the college. That department has been conducting [illegible] of soybeans since the crop first became signi- [illegible] more than 100 varieties of vegetable type [illegible] mental farm are being tested.

[illegible] ive qualities primarily to their high protein con- [illegible] ined in the rich soybean oil, according to the cir- [illegible] high in vitamin B content. Compared with other vege- [illegible] such minerals as calcium, phosphorus and iron. [illegible] beans or flour made from them contain a relatively [illegible] much lower in carbohydrates than other dry beans. [illegible] often used in diabetic diets.

[illegible] a valuable source of required nutrients, but [illegible] y when combined with other vegetables or dairy [illegible] dishes are described in the circular.

-M-

-2-

-3-

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The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Number 42

To Losses Of ivestock

oi in such as have occurred on several
ng puzzle only because many farmers are
in their pastures, according to a mimeo-
of Agriculture, University of Illinois.
f Animals," was prepared by Dr. Robert
e, and Dr. J. J. Pieper, associate chief
on arms sketches and descriptions of 37 poi-
Illinois along with information on treatment
ants.
are two of the most troublesome poi-
esponsible for cases of livestock

mals in a variety of ways, according to
resistant to white snakeroot, while
le. Lactating cows can, with compara-
ich would be fatal to steers or dry
tible to alsike clover. Black Angus
on alsike. In the case of Hamp-

cause fatal poisoning, many of them do and,
treatment for stricken animals. Consequently
ting such plants, according to the circu-

—M—

Past Is Main Cause Of Oak Trees Dying

s being reported in Illinois this fall is the
and several successive dry seasons preced-
disease ecialist with the Illinois State
ng with the College of Agriculture, University of

sons, and especially in 1934 the supply of mois-
was no maintained and many of the feeding roots
er conditions produced abundant foliage which could
foo and water by the drouth-weakened root systems,
the foliage and limbs have died, causing conditions
as well as complete death of some trees.
most drouth injury is to maintain the trees in a vig-
and removal of all dead or diseased wood. While
wood lots and forestry plantings, the dead and

—M—

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. Mumford, *Director.*

Good Season To Clear Up Mystery Of Apple Varieties

[illegible] is the year when the mystery of the many unknown and unidentified varieties of apples growing in Illinois orchards could be cleared up if growers were [illegible] sending in specimens for identification, according to R. L. McMunn, [illegible] Division, College of Agriculture, University of Illinois.

[illegible] borne so well and so generally that the state's estimated crop [illegible] of apples is almost three times the 1934 crop and considerably [illegible] year average of 4,545,000 bushels, he pointed out. Some specimens [illegible] identification are from orchards planted as many as 30 or 35 [illegible].

[illegible], there is something more than a sentimental reason why orchardists [illegible] identification of all varieties with which they are unfamiliar, McMunn said. Apples placed on the market must be labeled with the correct variety name or as "variety unknown." With their trees bearing better than usual this year, growers have a chance to identify hitherto unknown varieties.

Unfortunately many of the specimens being sent in for identification are arriving in a decayed condition or with tags mixed, making accurate naming almost impossible, McMunn said.

All fruit sent in for identification should be mature, free from disease and insect injury and of average size and color for the variety. Each specimen should be wrapped individually or placed in a sack with the number written on the sack. Tags tied to the specimens often are lost in shipment, since stems may fall off. Records should be kept of specimens sent to the horticulture office.

Properly wrapped and tagged fruit should be packed in strong containers to prevent crushing in transit. Cylinder-shaped bottle mailing cartons are satisfactory for [illegible] specimens. For larger amounts any good, strong carton will be suitable, McMunn said. The package should be stamped "perishable."

A letter stating that identifications are desired and giving the name and address of the owner should accompany the package. However the letter must be inclosed in an envelope and stamped with the regular letter postage unless the package of specimens is being sent first class. The specimens should be sent to the department of horticulture, College of Agriculture, University of Illinois.

-M-

Neglect Is Worse Cause Of Heavy Rural Fire Losses

Negligence is largely responsible for an annual fire loss of approximately [illegible] Illinois farms, or the equivalent of one farmstead each week in the year [illegible], according to W. A. Foster, rural architect in the College of Agriculture, University of Illinois. For the nation as a whole rural fire losses total [illegible] and 3,500 lives in 1934, he reported.

These tremendous losses can largely be prevented through careful and frequent examination of the danger points in buildings, cleaning up of premises and greater care in building fires both in the stove and for such outside work as trash burning or heating butcher vats.

Among the fire hazards which may be found around the farmstead are dry grass, fallen leaves or piles of old papers or rags stacked in the corner of some building. A badly worn roof often constitutes a fire risk, since the shingles are likely to be scattered, thus giving sparks from the chimney a better opportunity to start a fire. Flues should be inspected for possible cracks in the mortar, Foster said. Electric wires should not only be properly installed but also should be large enough to carry the peak current consumption of the circuit without overloading.

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Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. [illegible], Director.

[illegible]

[illegible] in Illinois [illegible] further injured by [illegible] pestal to be [illegible]

[illegible] best way for [illegible] pidemic which [illegible] ment when the [illegible] rotting [illegible] amounts of [illegible]

In [illegible] ing and grain [illegible]

[illegible] tance with [illegible] some cold [illegible]

"[illegible] the roots. [illegible] solution [illegible]

"[illegible] fields it is [illegible] dry slowly [illegible] mold or insect [illegible]

—0—

[illegible]

A large [illegible] Illinois for a [illegible] ments next [illegible] extension specialist [illegible] dry by-product [illegible] an old-[illegible] cost for [illegible]

[illegible] supplement during the [illegible] access to [illegible] oil meal [illegible]

[illegible] duce soft pork, [illegible] ment of soft pork from [illegible] the sort, [illegible]

[illegible] changing rations [illegible] feeders are [illegible]

[illegible]

[illegible] being carried on in Illinois [illegible] farmers [illegible] bring [illegible] bring them [illegible] Soils, [illegible] College of Agriculture, University of Illinois.

In spite of the fact that [illegible] ment for soil, Illinois will still [illegible] year's rotation, [illegible] farmers to [illegible].

With most principal [illegible] the plants remaining [illegible] for straw. However, [illegible] at the ruling in [illegible] age risky, [illegible].

The best [illegible] is to [illegible] where [illegible] with [illegible] content. [illegible] sufficient [illegible] fastened [illegible].

After [illegible] the seed is [illegible].

Extra [illegible] present, since [illegible] content. [illegible].

What [illegible] of these [illegible] and their [illegible] conserve [illegible] with [illegible].

[illegible]

[illegible] found on [illegible] dairy [illegible] Illinois.

However, if this [illegible] with the right [illegible] alfalfa, [illegible] age is being [illegible] rotation [illegible] through use of [illegible] oil meal, [illegible] used [illegible].

[illegible] used. [illegible] October [illegible] with [illegible] Glucose [illegible].

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Volume XVIII [illegible] Number 44

Illinois Soybean Oil Meal for Swine

Illinois soybean oil meal, which forms a good market for some of the state's soybean crop this year, if the beans are used in the oil meal form, says H. M. Alp, poultry extension specialist at the College of Agriculture, University of Illinois. Soybean oil meal is a satisfactory protein supplement for the ration if it is fed with [illegible] and mineral, he added.

