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THE PENNSYLVANIA STATE COLLEGE

PENNSYLVANIA VEGETABLE GROWERS' NEWS



Eat Garden Fresh Pennsylvania Grown Vegetables All The Year

Publication of the Pennsylvania Vegetable Growers' Association

Issued Quarterly at State College, Pa. Subscription Included in Annual Dues of \$1.00
Application for entry as second class matter is pending.

Vol. XII

State College, Pa., March, 1942

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INTENTIONAL 2ND EXPOSURE

Vegetables For Vitality

by Lydia Tarrant*

An adequate, well balanced diet includes two or more servings of vegetables besides potatoes each day. One of these should be a green or yellow vegetable because of their higher vitamin and mineral content.

One half of any of the leafy green vegetables, such as endive, beet tops, dandelion greens, spinach, kale, will provide a person with his daily vitamin A requirement. This vitamin is essential for growth, building good teeth, preventing night blindness, protecting the eyesight, keeping the skin healthy and helping the body build up a greater resistance to infection. Although peas and green string beans are not as rich in this vitamin as some other green vegetables, they are considered good sources.

Leaf lettuce is high in vitamin A but is usually not eaten in large enough amounts to provide the day's needs. One serving of carrots, pumpkin or Hubbard squash will also provide the day's vitamin A requirements. The leafy green vegetables are also a good source of iron which is necessary for good blood.

A second vegetable might be selected from any one of these: cabbage, celery, beets, onions, turnip, salsify, parsnips or rutabaga. These are not outstanding in any one food element but nevertheless contribute some vitamins and minerals necessary for an adequate diet. All vegetables provide some bulk necessary for regulating body processes.

Tomatoes, fresh or canned, are excellent sources of vitamin C needed in the diet each day to give us pep and vitality, build good teeth and bones, keep the gums healthy and to help strengthen the walls of the blood vessels. Two medium tomatoes, a cup of tomato juice or a large serving of any raw vegetable or fruit will supply the vitamin C needs for a day.

Since vitamins and especially vitamin C are easily destroyed in storage or exposure to air, vegetables grown and sold in Pennsylvania are apt to have more of this vitamin than those vegetables that must be shipped into this State from any distance.

* Nutrition Specialist, Pennsylvania State College, School of Agriculture, Agricultural Extension Service.

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OFFICERS FOR 1942

President Ray W. Wenker, Bustleton
Vice-President Louis Orient, Bridgeville
Sec'y-Treas. Jesse M. Huffington, 625 Holmes St., State College

READ

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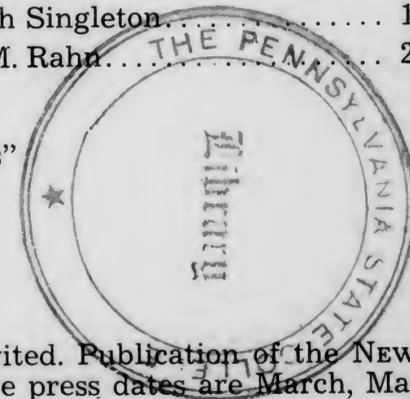
COMING—

- "Orderly Marketing of Vegetables"
- "Labor for Harvesting Crops"
- "Maintaining Soil Fertility"
- "Seed Production Programs"
- "Care of Plants"

Your suggestions and ideas are invited. Publication of the NEWS is to be quarterly this year. Tentative press dates are March, May, July and December.

To save postage required in mailing individual receipts, a list of paid members and subscribers is to be included in the next issue. The total is now 250. Just one new member, or subscription, obtained by each of the 250 would make the total 500. Only one dollar is the price for either or both, and includes a Ten-Ton Tomato report.

Advertising rates will be sent upon request. Readers are urged to patronize our advertisers.



MINUTES OF MEETING OF JANUARY 20-21, 1942

At the brief business meeting held at 3:30 P. M. in Room C of the Farm Show Building, Harrisburg, Pa., at which President R. R. Brader presided, the following business was transacted.

The Committee on Resolutions, Gilbert S. Watts, Chairman, presented the following resolutions for the Committee, other members of which were Messrs. Wenker, Orient, and Stutzman:

1. Be it resolved that the Pennsylvania Vegetable Growers' Association is in hearty accord with the patriotic spirit of the various civic groups in regard to the Victory Garden Program.

Whereas, considerable supplies of seeds and fertilizers were expended on unsuitable lands and many crops were lost from inadequate protection against insects during the First World War garden program, and

Whereas, serious shortages of important seeds, fertilizers, and spray materials already are becoming manifest,

Be it resolved further that all authorities engaged in direction of the Victory Garden Program be petitioned to establish and exercise adequate safeguards to prevent the expenditure of essential and irreplaceable garden supplies on projects where unfavorable soils or other adverse conditions will prevent efficient utilization of the materials.

Inasmuch as most fertilizer and many insecticidal chemicals used in vegetable production are also those used in industrial and munition manufacture, and many normally come from imports now unavailable,

Be it resolved further that the distribution of essential garden supplies and equipment and of available labor resources be limited strictly to operations where satisfactory crops can be expected. This presupposes that definite trained supervision be exercised at all points in the conception and execution of the Victory Garden Program. Without such supervision and the necessary education and direction of amateur gardeners, there is certain to occur irreparable loss of essential supplies, which loss will be detrimental to the food production effort.

Be it resolved further that in the interest of adequate food supplies, civic groups be exhorted to institute and extend programs to stimulate the home canning and preservation of foodstuffs during periods of peak production when there is vast waste because of consumption falling behind production for several days or weeks.

2. Whereas it has been proposed that the High Schools be operated throughout the year to hasten the graduation of students as an aid to defense.

Be it resolved that the State Superintendent of Public Instruction and the members of the legislature be petitioned to the effect that such action would result in irremediable reduction in the production of foodstuffs on Pennsylvania farms. Farm boys and girls and young people of high school age always have constituted a large proportion of the seasonal harvest hands, and in many cases are the only extra help available. Demands of the Army, the Navy, and Industry have made this trebly true today.

3. Be it resolved that the Pennsylvania Vegetable Growers extend to the Vegetable Growers' Association of America a letter of appreciation upon its decision to hold the 1942 National Convention in Pittsburgh, in which we tender our whole-hearted support and cooperation.

4. Be it resolved that the Pennsylvania Vegetable Growers' Association extend to the Allegheny County Vegetable Growers' Association a letter of congratulation upon its success in securing the 1942 convention of the Vegetable Growers Association of America for Pittsburgh.

Be it resolved further that we express our desire to cooperate in any way possible to make the forthcoming convention a success.

5. Be it resolved that the Pennsylvania Vegetable Growers' Association congratulate the Northeast Vegetable and Potato Council for its splendid achievements of the past year in respect to pioneering in marketing programs, in advertising, and in contact work with government agencies.

6. Be it resolved that a letter be sent to the Director of the Pennsylvania Agricultural Experiment Station expressing appreciation of the several research projects upon problems of the vegetable industry, and expressing also our willingness to serve in any way possible to protect the research program from curtailment.

7. Whereas our good friend and member Hal Mills was claimed by death during the past year, be it resolved that we express our feelings of great loss in his passing, and our deep sympathy with his bereaved family. Be it resolved further that the Secretary be instructed to inform his widow of this memorial resolution.

The foregoing resolutions were offered by Gilbert S. Watts, seconded by Harry Hopkins, and passed without discussion or dissenting vote.

A resolution was offered by W. Ray Hastings, representing the Committee on All-American Selections of the American Seed Trade Association, and on motion by Harry Hopkins, seconded by Gilbert S. Watts, was passed after some discussion, as follows:

Be it resolved that the proper authorities be requested, that in each state of the Union and in each county of each State, there be

set up a Garden Center in control of a Garden Council corresponding in type of membership and structure to the Federal Advisory Council, and in each case, organized and housed with the advice and consent of the local governing body.

That there be provided a maximum of opportunity for participation in the work by those qualified, who may thereby contribute leadership for the inspiration, assistance and guidance of those whose participation depends upon wise leadership.

That such Garden Centers and such Garden Advisory Councils shall in each locality work out the development of the needs and possibilities in each such locality, both in promoting agreed upon lines of endeavor, in gathering reports of progress and in reporting results to other Garden Councils, and also in collaboration with fellow Garden Advisory Councils.

It appears desirable that true democratic procedure may thus provide the best available local talent, to lead the way toward the most effective local achievement in accomplishing the aims of the Victory or War Garden movement as projected from National Headquarters.

A report of the Committee on Nominations, consisting of Messrs. Harry Hopkins, Chairman, and Charles K. Hallowell and Kenneth S. Philp was called for by the President, and by this report the following were placed in nomination for the respective offices:

- President—Ray W. Wenker, Bustleton
- Vice-President—Louis Orient, Bridgeville
- Secretary-Treasurer—Jesse M. Huffington, State College
- Directors—R. R. Comly, Harry Hopkins, Carl Huber, E. J. Fleming, K. S. Philp, and Gilbert S. Watts.

R. R. Comly moved and Hopkins seconded that the nominations be closed. This motion was passed and the Secretary cast a ballot for the officers, who were declared elected.

At the banquet on Tuesday evening Wheeler McMillan, Editor of Farm Journal and Chairman of National Farm Chemurgic Council, gave an interesting address on the utilization of vegetable products.

Winners in the 4-H judging contest were presented to the group and awarded one silver cup. This team comes from Philadelphia County and includes Clarence Shalcross, Frankford; Edward Comly, Bustleton, and Harold E. Wenker, Jr., Bustleton, Pa.

On Wednesday, January 21, in the meeting held in the Camp Curtin Memorial Methodist Church, the following resolution, moved by T. R. Aufer of Mifflintown and seconded by Fred Watts of Morrisville, was passed:

8. **Inasmuch** as the labor shortage on farms already has attained serious proportions, and

Because this shortage undoubtedly will become more acute and jeopardize the production of adequate supplies of foodstuffs,

Be it resolved that the officers of the Pennsylvania Vegetable Growers' Association be instructed to take whatever action may appear expedient to establish a central authority and to authorize local school boards to make the labor of high school students available wherever it may be essential in production and harvesting of farm crops.

The report of the Secretary-Treasurer, called by the President during the regular business session on Tuesday, January 20, was as follows:

Report for January 20, 1942

Receipts

Cash in bank, January 21, 1941	\$ 39.88
128 Memberships and subscriptions for 1941	128.00
4 Memberships for 1942	4.00
Advertising in Annual Report of 1941	163.50
Total Receipts	\$331.38

Disbursements

Feb. 19, 1941—Expenses of G. J. Raleigh	\$ 19.60
May 7—Sylvia Meeker, Postage, etc.	26.82
May 14—Nittany Printing Co., for printing of annual report..	100.00
May 16—Same, balance of account	33.15
June 2—Sylvia Meeker, Postage, etc.	6.44
June 20—V.G.A. of A., annual affiliation fee	25.00
July 3—W. B. Mack (Postage)	1.56
July 23—Sylvia Meeker (Postage, etc.)	4.89
Jan. 19, 1942—Sylvia Meeker (Postage, etc.)	18.75
Jan. 19—Pa. Council of Farm Organizations dues	5.00
Jan. 20—Northeast Vegetable & Potato Council dues	10.00
Total Expenditures	\$251.21
Balance, cash in bank, January 20, 1942	\$ 80.17

The annual report was printed at a cost of \$133.15, and advertising therein brought in receipts of \$163.50. Approximately 475 copies were distributed among members, Ten-Ton Tomato Club members, and other vegetable growers or interests.

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Production, Preparedness and Organization

By RAY W. WENKER

President Pennsylvania Vegetable Growers' Association

What does "All Out Production" of our country mean to the American farmer? It means the production of sufficient food to meet the necessary requirements of our armed forces, civilian population of this country and that of our Allied nations. This job must be done, and will be done; if we hope to obtain a complete victory and remain an independent nation.

As vegetable growers, a large part of this responsibility rests upon your shoulders, and it is up to you to produce your portion. This job will not be an easy one, and the result will not be accomplished without hard work, sacrifices, heartaches and disappointments. We must plan our operations in advance, keep our supplies well stocked and our machinery in A-1 condition. Organization and unity among vegetable growers is needed more today than ever before in our history, and we must face this crisis as a united group rather than individuals.

Another serious problem which we must not lose sight of during this high production period—that is, the conservation of our soil. During the last war vast quantities of land were destroyed by erosion due to carelessness and the lack of educational knowledge. It is our duty as good producers to see that the same condition does not occur again, if we are hopeful of seeing our sons follow in our footsteps.

Let us all march together, work together, and cooperate together for the cause of Freedom, Democracy and Victory.

Acknowledgments

The assistance of persons and firms listed below made possible the enjoyable banquet and social evening at the William Penn Hotel, Harrisburg, Pa., January 20, 1942.

Wheeler McMillan, Editor of the Farm Journal
Quartette, Pennsylvania Railroad Company
H. D. Williamson, American Stores Co., 424 N. 19th St., Philadelphia
H. A. Maloney, International Harvester Co., 2903 N. 16th St., Phila.
C. W. Waddington, Atlantic Commission Co., Philadelphia
W. H. Kleinhenn, S. L. Allen & Co., Inc., Philadelphia
M. V. Bailey, Pennington, N. J. (American Cyanamid Co.)
Wm. H. States, Jr., Bristol, R. D. 2, Pa. (General Hauling)
Robert Williams, Marvil Package Co., Laurel, Del.
A. W. Abbott, Abbott & Cobb, 4655 Paul St., Philadelphia
Trenton Bone Fertilizer Co., Trenton, N. J. (Raymond Hutchinson)
Joseph E. Slade, 2735 Greenleaf St., Allentown, Pa. (John Bean Mfg. Co.)

Ralph R. Brader

Ralph R. Brader, 59, died Saturday in General Hospital, Wilkes-Barre, Pa. Mr. Brader was born in Columbia County but had resided for a greater part of his life in Salem Township, near Berwick, Luzerne County. He was a former school director and operated a vegetable farm in that community.

Deceased was President of the Pennsylvania Vegetable Growers' Association, 1940 and 1941, was chairman of the Department of Agriculture War Board in Luzerne County, and was a member of the State Farm Board. He was always active in promoting the interests of the vegetable industry of Pennsylvania. He represented the Vegetable Growers' Association on the Pennsylvania Council of Farm Organizations and was Chairman of the Farm Show Committee. More members of the Association were obtained by him than any other person. The officers of the Association regret the passing of such a loyal and constant worker.

Sympathy is extended to his family to whom he was devoted. Surviving are these children, Mrs. Fred Saracino and Mrs. Claude Chamberlain, Berwick; Mrs. Merlin Jones, Nescopeck; Herbert, Salem Township, and Roscoe, Mechanicsburg, and a sister, Mrs. Charles Shaffer, Bloomsburg.

Efficiency and Economy In Wartime Vegetable Production

by **Alvan C. Thompson, King Farms Company, Morrisville, Pa.**

Ten per cent more vegetables in 1942 than in 1941—that is the goal set by our Government.

Figures published by the U. S. D. A. in the Bureau of Agricultural Economics Report for Feb. 1, 1942 show that canning stocks are down.

There has been a rapid movement of canned goods from warehouses in recent months.

The importance of vegetables for adequate diets both in our civilian lives and in military camps is well recognized by leading authorities for the maintenance of good health and in the prevention of disease. The slogan "Vegetables and Vitamins for Victory" is not merely a catch phrase, but has real meaning.

Our Government is asking us to achieve this vegetable goal in the face of many apparent difficulties, such as shortage of equipment and supplies and labor. We all know that the construction of munitions and defense factories and army camps takes lots of workers. Both our Military forces and defense plants draw heavily on labor between the ages of 20 and 44 years.

This naturally means a shrinking supply of labor available for farms. Our factories are rapidly converting from the manufacture of goods and machines for civilian use to the making of munitions, military equipment and ships. Added to this there is the fact that we have been cut off from supplies of rubber and tin from the East Indies. These facts call for economies in living and conservation of available resources in materials and equipment on hand, not only among city dwellers but among farmers as well.

