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CONTENTS OF REEL 58

- 1) Pennsylvania vegetable growers' news, v. 1
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- 3) Pennsylvania vegetable growers' news, v. 2
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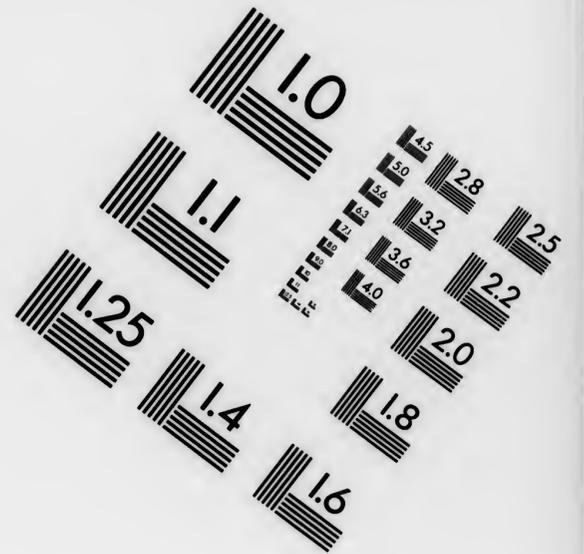
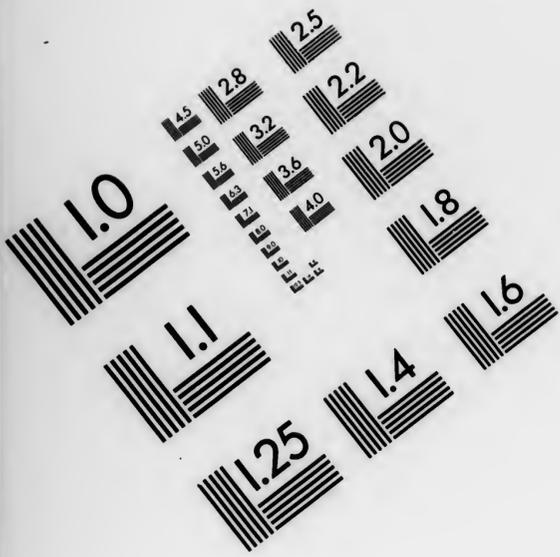
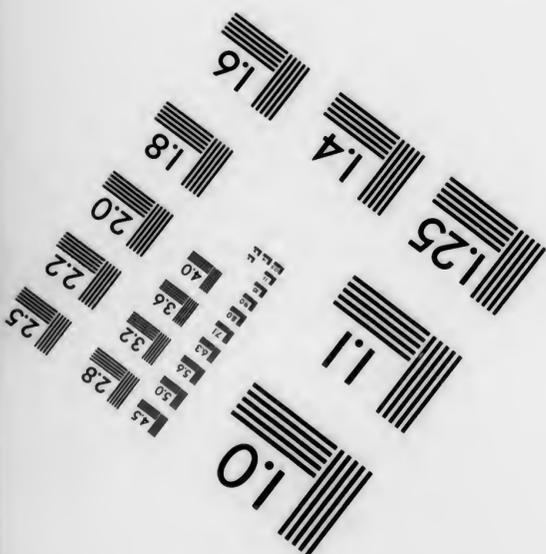
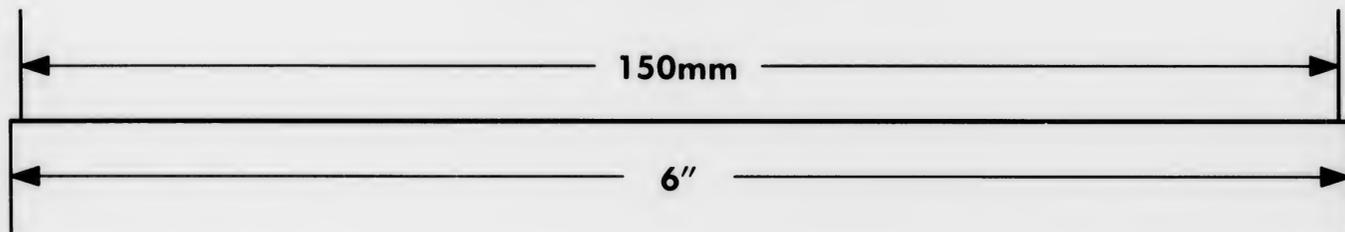
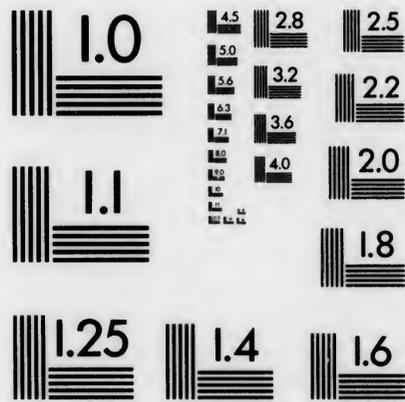
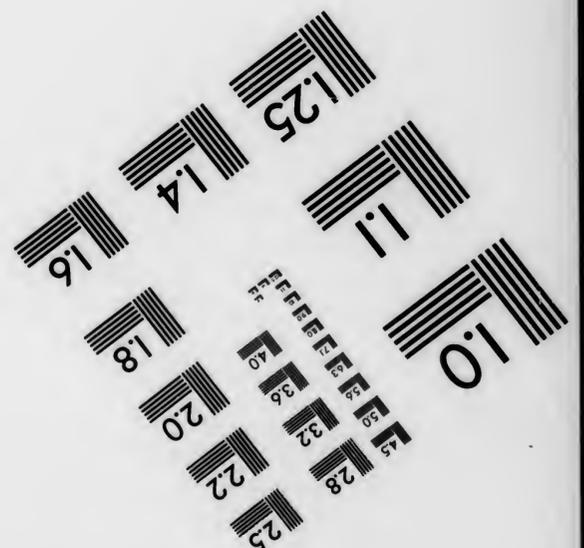


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Volume:

1

Pennsylvania Vegetable Growers' News

To be published quarterly by the Pennsylvania Vegetable Growers' Association.