For [illegible] pigs, [illegible] with sufficient minerals of the ration, [illegible] somewhat better than [illegible] and [illegible] as good as dry milk products.

[illegible], old sows, [illegible] soybean oil meal must be supplemented with [illegible] minerals. The minerals needed are calcium, phosphorus, sodium [illegible]. These can be supplied by a mineral mixture containing about 40 per cent bone meal, [illegible] per cent salt.

The following [illegible] soybean oil meal has been found satisfactory: [illegible] yellow corn, 10 pounds wheat bran, 100 pounds tankage, [illegible] pounds soybean oil meal, 40 pounds alfalfa leaf meal, [illegible] pounds ground limestone or oyster shell and 5 pounds salt. The [illegible] may be replaced by 1 pound each of wheat and oats middlings.

While soybeans are not very satisfactory, since they contain a large amount of oil, [illegible] per cent of the material. Because of this high fat content, [illegible] in warm weather. The value of whole soybeans [illegible] per cent of that of commercial soybean oil meal. A [illegible] soybeans for a large part of the ration is that [illegible] accustomed to the use of feed.

-1-

Unemployment No Problem With Ag. College Graduates

Unemployment is not a problem in the ranks of the 120 graduates in agriculture [illegible] College of Agriculture, University of Illinois, last June, according to [illegible] by Assistant Dean E. R. Eastman. More than 90 per cent of those who replied to his inquiry have jobs either in farming, in other [illegible], and the only ones still unemployed are nine graduates in home economics. To date replies have been received from 98 of the 120 graduates. Since the graduates have scattered to a dozen different states and Argentina, South America, to start their careers.

Opportunities for women trained in agriculture and home economics are indicated by the fact that the remainder of the graduates are engaged in [illegible] different lines of work. Of the home economics graduates, Miss Ruth E. Siegel, formerly of Champaign, is [illegible] modeling in a Chicago department store, while the range of work in which the agricultural graduates are engaged includes research, soil [illegible], [illegible], milk marketing, farm management, farmer organization and journalism.

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Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914. H. W. MUMFORD, *Director*.

[illegible] Poultry Management [illegible] For [illegible] In [illegible]

[illegible] poultry management [illegible] Anderson, [illegible], [illegible] Illinois, [illegible] reported by [illegible] Alp, poultry [illegible] University of Illinois.

Anderson, [illegible] in the [illegible] by [illegible] more than [illegible] hen houses. [illegible] 1 of this year [illegible] [illegible] year the [illegible] young [illegible]

[illegible] followed the [illegible] but bring the [illegible] flocks [illegible]

The [illegible] the college. [illegible] [illegible] and [illegible] [illegible] full [illegible] [illegible]

[illegible] air [illegible]

[illegible] gr[illegible]. [illegible]

--M--

G[illegible] Crop [illegible] In Fruit And [illegible]

[illegible] in four years, [illegible] and increase [illegible] meeting of the Illinois State Horticultural Society, [illegible] J. C. [illegible], [illegible] College of Agriculture, University of Illinois. [illegible] be held in Decatur in December [illegible] session.

While the [illegible] cover [illegible] fruit [illegible] most probably will be [illegible] since spray [illegible] aims list for the fruit [illegible] getting [illegible]

[illegible] southern Illinois [illegible] will [illegible] [illegible] Peoria, November [illegible] group will [illegible] told [illegible].

--M--

Repetition Of Fall Injury Avoided By Fall Plowing

Fall plowing, practiced in Illinois this fall, will put many fields in better shape for next year's crops and will be good protection against many kinds of insect and disease damage occurring in some parts of the state this summer, according to E. L. Dykstra, potato specialist in the College of Agriculture, University of Illinois.

Horned tomato worms, potato beetles, flea beetles, striped cucumber beetles and squash beetles are among the insects which prevent profitable growing of late summer's depredations during the past summer if plowing had been delayed this fall. While many insects were present in numbers sufficient to cause serious damage, they were prevalent in comparatively few fields, said W. P. Flint, chief entomologist for the Illinois Natural History Survey.

The horned tomato worm passes the winter underground in the pupa stage. Potato beetles pass the winter as adults or beetles, while flea beetles hibernate under trash. Fall plowing turns these insects to a depth where cold, drying effects will kill them or they will be unable to emerge.

Any practice which helps prepare the soil for the next crop will help control for the flea beetle and the potato beetle. Deep fall plowing under trash will help destroy these insects, Dykstra said. In some cases it is just as effective to turn the trash to the surface, he said.

Plowing under trash to control flea beetles will probably not control potato beetles as it helps to control flea beetles, Dykstra said. Where corn or other plants that harbor the flea beetle are grown, it is likely that fall plowing will prove beneficial, he added.

When fall plowing is practiced, fields should be worked down with the double disk, harrow, or cultivator. It is important to work the fall plowing, so that the soil particles will be small enough to settle well and closed into the ground by winter.

-K-

Frosted Legumes May Still Yield A Harvest Of Seed

Most of the legumes, including soybeans, are now, in early September, by early October frosts will have matured their seed. Should good weather prevail, farmers should, T. J. Dykstra, assistant professor in crops in the College of Agriculture, University of Illinois, advises farmers to harvest their legumes promptly. It is only a few days until killing frosts may occur. Delay may result in the pods shattering, thus losing the seed.

Before growers start cutting their legumes, however, it will be well to take advantage to examine the seed pods, according to Dykstra. A few seeds rubbed in the palm of the hand will give a rough idea of seed possibilities. If the seeds are shriveled, it is not worth while to harvest the crop, Dykstra said. If the seeds are plump, the chances are that there will be enough seed in the field to make harvesting worth while. If the pods are dry enough to shatter easily, there will be little use of threshing the crop.

A more exact test is to [illegible] threshing out the seed by hand and estimating the yield for the entire field. Yields of [illegible] to pay for harvesting. It is important, however, to [illegible] well along toward the ripe [illegible]

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Vol. XVIII [illegible] [illegible]

First Duties Of Rural Power Line Aid To Be Activities

[illegible] fr[illegible] which [illegible] cultural engineering [illegible] as he aid t[illegible] Electrification Administration.

In addition to the [illegible] also is available [illegible] matter include[illegible] rate and kinds of equipment to be used in farm homes.

Certain [illegible] means of determining [illegible] need of rural power lines. The assistance used in drawing the [illegible] agricultural engineering department [illegible] the rural [illegible] the rural may be obtained at [illegible] to [illegible] of the rural [illegible].

Duties attached [illegible] out of [illegible] the [illegible] Illinois [illegible] standards and [illegible] to obtain electric service. Since January 1, 1936, [illegible] 138 miles of rural power lin[illegible] farms in prospect for the [illegible] tion of rural power lines.

Disease Prevention Aids Farmers In Illinois Tulip Trade

This [illegible] the Tiger and [illegible] direction, it is reported by [illegible] the College of Agriculture, [illegible] commercial flower [illegible]

Bulbs will [illegible] cleaners of [illegible] fuller explained. The [illegible] infected with either [illegible] pieces bulbs away [illegible] should be removed [illegible] infected and may help [illegible] ayre.