Production costs for farm products are going to be higher in 1942 than in 1941. Most materials and supplies cost more already, but the Government will no doubt set ceiling prices on some things to prevent skyrocketing.

Certain vegetable seeds are very scarce. This is because many of them were formerly imported and because of crop failures in this country. Some of the scarce items are spinach, carrots, onions, cabbage, cauliflower and radish. Growers should test the germination of seeds before planting. This will not only conserve our scarce supply of seed but may also save labor by avoiding the thinning of thick stands.

Apparently there is some question as to just how far into the season available supplies of fertilizer will take us. However, many believe that present supplies are sufficient to take care of initial spring plantings at least. It seems that we have sufficient material for mixed fertilizer manufacture, and factory space and machinery, but that the bottleneck is in transportation. Shipping by rail costs three or

four times the cost by boat. Fertilizer prices are higher than last year, and may advance more if the shipping is not improved.

Supplies of Nitrogen carriers, such as Nitrate of Soda and Cyanamid, Sulfate of Ammonia and liquid Nitrogen, are limited because of the heavy demand for explosives. They are being rationed to fertilizer mixers on a percentage basis according to usage last year.

Regarding fertilizer prices, the Office of Price Administration issued a temporary order, effective February 27th, freezing retail prices at the prices in effect from Feb. 6th to 20th. This order is effective on potash, superphosphates, and mixed fertilizer. At the end of 60 days permanent price ceilings are to be announced.

Because of Government use and the shipping problem, burlap bags are scarce and high priced. Growers should handle them carefully so as to lengthen their life. Much of the fertilizer will be packed in paper bags, and even they should be saved, by pulling the strings and not cutting bags with a knife.

In regard to spray materials there appear to be sufficient supplies except for rotenone. Shipments of derris powder have been largely cut off by the capture of the Malay peninsula and Java by the Japanese. The price of rotenone is much higher, but some can also be obtained from cube imported from Peru, pyrethrum from Kenya, East Africa, also is higher priced because of shipping losses and higher insurance. Copper sulfate used largely in controlling blight on celery and potatoes is unavailable at present, but it is understood that the Government will order its' release when the need arises during the growing season. It is suggested that insoluble coppers be used in place of Bordeaux. Lead and calcium arsenate orders can also be placed now with the prospect for later delivery when the need arises. Apparently there is plenty of sulfur and lime available. Generally speaking, sprays are more efficient than the same amount of material used as a dust. Therefore, one can economize on material by spraying but the labor cost is usually higher.

The manufacture of trucks, tractors, and farm machinery has been greatly reduced. Farm machines are being produced in quotas based on a percentage of the quantity manufactured in the year 1940. Farmers may obtain rubber tires for essential farm equipment by appealing to local tire rationing boards. Growers should make sure that equipment on hand is overhauled and in good condition to do the season's work.

Packing supplies such as baskets, crates, paper and twine are still available, but prices are higher. Many growers who used rubber bands for bunching vegetables will need to change to string or twine.

As time passes and the war continues the prospects are for continued scarcities of materials and labor necessary for vegetable production. Therefore, it becomes necessary for growers to use careful planning and extra economies to conserve supplies, and extra efficiency in production to meet the nation's need for an increased tonnage of vegetables to furnish food and vitamins for victory.

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BRILLION, WISCONSIN



Putting Plantfood to Work

ROBERT H. ENGEL

National Fertilizer Association, Washington, D. C.

We are now at war, a shooting war, but this fact will not change the growing habits of our crops. It will change the methods man usually follows in producing foodstuffs, either directly or indirectly.

Which crops will be in greatest demand to supply our armed forces, provide food to our allies on the lease-lend program, and feed our civilian population? Next consider crop production from the individual grower's standpoint. The question immediately arises, which of these crops am I best able to produce, with my present facilities. With the limitation on sale of tires, growers may need to rearrange their usual marketing methods to economize on the rubber supply. In all probability, one bottleneck in vegetable production will come in the labor supply. It is no doubt serious now, but will become worse if the war continues. Most of these problems are more or less general—they will help to mould the plans for the 1942 growing season. In all probability the crops which are best adapted to the farm will be the final determining factor.

All natural resources must be carefully conserved. Every pound of manure must be saved, fertilizer and seed must be used in the best way, and every hour of labor must be applied to the best advantage. This necessity is emphasized by the statement in the newspaper last week, that it requires 18 men at home to support one soldier at the front. In the last war it only required five. With a probable increasing scarcity of fertilizers, every pound of fertilizer must be put to work so as to get the most out of it. Yes, this war will end, but there is every indication that the signing of the armistice will not be the end of the war emergency for the man growing foodstuffs. In all probability, the United States will have to continue to supply foods to many countries of the world that have expended their strength in war. Then if our soils are depleted and will not yield good crops, we will be no better off than our neighbors. So we must put plant food to work, using the best known methods of application to grow the present crop, and apply it in sufficient amount to maintain and increase the fertility of our soils.

Putting plantfood to work efficiently is most essential during the war period. To obtain this efficiency it is necessary to select the right grade of fertilizer and to apply it properly. Both these points can be illustrated by an experiment reported by Dr. H. H. Zimmerley of the Virginia Truck Experiment Station.

This was a fertilizer placement experiment with snap beans, using different grades of mixed fertilizers.

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In regard to spray materials there appear to be sufficient supplies except for rotenone. Shipments of derris powder have been largely cut off by the capture of the Malay peninsula and Java by the Japanese. The price of rotenone is much higher, but some can also be obtained from cube imported from Peru, pyrethrum from Kenya, East Africa, also is higher priced because of shipping losses and higher insurance. Copper sulfate used largely in controlling blight on celery and potatoes is unavailable at present, but it is understood that the Government will order its' release when the need arises during the growing season. It is suggested that insoluble coppers be used in place of Bordeaux. Lead and calcium arsenate orders can also be placed now with the prospect for later delivery when the need arises. Apparently there is plenty of sulfur and lime available. Generally speaking, sprays are more efficient than the same amount of material used as a dust. Therefore, one can economize on material by spraying but the labor cost is usually higher.

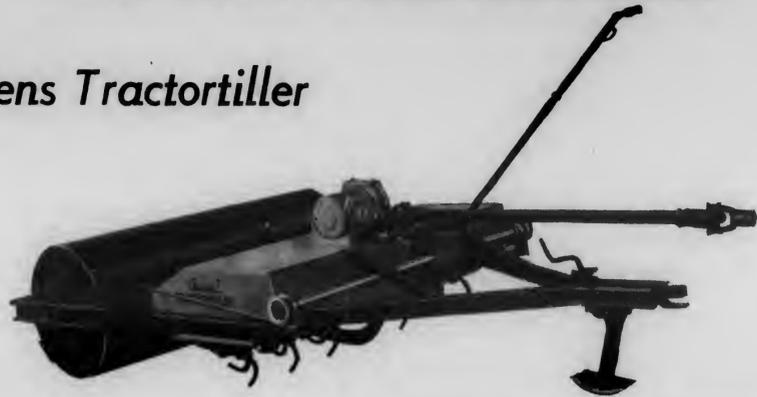
The manufacture of trucks, tractors, and farm machinery has been greatly reduced. Farm machines are being produced in quotas based on a percentage of the quantity manufactured in the year 1940. Farmers may obtain rubber tires for essential farm equipment by appealing to local tire rationing boards. Growers should make sure that equipment on hand is overhauled and in good condition to do the season's work.

Packing supplies such as baskets, crates, paper and twine are still available, but prices are higher. Many growers who used rubber bands for bunching vegetables will need to change to string or twine.

As time passes and the war continues the prospects are for continued scarcities of materials and labor necessary for vegetable production. Therefore, it becomes necessary for growers to use careful planning and extra economies to conserve supplies, and extra efficiency in production to meet the nation's need for an increased tonnage of vegetables to furnish food and vitamins for victory.

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Putting Plantfood to Work

ROBERT H. ENGEL

National Fertilizer Association, Washington, D. C.

We are now at war, a shooting war, but this fact will not change the growing habits of our crops. It will change the methods man usually follows in producing foodstuffs, either directly or indirectly.

Which crops will be in greatest demand to supply our armed forces, provide food to our allies on the lease-lend program, and feed our civilian population? Next consider crop production from the individual grower's standpoint. The question immediately arises, which of these crops am I best able to produce, with my present facilities. With the limitation on sale of tires, growers may need to rearrange their usual marketing methods to economize on the rubber supply. In all probability, one bottleneck in vegetable production will come in the labor supply. It is no doubt serious now, but will become worse if the war continues. Most of these problems are more or less general—they will help to mould the plans for the 1942 growing season. In all probability the crops which are best adapted to the farm will be the final determining factor.

All natural resources must be carefully conserved. Every pound of manure must be saved, fertilizer and seed must be used in the best way, and every hour of labor must be applied to the best advantage. This necessity is emphasized by the statement in the newspaper last week, that it requires 18 men at home to support one soldier at the front. In the last war it only required five. With a probable increasing scarcity of fertilizers, every pound of fertilizer must be put to work so as to get the most out of it. Yes, this war will end, but there is every indication that the signing of the armistice will not be the end of the war emergency for the man growing foodstuffs. In all probability, the United States will have to continue to supply foods to many countries of the world that have expended their strength in war. Then if our soils are depleted and will not yield good crops, we will be no better off than our neighbors. So we must put plant food to work, using the best known methods of application to grow the present crop, and apply it in sufficient amount to maintain and increase the fertility of our soils.

Putting plantfood to work efficiently is most essential during the war period. To obtain this efficiency it is necessary to select the right grade of fertilizer and to apply it properly. Both these points can be illustrated by an experiment reported by Dr. H. H. Zimmerley of the Virginia Truck Experiment Station.

This was a fertilizer placement experiment with snap beans, using different grades of mixed fertilizers.

The plots receiving nitrogen and phosphoric acid produced an average yield of 2,800 pounds per acre; but when a well-balanced complete fertilizer was applied, the average yield jumped to 4,392 pounds per acre. This is an increase of more than 2,400 pounds of snap beans per acre for the well-balanced complete fertilizer over the yield obtained from the poorest grade.

All plots received fertilizer at the rate of 1,000 pounds per acre.

When the experiment is considered from the standpoint of fertilizer placement, the plots receiving the incomplete fertilizer showed very little advantage for one method of placement over the other, while the plots receiving a well-balanced complete fertilizer showed a wide difference.

When the complete fertilizer was mixed with the surface soil in the row, the yield was lower than the average of all plots receiving this grade of fertilizer.

When the fertilizer was placed on top of the row after planting, the yield was increased 468 pounds over the average; but when the fertilizer was placed in bands 2 inches to each side of the row, and 2 inches below the seed level, the yield was increased 2,089 pounds per acre above the average yield.

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New Insect Control Methods

L. E. DILLS*

Due to the need of vegetables in larger quantities for national defense it is very important that the most efficient insect control methods be used in 1942. All sprayer and duster equipment should be checked before the season starts to see that it is properly adjusted and the insecticides are not wasted. Repair parts should be ordered early as it is anticipated there will be considerable delay in getting repairs.

Control is particularly difficult as it is necessary to kill all the larvae which hatch from the eggs on a given ear. If 100 eggs were laid and 99 of the resulting worms were killed the one survivor would spoil the ear.

As was reported at last year's meeting the use of oil or oil containing insecticides shows the most promise for the control of this pest. A mineral oil of U.S.P. grade having a viscosity between 175 and 210 seconds (Saybolt 100°F.) has been found to be most suitable. Best results are usually obtained when pyrethrum or dichlorethyl ether are added so that the oil contains .2 per cent pyrethrins or 2% dichlorethyl ether. These preparations ready to use may be purchased. The best time to make the application is after the silks have wilted but before they turn brown at the tips. This is usually 6 or 7 days after the first appearance of the silk. The insecticide should be applied to the "silk channel" between the cob and the exterior of each developing sweet corn ear by means of a plunger type oil-can carried in the hand. If this is connected by means of a small hose to a one-gallon can carried on the shoulders in knapsack fashion less frequent filling is required. It is very important that the amount of oil discharged by the trigger be accurately regulated. This can be done by means of a set screw or other similar device. Only 1/50 of a fluid ounce should be applied to an ear. Larger amounts not only waste the material but cause a stunting of the kernels near the tip.

The applicator can be calibrated by means of a prescription bottle marked in ounces. Fifty discharges should exactly equal an ounce. At this rate 1 gallon of the insecticide would treat 6,400 ears which is usually more than one-half an acre of sweet corn.

Cabbage Maggots. Practically all insecticide treatments recommended for the control of this pest are mercury compounds. When the war shut off our European imports of this material it rose in price. Considerable work has been done in the past year to find a substitute. Dr. Worthley at the Pennsylvania Agricultural Experiment Station tested eight different materials at different concentra-

*Extension Entomologist, Pennsylvania State College.

tions. Similar tests have been conducted in other states. No good substitute has been found. When preventative treatments of calomel and corrosive sublimate have been delayed too long and the maggots are on the roots a 1 to 400 solution of dichloroethyl ether should be used. The kill will be good if the soil is such as to allow penetration of the solution so as to wet the maggots.

Squash Vine Borer. This pest has been very destructive in some communities. Lead arsenate and nicotine sulphate have been frequently suggested but never generally accepted due to the ineffectiveness of the lead arsenate and the cost of the nicotine. Recent tests show best results with a one per cent rotenone dust. About four applications should be made at weekly intervals. The first should be made immediately after the first eggs have been laid. After the plants start to vine an area about two feet in diameter around the center of the hill should be treated. A special effort should be made to have the plants thoroughly dusted at the base.

Onion Thrips. Demonstrations conducted in 1941 showed excellent results with the use of tartar emetic sprays. Indications are that the best proportion to use is 2 pounds of tartar emetic and 4 pounds of sugar to 100 gallons of water. Unfortunately there is a shortage of this material due to the war and it is quite likely that it can not be obtained this year.

FREE! New 1942 ROHRER'S Seed Catalog

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LINCOLN — new "All-American" selection for 1942. SPAN-CROSS — "All American" for 1941, Marcross, and Carmel-cross. All four developed by the Connecticut Experiment Station. Also, Golden Cross Bantam. All seed grown in Connecticut. Send for descriptive circular for home and market growers.

Huntington Brothers
Box H, Windsor, Conn.

HYBRID SWEET CORN 1942

W. RALPH SINGLETON

*Connecticut Agricultural Experiment Station
New Haven, Connecticut*

Sweet corn all summer from one planting is the objective of the breeding project of the Connecticut Experiment Station. This goal has not been completely attained but with hybrids now available it is possible to pick corn for a period of a month from a single planting.

The earliest hybrid with an ear sufficiently large for the general market is Spancross (C4.13). When planted on May 13 at Mt. Carmel last year this hybrid was picked on July 27. At Windsor, Connecticut, this same hybrid was picked on July 26. By adding liquid fertilizer to the row before planting the earliness of Spancross was increased by two days, the corn being picked on July 24. Although this method of fertilization is in the experimental stage the results obtained last year show that it may be possible to make early hybrids a day or two earlier. If this can be done by feeding it is easier than by breeding. The ears produced on the liquid fertilizer plots were bigger and better filled out than those from the control plots. These results emphasize one thing. Hybrids that mature in as short a time as Spancross need their plant food readily available so they do not have to wait a single day for it. Plants fed in this manner will produce earlier and better ears than those fertilized in the regular way. The starter solution used consisted of $\frac{1}{2}$ lb. of ammophos and $\frac{1}{4}$ lb. KNO_3 dissolved in 10 gallons of water and applied to 36 feet of row before planting. This was at the rate of 30 pounds of nitrogen, 80 pounds of phosphoric acid, and 40 pounds of potash per acre. This was in addition to a broadcast application 1000 pounds of 8-16-8. It is not yet feasible to apply fertilizer in the liquid form to a large planting. However, the extra early hybrids should be grown only on the earliest soil with an ample supply of fertilizer. Spancross under such conditions will produce the very early ears that command a premium price for the first native sweet corn. In the extra early season Seneca 60 \times C13 gave as good results as Spancross at Mt. Carmel and Windsor. The ear of Seneca 60 \times C13 is a little longer than Spancross. These two hybrids are the only ones recommended for the general grower. For those who have a trade demanding the very earliest ear regardless of size, Seneca 60 is recommended. It will mature a few of its ears before Spancross although the whole crop will not be through picking before Spancross, due to the variability of Seneca 60.