VOL. 1

JANUARY 1928

NO. 1



Our constitution states that one of the objects of this association shall be disseminate information on vegetable growing and its problems. The present publication is being instituted as a means of furthering this object and of keeping the membership in closer contact with the work of the association.

At the business meeting January 18 officers were elected for 1928. President Gilbert S. Watts, Bellwood, Pa., Vice-President J. M. Huffington, State College, Pa., Secretary-Treasurer W. B. Nissley, State College, Pa.

Means of increasing the membership were discussed at the annual meeting. It was voted to reduce the dues from two dollars to one dollar, for a period of one year, in the expectation that this action, along with the promise of a regular publication, would attract a larger membership. Persons engaged in vegetable growing or allied pursuits are eligible. The present issue is being sent to a number of growers who are not members, in order to acquaint them with the Pennsylvania Vegetable Growers' Association. Anyone may join and receive the benefits of the association by sending one dollar to the Sec.-Treas., W. B. Nissley, State College, Pa.

E635.05 P384 v.1-2 Jan. 1928 - Apr. 1929

RECENT INTRODUCTIONS WORTHY OF TRIAL

The following material is condensed from a lively report made by Dr. J. E. Knott on vegetable varieties tested at State College the past summer. Many of these are being offered by a number of seedmen this year.

Sweet Spanish onion—Large, globular, mild with a small neck and pretty good keeper.

Wonder Bell pepper—Second early, large, smooth with flesh one-fourth to three-eighths inch thick.

Burpee Sweet corn—Sweet, yellow, high quality ears a little larger than Golden Bantam and 10-12 days earlier.

Sunshine, and Extra Early Bantam—Types of sweet corn producing high quality ears, 7-10 days ahead of Golden Bantam.

Earligreen celery—Thick meaty tender stalks, large heart, early and blanching easily to a creamy white.

Mountain Danvers onion—Matures two weeks ahead of other sorts.

Matchless Spring cauliflower—A good sized, very early strain maturing a large percent of heads by the time others were just beginning to cut.

This material was so well received and excited such interest that the following resolution was passed.

Be it resolved that the Pennsylvania Vegetable Growers' Association go on record in appreciation of the usefulness of the vegetable variety trials conducted at the Pennsylvania State College, and reported to their convention by Dr. J. E. Knott.

Be it further resolved, in consideration of the difficult matter which it is for the individual grower to keep up to date on the subject of varieties and strains, that a copy of this resolution be forwarded to the Director of the Pennsylvania Agricultural Experiment Station with the suggestion that the continuance of the studies herein mentioned together with a report at our annual meeting should prove invaluable to the vegetable growing industry.

Another feature of the meetings was a report by Prof. W. B. Mack including the very latest information on the use of ethylene gas. His summary of this matter follows.

Two years' work has been done at State College on the blanching of celery and the ripening of tomatoes by means of ethylene gas. Results have shown that the methods at present recommended do not give uniformly good results. The conclusion has not yet been reached, however, that the method has no possibilities. The methods are still in the experimental stages, and under the circum-

stances are not to be recommended to Pennsylvania growers, except possibly for trial in a small way.

The above conclusion is in agreement with the opinions of ten other agricultural experiment stations. As reported to Professor Robbins of the New Jersey Experiment Station, only two of these had favorable results with tomatoes, and none had favorable results with celery. In all other cases, good results were not obtained.

Further study is being done, however, to learn the nature of the action of ethylene gas on plants, and if possible to devise improved methods for its use.

W. B. MACK

Home mixers of fertilizer will be interested in the point brought out by Mr. H. R. Smalley of the National Fertilizer Association that sulphate of ammonia and superphosphate when mixed together set up a chemical reaction which results in the formation of a small amount of plaster Paris, this resulting in a lumpy condition. This trouble does not occur when the nitrogen is provided in nitrate of soda. The point was also made that the material which we have previously bought as acid phosphate will be sold a superphosphate in the future.

IMPORTANCE OF PHOSPHOROUS FOR SWEET CORN

This material is taken from demonstrations conducted on vegetable farms in various parts of the state by the State College Extension Service.

Earliness—Comparative yields on day the corn was pulled.

15 tons manure per acre	65% large corn
15 tons manure + 240 lbs. Super-phosphate	90% large corn
320 lbs. Super-phosphate	90% fair corn
320 lbs. 4-8-4	80% large corn
Nothing	40% small corn

A comparison of total yields was made in another demonstration where the plots were of equal size.

No fertilizer	15 doz. ears, small
400 lbs. Super-phosphate per acre	27 doz.
350 lbs. 4-8-4	30 doz.
350 lbs. 4-8-4 + 300 lbs. Super-phosphate	33 doz.