Printed in furtherance of the Agricultural Extension Act [illegible]

Heredity Shown To Play Role in Animal Disease Fight

It has now been established that heredity plays an important role in resistance and susceptibility to at least one animal malady, pullorum disease, or bacillary white diarrhea of poultry, according to a new bulletin, "Inheritance of Resistance to Bacterial Infection in Animals," just published by the experiment station of the College of Agriculture, University of Illinois.

The 10-year experiments involving more than 29,000 chickens, the bulletin was written by Elmer Roberts, chief in animal genetics, and L. E. Card, chief in poultry husbandry. Pullorum disease was chosen for the study because it lends itself readily to the laboratory methods necessary in such an experiment.

During the 10-year experiment selection was effective in producing strains of fowls which were more resistant to pullorum infection than was the unselected flock. The success in breeding up resistance to bacillary white diarrhea indicates the possibility of developing strains of poultry or other farm animals which are resistant to certain diseases. Thus this genetic method would become an important adjunct to the two other general methods, prevention and cure, in combating disease. However, the work has not progressed to the point where resistant strains of poultry and other farm animals are available for breeding purposes, the bulletin points out.

The experimental results were especially promising, since the selected strains were consistent in maintaining resistance to the disease through successive generations. A susceptible male mated to a susceptible female produced chicks much more resistant to the disease than were chicks from the same susceptible male mated to a resistant female. No significant difference was found between progeny of susceptible and resistant females mated to the same resistant male. Nor was there any indication of acquired immunity among the birds, since the progeny of infected hens showed no greater resistance to the disease than did the progeny of noninfected hens.

-M-

Turkey Prospects Bright For Finished, Quality Birds

Turkey market prospects are favorable for Illinois growers who are careful to sell only birds of top finish during the approaching holidays, said H. H. Alp, poultry extension specialist at the College of Agriculture, University of Illinois. Reduced numbers of turkeys being raised in many of the main producing areas outside the state also promise of a reasonably high holiday price.

However, this does not mean that turkeys with poor finish or other inferior qualities can be expected to bring good prices, Alp said. While the decrease in production reported by the U.S.D.A. as approximately 13 per cent below 1934, this is not considered sufficient to put a premium on inferior birds. On the other hand this increase together with improved business conditions may bring turkey raisers a better holiday season for quality stock than they have enjoyed for several years, he added.

By culling out turkeys of poor finish and marketing only top quality specimens during the Thanksgiving season, growers will have at least three weeks in which to bring culled birds up to top finish for the Christmas and New Year's season. Thus they will be able to get good prices for a large percentage of the turkeys sold.

Decreases in production have been principally among farm flocks rather than among the large commercial flocks, according to the U.S.D.A. report, which states that 17 per cent fewer farmers in the south Atlantic and far western states reported turkeys, while the decrease was nearly 10 per cent in the other sections.

Heaviest reductions in numbers of turkeys are reported from the main producing states such as Texas and North Dakota. Increases are reported for Minnesota, Oklahoma, Pennsylvania, northern New England and several of the southeastern states. Illinois production is above last year, Alp believes.

-M-

Tests of Hybrid Corn Outstanding for Silage

Hybrid corn varieties, which are proving popular chiefly because of their superior grain producing qualities, have also shown that they may also be superior varieties for silage purposes, according to results obtained by W. H. Peters, associate chief in dairy cattle feeding at the College of Agriculture, University of Illinois.

The hybrids contained a higher proportion of grain and better resistance and gave greater tonnage yields per acre than the open pollinated varieties for silage. Sixteen hybrid varieties used in the trials were, on the whole, superior to Station Yellow Dent, which yielded the smallest amount per acre in the 1936 plots. Boone County White and the open-pollinated variety made large yields of silage per acre, ranging from 13 to 15 tons an acre. The tests were conducted by the dairy husbandry and agronomy departments of the College of Agriculture in cooperation with the U. S. D. A.

One of the most striking advantages of the hybrid varieties is their resistance to lodging, Peters says. Ninety-nine per cent of the hybrid varieties stood erect on September 15, as compared with 84 per cent of the Station Yellow Dent variety.

Another advantage of the hybrids was their higher proportion of grain. Fifty-two per cent of the total dry matter of the hybrid varieties was grain, as compared with 41 per cent of the total dry matter of the Station Yellow Dent variety. The hybrid varieties also produced slightly more dry matter per acre, but not enough to be of particular significance, Peters states.

Since the experiments were only begun last summer, Peters says it should not be taken as conclusive evidence of the superiority of hybrid varieties for silage, according to Peters and his co-workers. However, the trials indicate that hybrids may be outstanding for the variety of their production as well as for grain production.

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Injury to Corn Ears This Fall is First in Illinois

The first cases of corn ear injury reported during Illinois history this fall mark the first serious damage caused by this insect in the state, says T. E. Flint, associate professor of entomology, University of Illinois College of Agriculture and the Illinois State Natural History Survey. The outlook indicates that the insect may become a serious pest and cause considerable damage in future years.

Corn ear worms were not considered a major pest in Illinois history until this fall when they attacked ears of field corn in the west central part of the state. It is believed that many hibernating worms were brought in with the corn shocks from Illinois fields.

The fly attacks the corn silks, laying its eggs on the silks. The larvae of cutworms, army worms and other climbing insects may be confused with the corn ear worms. The eggs are laid in open wounds caused by hail, wind, insects, or other agencies. The larvae, after hatching, burrow into the ear and feed on the kernels. They may be removed from the ears with the husks and silks. The larvae are not easily moved mechanically, as there is no way of getting the insects out of the ear. Open wounds should be treated to prevent the entrance of the insects. Open wounds should be treated to prevent infection.

Other methods of control include harvesting the corn before the middle of June and avoiding planting on fields where cutworms, army worms or other insects are bad or likely to be bad. All corn ears damaged by insects should be eliminated. Open wounds should be treated to prevent infection.

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Terracing Record To Set New High In Erosion Control

Record advances are being made this year against erosion on Illinois' 1 million acres of rolling cultivated land with the building of more terraces than in any previous year in the state's history, it is reported by R. C. Hay, agricultural engineering extension specialist of the College of Agriculture, University of Illinois.

Activities are at their height this fall, with forces of the extension service, U. S. Soil Conservation Service and CCC camps cooperating with farmers to get terraces built and outlets finished before winter. Much of the work is being carried on through the various soil conservation associations which have been set up recently in many counties of the state.

In 11 counties terracing machines either have been purchased or leased by the associations and are being operated by the association in cooperation with CCC camps and the extension service. Piatt, Vermilion and White counties are using large 14-foot blade terracers. Eight-foot blade terracers have been purchased in Jo Daviess and Marshall-Putnam counties, while the new Shelbyville-type machine is in operation in Macon, Adams, Bond, Coles, Edgar, Jefferson and Williamson counties, Hay reported.

These machines, ordinarily leased by the county associations, are being operated by tractor power. Some of the associations own their own machines, while others have contracted with local dealers or farmers to operate them. Farmers in those places the terraces are built for pay for the work at an hourly rate calculated to meet operating expenses and the depreciation rate cost of the machines.

In addition to the outfits operated by county associations, many privately and publicly owned machines are being used. These range from 6-foot blade terracing machines suitable for horse or low tractor power up to large road graders.

Terraces are being laid out ahead by engineers from the conservation camps and outlets are being constructed by CCC men. Assistance has been given in all of these projects by the agricultural engineering department of the college.