In the early season, 3-4 days later than Spancross, Marcross 6.13 is recommended. It has been tested thoroughly in Pennsylvania and

does well in all sections. It is resistant to bacterial wilt but is somewhat susceptible to smut and losses of 10 to 25 per cent have occurred because of smut in the last few ears. However no other early hybrid is more resistant and none produces as large an ear in such a short time. The ear of Marcross is as large as any sweet corn maturing two weeks later than this hybrid. Other promising hybrids in the early season are Lexington (C13.15), North Star and Earligold.

The next hybrid in season of maturing is Carmelcross (P39.C13) 3-4 days later than Marcross. Carmelcross was picked at Mt. Carmel on August 4. It produces a large ear of excellent quality. The husks are tighter than Marcross, giving Carmelcross a smaller appearance than Marcross. Goldrush or Improved Carmelcross (C30.C13) is about the same as Carmelcross. These hybrids are a little more smut-resistant than Marcross.

There is no very good hybrid that matures 3-4 days later than Carmelcross. Sweet corn in this season may be obtained by planting Carmelcross 10 days after the first planting. Topcrosses available in this season are Tendergold and Sencross P39. These are not as uniform as the single crosses. Several new experimental hybrids of unusual promise in this season were grown last year. Some of these are C31 × C6, C27 × C6, C23 × C15 and 939-13 × C6. Seed of these will be ready for trial in 1943.

For the next season, Lincoln (P39.C23) is recommended. It was picked on August 9 last year. It matures in the same season as the topcross Whipcross P39. Lincoln has given good results in Pennsylvania wherever tried. It was awarded a bronze medal in the All-America trials last year showing adaptation over a wide area of environmental conditions.

For the season following Lincoln, Golden Cross Bantam is still the most reliable hybrid. Ioana, maturing at the same time, has a larger plant but no larger ear. Ioana is more drouth-resistant than Golden Cross Bantam. Golden Cross Bantam and Ioana were picked on August 12.

Corn maturing later than Golden Cross can be obtained by making later plantings of Golden Cross at 10-day intervals. Several late hybrids are worthy of trial, Allegheny, Mohawk, Golden Hybrid 2439, Aristogold 1 and 2 and Stowell and Narrowgrain hybrids. Experimental hybrids that have given good results are C31 × C87 and Golden Stowells (C65 × C53). Trial samples of these are available in 1942 and will be sent to anyone desiring them. Sources of seed of any of the varieties listed can be obtained either from your County Agent; the Extension Service, State College, or from the Genetics Department of the Connecticut Experiment Station, New Haven.



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Berkeley, Calif.

Leaders in the 1941 Variety Tests

E. M. RAHN

Horticulture Department, Pennsylvania State College

Lincoln is a new hybrid sweet corn this year. Another name for it is Whipcross 23.39. This hybrid matures about a week after Carmelcross and about four days before Golden Cross Bantam. Its ears are of about the same length as those of Carmelcross and, therefore, not quite as long as those of Golden Cross Bantam. Carmelcross and Lincoln ears average twelve to sixteen rows of kernels while Golden Cross Bantam ears average twelve to fourteen rows of kernels to the ear.

Besides the above mentioned yellow sweet corn hybrids, other relatively new yellow hybrids that are leaders are the following: Seneca 60 x C13 in the Spancross season; Ioana, Topflight Bantam, and Mohawk in the Golden Cross Bantam season; and Allegheny, Golden Hybrid 2439, and Aristogold Bantam which mature about four days after Golden Cross Bantam. The ears of Allegheny are particularly attractive, somewhat chunky, and have eighteen to twenty rows of long and narrow kernels. Aristogold Bantam is a very good late hybrid that produces large, attractive ears.

Stokesdale tomato was a leader of the early tomato varieties. It is slightly earlier than John Baer and Bonny Best. It produces an unusually large amount of attractive and high quality fruit over a rather long season, due, in part, to its ability to withstand foliage diseases better than most other varieties in its class. Pan America is a variety similar to Marglobe that has been bred to be highly resistant to Fusarium wilt.

Three bush bean varieties were leaders in 1941, namely: Plentiful and Tender Pod. Plentiful is similar to Bountiful, but is three or four days later and produces more attractive and straighter pods of better quality. Tender Pod is a new variety similar to Stringless Green Pod, but is of much higher quality. Blue Lake is comparable with Kentucky Wonder pole beans, but it produces more attractive beans of higher quality than does Kentucky Wonder.

Boston Crosby beet is not a new strain of the Crosby or Early Wonder type, but in 1941 it seemed particularly uniform in shape and in inside color of its roots. The Detroit variety is still the standard main crop variety of beet.

Red Cored Chantenay carrot is a superior strain of the Chantenay type. Tendersweet is a high quality carrot whose roots are gradually tapering and of deep orange red color throughout. Bunching and Morse's Bunching appear to be strains of the Danvers type which have been selected so that they would be particularly well suited for bunching. They have relative strong tops and attractive roots that are gradually tapered, but approaching a cylindrical shape.

PENNSYLVANIA VEGETABLE GROWERS' NEWS

Publication of the Pennsylvania Vegetable Growers' Association

Issued Quarterly at State College, Pa. Application for entry as second class matter is pending. Annual dues \$1.00, 80c of which is for subscription and 20c for reports and annual meeting.

Vol. XII

State College, Pa., May, 1942

No. 2

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Vice-President Louis Orient, Bridgeville
Sec'y-Treas. Jesse M. Huffington, 625 Holmes St., State College

Directors—R. R. Comly, Harry Hopkins, Carl Huber, E. J. Fleming,
K. S. Philp, and Gilbert S. Watts.

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Committees

Exhibit

C. K. Hallowell,* 303 Drexel Building, Philadelphia; N. A. Alburger, Bustleton; Herman Becker, Bristol, R. 2; H. E. Wenker, Bustleton.

Farm Show

Emerson Kane,* Washington Boro; Charles H. Humphreys, Somerton, Philadelphia; Ray W. Wenker, Bustleton; Stanley Q. Becker, Bristol, R. 2.

Grading Practice and Quality Products

Stanley Q. Becker,* Bristol; Rowland R. Comly, Bustleton; Ray W. Wenker, Bustleton.

Legislative

Alvan C. Thompson,* Morrisville; Carl D. Huber, Lititz; Gilbert S. Watts, Bellwood; Louis Orient, Bridgeville; R. B. Stutzman, R. D. 1, Vintondale.

Membership

Alvan C. Thompson,* Morrisville; C. K. Hallowell, 303 Drexel Bldg., Philadelphia; Louis Orient, Bridgeville; Jesse M. Huffington, State College.

Program

Jesse M. Huffington,* State College; Alvin C. Thompson, Morrisville; Harry Hopkins, Clarks Summit.

Research and Relations with the Agricultural Experiment Station

Gilbert S. Watts,* Bellwood; Alvan C. Thompson, Morrisville; Albert C. Roemhild, Philadelphia; Harry Hopkins, Clarks Summit; Alan R. Warehime, Hanover; Rowland R. Comly, Bustleton.

Ten-Ton Tomato Club

The ten-ton tomato survey and membership reminder gave good returns in new members and revealed some interests of growers.

A total of 156 replies were received. The special meeting, one day outside the Farm Show Building on canning crops in addition to the other day's session on market gardening was satisfactory to 96 but not to 4.

The ten-ton tomato project was approved by 132 persons and disapproved by 3. Special emphasis was placed upon the ten-ton tomato meeting by 56 persons, the report by 54, certificates by 37 and prizes by 28.

Similar projects on other crops were suggested by 31 persons but disapproved by 9. Carrots, cabbage, peas and sweet corn were other crops in which special interest was shown.

*In each committee, the first listed is Chairman.

A Message from Your President

Dear Fellow Members:

As president of your Association, I want to thank those who made possible the publication of our "Pennsylvania Vegetable Growers' News". I have received many favorable comments on our first issue, from growers in Connecticut, New York, New Jersey, Delaware, Maryland and Virginia. We are indeed grateful to the advertisers in our news, it is their financial support that makes the publication possible, and I urge you as growers to cooperate with them.

Your officers are doing all in their power to make this Association a better, larger and stronger organization and render a better service to you, and to your community.

During this titanic struggle for American Freedom, we request you to write to the secretary, Mr. Jesse Huffington, about your various problems, and how conditions are regarding labor, materials and the general outlook in your community, condition of crops, peak seasons, etc.

We are faced with Government freezing of certain materials and machinery necessary to the production of food, and also very important in the manufacturing of war materials. In spite of this fact, these differences must be ironed out in a mutual and understanding way between Governmental and Agricultural organizations, for the best interests of our country. The growers of our nation realize they must make various changes in their operations on their farms, and also duplication in certain materials ordinarily used, but they want the truth on these matters, and will not stand being hoodwinked.

The various alphabetical government boards and agencies must realize that agriculture is the first line of defense or offense, and it is their duty to see that the farmer gets supplies to carry on wherever possible.

With the U. S. D. A., W. P. B., A. M. A., V. G. A. of A., N. E. C., Nat. L. and the Pa. V. G. all working hand in hand complete victory must be, and will be the final results, "God being our guiding star".

RAY W. WENKER, *President*,
Bustleton, Philadelphia, Pa.

NORTHEASTERN VEGETABLE AND POTATO COUNCIL

A meeting of the Northeastern Vegetable and Potato Council was held on Saturday May 9, in the Hotel New Yorker to consider the financial program for this season and to discuss the ceiling price situation as well as containers, and other questions vital to vegetable and potato growers. Allen C. Waller, New Brunswick, N. J. is secretary-treasurer, Frank App, Bridgeton, N. J., president, and Henry G. Marquart, Orchard Park, N. Y., vice-president.

Local Developments and Outlook

From Clarks Summit, Lackawanna County

It would be foolish not to grow all one can take care of this year. Business is good and we should be patriotic. A fair year is expected but no large crops are in sight.

Help is anticipated from boys and girls in mining towns. Government agencies have done little so far, but growers go "up in the air" when W.P.A. help is mentioned. The Big Brothers Club is on a commercial basis.

No better market prospects are anticipated than last year, unless some unusual condition develops. The best we can do is to raise what we can take care of without mining the soil.

The March issue of this publication is the best issue to that date and the "News" should be widely supported.

HARRY W. HOPKINS, *Director.*

From Hope Farm, Lititz, Lancaster County

We do not look for an exceptionally good year due to the fact that Lancaster City does not have many war industries. I believe the law of supply and demand works at all times in this vegetable growing business. If there is an over abundance of any vegetable or commodity then it will be cheap and unprofitable to the grower. Regardless of how much the working man earns, he buys only a certain amount of vegetables. If you are the first one there or have them out of season or a better quality, then you stand a good chance of making a profit.

Due to increased cost of production, the Victory gardens and lowering the tariff from Mexico we do not think things look very bright for the vegetable grower.

We expected to have a good many vegetables canned but as yet we do not have any firm located to do it. Cope, who did it other years, is not doing any canning due to the lack of labor and cans.

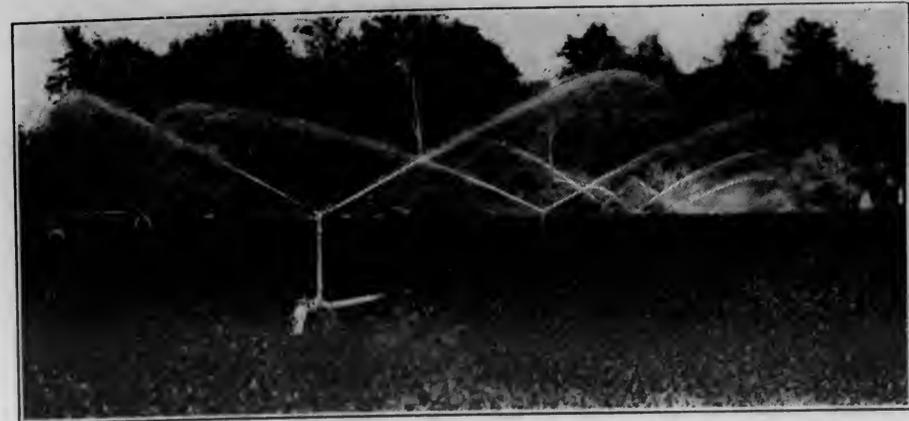
We are getting a nice increase in price for our tomatoes but cost of production has increased in proportion. Asparagus has come too quickly to make it a very profitable crop.

CARL D. HUBER, *Director.*

FROM LOGAN SPRINGS FARM, BELLWOOD, BLAIR COUNTY

Thus far we have had plenty of men although I have lost several more experienced employees and have had to replace them with younger fellows, 17 to 21, out of school. Use high school gang from 4-8 daily. They eat lunch after school and work through the four hours. Am training best of them as tractor drivers.

GILBERT S. WATTS, *Director.*



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Your Production of

Food For Freedom

When You Have a

Calco Portable Rainmaker

Your country is depending upon you for maximum production of vegetables and fruits—DROUGHT CAN'T BE PERMITTED TO DESTROY CROPS OR REDUCE YIELDS.

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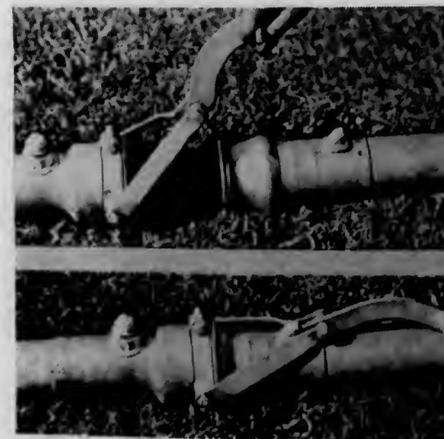
The Rapid-Action Coupling illustrated makes line movement quick and easy and affords flexibility to allow lines of from 2" to 6" diameter pipe equipped with sprinklers to conform to hilly or uneven ground.

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2608 Seventh St. Berkeley, Calif.



Better Care of Tomato Plants

D. R. PORTER

Plant Pathologist, Campbell Soup Co.

Those of us concerned with the production of canhouse tomatoes may consider ourselves members of the tomato family. It is the job of every member of this tomato family to do his utmost to guarantee the production of quality tomatoes.

Actually, there are five main subdivisions of this tomato family, each playing an important part in the plant handling program. First, the canners, and seedsmen who provide growers with healthy, well bred seeds, true to variety. Second, the southern growers, who, from their own experience and from the guidance of technical advisors have learned many practical lessons tending to aid them in producing superior, healthy plants. Third, the various State and Government officials, who have critically studied the many and varied aspects of production and transportation and have advanced many valuable and pertinent suggestions. Fourth, the transportation companies, who have been able to speed up delivery in the north and who are continually cooperating with research agencies in further study of transportation problems. Fifth and last, but by no means least, are the growers, you people, who receive the plants at their destination in the north.

The various members of this tomato family all have a prominent place in the picture. Their unified objective is wellbred, healthy, sturdy, well rooted tomato plants, which, if set properly at the proper time in properly prepared and fertilized soil and protected from insect damage, are then capable, under favorable weather conditions, of yielding *more* than 10 tons per acre of high quality tomatoes.

The members of this tomato family are, therefore, as links in a chain. Let not one of us become a weakened link, otherwise the chain may break.

