

VIRGINIA AGRICULTURAL EXTENSION SERVICE

Horticulture 16, Vegetables

PLAN OF WORK

For

1961

Major phases of project or subdivisions of project covered	Name of Worker	Percentage of time devoted to entire project by each worker
16, Vegetables	L. W. Faddema	100
	F. H. Scott	80
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Date approved: Jan 9, 1961 Signed: Wesley P. Jenkins
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General Outline of Plan of Work for Vegetable Project

The work of the vegetable Extension specialists includes work with the commercial production of vegetable crops and the home garden. In order to make the work more effective the vegetable project is divided into five phases: home garden, tomato, potato, sweet potato and miscellaneous truck crops. Vegetable Extension horticulturists work in all five phases of the program.

The plan of work for 1961 is based upon a careful analysis of the conditions surrounding each of the project divisions, the requirements of the county Extension personnel and the experiences of the specialists.

Virginia's 1960 commercial vegetable crops for fresh market and processing had a value of 24.4 million dollars, a decline of about 5% from last year.

Potatoes ranked first in value at 8.3 million dollars and sweet potatoes were second with a value of 3.4 million dollars. Next in line were snap beans at 2.3 million dollars, tomatoes at 2.9 million dollars and cucumbers at 1.2 million dollars. Cabbage reached the million dollar mark.

Acreage of these crops was 104,950 acres, slightly less than in 1959. The acreages planted to sweet potatoes, snap beans, sweet corn, cucumbers and peppers declined and only the acreage of watermelons was increased.

The number of commercial vegetable farms in the Norfolk area continues to decline, while the acreage of truck crops continues to rise on the Eastern Shore.

Irrigation is becoming more important to the vegetable growers. Lack of rainfall during the growing season last year reduced yields considerably.

Following is an outline of the five phases of the vegetable project giving the situation, major problems, work to be done, results expected, and projected program needs. This approach to the project is necessary because the situations and problems of the five phases are so varied.

Home Garden

The home garden is a very important source of food on most farms in Virginia. Estimates place the number of gardens at 175,000 and the total value at \$30,000,000 annually. In addition to its monetary value, the home garden has a beneficial influence upon the diet of our Virginia people. There is a growing interest in the home garden in most urban areas in Virginia at the present time.

A. Analysis of the Situation

1. There is a lack of appreciation for planning the home garden.
 - a. To more nearly meet the dietetic requirements of the family, and
 - b. To provide a suitable supply of vegetables for a longer period of time.
2. Most home gardeners do not realize the value of proper fertilization and other cultural practices.

3. The production and quality of vegetables from the average family garden are considered low.
4. Families are not producing enough of their home food supply in the garden.
5. In some sections of the state, where cash crops are being reduced each year, there is a greater need for more and better home gardens.
6. The facts needed to determine the problems of the home gardens are not available.
7. The number of 4-H club members with garden projects has declined for the past several years.

8. Major Problems

1. Planning the home garden to satisfy the family diet and augment the food supply.
2. Realization of the value of the late summer-fall garden.
3. Make use of available information on gardening to produce maximum yields. Following directions is a necessity particularly on the following topics.
 - a. Cultural practices.
 - b. Adapted varieties.
 - c. Control measures for insects and diseases.
 - d. Fertility practices.
 - e. Nutritional values.
4. Interests generally fall with the advent of hot weather.
5. Not all local seed sources carry the recommended varieties adapted for highest yields and palatability.
6. The home garden should serve to provide fresh produce regardless of the income level.

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C. Work to be Done and Methods of Procedure

1. Assist county personnel conduct training meetings during the winter-spring season. Stress need for larger audience to include both the novice and veteran garden enthusiast.
 - a. Garden meeting should cover several topics.
 - b. Several specialists should be available to cover various segments of garden production.
 - c. Publicity should precede meetings to attract all potential gardeners.
 - d. Follow-up meetings will be designed to be educational and current yet allow for question and answer period for airing gardening problems.
2. Promote a judging school to train interested gardening people to learn vegetable varieties and grades so that they may serve as local judges for fairs.
3. Encourage formation of garden clubs which would be composed of both flower and vegetable gardeners.
4. Promote gardening as a hobby to attract both young and old. Perhaps the 4-H program would receive stimuli from interested parents.
5. Stress importance of the garden in diet, income supplement both in providing for the home and for possible sales.
6. Provide timely newsletters to county personnels for distribution to all interested people of the counties.
7. Encourage visits and promote tours of the V.F.I. Horticultural Farm to show what is going on so that these people will obtain a clear understanding of the techniques employed in production practices.