Phosphorus hastens maturity and gives the most economical increase in total yield.

In a talk packed full of information on the Mexican bean beetle, European corn borer and Japanese beetle situation Prof. Hotchkiss recommended a mixture of 1 pound calcium arsenate with 9 pounds of hydrated lime as a dust for the first of these pests. He emphasized the importance of locating the first infestations of the bean beetle which are likely to be in spots. These may then be cleaned up by prompt use of the hand duster. In spraying a mixture of 3 pounds calcium arsenate in 100 gallons water may be used.

TREAT YOUR SEED

The latest recommendations are to subject all vegetable seeds to a dust treatment before planting. This will kill surface borne organisms and may affect some of those in the seed coat. There is the further possibility that the dust adhering to the seed will cut down the loss from rots so often prevalent in early plantings outside. This seems to be especially true with sweet corn.

Several seed houses are treating all their seed. It is very simple. If you have just a packet, put a little of the dust in and shake till all are covered. Larger quantities may be treated in large jars or churn like affairs. So far the best material for all round treatment of seeds is DIPDUST, manufactured by the Bayer Company, 117 Hudson St., New York, N. Y.

MONTHLY CALENDAR FOR VEGETABLE GROWERS

Figured for central Pennsylvania. Southern Pennsylvania is ten days two weeks earlier. Northern Pennsylvania ten days to two weeks later.

JANUARY AND FEBRUARY

- Study vegetable literature and consult successful gardeners.
- Work out the cropping plan for 1928.
- Study the seed catalogues and order seeds.
- Make germination tests of seeds on hand.
- Order fertilizers.
- Clean and repair tools and equipment.
- Apply manure to land if it is to be plowed in the spring.
- Place hotbeds and cold frames in order, or build them if necessary.
- February 15 to 25 sow cabbage, lettuce, cauliflower and other cool vegetable seeds in greenhouses if available.

MARCH

- March 10 shift seedling plants from the greenhouse to hotbeds.
- Sow cabbage, lettuce, cauliflower and other cool vegetables in hotbeds.
- Start tomato, pepper and eggplants in the greenhouse.
- Plow garden soil and prepare seedbed for early vegetables if weather permits.
- Sow celery seed in greenhouse.

HOW ABOUT THE FUTURE?

(A Message from the New President)

We all know Pennsylvania is a great vegetable state. We have the markets. We have the growers. Let's get together more and in larger numbers. Let's become better acquainted and talk over our problems together. Competition is growing keener every year. There is every reason why Pennsylvania vegetables should rank first on all Pennsylvania markets. Can we afford to let the potato display fill a whole building with never a vegetable in sight in all Harrisburg for the tens of thousands of visitors to see? There will be a vegetable show next year. There will also be a vegetable growers' dinner and plans are being laid for a vegetable program that no Pennsylvania grower can afford to miss.

Pennsylvania Vegetable Growers' News

Published quarterly by the Pennsylvania Vegetable Growers' Association. OFFICERS: President, Gilbert S. Watts, Bellwood, Pa.; Vice-President, J. M. Huffington, State College, Pa.; Secretary-Treasurer, W. B. Nissley, State College, Pa.

VOL. 1

APRIL, 1928

NO. 2

Again the Pennsylvania Vegetable Growers' Association is in print! The response to the January number of the "NEWS" was both encouraging and substantial. That issue brought in a number of checks for membership dues, the signatures being both old and new names.

The next number of the Pennsylvania Vegetable Growers' News will appear in July. Criticism or suggestions for the improvement of the publication are always in order. It is a growers' organ and letters containing ideas or news of general interest are welcomed by the officers.

WHY I USE PLANT PROTECTORS

Byron A. Breisch, Ringtown, Pa.

During the past two years we have tried paper plant protectors on tomatoes, and last year on cucumbers.

Results on cucumbers were not quite satisfactory because, due to weather conditions and insufficient care in planting, germination was slow and very irregular. However, once up, the plants grew very rapidly, the cucumber beetle was easily controlled, and cucumbers were produced earlier than on unprotected hills which happened to sprout earlier.

On tomatoes results have been very satisfactory. The variety grown was Penn State Earliana. On the protected plants the first ripe fruit was about five days earlier than on unprotected plants. In quantity of fruit marketed, however, protected plants averaged about twelve to fourteen days earlier. This was proven in 1926 by blocks of 1400 and 8600 and in 1927 by blocks of 5000 each.

The plant protector seems to aid the plant in several different ways. If set immediately after planting it reduces planting losses by checking evaporation. These protectors maintain a considerably higher average daytime temperature and also protect the plant from the rough spring winds, which check the growth of the more tender plants so severely, and frequently even cause the loss of quite a few. Apparently very few flea beetles found their way under the protectors.

Thus far no check has been obtained on the value of these protectors against frost. However, in 1926 a neighbor suffered severe damage to plants under protectors, but not ventilated, while others exposed by accidental tearing received less injury and some of these escaped entirely.

Fertilization of first cluster fruit buds, taking place under the protectors, is very high resulting in as many as 14 tomatoes on the first cluster. This is an important item. In the first two or three pickings in both seasons the protected plants produced the heavier crop, but the important factor was the wide difference in quantity of early fruit.

POT GROWN PLANTS ARE BEST Dr. J. E. Knott, State College, Pa.