While production of tomato plants in the South is not exactly a new venture, still, it is not aged. In the beginning, many mistakes were made by many members of the tomato family, and many growers, because of bad luck with Southern plants, decided that never again would they buy them. Gradually, however, the errors were corrected until today, the majority of tomato plants used by New Jersey and Pennsylvania canhouse growers come from the South, principally Georgia. The superiority of southern plants is due to their ability to withstand frost, wind and sun damage, thus to mature the crop early.

It has been a revelation to me to observe the extreme care which is exerted by canners, seedsmen, southern plant growers and transportation companies in a determined effort to supply healthy plants.

Admittedly, certain shipments are sometimes below par, but, in such cases, mother nature has decided that regardless of precautions taken she will see to it that all is not 100 per cent perfect. Remember, that while mother nature is a noble woman, she has her own ideas. Man cannot combat a deluge of rainfall, a long period of extremely unfavorable weather or a humidity favorable for tomato plant diseases.

Allow me to enumerate some of the duties of and precautions taken by the seedsmen, canners, southern growers and transportation companies in order to provide desirable plants.

1. Carefully selected well bred seed
2. Seed germination tests
3. Seed disinfection
4. Crop rotation in the South
5. Proper fertilization in the South
6. Decreased rate of seeding in the South
7. Interval planting in the South
8. Thorough spraying—avoiding Bordeaux
9. Careful cultivation in the South
10. Prompt packing after pulling
11. Hauling in baskets rather than sacks
12. Rapid sorting and packing
13. Packing in moistened moss
14. Rapid transit north
15. Investigation of refrigeration

Because the health of young tomato plants is of prime importance, let's take stock of the precautions we may take to keep them free from disease, insects and other injuries. There are many things we can do and ten things that we should not do—The latter are here listed as *Dont's*.

1. *Don't fertilize with too much nitrogen or potash in the row too soon before planting*—to do so will burn the young, tender roots and delay the time necessary for the plant to become re-established.
2. *Don't fail to loosen bundles*—otherwise the tightly packed plants heat and suffer for lack of fresh air.
3. *Don't delay planting longer than necessary*—this error increases the collar rot hazard.
4. *Don't expose plants to direct sunlight, high temperature or drying winds before planting*—any of these mistakes renders the plant more susceptible to collar rot.
5. *Don't moisten leaves or stems*—these are the most susceptible parts of the plants. Remember that the plant absorbs water through the roots, not through the stems or leaves.
6. *Don't fail to use starter solution*—this mixture of chemicals enables the plant to develop new roots promptly.

7. *Don't set baskets of plants in deep water*—to do so makes the stems very susceptible to collar rot. Two or three inches of water is entirely adequate to reach the roots.
8. *Don't crowd plants when heeling in*—this practice provides ideal conditions for collar rot infection. Allow at least one inch of space between plants.
9. *Don't moisten stems when heeling in*—this is almost certain to provoke serious damage from collar rot.
10. *Don't use lime with insecticide*—this is a new don't and needs explanation.

Recent work has shown that lime, when applied in excess to the foliage of tomato plants, is definitely harmful. The result is a weakened, dried-out leaf, incapable of functioning normally. Some growers use Bordeaux mixture both as a fungicide and as a repellent for flea beetles. This, likewise is a mistake, because Bordeaux mixture contains lime and likewise is harmful to the leaves.

As a substitute for lime as a filler for insecticides, talc may be used. *However, talc should not be used as a substitute for lime in Bordeaux mixture.* If this mistake is made, copper burning will be serious.

To make a dust mixture containing lime and the arsenicals such as calcium arsenate, lead arsenate or zinc arsenate, use 30 pounds of the arsenical with 70 pounds of talc. Mix thoroughly before applying.

If wet spray is used, add twice as many pounds of talc as of the arsenical per 100 gallons of water. This mixture will serve as a poison for Colorado potato beetle and as a repellent for the flea beetle.

In 1940, at Riverton, tomato plants set on May 15 were dusted weekly with various materials at various concentrations. This was done to determine the effect upon plant vigor of lime, talc, and calcium arsenate, either used alone or in combination.

The results are shown in the following table.

<i>Material</i>	<i>Percent severely damaged by lice</i>	<i>Relative vigor July 16</i>
Lime—applied thick over (100 lbs. per A.)	44	6
Calcium arsenate—thick (over 100 lbs. per A.)	42	6
Calcium arsenate—thin (35 lbs. per A.)	20	8
Lime—thin (35 lbs. per A.)	16	8
Talc—thick (over 100 lbs. per A.)	10	9
Calcium arsenate plus lime—thin	10	8
Calcium arsenate plus talc—thin	8	9
Talc—thin	6	10

Two months after setting the plants in the field, they were rated for vigor. A rating of 10 indicates normal plants, with ratings below 10 indicating reduced vigor due to the material used. Talc, applied at 35 pounds per acre, caused no injury, with only slight injury from talc (over 100 lbs. per acre), or from calcium arsenate plus talc at 35 lbs. per acre. A thin application of calcium arsenate plus lime, of calcium arsenate, thin or of lime, thin, was harmful whereas vigor was reduced to a rating of only 6 from the use of either lime or of calcium arsenate applied in excess of 100 lbs. per acre. Note that talc, thick, was less injurious than lime, thin.

It was also evident that lice damage was much more severe in certain of the treatments, and the data show the per cent of plants of each treatment severely damaged. Lime and calcium arsenate, thick, seemed to attract more lice than any other treatments. Plants treated with talc thin or thick, and mixtures of calcium arsenate plus either lime or talc, thin, were not severely damaged. It is not to be inferred that talc will control lice, merely that talc treated plants were less severely damaged than those treated with lime.

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Cutworms and Their Control

J. O. PEPPER

Associate Extension Entomologist, Pennsylvania State College

In the spring there are few pests that are more annoying than cutworms. They cut off vegetables and field crop plants, causing great damages. There are several species of cutworms but they are all the worm stage of Owlet-Moths. The habits of the species we commonly encounter are as follows: The adult moths lay their eggs during mid-summer or later. They usually deposit their eggs in sod land, or fields covered with weed growth. The eggs soon hatch into small worms and feed upon the roots and tender growth of plants. They are rarely observed at this time as the worms are small and the food supply is usually abundant. As cold weather approaches the partially mature worms bury themselves in the ground and there pass the winter. In the spring they renew their feeding and now they are larger, and in cultivated fields that are set to plants, their ravages quickly attract attention. It would not be so bad if they only destroyed what they eat, but they have the unfortunate habit of cutting off the entire plant at the surface of the ground, and thus destroy many times more than they consume. Their work is all done at night, while they remain concealed in the soil around the plants during the daytime. When full grown they form an earthen chamber in the ground in which they pass the pupa or chrysalis stage and emerge as adult moths from late June through August.

Control: The most satisfactory control of cutworms is the use of poison bran bait, made according to the following formula:

Bran	100 pounds
Paris green or white arsenic	4 pounds
Cheap molasses	2 gallons
Water	about 15 gallons

Mixing the Bait

1. Mix the dry poison and the dry bran thoroughly. It is important to have each particle of bran carry some poison. For mixing use a flat surface tool, such as a shovel or a hoe, in somewhat the same manner as mixing concrete or plaster. Stir the bran and at the same time add the poison slowly so that the poison will be completely distributed through the bran. A careful job will repay the time and effort in the greater effectiveness of the bait.

2. Dilute the molasses with about 10 gallons of the water.

3. Add the liquid mixture to the bran-poison mixture slowly stirring the bran continuously. After the batch is thoroughly mixed add the remainder of the water or as much as may be needed to make a flaky, crumbly mass. If this amount of water does not make the mass

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sufficiently moist an additional amount of water should be added. It should be borne in mind that not all bran will take up the same amount of water. This is the reason why an exact amount of water is required is not stated.

It is very important that the bait be mixed properly so as to have equal distribution of the poison throughout the mixture. Where canning companies are contracting large acreages of such crops as tomatoes, it has been suggested that such companies make up the bait and distribute it to the individual growers at cost.

Application of Bait. On large scale plantings the most economical procedure is to apply the bait thinly broadcast over the plowed and prepared field about 2 or 3 days before plants are set out or before seeding the field. Apparently the most satisfactory method of broadcasting is by hand and it takes about 10 to 15 pounds of the mixture to cover one acre. The bait should be applied in late afternoon so that it will be moist over night when the worms will be feeding. With this procedure the majority of cutworms will be destroyed before the field is planted or seeded, and the greatest protection to growing crop will be obtained.

Caution: The bait is **poisonous** to man and animals. If it is necessary to store it for a few hours before using, place the poison bait where children, irresponsible persons and animals cannot get hold of it.

Plant Starter Solutions

E. M. Rahn of The Pennsylvania State College, Department of Horticulture, has compared starter solutions and found that complete mixtures high in phosphoric acid definitely increase the yields of tomatoes and cabbage. The following solutions were found to be best and practically equal in value for tomatoes: "(1) 4-16-4 fertilizer, 8 pounds to 50 gallons of water; (2) 1½ pounds of diammonium phosphate plus 1½ pounds of monopotassium phosphate to 50 gallons of water; (3) 2 pounds and 11 ounces of Ammo-Phos plus 1 pound and 5 ounces of potassium nitrate to 50 gallons; and (4) 6 pounds of 20% superphosphate to 50 gallons. The solutions were applied at the rate of one-half pint per plant at time of field transplanting. The above starter solutions effected an average increase of 2.04 tons in early yield (yield during first three weeks of harvest season) and 1.15 tons in total yield per acre over water alone at transplanting."

The 4-16-4 mixture may be dissolved by suspending a 50-pound bag in a 50-gallon tank of water over night and dipping out one gallon of the solution for each pound of starter mixture desired. Ten pounds of the 4-16-4 or 20% superphosphate to 50 gallons of water is not too much to use.

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Pennsylvania Department of Agriculture

A discussion of this matter is incomplete unless we take into consideration the entire farm labor problem.

The Agricultural Advisory Defense Council appointed by the Governor in October 1940, has made several surveys of the farm labor situation: one early in the year 1941, and another during the months of November and December, 1941. The latest of these surveys indicates that more than 50% of the farmers are experiencing serious difficulties in getting farm labor. Only a very small percentage reported that they had no difficulty. The question arises, "How will the farmer manage?" and the best answer that I can give is that the average farmer will fit his operations to machinery and such labor as is available. I think farmers will work longer hours and, equipped as tractors now are with lights, they may even work at night-time.

The average farmer has always been a man of all trades, and the farmers will repair old implements if they cannot get new ones. The principal difficulty will be that repair parts may not be available,

The summing up of our latest report indicates that farmers are not changing their plans greatly to meet defense needs, they are simply trying to do a better job of farming all along the line. Already, prices of stock and implements are considerably higher than they were a year ago. And, to solve this price problem, as well as the labor problem, the average farmer will meet the situation in improving his present stock and doing without new machinery. The problem that faces industries like the canning industry, which depend almost entirely on casual labor, cannot be solved in that manner.

The labor that is available for these purposes prior to 1942 cannot be secured now. Much of the available labor in cannery districts has either gone into private industry or else been drafted into the armed forces. Considerable relief came to fruit growers last Fall because of the delay in opening schools due to the infantile paralysis situation. It would seem that we must have new sources for labor to carry on this periodical labor that is needed by the canning industry. We may have to get greater support from available women in canning districts, and whatever suitable labor can be secured from Unemployment Services should help out in the situation. Then, too, the proposed transient camps to be sponsored by Federal Agencies may come into service at the right time. However, these camps will involve problems which people should understand fully. It is difficult to realize what community problems may be the result of these camps,

and in considering this type of help, we should also consider the situation from the standpoint of housing and future support of some of these people who are to be brought from the South and elsewhere.

First of all, in the consideration of these matters, must be the fact that we are at war, and that Defense must come first. "Food will win the War" again, and our growers and farmers must produce the food without a doubt. Our canners must be in a position to process it without encountering great difficulties with regard to labor. It is perhaps neither the time nor the place to refer to other problems so far as labor is concerned, but the matter that will give us the most serious trouble and consideration will be the effect of the present consideration in Congress to establish a ceiling on farm prices.

With a ceiling on farm prices and no ceiling on labor, it may create an impossible situation for both the grower and the canner.

Finally, it would seem that now is the time to organize whatever facilities we may have in a cooperative way to secure the needed labor for carrying on the processing of food, whether in canneries or elsewhere. The farmers and food producers never could compete with industry so far as wages are concerned, and it is hoped that Congress will make due consideration in their deliberations on the subject of ceilings for farm prices.

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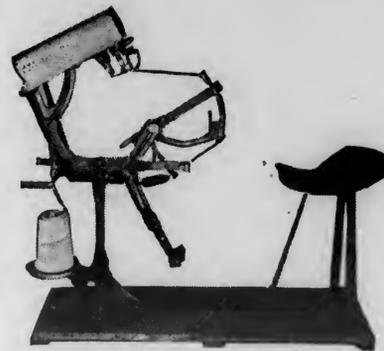
Maryland Agricultural Experiment Station

The marketing problem has become constantly more important to the American farmer. Not many years ago the farmers of the United States sold little of what they produced and bought little of what they needed. Theirs was a self-sufficient type business, and their prosperity depended primarily upon their ability to produce their own needs. If anything was sold, it was sold at the price offered by some local buyer, or sold in exchange for some article that was needed on the farm or in the farm home. In recent years all this has changed, since most farmers have become specialists. Virtually all of what they produce is sold and the question of prices and methods of selling has become exceedingly important. Along with this, of course, practically everything that is needed for the farm and farm home is purchased. Thus the farmer has found himself more and more a part of a world that depends upon ability to buy and sell, or, in other words, to market successfully the things he has produced, and to buy successfully the things that he needs.

The problems involved in these changes have been intensified by the fact that over the past couple of decades, the costs of marketing have increased while the costs of production of most agricultural products have decreased. Thus the "incidental"—marketing—which means placing the production of the farm where it is wanted, when it is wanted, and in the form in which it is wanted, has become more expensive and inefficient, while the "fundamental"—production—has shown marked improvement in efficiency.

In general, we say that supply and demand sets the price at the point where the consumer buys and that the farmer gets what is left from this price after all the costs of marketing have been deducted. Thus, if the costs of marketing are increasing, the net price received by the producer is, by the same token, decreasing. This is a fundamental problem. What can we do about it?

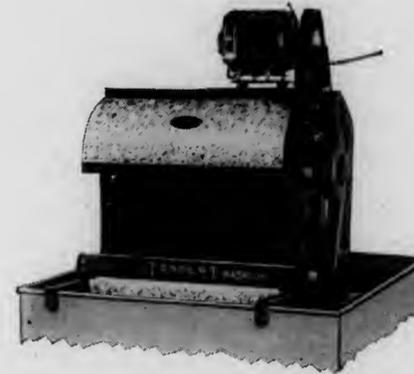
A program to move crops in periods of glut is one step that might be undertaken. In the past it has often been a fact that retail prices have not fallen as the season progressed as have wholesale or farm prices. Usually a vegetable product, for example, will sell at the beginning of the season at a high price. As the volume of production increases, the farmer's price drops rapidly. Many times the retail price continues at a fairly high level. This is economically unsound; it benefits neither producer nor consumer, and anything which will change this situation holds promise of benefit to all concerned. The plan in general is: If producers forecast a glut of some product 10



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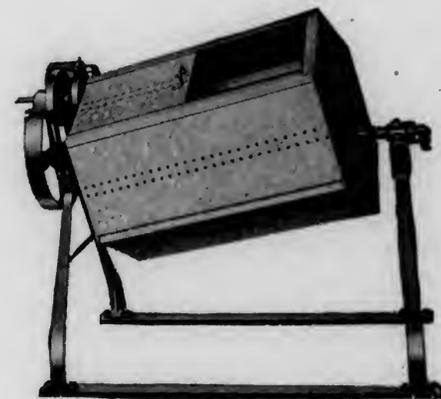


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days to 2 weeks in advance, the retail stores will develop a program to move this glut into the hands of the consumer. The radio will be used to let people know that this product will be available in large supply and at low cost. Newspapers will be used to tell the same story, and it is expected that the clerks in the retail stores will cooperate in calling the customer's attention to the excellent supplies at low prices. The stores will reduce their spread and move the product into the hands of consumers at as low prices as possible. This is not a "loss-leader" campaign since it is expected that the increased volume of sales will carry the costs involved. The results will be that the consumer will get products at a low price during the period when in the past they have been thrown away because of the glutted conditions. The producers get something for their products as compared with nothing. This type of cooperation gives promise of valuable results.