-1-

Woods And Drive Planned During Bigger Entry Week

The largest turnout of rural talent in the seven years' history of the [illegible] already has started preparations for the numerous [illegible] to be held during Farm and Home Week, January 11 to 15, at the College of Agriculture, University of Illinois, according to D. L. Lindstrom, rural sociologist at the college.

Fifty-six counties are expected to [illegible] last year. The state has been divided into [illegible] third rapidly in each of these districts. County [illegible] by county and are being planned in [illegible] been made in the requiring 40 counties [illegible] types will have a chance to display [illegible]

-1-

Printed in furtherance of the Agricultural Extension Act approved by Congress May 8, 1914, [illegible] W. Mumford, Director

New High Reached In Bang's Disease Control In State

A new high for accomplishments under the Bang's disease eradication work in Illinois has been reached by the Coles County Dairy Herd Improvement Association with 100 per cent of the member herds entirely free from the disease, according to a report received by C. S. Rhode, dairy specialist at the College of Agriculture, University of Illinois, from Marvin Fairchild, tester for the association.

This is the first dairy herd improvement association in Illinois to have all its herds free of Bang's disease, Rhode believes. The accomplishment marks one of the first big milestones on the eradication program that was started some 14 years ago by the animal pathology and hygiene division of the college.

During those years approximately 65,000 cows, 300 swine and 214 goats have been tested under the state-wide project which the college is carrying on to combat the disease. The malady not only has cost farmers of the state thousands of dollars but also has endangered public health. Humans may contract undulant fever by using products from Bang's infected herds, said Dr. Robert Graham, chief in animal pathology and hygiene.

Since the project was started, 111 of the 1,106 herds that have been tested have been freed of the disease. In the remaining herds testing and control measures are rapidly cutting down the losses. Conservative estimates are that Illinois farmers have saved $65,000 through tests.

In 1934 the Federal government launched a more intensive eradication campaign which, up to June 30, 1935, has been responsible for eliminating 10,714 reactors from Illinois herds. Under this plan farmers may sign up to have their herds tested and all reactors are removed. Farmers receive indemnities under the federal plan for all reacting cattle.

-1-

Home Improving Picks Up With Improvement In Income

Substantial improvement registered in farm income during 1935 has been one of the main factors in the increased interest of farm women in kitchen improvement, according to Miss Gladys J. Ward, home management extension specialist at the College of Agriculture, University of Illinois. Nearly 400 farm women have been reached during the series of "kitchen clinics" conducted in nine counties this year, Miss Ward estimated. In all of these clinics the idea of making the kitchen more convenient without a large cash expenditure has met with enthusiasm. Counties in which clinics have been held are Adams, McDonough, DuPage, McLean, Coles, Warren, Mason, Iroquois and Knox.

In many cases a few home made shelves together with a rearrangement of the kitchen furniture and equipment was all that was necessary to make the room a more convenient, cheerful place. One Mason county homemaker reported that her kitchen has been greatly improved by eight changes which cost a total of 37 cents plus the time spent by herself and husband. The changes included moving the range, moving the sink, building a drain board for the sink, adding a built-in cob bin, putting a partition in the cupboard, placing a silver drawer under the sink, adding a spice rack above the sink and equipping an old pantry for ware storage.

Water systems were among the most needed of the home improvements involving a greater cash outlay than the minor changes, Miss Ward said. Only about 10 per cent of the rural homes of the state have running water, according to a Federal Housing Administration survey conducted during 1934. While the cost of a complete system involves considerable expense over a short period of time, the installation of the system by units is one method of spreading the cost over a longer period.

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Home Accounts Are Safe Guide In Increased Spending

accounts being kept by more than 639 Illinois farm and small-town
nishing at least a partial guide to many homemakers who are wondering
r increasing incomes should be spent for food and other family
. Ruth Freeman, home accounts extension specialist at the College
ver ty of Illinois.

e of $417,000,000 in 1935 farm income over that of 1934, as re-
b eau of agricultural economics, has lightened the job of main-
standards, but also has brought on the risk of unplanned spending,

o families have kept accounts for three or more years,
c nts furnish valuable budget planning data both for the account
lies of similar size. Many women who have wondered whether
d g too much of the family income for food or economizing to the
g now are using these "average family" records for comparisons.
l, records show that the average family in the $500 to $999 a
ed a roximately $320, or 39 per cent, of the total income for food
r sed, a smaller percentage of the total income went for food,
as spent for food, Mrs. Freeman said. Only 22 per cent of
d among account keepers having annual incomes of $2,500 or
are not yet available.

ct rought out by home accounts is that many farmers and small-
ed cash expenditures for food by producing garden, dairy and poultry
. Among some of the low-income groups as much as $209 worth of the
h od used in 1934 was produced at home. However, families in
b eds also reduced cash food expenditures by raising food at home.
gures as these and many others derived from summaries of home accounts
valua e data on meal planning as well as the budgeting of clothing
other family expenditures.

-M-

Less Expensive Dairy Feeds Help Raise Net Incomes

re an one Illinois farmer is making the most of the improved prices for
d c b adopting economical feeding methods, according to reports reaching
. . airy husbandry extension specialist at the College of Agriculture,
ive Il nois. Savings made through more economical feeding are only one of
he an which more than 1,100 farmers who are members of dairy herd improve-
ci ns are increasing their returns, he said.

stitution of home-grown grains for more expensive protein feeds together
h lement of part of the corn by oats are two ways by which Illinois dairymen
g it possible to cut feed costs without lowering their herd production aver-
e member of the McLean county No. 1 association increased his monthly net in-
17 cows by $10.88 with a less expensive ration. Oats replaced a part of the
the ration, thus reducing the cost of feeding approximately 24 cents a hundred
. His herd also produced 34 more pounds of butterfat a month on the cheaper feed.

A member of the Vermilion-Edgar county association used a ration composed of
, ts and distiller's grain instead of corn and a high protein supplement pre-
used and was able to cut feed costs by nine cents a hundred pounds, although
in content was the same. The cheaper ration reduced the feed cost of butter-
five cents a pound and the feed cost of milk by 14 cents a hundred pounds,

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The Extension Messenger

COLLEGE OF AGRICULTURE—UNIVERSITY OF ILLINOIS

Timely Notes for Farm Advisers and others from the Agricultural College, Experiment Station, and Extension Service

Volume XVIII | November 20, 1935 | Number 47

Conferences For Young Folks Next In State Program

Latest among the rural young peoples' organization developments in Illinois is a series of conferences, the first of which is scheduled for December 9 to 12 inclusive at the College of Agriculture, University of Illinois, according to announcements by Miss Cleo Fitzsimmons and G. S. Randall, junior club extension specialists in charge of young peoples' activities throughout the state.

Special instructions in play presentation, discussion leadership and program planning will be given to delegates during these conferences which are being planned to give each delegate an opportunity to take an active part in the program. Dates and locations for the remainder of the series will be announced just as soon as they have been definitely set, Randall said.

This series is only one of the late developments with regard to the rural young peoples' groups which are being organized and sponsored by the extension service of the college to give farm boys and girls between the 4-H club and adult age a greater part in the community's activities. Another late development is the special exhibit of young peoples' hobbies which is being planned for Farm and Home Week, January 13 to 17. This exhibit will be set up because of increasing demands by local program planning committees for such information.