It has been recognized for many years that plants which have been grown in individual pots or containers matured a little earlier and more uniformly than those in flats or beds, even when the spacing was the same. This is due largely to the fact that there is little if any injury to the roots when set in the field. Each plant has its clinging ball of soil which contains the whole root system. This can be placed in the ground intact.

What crops to handle this way depends upon the price the grower can expect to get for the ultimate product in his particular market. Growing costs are increased somewhat, and we can readily see that it should be more profitable to grow an early tomato plant in this way than it would be a lettuce plant. Yet we have growers who feel they are justified in "spotting" lettuce seedlings into some type of band or pot because the reduction in root injury at setting time by their hired help and the quicker getaway of the plants means a few days earlier maturity. That may mean the difference between a good profit or even a loss in the spring crop.

Paper pots and bands are not popular with many growers, because of the yellowing of the plants. This is more pronounced with the tender crops such as tomato. One possible explanation for this is that it is due to a starvation of the plants for nitrates, if these are used by bacteria in rotting the paper.

Clay pots and tin cans do not have this disadvantage, tho with the former the breakage cost may be considerable.

Tests have been made at the college of the recently introduced pots made of compressed peat moss known as the "Growell pot" and the "Peco" pot. These are supposed to soak up water and feed it out gradually to the plant. However, unless they are surrounded with soil, peat moss, ashes or sand, the air passing by will dry them out as it will a clay pot. The roots penetrate thru the sides of these pots and if some light material surrounds the pots the whole mass can be lifted right up with little injury when you wish to put them in the field. If hard soil surrounds the pots many of these penetrating roots will be broken off, and the purpose of using them largely nullified.

We have not been entirely satisfied with the growth we have obtained in these peat containers since the manure was omitted in their manufacture. The pot goes into the soil with the plant and may eventually increase the humus content of the soil by a slight amount but the cost of the pot has to be charged pretty nearly all to the plant which is grown in it. Whether he can afford to pay close to two cents for a four inch pot for each plant, or can grow it more cheaply by using clay pots, tin cans or tin sheet bands, is a problem for each grower to solve. If you are selling plants to home gardeners you should be able to get a little more per plant if grown in pots of peat, and have better satisfied customers. They can take these home and plant them in their gardens with less check than if you grew them in clay pots, removed the pots, and allowed them the chance of breaking the block of soil in getting it home and into the ground.

It might seem as tho the best return from the use of these peat pots would come when we use them for crops which are hard to transplant and suffer if they are allowed to become pot bound. Melons, cucumbers, and the like fall into this class.

There is much we need to know about these pots before detailed recommendations can be made. The manufacturers state that they are slightly acid, so with certain crops we may need to use lime, others may require a little fertilizer in order to help the plants along and justify the cost of the pot.

FERTILIZING VEGETABLE CROPS

W. B. Mack, State College, Pa.

Commercial fertilizers are an essential part of the vegetable growers program, whether he has a supply of barnyard manure or not. Few commercial gardeners have a sufficient supply of manure, and few crops do so well on manure alone, that they will not do a little better if commercial fertilizers are added.

Fertilizer experiments on early cabbage, early potatoes, and tomatoes have been in progress at the Pennsylvania State College since 1917. The first crop is an example of a leaf crop which is planted as soon as the soil can be prepared; the second is a tuber crop maturing in midseason; the third is a fruit crop planted after the soil is warm, and taking advantage of the rest of the growing season. While one is not justified in drawing conclusions for other crops from the results on these three, yet some hints may be found in the response of these crops to various fertilizers. The conclusions on the given crops are applicable for soils similar to the one on which these experiments were conducted.

The value of complete fertilizer is shown in the experiments. Except for potatoes, nitrogen in readily available form was profitable. It increased both the early and the total yields of cabbage, and the early yield of tomatoes. Phosphorus and potash increased the early and total yields of all crops. The largest gains were for phosphorus, even for the heaviest applications in the experiment. Manure increased the yields of tomatoes and potatoes, but not of cabbage, as compared to commercial fertilizers.

The solidity of cabbage heads and the canning quality of tomatoes were not affected by different commercial fertilizers.

Heavy applications of manure lowered the flavor and acidity of the tomatoes slightly, but did not affect the quality of cabbage.

The gain for manure on tomatoes was greater when the rainfall was heavy in the early part of the season.

Dividing the application of nitrogen did not increase yields of any crop in the experiment. The chief benefit of nitrogen seemed to come very early in the season, and consequently a plentiful supply at first was better than repeated smaller applications.

The various facts indicate that an early crop cannot utilize manure as a source of plant food so well as crops requiring a longer season. Readily available nitrogen is more beneficial to early crops.

For early crops on medium to heavy upland soils, applications of complete fertilizer up to 1000 pounds or more to the acre, of a 4-12-4 or 4-16-4 mixture, will be profitable. The nitrogen may be reduced or omitted for midseason or late crops, especially if a cover crop or other organic matter has been plowed under.

Crops on light to medium soils will likely need more nitrogen and potash than they require on the heavy silt loam and clay loam in the experiments. The phosphorus may be relatively less. Half a ton or more of 4-8-4 or 5-10-5 mixture would be a good treatment for early crops, while 3-12-6 might be better for midseason or late crops.

Calcium nitrate and cyanamid have been as good as nitrate of soda for all crops, while tankage, dried blood, and sulphate of ammonia have not. The comparisons were on an equal nitrogen rather than an equal cost basis. Superphosphate is the best carrier of phosphorus. There is no difference between muriate and sulphate of potash, except in price, which is in favor of the former.