It is difficult to analyze what will happen in the months just ahead of us. It is very possible that in spite of price control, price of food products will advance much more rapidly than the wages received by certain groups in our city population. This may be particularly true of the so-called "white collar" people who work on salaries such as the very considerable group of persons that do the clerical work of the United States. All that is being said about nutrition and vitamins is tending to increase the use of the so-called "protective" foods, and fruits and vegetables are in this class. From the point of view of national welfare it is important that the white-collar groups and the lower income groups in the United States should eat more fruits and vegetables. Thus nutritionally, we will need not only our Grade 1 products, but there will be a place for Grade 2 and Grade 3 products which sell at lower prices. We must use a greater part of our total production, and it is important that the low income groups have a chance to buy fruits and vegetables at as reasonable a figure as possible. It must be recognized that certain classes will not and cannot pay high prices for fruits and vegetables. It must be recognized that when the price is raised above a certain level, whole groups of our population are eliminated from taking part in the consumption of these products.

In addition, it seems certain that labor will be the article most difficult to obtain on American farms during the coming season. This will mean that more exact grading will be difficult to accomplish if not impossible. With the great demand for food, we must know about what is wanted both as to quality and price. It seems likely that growers close to market, such as the men in the eastern states, can sell a larger percentage of their total production than ever before. The grades that they may have discarded in the past decade will find a demand at prices which will tend to increase their net income.

The present situation changes our point of view on roadside marketing and direct consumer sales. It has seemed wise during the depression when there was abundant labor, and farm prices were exceed-

ingly low, while costs of marketing remained high, that eastern farmers should sell as much of their produce direct to the consumer as possible. Roadside markets have grown up throughout the East. Now, with the labor shortage, with unquestionably fewer people using automobiles because of the gasoline and tire situation, drastic adjustments by many eastern growers will have to be made.

Another program which deserves the attention of everyone, but is again of particular interest to growers, is the improvement of terminal markets, in practically all of our great cities. It is a fact that it costs more to move products from the city line to the consumer than it does to produce the products and move them from the farm to the city line. Thus we might well center much of our attention upon improving the terminal market situation.

Advertising has been thought of by many as a cure-all for the ills of agriculture. We must constantly keep in mind that as all products become more and more advertised, they are adding one more cost in the marketing process. Per capita consumption of all food products cannot be increased. It is true that the product which is particularly well advertised, and which gets its advertising started before its competitors, may make large gains. These gains will force competitors to enter the field and gradually offset these gains. There is little doubt, for example, that the consumption of apples has been harmed by the increased consumption due to advertising of citrus fruits. Apple growers have been forced to enter the field of competitive advertising and sales promotion. There is growing activity in such programs on the part of fruit and vegetable growers everywhere. It seems to me that advertising of a general nature may not accomplish the job that apple and vegetable growers wish to accomplish; that the control of specific brand names and that control of the general situation under which the product is marketed, is important to the success of advertising programs. Growers want to be sure that action taken in this field to maintain our markets, is efficient and will accomplish the job.

Market Growers Journal

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Gehman Dairy Farms, Macungie, Pa.
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NEWS AND REPORTS ONLY

Glick, Daniel M., Smoketown, Pa.
 Kircher, G. H., c/o Christ's Home, Warminster, Pa.
 Wolgemuth, Jos. M., Mount Joy, Pa.

VEGETABLE GROWERS' ASSOCIATION OF AMERICA

The Pittsburgh convention originally booked for August 4-7 inclusive, will probably be held at the William Penn Hotel in Pittsburgh from December 7-9 inclusive. It is more important than ever, according to H. D. Crown, Secretary, that we hold our annual meeting and the date has been changed to December so more gardeners can attend.

A hearing was set before the Committee for Reciprocity Information, for May 18, 1942 at 10:00 A. M. looking to the negotiation of a "trade agreement" with Mexico, which will affect the rates upon tomatoes, cucumbers, peppers, and other vegetables, and other farm products. The law authorizes a reduction of 50%, if the Committee feels that such reduction is justified. The tariff rates now prevailing approximately equal the difference in the cost of production between the United States and Mexico.

PHONE, CORNWELLS 0421

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A Good Start From Well-Grown and Carefully Handled Plants

Plants in the center were well-grown, set deeply without delay after pulling, with the roots kept moist and stems and tops free from water. Plant starter was used in planting. A fertilizer high in phosphoric acid and low in nitrogen and potash was applied along the row to stimulate early root development and the setting of tomatoes. Fertilizers higher in nitrogen and potash may be applied broadcast or between the rows, after planting, particularly on light sandy soils.

On the left, slow early growth and a poor stand resulted from plants being started late, crowded and forced in the plant bed. A poor stand, with much greater chance of disease infection, can be seen in the row on the right, where the plants were too old and held too long before planting.

**PENNSYLVANIA
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State College, Pa., July, 1942

No. 3

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NEW MEMBERS

At the cost of only \$1.00 you receive four issues of the NEWS, Ten-Ton Tomato and other reports and are enabled to participate in the functions of the only state organization devoted entirely to your interests. We need new members. You need a strong organization. Please send \$1.00 now to the secretary, for each new member. Special receipts in pad form are now being prepared. Each pad will contain 20 receipts. Shall we mail you one for your local organization?

Pioneering in the Marketing of Fresh Vegetables

R. B. Donaldson

A group of vegetable and potato growers have been working together for the past four years in an effort to solve their own marketing problems. This group of approximately 35 growers, representing associations or organizations of growers in the northeastern area of the United States, meet once each month in New York City, as the Northeastern Vegetable and Potato Council, to discuss the major problems of current importance to the vegetable industry.

Organized in February 1938, this council, represents growers from the states of Massachusetts, Connecticut, Rhode Island, New Hampshire, New York, New Jersey, and Pennsylvania. The purpose of the council as stated in its constitution is "to promote and encourage the advancement of the vegetable and potato industry for the northeastern states, to cooperate with state organizations, with the Vegetable Growers' Association of America, and with other organizations promoting the interests of vegetable and potato growers."

Some of the more important problems discussed at the monthly meetings of the council have been:

- (1) Market surpluses and the development of programs to correct them.
- (2) Advertising programs for vegetables.
- (3) Adequate and timely crop and market information.
- (4) Grading, standardization, packaging and marking of containers.
- (5) The Food Stamp plan.
- (6) Labor problems and wage costs.
- (7) Priorities and needed supplies of materials for vegetable production.
- (8) Recent ODT truck regulations and similar problems affecting the vegetable and potato industries.

During the first year of operation of the council, market committees were organized in most of the larger markets of the northeast to develop and operate a marketing program. Such a committee was organized for the Philadelphia market, and included growers and representatives of the wholesale trade, with the State Department of Agriculture and the Pennsylvania State College Extension Service cooperating. In this particular year, tomatoes were a difficult commodity to sell, due to a "glut" condition prevailing in the eastern markets. The Philadelphia committee foresaw this condition and made an effort to contact retail stores and consumers ten days to two

weeks in advance. As a result, tomatoes moved into consumption in large volume and at a price which did not spell "disaster" for the grower. In the past two years similar market conditions have been alleviated on beets, carrots and celery in the Philadelphia area. Posters were prepared and financed by the council stressing the freshness and nutritional value of fresh vegetables. These posters were distributed to the local market committees to retail stores throughout northeastern United States.

The financing of the council has been entirely on a voluntary basis—growers' organizations from the various states contributing to the extent that their organization could afford. In Pennsylvania, the Philadelphia Vegetable Growers' Cooperative Association and the Pennsylvania Vegetable Growers' Association have supported the council financially and have contributed generously for the present season.

The marketing program of the Northeastern Vegetable and Potato Council has sought to develop closer working relationships between growers and retail and wholesale distributors of their products. The continued growth and development of the Northeastern Vegetable and Potato Council is undoubtedly of real importance to all vegetable growers in the northeastern states.

Hybrid Sweet Corn Seed

LINCOLN — new "All-American" selection for 1942, SPAN-CROSS — "All American" for 1941, Marcross, and Carmelcross. All four developed by the Connecticut Experiment Station. Also, Golden Cross Bantam. All seed grown in Connecticut. Send for descriptive circular for home and market growers.

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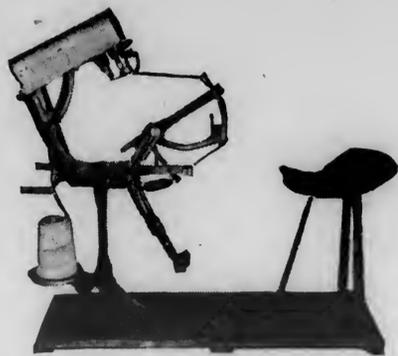
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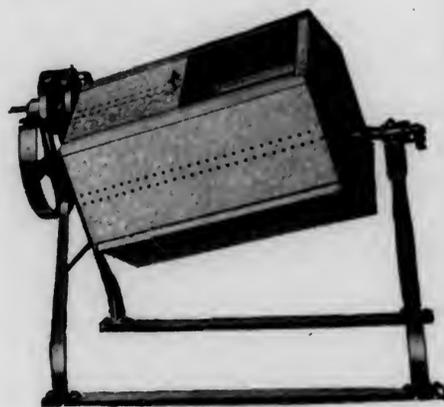


TORRENT BUNCH VEGETABLE WASHER

* * *

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Fertilizer Ratios, Grades, and Recommendations Approved for Middle Atlantic States

W. B. Mack

Representatives of the WPB, OPA, United States Department of Agriculture, National Fertilizer Association, and State Agricultural Experiment Stations of the Middle Atlantic States, meeting in Philadelphia on June 24th, agreed upon fertilizer ratios and grades which should be manufactured and recommended for different purposes in the Middle Atlantic States. The conference was informed that nitrogenous materials would not be included in mixed fertilizers for any fall-seeded crops; that sulfate of ammonia is the only carrier to be used in mixed fertilizers; that nitrate of soda and cyanamid may be used only for top-dressing vegetables and fruits; and that nitrogenous fertilizers likely will be reduced by at least 20 per cent for the coming fall and spring.

The following ratios, with the grades permitted under each, approved by the conference and recommended for use on vegetables and fruits are the following: 0-2-1 (1-14-7, 0-16-8, 0-24-12); 1-2-1 (5-10-5); 1-2-2 (4-8-8, 5-10-10, 7-14-14); 1-3-1 (4-12-4, 7-21-7); 1-4-1 (4-16-4); 1-4-2 (3-12-6, 4-16-8); and 2-1-1 (approximate, 10-6-4 the grade approved, used for orchard fertilization).

Vegetable growers will be allowed approximately 80 per cent of the amounts used last year, for top-dressing fall-planted vegetables. No rationing was suggested, but nitrogen is to be allocated to fertilizer manufacturers and dealers. Growers are urged to use grades with somewhat lower nitrogen content wherever possible, top-dressing with nitrogenous fertilizer if crops show need for it; for example, a 3-12-6 analysis should be substituted for 4-12-4.

PHONE, CORNWELLS 0421

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Domestic Ryegrass Saves Nitrogen



Ryegrass Cover Following Tomatoes in Philadelphia County

The farm of R. R. Comly & Sons, Bustleton, is one of the first places in the State, according to County Agent, C. K. Hallowell of Philadelphia County, where this grass was used as a winter cover crop. Getting a start in 1939, the amount used in 1941, says J. B. R. Dickey, Extension Agronomist of The Pennsylvania State College, was over a million pounds in Pennsylvania, or enough at 20 pounds per acre for 50,000 acres.

Seeding 20 to 25 pounds per acre at the last cultivation, in July, August or early September, when the ground is loose and moderately moist usually results in a good cover for winter and in the addition of much organic matter.

Where lime has been applied or alfalfa will grow, 10 to 15 pounds of sweet clover may be added to an equal amount of ryegrass seed.

Adding to the usual seeding of ryegrass 10 pounds of crimson, red or sweet clover, or 20 pounds of vetch per acre may give an excellent cover crop, which will not only reduce erosion and add organic matter but also increase the nitrogen supply. Late July or August is better than September for seeding clover or vetch.

BLACK HEART AND SOFT ROT OF CELERY IN RELATION TO INSECTS

One of the most important insect pests of celery, according to L. E. Dills, Extension Entomologist of the Pennsylvania State College, is the Tarnished plant bug. The feeding punctures usually occur on the fleshy stalks and petioles of the older leaves. This causes a toxic effect to the plant and dead cells can be found beyond the zone actually injured by the insect's beak. These areas are irregularly shaped and are dull grayish brown in color. Soft rot often enters through the feeding punctures. Tarnished plant bug injury and soft rot are often confused with black heart which appears first on the youngest heart leaves and is physiological in nature.

Sulphur dusts and sprays are the most practical methods of preventing Tarnished plant bug injury. A good dust to use is dusting sulphur (300 mesh) and hydrated lime, equal parts. When a spray is desired use 25 pounds of sulphur and 75 pounds of hydrated lime with two to four pounds of powdered skim milk to each 100 gallons of spray. When wettable sulphur is used the skim milk powder should be omitted.

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New Lettuce Strains Look Good

At the Pennsylvania State College, according to M. T. Lewis, Department of Horticulture, Cosbia 40 from R. C. Thompson, U.S.D.A., is at present the earliest maturing dark green, but small, New York type of lettuce. It was identical with Burpee's strain.

Great Lakes is suggested for late, or summer, seedings in certain localities. It produces dark green, shiny, brittle, glossy and hard but rather small heads. Imperial 456 (Cornell) and Great Lakes (U.S. D.A.) were similar at State College. In Lancaster County the U.S.D.A. selection produced larger, later and darker green heads than the Cornell strain, according to Amos Funk. In storage, Great Lakes has a tendency to become soft in the stems.

Imperial 44 is still a leader for spring planting, following 456 in maturity. Imperial (P. W.) 55 is similar to 44 but earlier, smaller, and keeps relatively well in storage.

A selection made by M. T. Lewis at the Pennsylvania State College looks promising.

Keeping Pace With Labor

So far, normal production and harvesting of vegetables has been maintained, but the shortage of labor is expected to become steadily worse and every section is now feeling the pinch. Several canners and large producers, fortunately, have already recruited labor from nearby towns and cities and the South for harvesting, packing and processing. Living quarters are provided in many places. Clean and comfortable housing with suitable recreation facilities and a safe playground for children are required for the highest type of labor, not commuting.

Local U. S. employment offices are making persistent efforts to assist growers and canners to obtain help from nearby towns and cities, including school children of suitable age.

Boys employed on farms usually do a good job but require careful supervision and patience.

Capable and firm but considerate supervision of labor is particularly necessary this year. A definite business understanding is required at the start. Inexperienced persons should be shown exactly how to do the job. Praise for work well done gives encouragement to do better but the loss of temper, profanity and caustic remarks may destroy morale as well as respect.

Four-H Club Activities

Immediately following the Pearl Harbor incident, according to Allen L. Baker, State 4-H Club Leader, special suggestions were issued to adult leaders and officers pointing out the contributions that 4-H Clubs could make to the war effort. These suggestions included (1) cooperation between vegetable growing clubs and girls canning clubs, urging the use and conservation of vegetables produced at home in sufficient quantity and variety for good nutrition the entire year, (2) the production of cannery crops where local outlets are available, and (3) the adoption of efficient production and marketing methods by members producing crops, such as sweet corn and tomatoes.