Along with these special activities, interest in organization continues to move forward in the state. Initial steps toward setting up groups were taken in Livingston, McLean and Montgomery counties during October. Others already organized are launching their winter programs with drama as a favored project. Macoupin, Shelby, Scott, Pike, Williamson and Edwards county organizations are making plans to produce plays this fall and winter. Other groups have or are planning to take trips to historic spots of Illinois as a part of the "Know Illinois" project.

The Edgar county young men's forum which has been conducting discussions during the past three years considered two topics, "Illinois Sales Tax from the Farmer's Standpoint," and, "The Illinois Property Tax Law from the Farmer's Standpoint," during their last discussion series.

Many young peoples' groups plan to attend the agricultural economics schools where these sessions are being conducted in their counties by the agricultural economics department of the college.

-M-

Greater Interest Is Being Shown In Farm Discussions

Increasing interest of Illinois farm people in discussions dealing with the problems of agriculture is indicated by the fact that 10 county teams plan to enter the state discussion team tourney this year as compared to four teams last year, according to D. E. Lindstrom, rural sociology extension specialist at the College of Agriculture, University of Illinois.

This year's tourney, second of its kind to be held in Illinois, will take place during annual Farm and Home Week, January 13 to 17. The topic for discussion will be, "How Should Agriculture Adjust Its Production."

-M-

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[illegible] Six Can Use An Orchard Of 19 Fruit Trees

It takes about 19 fruit trees and [illegible] small fruit plants to supply the average family of six with the fruit it needs, according to estimates prepared by V. W. Kelley, horticultural extension specialist of the College of Agriculture, University of Illinois. Such a planting would produce, on the average, approximately 20 bushels of tree fruit, 150 pounds of grapes and 50 quarts of small fruits.

The estimates were prepared [illegible] to the many Illinois farmers who are planning to start a small home orchard to supply fruit for their own families. Liberal allowance was made for fresh fruit and for canning.

The number of trees suggested for the average family of six plus occasional hired help, includes six apple trees, three pear trees, two peach trees, three plum trees, two sour cherry trees and two sweet cherry trees. A separate variety should be chosen for each tree so that a succession will ripen through the fruit season, Kelley explained.

In the small fruit [illegible] the estimated number of plants includes 100 grape vines, 150 strawberry plants, [illegible] raspberry bushes, 50 red raspberry plants, 25 blackberry plants, [illegible] currant and gooseberry bushes each. While the number of trees and small fruit plants [illegible] small, better quality crops usually are produced from relatively small orchards and gardens. The better care these orchards receive. Too large a home orchard encourages neglect, Kelley explained.

The selection will depend somewhat according to local soil and climatic conditions as well as individual preference among varieties, Kelley explained. Peaches, for example, [illegible] frequently in the southern half of the state. Sweet cherries [illegible] in Illinois, especially in the northern part. Consequently the prospective home orchardist should consider growing conditions in his place before making final choices as to kinds of fruit to be grown.

-X-

How Farmer Will Help To Protect Health Of Family

Health [illegible] of Illinois families during the coming winter months may be protected to a large extent by preparations and repairs made in the home before cold weather arrives, declared W. A. Foot, [illegible] at the College of Agriculture, University of Illinois.

One of the [illegible] can be eliminated by provision is made to have kindling, ready for starting [illegible] fires. There is often a temptation to speed the job at hand by [illegible] kerosene on [illegible]. The toll for [illegible] people being burned to death from this cause indicates that it will be much safer to have a good supply of kindling near the stove and the borrowed supplied in the form of well cooked sticks or chips which may be placed on the fire with little risk, Foote said.

Another detail which, if taken care of properly, will do much to prevent numerous colds is that of repairing loose [illegible] to keep out cold drafts. A rattling window sash may be corrected by the replacing of [illegible] or the addition of weather strips of [illegible] metal. Cracks which permit cold drafts to enter the room under the [illegible] may be repaired by the use of [illegible] or [illegible] which can be [illegible] at a nominal cost.

Caulking in the cracks between the basement wall and the sill on which it rests, replacement of broken basement windows with glass blocks, [illegible] the floor over and eliminating the necessity of cool air coming in around [illegible] small children in the family.

49 State Champions Named From 4-H Club Membership

Forty-nine 4-H club state champions and 47 state honor roll members have been chosen for their outstanding work from among 14,200 club members engaged in agricultural projects in Illinois during 1955, according to an announcement just made by E. I. Filchock, junior club extension specialist at the College of Agriculture, University of Illinois. The championships represented 28 counties and the honor roll 29.

To win a state championship, club members had to make a score of 90 or more in some chosen better farming project supervised by the extension service of the agricultural college and their county farm advisers. Honor roll winners were required to score between 70 and 90.

Fulton county clubs topped the list with seven of the 49 championships and five members listed on the honor roll. Sangamon county was second with five state champions and two honor roll members, while Lake county placed third with four champions.

State champions in agricultural projects include Edwin Allen, colt, and Opal Ward, home grounds beautification, Kankakee county; Milton Bell, beef, Champaign; Lewis Benckendorf, beef, LaSalle; Diane Brett, dairy, and Kenneth Ferill, corn, Mercer; Herman Brown, pig; Alice Buecher, poultry; Alvin Mavis, sheep; Mary Richardson, home grounds beautification, and Max Stewart, pig, all from Sangamon; William Brown, dairy, Winnebago; Paul Engel, colt, Will; Fred Francis, jr., beef, Will; Webster Gehring, Jr., pig, Knox; William E. Greenlee, corn, and William Hedden, beef, Morgan; William Hamilton, beef, and Robert Harris, corn, McDonough; Henry Hartman, corn, McHenry; Earl Kane, Jr., dairy, Lake; Charles Lang, pig, DeKalb; Keith Lynch, poultry, Marion; Donald O. Mann, poultry, and William D. Masters, sheep, Fulton; Donald Mosher, pig, DeKalb; Earl Outtrim, pig, and James Potter, pig, Marion; Sam Ridlen, poultry, Williamson; Dean Sims, sheep, Adams; and Robert Stetson, pig, Bureau.

State livestock judging champions are Gilbert Brown and J. Harrison Buckingham, demonstration team, Tazewell; Dorsey Bynum, Kenneth Wheeler and Maurice Wilson, corn judging team, and Ralph Faulk, Bobby Smith and Charles Turner, poultry judging team, Fulton; Delbert Gardner, dairy judging, Warren; Peter Johnson, poultry judging, Mercer; Earl Kane, Jr., Harry Lehman and Norman Mehmer, dairy judging team, Lake; James Padgett, livestock judging, Adams, and Bert Phillips, Norman Smith and Wayne Wilson, livestock judging team, Marshall-Putnam.