SWEET CORN AND THE CORN BORER

H. N. Worthley, State College, Pa.

Sweet corn is a valuable market garden crop in many sections of Pennsylvania. Growers are concerned, quite naturally, over the possibility that the European corn borer, now present in three-quarters of the area of the State, may become a serious limiting factor in the production of this important crop.

Pennsylvania Vegetable Growers' News

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VOL. 1

JULY, 1928

NO. 3

REAL NEWS

Two hundred dollars has been approved as premium money for vegetable exhibits at the Farm Products Show, Harrisburg, January, 1929! Yes Sir, that sum actually will be available.

Pennsylvania vegetable growers this is a challenge a double challenge if you please. First it is a challenge to put on a vegetable exhibit meriting so long and so liberal a premium list. Second it is a challenge to show the thousands of visitors who throng the exhibit floors at Harrisburg the kind of vegetables Pennsylvania growers grow.

But even more important, it is an educational opportunity of the highest order. We growers stand to be benefitted in direct proportion to what we put into it. Note that the majority of the classes are for commercial packs; that is you simply pack in the same type of package and in the same manner as for market. Thus packages, packing methods and products may be seen and compared to the mutual enlightenment of all concerned.

Further details will appear in the October News but the Premium List in full is being printed in this issue so that you may plan now to capture a whole string of FIRSTS.

GILBERT S. WATTS.

PREMIUM LIST FOR VEGETABLES

Farm Products Show—Harrisburg, 1929

CLASS I—

Best display of a variety of vegetables attractively arranged.

	First	Second	Third
	\$25.00	\$15.00	\$10.00

CLASS II—

Exhibits of the following vegetables, greenhouse grown:

Leaf Lettuce, Commercial Pack	2.50	1.50	1.00
Tomatoes, 2lbs	2.50	1.50	1.00
Radishes, 6 bunches	2.50	1.50	1.00
Rhubarb, 3 bunches	2.50	1.50	1.00

CLASS III—

Mushrooms, 3lb basket

White	4.00	2.50	1.50
Brown	4.00	2.50	1.50
Buttons	4.00	2.50	1.50

CLASS IV—

Exhibits of the following vegetables, Commercial Packs:

Beets (globe shaped)	3.00	2.00	1.00
Beets (half long or long)	3.00	2.00	1.00
Carrots (half long)	3.00	2.00	1.00
Onions (globe type from seed)	3.00	2.00	1.00
Onions (flattened type from seed)	3.00	2.00	1.00
Onions (Prizetaker, Bermuda, Spanish from transplants)	3.00	2.00	1.00
Parsnip	3.00	2.00	1.00
Salsify	3.00	2.00	1.00
Rutabagas	3.00	2.00	1.00

Sweet corn suffers more than field corn. In the older infested territory, sweet corn is more badly damaged than field corn. This is not because the former is more attractive to the egg-laying borer moths, but because the stalks of sweet corn are able to support fewer borers, and because the presence of one or two borers in an ear renders it unfit for sale.

Borer damage twofold. Direct damage to the ear is caused by borers tunneling about among the kernels. Holes in the husks denote a badly infested ear, but lightly infested ears cannot be detected without stripping down the husks. The damage is not confined to the tip of the ear, as is usual with the corn ear worm. Indirect loss is caused by borers in the cob and in the shank of the ear, as well as by those present in the stalk. The activities of these borers interfere with the normal functioning of the plant, which may result in poorly formed ears. Fifteen to twenty borers per stalk will cause collapse of the plant and total loss of the crop in sweet corn, while one of two borers present in an ear will hurt its sale.

How can loss be avoided? Except for a narrow strip along the lake shore in Erie county the European corn borer is not yet present in Pennsylvania in sufficient numbers to damage sweet corn to any extent. The whole fight which is being waged against the borer is aimed to prevent a serious increase in its numbers. For the present, Pennsylvania sweet corn growers are advised not to make any changes from the usual varieties, planting dates, etc., but they are urged to join the corn farmers in the effort to dispose of all corn crop refuse that may harbor living borers. The full grown borers pass the winter in corn stalks, stubble, and cobs, and if these are destroyed very few borers will live to reproduce the species the next year. A thorough cleanup each year may be expected to keep the borer in subjection.

Adopt these practises:

1.—Cut sweet cornstalks on small areas at the ground level as soon as the ears are picked, and feed green to livestock, or

2.—Cut more extensive areas as low as possible by hand or with a binder, and shred or ensile the fodder. Very few borers escape where this is done. Follow practise 1 or 2 if at all possible. If not,

3.—Fodder not cut in the field should be broken or mowed off in the spring, raked and burned.

4.—Finally, see that corn stubble land is plowed cleanly before May 1. Get all refuse under the surface. Pick up and burn whatever trash the plow fails to cover. See that all corn fodder is shredded or destroyed by May 1.

CALENDAR FOR VEGETABLE GROWERS

(Figured for central Pennsylvania. Southern Pennsylvania is ten days to two weeks earlier. Northern Pennsylvania ten days to two weeks later.)

APRIL—Set asparagus and rhubarb as early as conditions permit. Sow tomatoes, peppers and eggplants in hotbeds. Transfer tomatoes, peppers and eggplants started in greenhouse in March to frames. April 20, transplant cabbage, lettuce, cauliflower, etc., to open ground. April 20-25, plant potatoes, peas, spinach, onions, beets, carrots, and all cool vegetables. Sow celery seed in frames.