D. Results Expected and Methods of Measuring

1. Additional counties develop a county garden program involving more people.

2. More interest and a greater appreciation of the value of the home garden.
 3. More participation by 4-H club members in the garden projects.
- Indications of the results should be indicated by:
1. Increased enrollment in the 4-H garden project.
 2. More requests for assistance in planning and other problems by county Extension agents.
 3. A larger attendance at tours and leader training meetings, more exhibits at fairs.

K. Projected Program Needs

1. Assistance in preparation of visual and illustrative materials that will make the garden more attractive and interesting to adults as well as 4-H club members.
2. Develop contests, judging and demonstration teams and projects relating to the garden which are well integrated into the 4-H club program.
3. To assist county Extension agents in developing county programs and plans of work based upon the situations in their respective counties.
4. Work more with industry serving farmers including seedsmen, fertilizer and farm machinery dealers in an effort to acquaint them with the value of the home garden, in addition to working with them on the production and marketing of commercial vegetables.
5. Obtain more assistance from other Extension departments in developing programs and materials, and in working with county Extension agents.

Potatoes

A. Analysis of the Situation

The 1960 acreage of potatoes was 35,400 compared to 33,900 acres for 1959. Most of the increase in acreage has taken place in

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the Eastern Shore area while the acreage in the Norfolk area remains fairly steady. Farmers are faced with greater competition from other areas each year. Many Virginia farmers have installed washing equipment and are packaging their potatoes in consumer size packages. Virginia farmers continue to harvest potatoes before they are fully matured.

The 1960 acreage of potatoes was 35,400, up 1500 acres from 1959. Eastern Shore farmers planted slightly more, while those in the Norfolk section planted about the same acreage. Potatoes are being grown on fewer farms with larger acreages. Many of these larger farms are beginning to irrigate and to process their own crop. Processing includes washing, grading and packaging in consumer sized packages.

Yields on the Eastern Shore were higher than in 1959, but prices average \$1.70 per cwt. compared to \$3.11 per cwt. in 1959 for the early crop.

Table I - Acreage, Yield and Production of Potatoes in Virginia 1956 to 1960

Year	Acreage	Yield	Production 1000 cwt.
1960	35400	133	4718
1959	33900	100	3401
1958	35000	107	3747
1957	36100	89	3215
1956	34500	110	3784
1946-55 ave.	39000	101	3970

Per capita U. S. consumption of potatoes for 1960 was around 100 pounds - 77 fresh and 31 processed. Attractively advertised new potato products, such as "instant whipped potatoes," cubes, granules, flakes and frozen prepared meals have helped to increase the average consumption of potatoes.

Supplies of storage potatoes in the late producing states may offer the Virginia crop more competition in the future.

They have better storage facilities and are using sprout inhibitors. In addition, the potato diversion programs are being changed somewhat.

In general, Virginia growers of commercial potatoes do a better job of growing the crop than they do in harvesting and marketing.

B. Major Problems

1. Production of a low yielding, low quality early variety.
2. Grading to the lowest possible standards of the U.S. No. 1 grade.
3. Persistent digging of immature potatoes.
4. Selling No. 2 grade at prices often below growing cost.
5. Rough handling all during the harvest.
6. Failure to assume some responsibility for the product once it has left the premises.
7. Digging without a buy order and having little or no storage facilities.
8. Failure to heed buyer and consumer demands for quality.

9. Failure to follow their product through marketing channels to see what the consumer is offered for purchase.

10. Ignoring suggested planting acreages to maintain prices.

C. Work to be Done and Methods of Procedure

1. Undertake an educational program to promote:

a. Digging when potatoes are mature.

b. Dig and remove potatoes from the field during the cool hours.

c. Washing or brushing.

d. Use of consumer sized packages.

e. Pack a uniform size per consumer package, avoid small and large potatoes together in the same 5 lb. bag.

f. Wait for purchase orders before digging.

g. Handle potatoes gently at all times, avoid bruising.

h. Find out what the potatoes are like when offered to the consumer.

i. Assume a degree of responsibility for the potatoes once they leave the farm.