Members of the honor roll are Frederick W. Bootel, Jr., DuPage county; James Chastine, Jefferson; George Bertolero, Warren; John Cameron and Norman Smith, Marshall-Putnam; Jerne Coutes, Bureau; Bernard Deakin, John Ewan, Garold Kopplo, Ernest Krider and Kenneth Voorhees, Fulton; Homer F. Dodd and William E. Perisho, Edgar; Robert Dunlap, Champaign; Burdell Gardner, John Hahn and Joe Hully, Livingston; Ira Hamer, John Owen Kuhn and Ruth Stetchol, LaSalle; Jim Henderson, Tazewell; Eugene Hudson, Williamson; Kermit Krueger, Massac, Bernard Miller, Vermilion, Dean Miller, Henderson; Daniel E. Moeller, Effingham; Nelson Thomas, John Roesch and Ruth Toben, Ford; L Vern Nicholas, Washington; John Paarlberg and Kenneth Paarlberg, Cook; Francis C. Potts and Robert Summers, Sangamon; Axel Rasmussen, LaSalle; Bernie Rutledge, DeWitt; Fred Spickler, Winnebago, Lardette Stauffenberg, Will; Edwin Thornton, Mercer; James L. Finn, Stark; Harold Winters, McDonough and Myrle Woodward, Bond.

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Volume XVII

Short Price Courses for Urban Dwellers

A [illegible] Illinois.

[illegible]

Thirty-[illegible] Dr. [illegible]

In the [illegible] efforts [illegible]

Farmers living in [illegible] will [illegible] All [illegible] Dr. [illegible] All [illegible] with [illegible] the [illegible]

The [illegible] Dr. [illegible] tions from the veterinarian.

A [illegible] through [illegible] Division [illegible]

-1-

Rabbits Thrive Under Range Conditions In Central Illinois

Rabbits [illegible] Agriculture. University of Illinois.

[illegible]

[illegible]

[illegible]

[illegible]

-2-

Basement Party Fills Place Once Held By Husking Bee

While rural young folks of Illinois do not have the barn dances, husking bees and other entertainments enjoyed by their fathers and mothers, they do have modern homes with basements where they can set up recreation rooms for parties, dances and other winter get-togethers, according to W. A. Foster, rural architect at the College of Agriculture, University of Illinois.

A well-built basement can be transformed from a dusty catch-all to an attractive and comfortable recreation room at a relatively small cost. Such a room will be ideal for organized meetings, parties or those informal get-togethers where young people of the neighborhood spend pleasant winter evenings playing games and enjoying popcorn, apples and other cold weather specials, Foster said.

If the walls are of concrete they may be painted or plastered. Stone or brick walls also can be painted or plastered, although a more attractive finish can be had if they are lined with knotty pine boards. This finish also can be applied to concrete walls if desired. Wall plaster should be made with a cement base.

There are a variety of ways of finishing the floor after it has been troweled smooth. It may be covered with homemade rugs or with a plain, heavy linoleum. It also may be painted. The painted or linoleum-covered floor makes an excellent surface for dancing or games.

Where sufficient money is possible, a fireplace adds a great deal to the basement recreation room, since it imparts a cheery warmth and serves as a focal point for arrangement. Although a basement fireplace is more easily installed when the house is being built, it can be put in later, especially if there is a fireplace in the room above.

A basement recreation room may be constructed at a cost ranging from a few dollars to $100 or more but, regardless of the cost, it will be an investment in home supervised recreation, youth, health and friends--assets which are not measured in dollars, Foster declared.

-M-

Wheat Land May Need Reseeding Because Of Hessian Fly

Because of continued warm weather far into the fall this year, a late brood of Hessian fly is doing considerable damage to wheat in many sections and may necessitate the reseeding of some fields next spring, according to W. P. Flint, chief entomologist for the College of Agriculture, University of Illinois, and the Illinois Natural History Survey.

The fly damage was brought about by the emergence of a brood at least a month after the normal date of seeding for highest yield, Flint said. With the mild fall weather, eggs laid at that time developed, causing the present Hessian fly infestation. Usually eggs laid after November 1 will not develop sufficiently to cause serious damage.

On strong ground much of the wheat will recover from the damage and send up tillers which will produce a crop next summer. However, the infested fields should be watched and, if the wheat becomes seriously damaged, it may be necessary to reseed the land next spring.

Since there is every indication that the spring brood of Hessian fly will be plentiful, fields damaged by this fall's infestation probably should be reseeded to a fly-resistant crop such as oats, Flint said. Aside from wheat and barley, rye is the only other grain subject to fly damage.

Hard freezes which may be expected in most sections of Illinois from the latter part of November on will have no effect in ridding fields of Hessian fly before next spring. Consequently, this fall's infestation may be a forerunner of a heavy infestation when the 1936 crop season begins.

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Spirited Race On For Grain Honors At Illinois Show

Competition for the "corn king" title of Illinois, now held by C. J. Simmons, Tocxton, is expected to be more spirited this year than for a number of seasons when the state's best corn growers come together next month during the annual Illinois Seed Grain and Utility Corn Show, according to J. C. Hackleman, crops extension specialist of the College of Agriculture, University of Illinois.

As in former years the show will be a feature of the annual Farm and Home Week to be held January 13 to 17 at the college.

Other title holders besides Simmons whose honors will be at stake in the various divisions of the show are C. E. Canterburry, Cantrall, soybeans; F. W. Wilson & Son, Edgewood, sweet clover seed; Russell D. Maurer, Carlock, red or mammoth clover; Keith McGuire, Tuscola, early oats; Keith Turner, Seymour, hard winter wheat; Clarence Akin, St. Francisville soft red winter wheat; Virgil Beckerman, Mt. Carmel, "corn prince," and George Shuman & Son, El Paso, 10-acre corn growing contest.

Stimulating interest in the show this year is a harvest of important crops that for the state as a whole is generally good. The combined acre yield of important crops is above the 10-year average. This year the show can draw on a crop of 84,588,000 bushels of corn as compared to the drouth-riddled 1934 crop of 146,760,000 bushels. The state also has a record crop of almost 19 million bushels of high quality soybeans.

One indication of the large number of entries expected in this year's show is the fact that 17 growers have entered the 10-acre yield contest as compared with nine last year. For the show as a whole, the total number of entries is expected to be considerably larger than the 218 in the 1935 event.

Chief interest in the show is expected to center in the 10-ear classes for yellow and white corn, from which the new "corn king" and "corn prince" of the state will be picked. There will be 10-ear classes both for junior and adult exhibitors. Other classes will be provided for peck samples of shelled seed corn and for the various small grains.

Prices for the corn show winners will be presented at the annual banquet of the Illinois Crop Improvement Association on the evening of January 15.

Growers expecting to enter the competition may secure copies of the premium list by writing the college.

Addition of two more addresses completes the list of speakers for the general sessions of the week. Mrs. Emily Newell Blair, of the Consumers' Division, NRA, will speak Thursday, January 16, on, "The Work of the Consumers' Council," and Dean Chris L. Christensen, of the College of Agriculture, University of Wisconsin, Madison, Friday, January 17, on, "The Agricultural-Industrial Balance in Our Economic Life."

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Dairy Cow Is Good Market For Feed At Present Prices

[illegible] of feed and dairy product prices Illinois farmers can [illegible] their cash return from forage and grain if they market these feeds in the form of milk, cream and butter rather than sell them on the market, according to C. S. Rhode of the dairy department at the College of Agriculture, University of Illinois.

Doing this, however, means that the dairyman must have good cows and must give them plenty of the right kinds of feed combined into a balanced ration, Rhode said. Many dairy cows in Illinois are [illegible] than they [illegible] in other [illegible] mainly because of bad [illegible] feeding rations. With feed prices lower in proportion to milk and butter prices this year than last, there is a real incentive for Illinois dairymen to get the most out of their cows through proper feeding.