Vegetable judging teams are now making plans to receive instruction and compete for honors in 1942.

Robert Brader, president of the Salem 4-H Club in Luzerne County, represented Pennsylvania 4-H Club members on a nation-wide radio broadcast over the Columbia system from New York City on April 3.

C. D. Morley, Assistant County Agent in Beaver County, reports 11,225 tomato plants distributed to tomato club members this year.

County Agent, R. M. Gridley of Beaver is making a pictorial record, both stills and movies, of the current year's 4-H vegetable club work.

Vegetable club work leads in the 4-H club program of Juniata County, under County Agent, D. R. Pheasant. Seven club groups have 64 members.

A new tomato growing club has been organized in Mifflin County in conjunction with a cannery operation.

Boys and girls at Brotherton, Somerset County, have organized a 4-H sweet corn club on an acre basis for canning purposes.

The 4-H Club members of the Salem Club in Clearfield County purchased \$88 worth of defense stamps and sold 8,450 pounds of scrap metal.

A FAVORABLE SEASON FOR VEGETABLE DISEASES

So far, according to O. C. Boyd in the Massachusetts Commercial Vegetable Grower, this has been one of the most favorable seasons for the start and spread of diseases of vegetables that we have encountered for several years. Early Blight and Septoria Leaf Spot of tomatoes as well as Anthracnose, Leaf Blight and Scab of cucumbers and melons, gradually build up during July. These crops (and celery) need protection with copper at regular intervals from now on to prevent disease losses. Consult your County Agent for recommendations in your locality.

Adjusting Equipment to Do the Job

A request that the information in the News be carried much more extensively to manufacturers as well as growers was made by J. Oscar Hoover, Claysburg, Blair County.

A shrewd manager and a genius at contriving mechanical devices that save labor and do a better job, Oscar, asked a sensible question, "Why in sam hill," he asked, "don't the mechanical engineers plan their equipment to put fertilizer where it does the most good, so I won't have to re-make my transplanter and other equipment?" He adjusted his transplanter to put the fertilizer alongside the row, down deep enough really to do some good—where the roots grow.

At The Pennsylvania State College, E. M. Rahn says that fertilizer applied in the bottoms of the plow furrows and in bands gave better results this year than when broadcast after plowing and harrowed. No great differences are shown in demonstrations.

Ideas on how to get tomato plants set deeply by hand or machine planting are being sought by growers and canners. The incessant rains kept the plants growing and the fields were too wet for planting, especially with transplanters. It is regretted that one type of planter, although it puts the fertilizer where it does the most good, does not easily allow for deep enough setting. Handy home made mattocks are much easier to use than either a trowel or spade. The use of a scoring plow helps, for hand setting, when plants are unusually large.

Sweeps on cultivators kill weeds and are not likely to cut off the roots of vegetable crops.

HIGHLIGHTS OF THE JULY N.E.V. & P.C. MEETING

Two highlights of the meeting of the Northeastern Vegetable and Potato Council held in New York City, July 11 are reported as submitted by Allen G. Waller, Secretary-Treasurer.

The processing of vegetables was regarded as a method of stabilizing the peaks or preventing gluts on the market, thereby avoiding loss of food material as well as low prices. The future processing plant may be one that includes canning, dehydration, and quick freezing.

Many vegetable peddlers or hucksters are quitting the business, and present truck transportation conditions probably will exist for some time. Peddlers or hucksters are an important factor in produce distribution but probably corner grocers and others who have not been in the habit of handling produce, so know nothing about it, will go into the business.

Officers of the Association, 1926-1942

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Secretary-Treasurer—W. B. Nissley, State College
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- 1930—President—C. M. Smith, Lewistown
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Vice-President—Louis M. Orient, Bridgeville
Secretary-Treasurer—Jesse M. Huffington, State College

ODT CANCELS 75 PER CENT BACKHAUL LOAD REQUIREMENT

A revision of General Order ODT No. 3, governing over-the-road operations of motor trucks by common carriers, was issued July 14 by Joseph B. Eastman, ODT Director, and at the same time it was announced that the provision of Orders No. 3, 4 and 5 requiring trucks to be loaded to at least 75 per cent of capacity on return trips be canceled. All trucks affected by the order must carry a capacity load over a "considerable portion" of the trip out or the trip back.

In Memoriam

June 6, 1942

"We, the Directors of The Philadelphia Vegetable Growers' Co-operative Association, set aside this page in our minute book in memory of our beloved Director, Allen D. Alburger.

His character and upright dealings was an inspiration to us all, and his thoughtfulness, good judgment and kindness shall ever linger in our hearts.

The sunny, loving disposition which he possessed shall always be a memory to us.

He lived in Peace and died in Peace. God, we thank thee for his life and the privilege of knowing and associating with him.

He is not dead, he is just away,
With a cheery smile, and the wave of his hand,
He has wandered into an unknown land.
He died like one who wraps the drapery of his couch
about him, and lay down to pleasant dreams.

Be it resolved that a copy of these minutes be sent to his family, Adelaide S., Norwood A., Mrs. Ray Wenker, and C. L. Alburger."

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Glick's Seed & Plant Farms
Smoketown, Lancaster Co., Pa.

PENNSYLVANIA VEGETABLE GROWERS' NEWS

Publication of the Pennsylvania Vegetable Growers' Association

Vol. XII

State College, Pa., December, 1942

No. 4

President Ray W. Wenker, Bustleton
Vice-President Louis Orient, Bridgeville
Sec'y-Treas. Jesse M. Huffington, 625 Holmes St., State College

Directors—R. R. Comly, Harry Hopkins, Carl Huber, E. J. Fleming,
K. S. Philp, and Gilbert S. Watts.

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Liming, to make the soil nearly neutral, and cultivation aids bacterial action and increases the nitrate level of the soil.

The Pennsylvania Vegetable Growers' Association

ANNUAL MEETING

Y.W.C.A., Corner of Fourth and Walnut Streets

Harrisburg, Pennsylvania, January 13, 1943

VEGETABLES FOR VICTORY

9:00 a.m.—Production

Chairman: Harry Hopkins, Clarks Summit, Pa.

Making the Best Use of Available Fertilizers

W. B. Nissley, State College, Pa.

Wartime Management Plans,

H. S. Sloat, Lancaster, Pa.

Job and Machinery Adjustment

A. C. Thompson, Morrisville, Pa.

Seed Sources and Varieties

Jesse M. Huffington, State College, Pa.

Amos Funk, Millersville, Pa.

Vegetable Insects and Insecticides Under War Conditions

J. O. Pepper, State College, Pa.

Some Things We Too Often Forget in Vegetable Insect Control

J. D. Hutchison, Kingston, Pa.

11:00 a. m.—U. S. Government Requirements

Chairman: Alan R. Warehime, Hanover, Pa.

Production Goals and Allowances for 1943

James E. Walker, U. S. D. A., Pennsylvania War Board, Harrisburg, Pa.

Discussion

12:00 Noon—Lunch

1:00 p. m.—Business Session

1:45 p. m.—Vegetables to Feed the World: Marketing and Labor

Chairman: Ray W. Wenker, President, Bustleton, Pa.

Getting Supplies and Making Deliveries

Porter R. Taylor, Manager, Cooperative Fruit and Vegetable Association, 830 Munsey Building, Washington, D. C.

New Marketing Methods—Discussion

R. B. Donaldson, State College, Pa.

(Continued on next page)

The Pennsylvania Vegetable Growers' Association

ANNUAL MEETING (Continued)

Philadelphia Gets High Quality Sweet Corn

C. K. Hallowell, Bethayres, Pa.

William Yerkes, Buckingham, Pa.

Scranton Open Air Market Does the Job

T. H. Patton, Scranton, Pa.

M. S. Ladd, Waverly, Pa.

Coatesville Cooperative Sells Vegetables

Noah Hershey, Parkesburg, Pa.

3:30 p. m.—Getting Labor to Do the Job—Discussion

Gilbert S. Watts, Bellwood, Pa.

Cutting Labor Requirements

John M. Willson, Fayette City, Pa.

Good Labor Management

Stanley Q. Becker, Bristol, Pa.

Getting Labor for Canning Crops

Wirt S. Winebrenner, Hanover, Pa.

Efficient Harvesting Practices

Emerson Kane, Washington Boro, Pa.

A VITAL NECESSITY — YOUR MEMBERSHIP

They've got to eat to win and it is our job to help feed our soldiers, ourselves and our allies now, and most of the world for a while after the war. The Association helps to keep you informed of developments in order to assist you in doing your job of producing and marketing vital food materials with the least loss of effort and expense. The Association is the means by which vegetable growers can make their needs known to the various agencies in the present emergency.

For a limited time only, the Association is giving, free, one yearly subscription to the Market Growers' Journal (monthly) in addition to the Vegetable Growers' Quarterly News (March, May, July and December) and the Ten-Ton Tomato Report.

All this is worth many times the annual dues of one dollar, which we hope you will send today, if you have not already done so, to

The Pennsylvania Vegetable Growers' Association

Jesse M. Huffington, Secretary

State College, Pa.

**THE PENNSYLVANIA VEGETABLE GROWERS' ASSOCIATION
THE PENNSYLVANIA CANNERS' ASSOCIATION**

Invite you and your friends to attend the

**TOMATO MEETING
Y. W. C. A., Hanover, Pennsylvania**

Wednesday, January 20, 1943

Chairman: Alan R. Warehime

2:00 P. M.—PROFITABLE TOMATO PRODUCTION PRACTICES.

Jesse M. Huffington, State College, Pa.

2:30 P. M.—TOMATO DISCUSSION: Fertilizers, Equipment, Gasoline, Tires, Labor and Other Vital Matters.

Leader—W. A. Free, 220 Elmwood Ave., York, Pa.

Participants—County Agents, Cannery, Government Agencies.

One dollar will be awarded for each of the ten best questions mailed to Jesse M. Huffington, Secretary, Ten-Ton Tomato Club, State College, Pa., before Jan. 9, 1943., as decided by the Committee.

3:00 P. M.—TOMATOES NEEDED TO WIN THE WAR.

James E. Walker, Chairman, U. S. D. A., War Board, Harrisburg, Pa.

3:30 P. M.—PRESENTATION OF AWARDS: CERTIFICATES, CASH, BONDS.

The Pennsylvania Vegetable Grower's Association
H. W. Huffnagle, Chairman, Ten-Ton Tomato Club Committee, Quarryville, Pa.

The Pennsylvania Cannery Association
W. S. Winebrenner, Hanover, Pa.

Committee:

Alan R. Warehime, Hanover, Pa., Chairman.

W. A. Free, York, Pa.

W. S. Winebrenner, Hanover, Pa.

**PENNSYLVANIA TOMATO DAY
Shreiner Auditorium, Y.M.C.A., Lancaster, Pennsylvania**

WEDNESDAY, FEBRUARY 10, 1943

**The Pennsylvania Vegetable Growers' Association
The Pennsylvania Cannery Association**

Morning Session

Chairman: H. S. Sloat, Lancaster, Pennsylvania

9:30 A. M.—HYBRID TOMATOES FOR CANNING.

D. R. Porter, Riverton, N. J.

10:00 A. M.—CONTROLLING TOMATO FOLIAGE DISEASES.

J. J. Wilson, Bowling Green, Ohio.

10:30 A. M.—GETTING A BETTER START WITH BETTER TOMATO PLANTS.

W. D. Moore, Tifton, Ga.

11:30 A. M.—LUNCH

Afternoon Session

Chairman: Jesse M. Huffington, State College, Pa.

12:30 P. M.—BETTER METHODS OF FERTILIZING AND GROWING TOMATOES.

C. B. Sayre, Geneva, N. Y.

1:30 P. M.—TOMATO DISCUSSION: Fertilizers, Equipment, Gasoline, Tires, Hauling, Labor, Selective Service, Picking and other matters of vital interest.

Leader: H. H. Snively, Willow Street Pa.

Field Men, County Agents, Government Agencies.

One dollar will be paid for each of the ten best questions mailed to Jesse M. Huffington, Secretary, Ten-Ton Tomato Club, State College, Pa., before January 20, 1943, as decided by the Committee.

2:30 P. M.—PRESENTATION OF AWARDS: CERTIFICATES, CASH, BONDS.

H. W. Huffnagle, Chairman, Ten-Ton Tomato Committee, Quarryville, Pa.

The Pennsylvania Cannery Association, W. A. Free, Secretary, York, Pa.

Committee:

H. W. Huffnagle, Quarryville, Pa., Chairman, E. W. Montell, Camden, N. J., L. D. Fero, Chambersburg, Pa., Alan Warehime, Hanover, Pa.

ATTENTION VEGETABLE GROWERS

We're all in this war together and together we will win this war. We are building tying machines for Uncle Sam and the vegetable growers. Uncle Sam needs materials for guns, ammunition, ships and planes. So it is up to us to conserve these materials. We suggest that you SEND YOUR TYING MACHINES TO THE FACTORY FOR REPAIRS DURING THE MONTHS OF DECEMBER, JANUARY AND FEBRUARY. During this period we can give you the best service at the lowest cost to you. Tying machines are delicate mechanisms. Give them the best care and they will serve you for many years.

BUY WAR BONDS AND STAMPS

FELINS

2950 N. 14th St., Milwaukee, Wis.

Looking Ahead

Ray W. Wenker, President

In the March issue of the News, I wrote of Production Preparedness and Organization of our vegetable growers in order to produce an adequate supply of food for our war needs. At that time it may have seemed like so many words, in a story book or a fairy tale in a dime novel, but today it becomes a very serious problem among all branches of agriculture.

Farmers are asking themselves what shall I plant for 1943, where am I going to get sufficient help, is there going to be enough fertilizer for all, will my machinery be adequate for my operation, will my son be called into the armed forces, and will I get sufficient containers to pack my produce after it is grown? These are the questions being asked by farmers wherever you go. Are we going to get materials with which to produce the needed requirements of food for 1943?

My answer to this question would be, yes, but in a different style than we have been accustomed to. Our fertilizer will be streamlined of some of its nitrogen, the help will be stripped of its efficiency, our containers less numerous, and, in general, our entire methods and procedures of operation will be changed.

A recent announcement of the 1943 winter vegetable program issued by the U. S. D. A. requests specified increases in the winter production of carrots, lima beans, snap beans and onions; continuance of the same acreage of green peas, cabbage, fresh tomatoes, beets, and spinach; reduced acreage of cantaloupes, cucumbers, cauliflower, eggplants, watermelons, bleached celery, head lettuce, green peppers, asparagus and artichokes. While a number of these commodities do not apply to the Pennsylvania Vegetable Grower it helps to outline the change which is taking place in our industry. When the summer vegetable programs are announced it may be of greater importance than we now realize to the Pennsylvania Grower.

Labor shortages are becoming more acute, and with the advanced increases in salaries in industry this shortage will increase and become more serious. These are a few of the many problems we were faced with the 1942 season, what next season holds in store we do not know, but this I can assure you, that whatever the problems may be they can best be accomplished as an organized group.

Emergency Problems Discussed at V. G. A. of A. Conference

Jesse M. Huffington and W. B. Mack

The Pittsburgh conference, December 7 and 8, arranged by Dr. H. D. Brown, Secretary, Vegetable Growers' Association of America, dealt almost entirely with the vital problems of food production and distribution during the present emergency.

Labor

Paul V. McNutt, Manpower Administrator, in a letter, urged increased production and mentioned agriculture and food processing as essential. It was pointed out at the meeting, however, that draft boards are taking men from commercial vegetable farms. Managerial labor has been drafted from 28 per cent of farms, but a reduced acreage of only 8 per cent is expected.

It was resolved that this organization request the proper authorities to consider the vegetable growing industry on the same basis as other industries necessary to the war effort, and that men of the vegetable growing industry be placed on all boards, local, state or national, where regulations are to be made affecting the vegetable grower.