2. Growers and dealers must work together to produce and present a high quality product that is desirable for public consumption in order to compete with stocks in competition from more distant points.

D. Projected Program Needs

1. Establish insect and disease control measures that will meet all the specifications of the Pure Food and Drug act by working closely with entomologists, plant pathologists and the industry.

2. Integrate the production of potatoes into the operation of farms on a permanent basis and help stabilize production by working more closely with the county Extension agents in planning programs and developing farm plans.

3. Develop more subject matter in attractive form for use in county Extension program. This work is to be done in cooperation with the agricultural engineering, agronomy and plant pathology departments and the Virginia Truck Experiment Station.

Sweet Potato Program

A. Analysis of the Situation

Virginia farmers grew 20,000 acres of sweet potatoes in 1960 compared to 22,500 acres in 1959. Total production was 12% less than last year but 35% more than the 1949-57 acreage.

Yields in 1960 averaged 98 cwt. compared to 87 cwt. in 1959 and 78 cwt. for the 10 year period 1948-57.

Prices in 1960 averaged \$1.65 per cwt. compared to \$1.98 in 1959.

Table II - Sweet Potato Acreage, Yield and Production in Virginia in 1960 and Comparisons.

Year	Acreage	Yield cwt.	Production 1000 cwt.
1960	20000	98	1960
1959	22500	87	1958
1958	19100	89	1700
1957	18400	90	1656
1956	16900	78	1318
1946-55 ave.	16900	76	1287

Virginia growers have increased storage facilities during the past two years, but additional space is still needed.

Varieties being grown have low yields and poor storage qualities. Last year, farmers complained about the poor quality at harvest and this was reflected in the prices they received.

Several new outlets for off-grade sweet potatoes helped boost prices in 1960.

B. Major Problems

1. Lack of sufficient storage facilities to maintain a decent price without breaking the price during and after harvest.
2. Having a good source of seed stocks available to growers.
3. Mechanical injury due to careless handling during and after harvest.
4. Grading to the minimum requirements of a grade.
5. Bulk packaging.
6. Few outlets for oversize and misshapen roots.
7. The perfect "all purpose" variety still unavailable.

C. Work to be Done and Methods of Progress

1. Encourage erection of more and better storage facilities.
 - a. Stress effect on prices on potatoes caused by "gird."
 - b. Seek improved structural designs for buildings.
2. Point out advantages in careful selection of roots for seed sprouting.
3. Stress importance of careful handling to insure the consumer gets a highly favorable product.
4. Grading should be to high standards and not to minimum requirements. Roots of equal size in each consumer pack. Stress the importance of this factor to the average housewife.

- 5. Advocate visiting packing sheds so that growers can see their product being handled and the problems being encountered.
- 6. Avoid bulk packaging - aim for a quick turn over market of the chains. Individual small packages saves repeated handling and thereby decreases mechanical injury.
- 7. Continue the variety evaluation and variety testing problems, the object being a better sweet potato for our area.

D. Results Expected and Methods of Measuring

- 1. An increased number of bushels of sweet potatoes grown and stored.
- 2. An improvement in the quality of sweet potatoes together with more favorable prices.

E. Projected Program Needs

- 1. Work more closely with other Extension departments to develop plans for better storage and more subject matter.
- 2. Interest sweet potato buyers in helping to improve quality of sweet potatoes.
- 3. Interest farmers in giving more attention to their seed supply, and possibly inducing more of them to begin hill selection for seed stock in their own fields.

Tomatoes

A. Analysis of the Situation

Tomato growers planted 14,000 acres in 1960 compared to 13,500 acres in 1959. Yields increased from 70 cwt. in 1959 to 96 cwt. in 1960. Prices increased 36 cents per cwt. to \$2.16. As a result the total crop was valued at 2.9 million dollars compared to 2.2 million dollars average for the years 1950-57.