Cows should receive all the hay and roughage they will clean up. In addition they should be given a balanced grain ration fed according to production. Holsteins and Brown Swiss usually need one pound of grain for each four pounds of milk produced daily, while Jerseys and Guernseys need one pound for each three pounds of milk.

[illegible] satisfactory grain mixture [illegible] soybean oil meal [illegible].

If the hay [illegible] plenty of [illegible] clover or soybean hay, but [illegible] corn and [illegible] A [illegible] mixed [illegible] bone meal [illegible] may be used. In such [illegible] from [illegible] of grain.

-M-

[illegible]

[illegible] according to V. W. Kelley, fruit extension specialist at the College of Agriculture, University of Illinois.

In spite of plants going into the winter in excellent condition this year [illegible] the planting [illegible] for a good [illegible] crop in many cases. Without a protective mulch many of these plants will be winter killed and the [illegible] crop will be seriously injured, Kelley said.

The mulch should be done just as soon as the plants become dormant. However, there still is time to save the plants if they are mulched before temperatures of [illegible] degrees or less become prevalent.

Wheat straw is considered one of the best mulching materials. Oats straw, soybean or cowpea hay and lespedeza also are satisfactory. However, soybean or cowpea hay should be used only after the seed has been threshed. Lespedeza hay should be used only if it is cut before it reached the bloom stage. In no case should hay or straw be used if it contains any appreciable amount of weed seed, since the weeds will add to the cultivation problem during the growing season.

From three to five tons of mulch an acre [illegible] should be applied. This will give a depth of about two inches after the mulch [illegible] settled down. If suitable material is scarce the available supply can be made to go further if only the rows are mulched.

-M-

Holiday [illegible] Budget Is Reduced [illegible] Careful [illegible]

[illegible] planning on the basis of past records [illegible] the [illegible] to anticipate [illegible] the [illegible] less worry [illegible] the filling [illegible], according to [illegible]. [illegible], [illegible] Illinois. [illegible] found in their accounts that [illegible] is a month of heavy [illegible] are [illegible] Christmas [illegible] to [illegible] December and [illegible].

In some cases insurance [illegible] changed to fall due in some other month instead of December. [illegible] have [illegible] time to lighten the Christmas [illegible], in [illegible], necessary [illegible] been bought on special sales [illegible] much.

However, [illegible] consideration to the [illegible] keepers in [illegible] their [illegible]. The [illegible] have shown that the opening of school [illegible], [illegible] and other bills add to [illegible] expenditure [illegible] August.

[illegible] expensive [illegible]. [illegible] expenditures shifted [illegible]. By this [illegible] many homemakers are finding that [illegible] through [illegible] and wreck the [illegible].

-M-

[illegible] Girls Earned [illegible] Pairs Of [illegible] During Year

Twenty-two thousand pairs of new [illegible] formed during 19[illegible] is just one of the several records made by Illinois 4-H club girls this year, according to reports [illegible] Miss Mary McKee, junior club [illegible] specialist at the [illegible], University of Illinois. During the same [illegible] months [illegible] girls enrolled in club work [illegible] made some [illegible] garments and [illegible] garments, Miss McKee reported.

Furthermore, clothing work [illegible] only one of their many lines of activity. They planned, prepared and served [illegible] for their families, [illegible] everything from cooking the food to [illegible] the table and washing the dishes. [illegible] included the [illegible] of more than [illegible] and the canning of [illegible], [illegible] quarts of fruit and vegetables.

A third line of endeavor was that of home furnishings and room improvement. Girls enrolled in projects of this class made [illegible] articles for their homes and through their efforts improved 1[illegible] rooms in [illegible], Miss McKee reported.

Of greater worth probably than the money value of articles made was the [illegible] responsibility and the cooperative spirit developed by club girls through their project work, Miss McKee believes. For example, Mary Lois [illegible], of [illegible] county, writes that baking projects in 19[illegible] [illegible] the favorable interest of [illegible] in her community with the result that the club has helped bring about a more [illegible] spirit in the community.

Marjorie [illegible], of Lake county, has been able to guard her health more carefully through principles learned in the health project, she reports.

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[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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No Curb Put On [illegible]

People [illegible] plant their front lawns [illegible] other [illegible] grass just as many [illegible] as they please, [illegible] without any restrictions or penalties whatsoever [illegible] the [illegible] expert [illegible] College of Agriculture, University of Illinois [illegible].

In addition to all this, [illegible] their tax-free allotments without any restrictions or conditions [illegible] the statement points out. [illegible] failure to distinguish between "[illegible]" and "[illegible]."

The only restrictions [illegible] allotments. [illegible] of tax-free [illegible] 7 million [illegible] the average yearly [illegible] not [illegible].

P[illegible] tax-free allotment [illegible] basis of [illegible] Illinois' [illegible] will be [illegible] cent of tax.

The [illegible] Christmas [illegible] produced after December 1, [illegible] However, the [illegible] tax-exempt [illegible] for further [illegible].

[illegible] on the [illegible], [illegible] have to [illegible] with the [illegible].

-X-

[illegible] Selection [illegible]-Christmas [illegible]

Choosing the Christmas turkey [illegible] this year will [illegible] plenty [illegible] series of turkey hash [illegible], according to Miss [illegible] Robinson, [illegible] economics education at the College of Agriculture, University of Illinois.

[illegible] dressed turkey [illegible]. [illegible] bird is to be served with dressing, [illegible] pound [illegible]. If there is no dressing, [illegible] needed, [illegible].

At the [illegible] 15-pound turkey will feed [illegible], while a [illegible]-pound bird will be sufficient for [illegible] guests. Since [illegible] it [illegible] to [illegible] the Christmas table, [illegible] will be in demand. However, it [illegible] is better to [illegible] least [illegible] pounds [illegible] good, since [illegible].

Whether the turkey is chosen [illegible] it should [illegible] fat, [illegible] and [illegible]. The [illegible] and the breast and thighs [illegible]. [illegible] the fat imparts [illegible] better flavor [illegible] the [illegible] in poor flesh.

-X-

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Ten District Events Set For [illegible] Dec. Calendar

Eliminating [illegible] in record [illegible] and dropping ten district [illegible] will be held January [illegible] all to select entries for the annual state [illegible] and [illegible] program, it [illegible] by T. J. Lindstrom [illegible] in charge of the College of Agriculture, Illinois.

[illegible] and [illegible] counties, [illegible] and [illegible] district [illegible] will [illegible] in the state program, which will [illegible] in connection with the thirty-fourth [illegible] Farmers' Week at the [illegible].

[illegible] the [illegible] with the largest [illegible] in the seven [illegible] [illegible] [illegible] to select their best entries [illegible].

[illegible] to the district [illegible] the [illegible] which will [illegible] as follows:

[illegible] at the University of Illinois, Ford [illegible], Ford, Iroquois, Vermilion, Edgar and [illegible] counties. Mrs. E. F. Sauer, Rantoul, chairman.

[illegible] Lee, Whiteside, Carroll, Ogle, Jo Daviess, Stephenson, Winnebago, Boone and [illegible] counties. Mrs. Ida Lincoln, Freeport, chairman.