A resolution also requested that key-men on vegetable farms in managerial positions and doing irreplaceable work be deferred due to the very definite labor shortage.

A representative of the U. S. Employment Agency in Pennsylvania said that labor moves because of wage differences. The employment agency obtains information on the local labor situation. Schools have orders to dismiss pupils for agricultural labor. Transportation of labor is ordered through Federal channels. The agency is now under the Manpower Commission, and permitted to bring in labor from other areas.

To obtain labor through the agency each employer must be responsible for (1) sending an estimate of labor needs, one copy to the local agency and another to the state board, and (2) stating what wages will be paid by the month, day or hour, with or without room and board.

Down to 14 is as low as agencies are ordered to ask excuses from school but children of lower ages may be excused. The rate of pay for high school pupils varies from \$1.00 with board to \$2.50-\$3.00 without meals. Meals may be a problem with rationing.

A resolution requested that workers be trained in schools to assist commercial vegetable growers in 1943. Advice on procedure should be obtained from local vegetable growers' associations, county and state Agricultural Extension Service and from the Land Grant Colleges.

It was requested, in a resolution, that labor unions temporarily allow industrial employees to work a number of hours comparable with farm labor.

Farm Machinery

Repair parts, according to Mr. Oscar Maier, ordered for agricultural machinery in 1943 amounts to about 137½ per cent as compared to 1940; and new machinery, about 23 per cent. The Office of Civilian Supply recommended that farm machinery be rationed; repair parts and small machines are not included in the order. Major machines will be rationed through local rationing boards, made up of farmers and A. A. A. county chairmen.

Food Distribution

Dr. A. G. Meal, A.M.A., U.S.D.A., stated that the dehydration pro-

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**Outstanding strains for the
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**A full line of fine vegetable seeds
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PEAS - BEANS
CUCUMBER
BEET - CARROT
RADISH**

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equipment.**

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* * *

**R. S. LUKEE
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Pittsburgh Pennsylvania**

gram was designed as a war measure, without expectation that it would be continued after the war.

Emphasis on Victory Food Specials is being changed to lead consumers to buy commodities which are relatively plentiful. Programs are to be localized rather than extended over the whole nation.

War conditions have changed the location of markets and it is possible, also, that changes in production will result.

A resolution was passed commending Dr. Meal's sound judgment and fair analysis of the present emergency problem.

Packages

A resolution was passed requesting the Container Division, W.P.B., not to issue blanket orders on used container salvage, but rather appeal to store managers and consumers to save all usable packages. Growers should get their packages now for next season. The immediate standardization of new package production, it was stated, will increase the per cent of packages that can be salvaged.

Tires and Trucks

Mr. John L. Rogers, Office of Transportation, stated in a letter that tires now in use must run until the middle of 1944, and trucks must run throughout the war. Methods of maintenance are up to the owners: (1) consolidation of loads, (2) elimination of cross hauling, and (3) checking tires and equipment and maintaining properly.

A resolution requested that ration boards be instructed to give bona fide growers consideration so that none of our vital food requirements be curtailed.

Vitamins from Vegetable By-Products

Dr. E. G. Kelley, Eastern Regional Laboratory, stated that the problem now being investigated most extensively is the production of carotene or pro-vitamin A, to replace supplies formerly obtained from fish-liver oils. Leaves and parts of plants usually above the edible portions are highest in carotene and riboflavin. Beet tops; broccoli, Savoy cabbage, carrot, lima bean and rutabaga leaves; celery, spinach and sweet corn wastes are among the products being investigated. It is possible that vitamin A may be extracted from vegetable wastes as cheaply as from fish-liver oils, but it is not so at present.

Chicago Gets 1943 Meeting

It was planned to hold the 1943 convention in Chicago early in December.

GOALS OF COMMERCIAL TRUCK CROPS FOR MARKET IN 1943

Tentative goals for commercial truck crops for market in 1943 have been suggested, but no official announcement has so far been made. Consideration is being given, in order to insure adequate supplies of the major vegetables, to the necessity of lightening the transportation loads, suggesting a decrease in acreages of less essential crops produced at great distances from the consuming centers, and to decreasing labor requirements by shifting, insofar as possible, from crops that have large labor requirements to those which can be produced and harvested with less labor.

General increases are suggested for the following vegetables: carrots, 131, percentage in 1943 of 1942, kale, 122, lima beans, 121, snap beans, 116, sweet corn, 112, onions, 111, cabbage, 105, tomatoes, 104, beets, 103, green peas, 101, and spinach, 101. Decreases are suggested in the following: asparagus, 99, percentage in 1943 of 1942, artichokes, 92, green peppers, 90, lettuce, 85, eggplant, 83, watermelons, 83, cauliflower, 82, cantaloupes, 82, cucumbers, 77, and celery, 79.

In Pennsylvania no change is suggested for asparagus. Increases are expected in carrots, 143, percentage in 1943 of 1942, and 300 acres increase; tomatoes, 122%, 400 acres; snap beans, 116%, 500 acres; beets, 114%, 300 acres; cabbage, fall Danish crop, 112%, 400 acres; cabbage, fall domestic crop, 108%, 500 acres; onions, 111%, 40 acres; lettuce, 103%, 10 acres; spinach, 102%, 100 acres. A decrease of 89, percentage of 1943 as compared to 1942, or 100 acres, is expected in celery.

PRICE POLICIES AND PRICE SUPPORTS FOR 1943

It is announced by the United States Department of Agriculture that, insofar as possible, a price policy will be worked out and maintained which will give maximum price assistance to the production program. At the same time, the Department warns that it cannot assure a set price to every farmer for every class or grade of a given commodity for every day throughout the marketing season.

So far as its resources will permit, the Department will endeavor to support prices for fresh vegetables and for fresh and canning fruits which are deemed essential, through such means as may be available with respect to each commodity for which such support is necessary in order to assure growers of reasonable returns or to obtain the desired utilization.

A series of specific support prices are to be announced before February 1 for snap beans, corn, peas, tomatoes, beets, carrots, pumpkin and squash for processing and cabbage for kraut.

HOME FOOD SUPPLY PRODUCTION GOALS

In an address delivered at regional meetings recently on home food supply goals, M. L. Wilson, Director of Extension Work, United States Department of Agriculture, stated that probably one-fifth of our total food supply must go to meet the needs of our armed forces and our allies. This includes one-half our total commercial production of canned vegetables. "The acreage of certain vegetables, such as peppers, artichokes, asparagus, head lettuce, and of cantaloupes and cucumbers," he said, "needs to be reduced somewhat to lessen the strain on transportation involving long hauls."

Every family is urged to produce and preserve as much of the entire year's family food supply as it is possible. Special emphasis is placed on poultry, eggs, milk, butter, cheese, dry beans and peas, fresh, processed and stored vegetables and fruits, as well as amounts of meat allowed under the rationing plan. The green leafy vegetables, tomatoes, and yellow vegetables are emphasized because they supply liberal amounts of vitamins A and C and the minerals, lime and iron.

"Local commercial vegetable and fruit growers," he stated, "may do the community a service by growing larger supplies of vegetables for the local market, provided they have the ground, equipment, labor and facilities for doing this." To avoid the waste of local or shipped-in food it is suggested that surpluses be used fresh, either at home or at school lunches, or processed by canning, brining, drying, or otherwise.

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To Safeguard Your Profits

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ALL LEADING VARIETIES
Penna. State Certified
Over 30 years Experience Breeding and
Growing Better Tomato Seed

"The HOUSE OF GLICK"
Smoketown Pennsylvania

Extension Activities Show Changes in the Vegetable Industry

W. B. Nissley

A summary of reports from County Agents shows that a total of 1,339 vegetable meetings were conducted by the Agricultural Extension Service in 1942 with an attendance of 41,912 persons.

Home Gardens, Canning Crops and 4-H Club projects were greatly influenced by the war effort. Commercial or market vegetable acreage and supply remained about the same due to a shortage of labor, gas and rubber.

Activity in the home garden and victory garden project increased 400 per cent in 1942 over 1941. This increase did not have much, if any, effect on the demand for commercial vegetables or the market price of vegetables, both of which were above the 1941 figures.

Acreage in canning crops reached an all-time high in Pennsylvania. There was an increase of 10 per cent over 1941, amounting to about 2,000 more acres—a total of 48,000. Yields of tomatoes and peas were less per acre than 1941 due to adverse weather conditions. Yields of corn and beans were more nearly normal. However, the total yield of crops for processing reached an all-time high due to the increased acreage.

Activity in 4-H vegetable clubs increased about 33 per cent. There were 132 clubs with a membership of 2,060 compared with 101 clubs with a membership of 1,502 in 1941.

Prospects for 1943

The United States Department of Agriculture requests a continuance and an increase in effort in the Home and Victory garden program.

Canning crop production is to be increased 10 per cent over 1942 to a total of nine billion pounds. The dehydrated goal in vegetables for 1942 was 100 million pounds and for 1943 is to be increased to 400 million pounds equivalent to 4 billion pounds fresh.

Market vegetables in Pennsylvania will hardly be increased in acreage or supply in 1943 due to growing and marketing difficulties. Market vegetables should be in good demand at attractive prices to the grower.

Our Problems

Jesse M. Huffington, Secretary

Letters from members indicate that our organization is serving a worthwhile purpose. They say, also, that our publications are quite valuable but one new member asks how a fellow can find time to read all the magazines one gets.

So, labor seems to be the problem from reading to weeding. Gasoline appears to be the second worry. However, assurance has come from the "higher-ups" that no essential war crops will be allowed to rot in the fields on account of a lack of rubber or gasoline. We are assured that the U. S. Employment Service will become streamlined and acclimatized in shifting labor to vital spots exactly when needed. Ideas from dirt farmers, also, will help.

Some concern is expressed about marketing asparagus, but this is listed as an essential war crop (present planting) and no difficulty is anticipated in this connection.

Our vice-president has been busy teaching boys to grow and harvest vegetables. He produced about 20 tons of tomatoes per acre by using the very best plants, setting them early in a well-prepared and liberally fertilized soil, and applying a good mulch of straw early in July. He is interested in boys, shows them the way and stays with them. You would be surprised at the results accomplished.

A tomato grower, who reported a 10-ton yield, said his big trouble was in getting them picked. Some boys from a local club were a "headache, . . . once over and there were no green tomatoes or vines left".

A market gardener reports labor shortage, particularly after school started and when celery trenching began. It appears that local teachers were afraid trouble would arise because the students were hired for pay after school hours. This grower requests that the Association consult with the Department of Education and arrange to have the teachers or school boards granted legal permission to excuse absences for necessary farm work.

Another member suggests that the State Department of Education might find it possible to create a one-session school day in some or all sections of Pennsylvania. It was suggested that possible school credits could be extended to include essential farm work. A one-session school day, it was thought, would eliminate a one and one-half hour lunch period and possibly eliminate a study period, thereby giving high school youth a chance to do three or four hours work toward any war effort.

Carrots may help us to see in the dark but some of our members say that hogs require less labor and that ham and cabbage keep us steady. Our former president, John M. Willson, Fayette City, seeded a portion of his land ordinarily used for vegetables to grass and clover for hog pasture. Not only has the venture proven to be profitable but he will grow better vegetables on that soil when more labor does become available. Hog manure pushes celery right along on Becker Farms in Bucks County, where hogs are fed garbage plus other feed that eventually becomes good fertilizer if not pork.

There were, according to a survey by the Pennsylvania State College and the Bureau of Agricultural Economics, U. S. D. A., 18 per cent more family year-workers under 18 years of age on farms in 1942 than in 1941 but there was a decrease of 1.1 per cent in family year-workers over 18. There was a decrease of 16.9 per cent in hired year-workers. Of these, 19 per cent went to other farms, 26 per cent to the armed forces, 35 per cent to industry and 18 per cent were unaccounted for.

It was brought out in the report that farmers already have worked long hours every day and cannot do more than they did in 1942 with the same amount of help. Since farm machinery supplies are curtailed, further reduction in the labor supply will probably result in a shift to hogs, general crops and other enterprises requiring fewer hours of man labor.

The Northeastern Vegetable and Potato Council says "we need to plan as much as possible to meet whatever labor difficulties there may be during the coming season and this means planning before the season is upon us."

"There is also," it reports, "a tight situation apparently in the container and package situation which may exist this coming year." Second-hand packages should be saved, salvaged and used whenever possible in this present emergency. Labels should be removed.

PROMISING VARIETIES IN 1942 PENNSYLVANIA TESTS

Stokesdale, Pritchard, Essary, Marglobe, and Rutgers were the outstanding commercial tomato varieties in the 1942 variety trials at State College, according to E. M. Rahn, assistant in Vegetable Gardening Research. Outstanding yellow hybrids of sweet corn were the following from early to late: Spancross, North Star, Marcross, Earli-gold, Carmelcross, Lincoln, Lee, Golden Cross Bantam, Tristate, Wilson, and Allegheny. Outstanding white sweet corn hybrids were the following: Stowells Evergreen Hybrid; Silver Cross Bantam; Iogreen 191 x 12E; Narrowgrain Evergreen Hybrids 11x13, 11 x 55, 14 x 11, and 14 x 13; Pontiac; and Evergreen Hybrid.

1943 ALL-AMERICA VEGETABLE SELECTIONS ANNOUNCED

New vegetable varieties, grown in 15 vegetable trial grounds in different sections of America, are chosen for All-America selections by the American Seed Trade Association each year under the direction of W. Ray Hastings, Chairman. These new selections are chosen for their vitamin and mineral content, for marketing, canning, freezing, and appetite appeal.

Cucumber Marketer is described as being ideal for home gardens, early market and shipping. It is said to be very smooth, with exceptionally uniform dark green color down to the blossom end, and very prolific on a vigorous vine. It is a white spine type.

Pole Snap Bean Potomac is similar to Kentucky Wonder but has "streamlined, long, slender, practically round, meaty pods of exceptional tenderness." It is absolutely stringless at all stages of growth.

Pepper Early Pimento is said to produce mature fruits one to two weeks ahead of Perfection Pimento, a bit smaller and thinner walled, narrower across the shoulders and longer cone-shaped. The flesh is thick, very sweet and delicious.

Bush Lima Bean Cangreen is a green-seeded Henderson Bush Lima variety. The seed is reported to retain its fresh green color after being cooked and canned. It has thrifty, vigorous and bushy growth.

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The Pennheart Tomato

C. E. Myers

The Pennheart tomato is an extra early maturing variety which was developed at The Pennsylvania State College. It is a very compact growing variety because of its determinate type of foliage. Its chief value lies in the fact that it is early in maturing, and when planted approximately two by four feet has produced a significantly larger yield. While a few growers have reported that it apparently is not adapted to their conditions, the majority of the reports are favorable.

Pennheart is recommended for trial for the home garden and for market gardeners where a superior, early maturing tomato is desired. Because of its compact and determinate growth habit it should not be pruned nor staked but should be planted from two by four to three by four feet, depending on the soil and other factors. It should be well supplied with available plant food and moisture if maximum results are to be obtained. Probably not all growers will find it profitable, but doubtless many will. It is not an all-season variety and should not be considered in competition with the standard mid-season or late varieties. Neither should it be planted on soil infected with tomato wilt. A limited amount of seed will be available through seedsmen.

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Nitrogen for Vegetables in War Time

J. B. R. Dickey

There is a real shortage of nitrogenous fertilizers and it is a patriotic duty to reduce the needs of this vital material wherever possible. Conservation of the nitrogen in the soil through use of a cover crop at every opportunity is the first consideration. If the cover crop can be a legume, such as a clover or vetch, it will actually add to the nitrogen in the soil. However, non-legumes, such as rye or ryegrass, will greatly reduce the loss of soluble nitrogen through leaching. This is especially important on the lighter soils. The organic matter added by the cover crop will also improve soil condition and its ability to hold the nitrogen applied later.