Table III - Tomato Acreage and Yield for Fresh Market and for Processing in 1960 and Comparisons

Year	Acres		Yield in cwt.	
	Fresh	Processing	Fresh	Processing
1960	5000	9000	95	96
1959	5500	10000	70	70
1958	7200	12000	80	80
1957	5400	10100	100	84
1956	4400	14000	71	81
1955	5000	12500	111	86
1954	7300	13700	69	74
1949-53 ave.	5040	15400	98	87

The yields of tomatoes are somewhat lower than the yields in Pennsylvania and Maryland but above North Carolina and other southern states. Many successful growers are obtaining yields much higher than the averages. For years, farmers in Virginia have depended upon plants grown in the southern states for their early crop. These plants are inferior to home grown plants that can be transplanted immediately. There is also a serious lack of buyers for the fresh crop.

Canners are having difficulty because (1) the low quality of tomatoes adds to their costs and (2) a weakness of the market for canned whole tomatoes resulting from a consumer preference for other types of processed tomatoes.

B. Major Problems

1. Low average yields.
2. Low quality of tomatoes.
3. Need additional markets.

C. Work to be Done and Methods of Procedure

1. Educational meetings with growers. County agents arrange meetings in their respective counties and specialists provide subject matter including the latest cultural practices.
2. Prepare a series of letters containing timely information on cultural practices and furnish the county Extension agents for mailing to growers.
3. Work closely with other departments in developing plans for demonstrations on disease and weed control demonstrations.
4. Assist county Extension agents on contacting and locating additional buyers for fresh tomatoes.
5. Assist county Extension agents to demonstrate value of home grown plants.
6. Continue to work with chambers of commerce, canners, growers and other groups in an effort to revitalize the tomato industry in Virginia.

D. Results Expected and Methods of Measuring

1. Increase yield of tomatoes.
2. A 20 percent increase in the number of farms using spray materials to control insects, diseases and weeds.
3. A substantial increase in number of 4-H club members completing the tomato project.
4. Increased attendance at educational meetings.

E. Protected Program Needs

1. Work with other Extension departments in setting up a spray program that will more nearly control diseases, insects and weeds, and to outline demonstrations that can be conducted by county Extension agents.
2. Assist counties, where tomato production is large, in developing a program that involved all of the recommended cultural practices, including weed control.

Miscellaneous Truck Crops

Miscellaneous truck crops are all vegetable crops of commercial importance in Virginia, except potatoes, sweet potatoes and tomatoes.

A. Analysis of the Situation

The total acreage planted to miscellaneous truck crop continues to decline slightly. The acreage of some of these crops is increasing while others continue to decline. The total acreage was approximately 41,950 acres in 1960. The total value of these crops is approximately \$7,897,000 annually.

As in most of agriculture, marketing practices are changing rapidly. Many growers are not financially able, or temperamentally suited to adopt some of these newer practices.

B. Major Problems

1. Need better marketing practices and facilities.
2. Insects and diseases reduce quality and yield.
3. Short harvest seasons.

C. Work to be Done and Methods of Procedure

1. Work with Agriculture Economics Department to develop better marketing practices.

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2. Prepare information on production.
 - a. Revise production circulars on 10 vegetables.
 - b. Continue preparing, printing and distributing "The Vegetable Growers News" (4,000 copies each month). Most of the articles to be written by staff members of the Virginia Truck Experiment Station.
 - c. Assist county Extension agents in developing market outlets.
 - d. Work with other Extension departments on insect and disease control problems.
 - e. Encourage the use of better adapted varieties and different planting dates to prolong the marketing season in an effort to attract more buyers.

D. Results Expected and Methods of Measuring

1. Better cooperation among growers in marketing.
2. An increase in the number of farmers packaging in consumer type packages.
3. A continued demand for more information on production practices.
4. No further reduction in acreage.

E. Projected Program Needs

1. By working more closely with grower groups through the county Extension agents and with organizations such as the Virginia Food Council, chambers of commerce and county boards of agriculture, a better appreciation for improved markets and more fresh vegetables can aid greatly in bringing about better conditions.
2. Obtain assistance of other Extension departments in developing projects and demonstrations related to the several departments.
3. Cooperate with local groups who are interested in developing terminal and wholesale facilities.

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4. Attempt to secure cost data, both on production and marketing of the various crops, which is needed to show farmers how they can make adjustments to increase their incomes.

The specialists will work with the county Extension agents, and district Extension agents in setting up programs in the counties.

All available subject matter will be provided county Extension agents for meetings, demonstrations, contests and program development. Particular attention will be given to combining the vegetable Extension program with programs of other Extension departments, with Extension program planning and farm and home development programs.