[illegible] Peoria, Tazewell, Mason, Fulton, Knox, Henry, Bureau, Marshall, Stark, Warren and Hancock counties. Mrs. [illegible], Western Illinois, Macomb, chairman.

[illegible] Livingston, Grundy, Kendall, La Salle, Bureau, Putnam, Marshall, Woodford, Tazewell and Peoria counties. [illegible], Streator, chairman.

[illegible] at the High School, Belleville, St. Clair, Madison, Monroe, Randolph and Washington counties. Belleville, chairman.

[illegible] at the High School, Effingham, Jasper, Crawford, Clay, Richland, Lawrence, Wayne, Edwards, White and Hamilton counties. Mrs. Ethel Hughes, Fairfield, chairman.

[illegible] at the High School, Mt. Vernon, Jefferson, Clinton, Marion, Clay, Wayne, Hamilton and Franklin counties. Lester Helm, Belleville, chairman.

[illegible] at the High School, Carlinville, Macoupin, Montgomery, Christian, Shelby, Fayette, Effingham, Jasper, Clay, Richland and Clark counties. Mrs. Ethel Hughes, Fairfield, chairman.

[illegible] at the High School, Pana, Christian, Shelby, Fayette, Effingham, Jasper, Clay, Richland and Clark counties. Joe Hendricks, Geneva, chairman.

[illegible] at the High School, Williamsfield, Knox, Henry, Warren, Mercer and Rock Island-Alexander counties. Ellsworth Lynn, Williamsfield, chairman.

[illegible] at the High School, Byron, Ogle, Lee, Whiteside, Carroll and Jo Daviess counties. Mrs. Henry Jenkins, Streator, chairman.

[illegible] at the High School, [illegible], Morgan, Scott, Macoupin, Jersey and Montgomery counties. Mrs. Ray J. Scruggs, Winchester, chairman.

[illegible] the district [illegible], the [illegible] entries will [illegible] to finish preparations for Farm and Home Week. Finals in the [illegible] the tournament will be held Thursday afternoon, January 1, with the winners of the district play competition arriving that evening. A number of short [illegible] Friends will be held Thursday evening at the hotels in the [illegible] the visiting [illegible].

—H—

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Some Cattle Best Not Rushed Into Market This Season

Although there are more cattle on feed in Illinois this winter than last, it probably will pay farmers with plenty of home-grown corn to feed quality cattle long enough to get a prime finish before marketing them, said R. R. Snapp, associate chief in beef cattle husbandry at the College of Agriculture, University of Illinois.

On the other hand the feeder who has medium grade cattle and only a limited supply of corn but plenty of good clover hay and corn silage may find it to his advantage to put the cattle only in good butcher condition and sell them as short fats rather than buy corn for a full feeding period.

The feeder who purchased his cattle between November 1 and 15 and who intends to market them before summer should have the cattle well on feed by the latter part of December. While early gains may very well be made from hay, stalk pasture, second growth or seedling clover and sudan remains, the animals may stop gaining or actually lose weight if they are not fed enough grain when cold weather sets in, Snapp said.

While there is more danger in beef cattle going off feed if put on full feed of corn too suddenly, the gradual change from hay and roughage to grain should be made in most cases before the first of the year.

This gradual change does not apply to choice, fleshy feeders that are to be put in prime condition in a relatively short period. Such cattle should be started on corn as soon as they are on feed but then increased to full feed by the end of the second or third week.

Future market trends closely are uncertain, but indications are that this winter and spring's fed cattle market will remain good provided heavy sales do not glut the market. Price, really, the feeder's profit depends largely upon his individual situation and supply and kinds of feed on hand, Snapp said.

-M-

Plenty Of Water Is Best Protection From Farm Fires

An adequate supply of water is one of the best guarantees Illinois farmers can have against fires such as have destroyed numerous lives and thousands of dollars worth of property already this winter, according to W. A. Foster, rural architect at the College of Agriculture, University of Illinois.

One hourly supply of water for an engine throwing a one-half inch stream may often mean the saving of a building. Since the engine of such dimensions will require about 10 gallons of water a minute, the supply should amount approximately to 100 barrels.

This is not an expensive supply to have on hand, Foster said. A cistern 10 feet in diameter and seven feet deep will hold this amount. A cubical tank eight feet each way, or about the size of a ton of hay in a mow, also will hold approximately 100 barrels of water. A small dam in the spring run or in a convenient creek will impound enough water for fire fighting purposes. The pond formed by the dam not only will furnish a much-needed water supply but also will add to the beauty of the premises. It will serve as a center for landscaping and may even be used as a skating pond during the winter.

Even where road conditions or distance make it impossible for the rural-town fire department to answer rural calls, the water supply is a valuable protection, Foster declared. Plenty of water, a good map and conveniently located ladders will enable neighbors to quench many a fire before it has had time to get a good start.

When considering building problems, it is well to make arrangements for the water supply and if possible install pressure water equipment.

-M-

Home Seed Test Will Help Av[illegible]

Tir[illegible] the seed corn inter[illegible] Illinois [illegible] early frost [illegible] the [illegible] stands [illegible] only [illegible] testing this winter, [illegible] associate in crop production at the College of Agriculture, University of Illinois.

Seed corn [illegible] germinate at least [illegible] per cent [illegible]. Prospective seed supplies can [illegible] by the use of the well known "rag doll" tester. This [illegible] stuck [illegible] cloth, covering the [illegible] with another cloth and rolling the two pieces together loosely. The tester [illegible] temperature of about [illegible] degrees.

Testing the [illegible] will give the farmer an opportunity to secure additional seed [illegible] measure [illegible] Good [illegible] corn [illegible] tested [illegible] department of the College [illegible].

While [illegible] cured properly [illegible] will help keep [illegible] an abrupt change [illegible] weather.

During [illegible] of corn and [illegible] in the [illegible] until the weather [illegible] cold. A [illegible] will [illegible] corn and prevent [illegible].

-M-

[illegible] Will Stop Erosion

By [illegible] land [illegible] Illinois farmers [illegible] in loss of fertility [illegible] their farms, according to [illegible] agricultural engineering at the College of Agriculture, University of Illinois. This estimate applies to the farm [illegible] conditions. Steeper slopes, gullies [illegible] will increase the amount of labor and power required [illegible].

The actual amount [illegible] depends [illegible] the labor and power is furnished by the farmer. Five Illinois farmers reported an average cost of $[illegible] an acre. [illegible] realized that [illegible] terraces [illegible] nothing [illegible] their own work with [illegible] equipment and teams.

-M-

Home Butchering [illegible] Saves $[illegible] A Hog [illegible]

[illegible] present [illegible] levels [illegible] retail pork prices, Illinois [illegible] to save [illegible] $19 [illegible] their [illegible] butchered at home, it is estimated by Sleeter Bull, meat specialist at the College of Agriculture, University of Illinois.

This estimate [illegible] expenses from Urbana. At the [illegible] $[illegible] for a [illegible] and the meat and lard [illegible] $41.[illegible]. Only about $1.1[illegible] of the nearly $[illegible] margin between [illegible] would be accounted [illegible] net profits to the packer [illegible] figures from the Institute of American Meat Packers. [illegible] processing tax [illegible] handling [illegible].

-M-