Substitutes for fertilizer nitrogen should be secured wherever possible. The return of the horse to city traffic may somewhat increase the supply of manure available for truck farmers. Manure furnishes not only nitrogen, but also organic matter, other plant food, and desirable soil bacteria. Spent mushroom manure can sometimes be secured. It is drier, freer of weed seeds, and in ideal physical condition to work into the soil after plowing. Raw sludge from urban sewage plants has a fertilizing value similar to stable manure.

Poultry manure is much more valuable as a source of quickly available nitrogen than most growers realize. Work now under way at the Pennsylvania State College shows that, on a dry basis, fresh poultry droppings may analyze five, or even six, percent nitrogen. This is as high as low grade tankage. As commonly handled, much of this nitrogen is allowed to escape as ammonia through fermentation, or leached out through exposure to rain. Fermentation losses might be greatly reduced by rapid drying, but this is seldom practical. Mixing superphosphate with the manure is also effective; it reduces fermentation and chemically combines with and holds the ammonia. The best way to use the phosphate is to scatter it on the dropping boards or under the roosts every day at the rate of three to five pounds per hundred birds. This not only reduces nitrogen losses and keeps down ammonia odors in the chicken house but also makes the manure a much better balanced fertilizer. Growers who contract for chicken manure could well afford to supply the poultryman with the phosphate to be used in this manner.

On fairly level land poultry manure may best be spread as delivered. The soluble nitrogen will be washed into the soil by the first rain and most of it held there. If spread on a cover crop there will be still less loss, the growth of the cover crop will be greatly stimulated and its decomposition when plowed under will be hastened by the

additional nitrogen. If it must be stored, poultry manure should be kept dry, super phosphate should be mixed with it at the rate of 400 to 500 pounds per ton of droppings, or phosphate, or even several inches of soil, should be spread over the pile to reduce nitrogen losses.

Poultry litter is also a valuable source of nitrogen and organic matter. It may be used like other manure but at about half the rate, since it has more than double strength and value. The litter, however, has very much lower nitrogen content and fertilizing value than the droppings. Some large commercial poultrymen complain of a problem in disposing of their litter and droppings and would no doubt welcome a contract with a vegetable grower which would prove mutually profitable.



Little Nitrogen is Lost When Manure is Spread on a Cover Crop.

SAVE GOOD PARTS OF OLD MACHINES FOR LATER USE

J. R. Haswell

Some machinery manufacturers have asked farmers not to junk machines which they are not using without first taking off any parts which may be of use to themselves or their neighbors.

It may even be worth while to send an old machine back to the factory to be reconditioned for a farmer who may need it without going through all the stages of manufacture of a new one from scrap.

Only 25 per cent of steel production will go into civilian use and only about one-third the supply of repair parts will be available in 1943 as were on hand for this year. Farmers must, therefore, take good care of what they have.

The Vegetable Fertilizer Situation

Warren B. Mack

Fertilizers are being distributed under Conservation Order No. M-231, Part 3080—Chemical Fertilizers, of the War Production Board, which became effective on September 12, 1942. Copies of this order, which establishes grades or analyses of commercial fertilizers which may be purchased for different purposes, may be obtained by writing to Chemicals Branch, War Production Board, Washington, D. C.

According to this order, "On and after September 12, 1942, the effective date of this order, no fertilizer manufacturer, dealer or agent, shall . . . deliver, and no person, including fertilizer manufacturers, dealers and agents, shall use on crops, in any of the states listed . . . any grade of chemical fertilizer other than the grades designated on such schedule as applicable to the respective states listed thereon, and where a particular grade is designated on such schedule as available only for a particular crop, such grade shall be sold or used only for the production of such crop." Furthermore, no fertilizer containing chemical nitrogen can be sold for use on lawns, golf courses, parks, roadsides or noncommercial plantings of trees, shrubs, or flowers.

Grades approved for use in Pennsylvania in 1943 include the following, of which those recommended for use on vegetables are underscored.

0-14- 7	3-12- 6	4- 8-16
0-12-12	3-12-15	4-12-12
0-16- 8	3-18- 9	4-16- 8
0-14-14	4-10- 5	4-16-20
0-24-12	4-12- 4	4-24-12
0-20-20	4- 8-12	7-21- 7
2- 8-10	4-10-10	10- 6- 4
2-12- 6	4-16- 4	

It will be noted that grades formerly recommended, such as 5-10-5 and 5-10-10, are replaced by 4-10-5 and 4-10-10.

Other parts of the order include the elimination of sales of chemical nitrogen fertilizer in smaller containers than 100 lb., except that already bagged, but not in any case in bags holding less than 80 lb. Superphosphate must contain not less than 18 percent of available phosphoric acid. Mixed fertilizers in which all of the nitrogen is in organic form must contain at least 3% of nitrogen, and at least 14% of total plant food. (The Pennsylvania law requiring 16 units super-sedes this ruling).

Fertilizer chemicals as follows are approved for all states: nitrate of soda, 16%; nitrate of soda-potash, 14-0-14; sulfate of ammonia, 20% or higher; cyanamid, 20% or higher; ammonium phosphate, 11-48-0 or 16-20-0; superphosphate, 18% or higher; muriate of potash, 50% or higher; sulfate of potash 48% or higher; manure salts, 22% or higher; sulfate of potash-magnesia, 18% or higher; and any grade of basic slag, ground phosphate rock, colloidal phosphate, cotton hull ash, or wood ash.

No system of rationing has been decided upon as yet, and it is probable that voluntary allocations by dealers will be the only limitation on purchases. It is likely, however, that farmers will have to make written statements as to the crops and acreages upon which the fertilizers purchased are intended to be used.

There are no restrictions on the sale and use of non-chemical forms of nitrogen, such as tankage or cottonseed meal. Chemical nitrogen, such as nitrate of soda, sulfate of ammonia, cyanamid, or ammonium phosphate may be purchased in 1943 for use on vegetables, but some reduction in the rate of application will be required. Not all of them may be available in all localities, but some of them will be obtainable by all growers needing them.

Vegetable growers should use the limited supplies of nitrogen to the best possible advantage, and should try to make up the difference with organic nitrogen if this is not too high in price, or with green manures, poultry manure, or other manures. Emphasis should be placed now, as at all times, on the growing of cover crops, green manures, or sods on all land that is not occupied with cash crops.

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Fertilizer and Crop Production Plans Discussed at Meeting

Jesse M. Huffington

At a regional conference in Baltimore, Md., December 7, sponsored by the National Fertilizer Association, a discussion of the 1943 fertilizer situation in relation to crop production plans was led by officials of the WPB, OPA and USDA. Order M-231 was revised December 4, 1942. The new order permits the use of 4-12-8 and 6-15-15 in Pennsylvania, grades recommended for vegetable crops. No fertilizer containing chemical nitrogen is allowed for use on melon and cucumber crops.

"Victory Garden Fertilizer—For Food Production Only" is to be made up in 3-8-7 grade, "the nitrogen content of which shall consist of 2½ units of organic nitrogen and ½ unit of chemical nitrogen."

Vegetables containing high food value are to be given first consideration in the use of fertilizer. Fertilizer distribution plans are to conform to the Agricultural Adjustment Administration program of national, state and county goals, which are to be announced early in January. Farm plans, showing crops to be produced, and established goals are to show bottlenecks in fertilizer requirements, labor, and farm machinery. A ten per cent increase in essential war crops is desired in 1943.

The following truck and canning crops were reported to be considered "essential farm products," one acre being equal to one war unit conversion factor, and 16 units required for consideration for deferment from military service:

Broccoli, Brussels sprouts, collards, endive, kale, tomatoes, carrots, chard, escarole, mustard greens, spinach, turnip greens, onions, snap beans, green leafy lettuce, lima beans, green peppers, turnips, asparagus (from present plantings), cauliflower, cabbage (other than Wakefield).

Two acres of Irish potatoes and sweet potatoes constitute one war unit, five acres of dry edible beans, green peas and sweet corn, 15 acres of dry field peas and 0.4 acre of belladonna and pyrethrum.

In the non-essential class of farm products, allowing no war unit credits, are the following special crops: (a) cantaloupes, (d) popcorn, and (e) watermelons. The vegetable crops in this class are (a) bleached celery, eggplant and Iceberg lettuce; (b) kohlrabi, cucumbers, horseradish, okra, radishes and rhubarb; (c) garlic and leeks; and (d) pimentos, squashes and pumpkins.

Plowing Down Fertilizer Looks Promising

E. M. Rahn

Plowing down fertilizer in bands may be a more effective practice than other commonly used methods of applying fertilizers to vegetable crops according to the first year's test at the Experiment Station at State College. The method appeared to be especially effective on sweet corn, and moderately effective on tomatoes and peas. Pennsylvania growers, however, should not change over to this method too extensively before they have tried it on a small scale and before more experimentation has been done at the College. In New York and New Jersey plowing down fertilizers for vegetable crops has been particularly effective for two or more years now.

The fertilizer is applied at the time of plowing in bands, a single band in the bottom of each furrow. An alternate method, but a little less effective, is to broadcast the fertilizer with a drill or lime spreader before plowing. The fertilizer could be applied in bands by means of an attachment to the plow assembled from parts of a potato or a corn planter or by means of an attachment especially designed by a farm

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machinery manufacturer. For trying this method out on a small scale, the fertilizer could be applied by hand.

The 1942 fertilizer placement results are given in the table below. Plowing the fertilizer down in bands was the best for the total yield of sweet corn, but not early yield. The early yield could have been stepped up a bit probably by applying a little fertilizer in a band alongside the row or by applying a starter solution such as one made up of 4 lbs. of 4-16-4 fertilizer to 50 gallons of water and applied at the rate of 1 quart for 10 feet of row or about 350 gallons per acre (about 30 pounds of 4-16-4 per acre). Plowing the fertilizer down in bands was the best for both early and total yields of tomatoes, but not by much. In a dry season, instead of in a very wet season as in 1942, this method of fertilizer application would very probably be much more effective than any other, for the fertilizer would be down six or seven inches deep where there was soil moisture to aid its entrance into the plant roots. The above method and the application of fertilizer in a band alongside the row were the two most effective methods with peas. In a dry year the former method would probably be the best. The differences between the treatments tried would have been somewhat greater in the above cases too if the soil on which the experiments were placed had not been in such a high state of fertility.

SWEET CORN		YIELD OF TONS OF MARKETABLE EARS PER ACRE	
<i>Fertilizer and method of application</i>	<i>First picking</i>	<i>Total</i>	
400 lbs. 4-16-4 in band alongside of row	1.31	3.17	
400 lbs. 4-16-4 plowed down in bands	0.82	3.64	
400 lbs. 4-16-4 equivalent (all soluble) applied in solution in row	2.42	3.43	
No fertilizer	0.91	2.28	
		TOTAL YIELD, TONS PER ACRE, UNSHELLED	
PEAS			
<i>Fertilizer and method of application</i>			
400 lbs. 4-16-4 broadcast and harrowed in			2.11
400 lbs. 4-16-4 in band alongside of row			2.41
400 lbs. 4-16-4 plowed down in bands			2.34
400 lbs. 4-16-4 equivalent (all soluble) applied in solution in row			2.13
No fertilizer			2.11
TOMATOES		YIELD IN TONS PER ACRE	
<i>Fertilizer and method of application</i>	<i>Early yield 1st 3 weeks</i>	<i>Total</i>	
800 lbs. 4-16-4 broadcast and harrowed in	10.3	16.6	
800 lbs. 4-16-4 plowed down broadcast	10.0	16.1	
800 lbs. 4-16-4 plowed down in bands	10.5	16.7	
800 lbs. 4-16-4 equivalent (all soluble) applied in solution alongside of row 2 weeks after field setting	9.0	15.6	
No fertilizer	9.9	15.7	

Increase Yields with Pea Seed Treatment

O. S. Cannon

About 57,000 bushels of pea seed were planted in Pennsylvania in 1942. Of this number, 9,000 bushels that had possibilities of producing plants, rotted in the ground. Great as this loss is, it is insignificant when we consider that the real loss lies in the failure of these 9,000 bushels to produce a single pound of peas for canning or market.

Experiments and demonstrations throughout the United States have proved that an average of 20 percent more pea plants grow from the same number of seeds, if the seeds are dusted with a fungicide before they are planted. This treatment consists merely of rotating the seed and the fungicide together in a closed container for a few minutes, so that each seed is covered with a thin film of the fungicide.

T. C. P. B. (Tetrachloro-para-benzoquinone), an organic material manufactured under the trade name of Spergon, has largely replaced other fungicides for the prevention of pea seed rot within the last two years. Aside from the fact that red copper oxide has become unavailable, there are three outstanding reasons for the change: 1. Stands from Spergon treated seed are better. 2. Spergon does not injure seedlings, but actually has a stimulating effect on their growth, and 3. Spergon treatment and inoculation can be used together without harming the inoculum.

In Pennsylvania results from the use of Spergon for pea seed treatment have been as good as elsewhere. In eleven demonstrations conducted by Extension Plant Pathologists of the College in 1942, seed treated with this material produced an average stand 22 percent greater than untreated seed. These demonstrations in which yield figures were obtained gave an average yield increase of 393 pounds of shelled peas per acre, or an increase of 19 percent over untreated. The cost of material for treating pea seed to plant an acre is 60 cents, a small price to pay for 393 pounds of shelled peas.

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EDGAR W. MONTELL

**Edgar W. Montell Heads Agricultural Department,
Campbell Soup Company**

Edgar W. Montell, who has been continuously employed by the Campbell Soup Company since May 1925, has been appointed manager of the Agricultural Department of this company. Previous to May 1925, Mr. Montell served as a County Agricultural Agent, Cambridge, Md., 1922-25.

A graduate of the University of Maryland, 1915, in horticulture, Mr. Montell received further training in horticulture for a Master of Science degree at the Oregon Agricultural College, 1916-17.

During the first World War he served as a First Lieutenant in the Infantry, U. S. Army. Further experience was with the Bureau of Markets, U.S.D.A., immediately before and after service in the Army, followed by general farming and fruit growing at Staunton, Va., 1920-22.



HARRY F. HALL

HARRY F. HALL, AGRICULTURAL LEADER, RETIRES

After thirty years of continuous service as manager of the agricultural department, Campbell Soup Company, Camden, N. J., Harry F. Hall retired in November, 1942. Although a resident of New Jersey, Mr. Hall's influence upon Pennsylvania agriculture cannot be ignored.

Under his direction the J.T.D. (John T. Dorrance) tomato was developed and later crossed with Marglobe. The progeny, "500", was turned over to Professor L. G. Schermerhorn, Rutgers University, who later introduced it as Rutgers.

Mr. Hall is a graduate of the New Hampshire Agricultural College and served as a member of the faculty of that institution. He has held the presidency of the Boston Market Gardeners Association, the Vegetable Growers Association of America and the New Jersey Cannery Association. In his home town of Moorestown, N. J., he has taken an active interest in civic affairs. On April 13, 1942 the Cook Chapter of the Alpha Zeta Fraternity at Rutgers University honored him with the third Alpha Zeta Award.

IN MEMORIAM

It is with sorrow that we record the loss of William G. Wenker, Bustleton. He was president of the Association in 1932 and 1933 and has long shown wisdom and good judgment in his active participation in the affairs of the vegetable industry. One of his sons, Raymond G. Wenker, is now serving as our president.

The following is taken from the minutes of the Philadelphia Vegetable Growers' Co-operative Association:

"We pause in respect to the memory of William G. Wenker who was called by death on August 2nd. His passing is a severe loss to the association as well as to the community and his fellowmen. He was one of our directors when this organization was founded and his judgment was always keen. He truly had the spirit of cooperation toward other growers. His opinion in the business of marketing gardening and his ability to make plants do their utmost will always be an inspiration to all growers who ever knew him.

"As the result of his diligent work for this association, we the remaining directors pledge ourselves to make this association of greater service in the memory of William G. Wenker.

Note: By order of the Board of Directors, 9/8/42, this minute was adopted and directed to be spread on the pages of the association, and copies sent to his wife and three sons."

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