MAY—Cultivate unplanted areas of vegetable land. Secure equipment and materials for insect and disease control. Sow late cabbage seed. May 10, plant corn and beans. May 20-25, plant tomatoes and peppers, and other warm vegetables. May 30, plant melons, cucumbers, eggplants and lima beans.

JUNE—Cultivate to kill weeds before they start. Plant all the warm vegetables that were not planted in May, such as melons, pumpkins, squash, cucumbers, lima beans, eggplants, peppers, tomatoes, etc. Sow New Zealand spinach. June 10-25 plant late cabbage.

Turnips	3.00	2.00	1.00
5 Cabbage (Danish type)	3.00	2.00	1.00
5 Cabbage (Red)	3.00	2.00	1.00
5 Cabbage (Savoy)	3.00	2.00	1.00
12 Stalks Celery (easy blanching)	5.00	3.00	2.00
12 Stalks Celery (green variety)	5.00	3.00	2.00
3 Pumpkins (any pie variety)	3.00	2.00	1.00
3 Squash (any winter variety)	3.00	2.00	1.00

Worthy exhibits of other vegetables not listed above will receive ribbon premiums.

This is our own paper, a growers' paper. Here are contributions from three Pennsylvania vegetable growers. Mail Secretary W. B. Nissley, State College, Pa. an account of your experiences, ideas or complaints.

KINKS FOR 1928

G. E. Smith, Ex-Pres. V. G. A. of Pa.
Bethlehem, Pa.

Plainer than ever are we impressed with the fact that we must see a market reasonably certain before planting a crop. Our markets will take 20 to 40 bushels of spinach and on May 18th some of us extra early fellows had 50 or 60 bushels and received half price for it.

We had our rows open for peas and planted the main crop of second early, on March 7 about a week before the frost was out of the ground, during the day it thawed a little and was windy and enough dry soil could be scraped up with a hiller to cover them. They came up well, blossomed earlier than my neighbors, and will all be sold before others arrive.

Just this year we realize that a cultivator shovel has but little use among vegetables. Many a time we have stood back anxious about the crop as it became necessary to run a cultivator shovel near the row, as deep as the seed was planted. Now we are doing it mostly with discs, which scrape the top and disturb the roots but little. Discs set deeper on the outside and shallow next the row prepare what seems to me to be the ideal plant bed. We are not afraid to run discs shallow when the crops are well advanced.

I have been practicing green manuring faithfully but now am beginning to inquire whether commercial fertilizers do not have a place in the sun above green manure. Possibly one-half ton of acid phosphate per acre will grow more crops than a green manure crop showing a fertilizer value of \$50 present in the green manure crop.

The maggot gun is a wonder. The job is done in less than half the time. It will care for a row of radishes or turnips at a slow walk if the operator, when a six inch nipple and a service L are attached to it, which equipment is needed for all operations.

LABOR SAVING DEVICES AND METHODS ON AN OIL COUNTRY MARKET GARDEN

P. A. Ross
Bradford, Pa.

Our farm contains about ten acres and is located just outside the limits of a city of 18,000 population and is on the banks of a large creek that floods over our land every year. This assures good soil and a plentiful supply of every weed that was ever invented. The season here is short hardly ninety days between frosts, as we are located 1400 feet above sea level.

We grow 26 varieties of vegetables and practice intercropping to the last degree, our garden is planned in the winter and the location of our crops is changed every year. We apply ten to twenty tons of

manure to the acre according to the requirements of the particular crop. Our land is also limed accordingly. Our spinach crop gets first shot at the lime. We also use nitrate of soda on our spinach and other crops that respond to it profitably. We use several tons of complete fertilizer that contains an abundance of phosphate.

We plant our hardy crops such as beets, carrots, onions, spinach, lettuce etc. as early as possible in rows 28 inches apart, planting nearly our entire land, only reserving enough to assure us a succession of some of above crops. later on when its time to plant corn, tomatoes, cauliflower, etc., we distribute fertilizer between rows with Planet Jr. distributor and then tear up the soil with Bolens tractor. This mixes the fertilizer with the soil, destroys the weeds, and gives us fresh stirred soil for planting sweet corn, tomatoes, cauliflower, celery, peppers, and all long season crops. The rows are now 14 inches apart. Our cultivating is taken care of with wheel hoes when plants are small and with tractor thereafter. We conduct our warfare on diseases and insects with Peerless duster. We use best strains of seeds and tryout everything new to find something better.

The earliest hardy crops will be out of the way before the long season crops take full possession of the soil. It must be understood that some vegetables will not grow well with others of a different family. Our land is prepared with hired teams. All other work is done with labor saving devices of various kinds in our own equipment. I will enumerate them in the order of their importance on our type of market garden. 1st Planet Jr. seeders and wheel hoes. 2nd Multibrush washer, 3rd Bolen tractor, 4th Saxmayer bunch tyer, 5th Peerless duster, 6th Meeker harrow, 7th Bruner weeder and other devices of our own make which are subject to only occasional use but which are nevertheless important. As a result of the adoption of some of the later devices we are operating with about a third of the help formerly required.

Would say that we are subjected to competition from large city market and cheaper growing districts via long haul trucks, but by maintaining a high standard of quality and supplying our market with clean fresh looking produce, we not only hold our market when we come on, but can obtain higher prices.

THE ART OF RAISING CELERY

Ralph K. Garrahan
Forty Fort, Pa.

Here in Luzerne County the seed for early celery is sown about the first of March. We find that the better method is to prepare a seed bed at one end of the greenhouse bed rather than sow the seed in flats. The seed is sown in drills about 1/4 inch deep and covered lightly with sand, the seed bed covered with burlap and watered thoroughly. The soil must be kept damp until the seed sprouts which will be in ten days or two weeks, then the burlap is removed and the bed watered to wash off the sand. Then keep the plants growing by proper watering and cultivating between the rows until they are big enough to transplant.

When the rough leaves appear the seedlings are transplanted into flats, spacing them either 1 1/4 or 1 1/2 inches apart each way. The flats are kept in the greenhouse for two or three weeks and then carried out to the cold frames where the plants are kept growing by careful watering and ventilation until they are set out in the field. It is also necessary to dust or spray the plants with Bordeaux mixture while they are in the cold frames so that they will be free from blight when they are set in the field.

As soon as all danger of frost is over, usually about the middle

of May, the plants are set out in the field. We prepare the celery field by applying a heavy coat of manure and sowing rye the preceding fall. In the Spring another application of manure is given the field and the rye plowed under. After the soil has been worked into good condition by harrowing and smoothing the rows are marked out 30 inches apart and the celery planted 6 inches apart in the row. After the plants are established we apply 4-8-10 fertilizer along the rows, a ton to the acre and in a week or two apply nitrate of soda along the rows, 400 pounds to the acre. Celery must be cultivated thoroughly and often. This is best done by means of a riding cultivator, although a single horse cultivator will do no harm. Cultivation is started as soon as the plants are set in the field and continued until the crop is dug up for market.

After the plants have been in the field a few weeks they are sprayed with a 4-4-50 solution of Bordeaux and then sprayed every ten days or two weeks until the crop is harvested.

An irrigation system is also necessary to raise celery. We use the Skinner System of overhead irrigation and have portable lines so that they may be carried from one end of the field to the other as needed.

As soon as the celery is big enough we bleach it for market by using boards and paper. During the warm weather celery will bleach in about 10 days in the boards and in about two weeks in the paper. As the weather gets cooler it will take longer for the celery to bleach.

When the celery is bleached we tie two stalks in a bunch with a Felins tying machine, wash it, pack it in crates and send it to market. The last few years we have been getting from 75 to 90 cents per dozen bunches and get about a thousand dozen from an acre.

For the early celery we raise nothing but C. E. Garrahan's Easy Bleaching and find it to be far superior to Golden Plume in blight resistance and quality.

Practically all of our late celery is C. E. Garrahan's Easy Bleaching although we do raise an acre or two of French's Success for real late. The seed for the late celery is sown out in the open as soon as the ground can be worked and as soon as the plants are big enough they are set out in the field. This is usually about the first of July. For late celery the rows are 36 inches apart and the celery planted six inches apart in the rows. The late celery is kept in a good healthy growing condition by spraying, watering, and cultivating the same as the early. An application of 4-8-10 fertilizer is applied along the rows after the celery is established but no additional nitrate is added as in the case of early celery.

About the first of October the celery is hilled up with a celery hiller and then in a week it is hilled up a little higher. During the last week in October the celery is stored in trenches and the trenches covered with boards nailed in a V shape. As the weather gets colder the trenches are covered with manure to keep the celery from freezing. Care must be taken not to put too much covering on the trenches or the celery will be kept too warm and bleach too soon.

After the celery is bleached it is hauled out of the trenches into the packing shed as needed and prepared for market. By these methods we have celery from August until February.

1928 CONVENTION

VEGETABLE GROWERS' ASSOCIATION
OF AMERICA

SOUTH BEND, INDIANA, SEPTEMBER 10-14

PENNSYLVANIA VEGETABLE GROWERS' NEWS

Published quarterly by the Pennsylvania Vegetable Growers' Association.

OFFICERS

President, Gilbert S. Watts, Bellwood, Pa.; Vice-President, J. M. Huffington, State College, Pa.; Secretary-Treasurer, W. B. Nissley, State College, Pa.

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IMPORTANT NOTICE

In Article III Section 1 our Constitution provides that the annual dues be \$2.00. At our last meeting a motion was made and carried to reduce the annual dues to \$1.00 for a period of a year. It was hoped that a larger membership could be secured as a result of the reduced fee in as much as many vegetable growers also are members of one or more other growers organizations. At the next meeting we shall hear how the reduction has worked.

It now appears that the action taken last January was not in accord with our Constitution which provides in Article VIII that: "The Constitution and By Laws of this Association may be amended by a two-thirds vote of the members present at any annual meeting provided that notice of such proposed amendment is included in the call for such meeting." No such notice was given last year.

As matters now stand if no further action is taken the \$2.00 fee provided by the Constitution automatically will be in effect another year. In order that this may be changed, if it is the wish of the majority to make a change, the Secretary, as required by the Constitution hereby notifies members of the Pennsylvania Vegetable Growers' Association that action will be taken during the January meeting on a proposed amendment to reduce the annual dues to \$1.00.

W. B. Nissley.

PENNSYLVANIA GROWERS AT NATIONAL MEETING

The 1928 Convention of the Vegetable Growers Association of America, held at South Bend, Indiana, September 10-14, met with a number of our members present; C. E. Garrahan, Bill Evans, Bob Walton, Gilbert Watts and several others whose names we are sorry we do not have. Indications are that the next Convention of the V. G. A. of A. will be in an Eastern city, possibly New York, in which event Pennsylvania Growers should turn out en masse. Ask the fellows who have been going whether any live grower who specializes in vegetables can afford to miss these meetings.

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PROGRAM SHAPING UP FOR JANUARY MEETING

Several strong speakers already have been "signed up." Every effort is being made to bring this program up to, and if possible above, the high standard of the good programs which we always have enjoyed. Full details of the program, a reprint of the vegetable premium list and other last minute information about what will go on of interest to vegetable growers in Harrisburg, January 15 and 16 will go in an "Extra" edition of the News about January first. And don't forget there is absolutely going to be a vegetable growers' dinner and there positively ain't goin' to be no long winded speeches whatsoever. You can come expecting to enjoy yourself. Particulars later.

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SAVE VEGETABLES FOR THE SHOW BEFORE IT IS TOO LATE

Now is the time to set aside fine squashes or pie pumpkins and to store selected cabbage, celery, root crops and so forth. There is no question about this vegetable show, it is going to be, that is sure. Several already have given assurance that they will exhibit. Remember the premiums really are substantial, two hundred dollars in all with separate classes for greenhouse grown products, for mushrooms, for the various outdoor vegetable crops, and a class for the best display of a variety of vegetables attractively arranged.

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PITTSBURGH GROWERS MAKE TOUR

The latter part of August the Pittsburgh vegetable growers motored to State College on a two day tour and stopped at several vegetable farms. The tour went over big with 85 growers taking part. This proposition of learning by seeing is getting to be a great thing. When Pittsburgh growers alone can come out so

strong why can not the Association as a whole arrange a profitable tour next summer? Let's talk it over at Harrisburg.

What are other local associations doing? If we knew their stories we would print them. Won't the secretaries of the Philadelphia Association, the Indiana County Association, the Monroe County Association, the Erie County Cabbage Growers' Association and others send their news to the secretary of the State Association.

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PENNSYLVANIA VEGETABLE GROWERS INVENTORS

Every vegetable grower is a sort of inventor at some time or other. Unique home made devices, special tools, irrigation apparatus, washers and other means for saving labor and time are common among growers.

Mr. P. A. Ross, 142 W. Corydon St., Bradford, Pa., has on the market a vegetable washer.

Mr. Furman of Northumberland, Pa., is the inventor of a maggot gun, used to apply corrosive sublimate to early cabbage, onions, radishes, turnips, etc. This gun is handled by S. T. Post, Northumberland, Pa.

The Philadelphia growers have a home-made celery washer that is in common use in their section. They also have a special machine for applying celery bleaching paper.

These are only a few of the outstanding devices. If you have some home-made device that might help other growers send a description of it for a later issue of the News.

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EARLY SWEET CORN GROWERS ATTENTION

Allegheny County growers found the rather new variety Burpee an unusually desirable extra early yellow sort, approximately two weeks ahead of the old type Golden Bantam. Quality is considered good. In the same section Whipples Yellow is popular. The ears are large and come on earlier than Bantam. Possibly quality is scarcely as good as Bantam.

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GET THE MONEY OUT OF LATE CABBAGE

All forecasts point to greatly reduced yields of late cabbage this fall. It will be a good time to watch closely market quotations from the large consuming centers and to go slow on cutting prices.

ARE YOU READY FOR PLANT GROWING OPERATIONS?

If a sash or other plant house is to be built, or the old one needs repairs, the job will be easier and go faster now. Are hotbeds and coldframes ready for use? How about soil for plant growing? It is mighty nice to have an abundant reserve stored under shelter where it will not be soggy when needed. By the way is there water in the tractor radiator or in any parts of the sprayer pump or pipes? Thousands of dollars of damage in such equipment is suffered each year when Jack Frost sneaks around some fair night. If you don't believe this visit some farm engine or pump foundry next January and see the stock of replacements being made up for the rush orders that come every spring sure as the birds.



BOOST OUR MEMBERSHIP

The Pennsylvania Vegetable Growers' Association now has perhaps two hundred members. We must admit our Association is young, it is only a few years since it left the parent Horticultural Association. Nevertheless we could and should have a membership two or three times larger than it is at present. At the national Convention growers from various states were asked to report doings of their respective state associations and to state approximate numbers of their members. In proportion to the importance of Pennsylvania as a vegetable growing state our Association lagged away down the list. Doubtless this is because most of us are producing for local markets and it is much easier to secure large memberships in regions which grow primarily for shipment. Be that as it may we must have a larger membership if we are to represent adequately the vegetable growing industry of Pennsylvania. Long distance truck shipping is bringing outside produce into every part of our State daily. Competition for our markets, which are among the best in the world, is exceptionally keen and there is not one of us who has not felt its pinch.

We can not head off competition but we can gather together in larger groups to study our common problems, to exchange up-to-minute facts on varieties, sources of seed and so forth and last, but by no means least, to gain the enthusiasm that comes from the renewal of old friendships and the making of new acquaintances with the live men in our business. Let every one of us bring grower friends into the Association. Start now getting them to thinking of coming along to the meetings in Harrisburg.

**End of
Volume**