

made to the therapy of past failures. In that time one will find the biology teacher working with all of the agencies in the community, understanding the programs of all of these, maintaining with all groups and agencies in the community a program which will insure that no phase, no aspect of the building of tomorrow's citizens will be neglected.

THE VICTORY GARDEN AND BIOLOGY¹

"M" day last December was important in the annals of national gardening. Abruptly home gardening became a community necessity. "Defense" gardens became "Victory" gardens. Suddenly the Department of Agriculture requested another million and a quarter more farm gardens raising the total to seven million. Seed men mobilized. Their invoice of the national seed arsenal reveals that it will be adequate.

"M" day also affected the biology teacher in this movement, especially in the urban areas. As spring advances inquiries regarding garden information become more frequent. To answer these inquiries biology teachers are planning a number and variety of contacts. Some plan a series of lectures or symposia on gardening and garden problems; other biologists are setting up demonstration cold frames; model gardens for demonstration purposes are being set out after the danger of frost is past; and others are furnishing seed packets at nominal cost. Others are mimeographing sheets of detailed instructions, handbooks and similar material. Some issue plans for different sized gardens.

¹ The writer will gladly answer any inquiries relative to sources of material or other questions regarding the Victory Garden movement. Be sure to cooperate with your Civilian Defense committee in this work.

The following are a few of the activities and projects which biology teachers may initiate or sponsor to aid in the garden movement.

Community Gardens. In addition to family gardens the biology teacher should sponsor community gardens and neighborhood gardens. There are four essentials for this, namely: land, seed, equipment, and labor. If any one is deficient the project will be handicapped. Be certain that the soil is fertile and workable; the seed source reliable and funds available for purchase of seed in quantity. The equipment must work at maximum efficiency to succeed and labor must have technical direction and careful supervision. The biology teacher should function in this capacity.

Visual Aids. The National Garden Bureau has colored films and slides available for distribution. These may be secured at the cost of return transportation and insurance. They have an attractive poster available at a price of a few pennies. The address is 407 S. Dearborn, Chicago.

Demonstration Garden. Plan and plant three plots of ground. One, with the vegetables needed for a student trial garden, will include from seven to nine vegetables. Another plot, with the vegetables suitable for a family garden, will include about a dozen and a half varieties. Another plot has the vegetables suitable for a truck area. Have signs or student guides for visitors.

Demonstration Cold Frame. Set up a cold frame and have growing seeds for plant seedlings. The demonstration should have suitable signs explaining how the frame is set up and an instruction sheet on how to operate it. Have the demonstration garden and the cold frame demonstration set up in an area available to visits by the public.

Seed Sales. There are agencies which

supply seeds in packets for distribution to school children. They are generally non-profit organizations, furnishing the seed at cost to the pupils. There may be sufficient demand for certain types of seeds so that you may serve as a clearing house and purchase seeds in quantity, saving the individuals the cost of purchasing smaller quantities. You should however see that seed is used economically.

Seedlings for Distribution. Set up a hot bed or cold frame and grow seedlings of the various vegetables. These may be sold at a nominal price to cover the seed cost.

Publicity. Secure the cooperation of your local newspaper on the Victory Garden campaign. Write the articles yourself or have some one help you. If you are unable to do this, contact agencies which supply such a service to the publications, some of them free.

Garden Symposium. Members for this may be interested faculty members and others from the community. Topics for discussion might be: selection of site and planning, soil condition and availability of water; vegetables suitable for the area, easy of culture and common to the community as a suitable food; seed transplanting and other related facts; harvesting, preserving, storage.

Bibliography. Have students prepare a bibliography of books available in the library. Popular current magazines which have gardening articles should also be included.

Bulletins. Each of the forty-eight states has pamphlets available on gardening. These may be procured from the State Department of Agriculture or the State Experimental Station or Agriculture College. The states of Iowa, Kansas, New York, Kentucky and many others have as many as six or more pamphlets on gardening and related topics.

The biology teacher should procure these, as well as publications from the Department of Agriculture and keep them on file for reference and convenience of the community.

Gardening a Biology Unit. Plan a unit on gardening for the spring semester of your biology course. The major objective would be: To learn how to plan and plant vegetables for the different sized victory gardens. The aim is to utilize the available space to best advantage to produce a maximum yield of desirable vegetables. The first problem might be: What are the purposes for planting and the advantages in preparing such a garden? The second problem might be: What is a desirable list of twenty-five vegetables which will grow well in this community and what cultural information is needed for each vegetable? A third problem could be: What plans should be made and what vegetables grown in a small student garden, a family sized garden and a truck garden? Problem four: What facts should be known about seeds, germination, seedlings and cold frames? Problem five: What are some of the important cultural notes and specific information for particular vegetables which would aid in the gardening program? Problem six: What are some of the different methods for preparing foods for cooking, preserving or canning, storage, and other methods for keeping the vegetables until a time when they may be utilized?

Encourage Kitchen Herbs for Gardens. The old-fashioned kitchen herbs are being revived and gaining in popularity. Neighbors might easily turn specialists each to exchange his own specialty with his neighbor. One individual found attractively packaged sage an excellent Christmas gift and greatly appreciated. Kitchen herbs make excellent seasonings for dressings, meats, or fish;

aromatic flavoring for gravies; garnish for salads; pungent scents to preserves and a spicy tang to summer drinks. Prepared herbs are obtained from various parts of plants including dried flowers and leaves, young shoots or bulbous roots, and one or two from bark and twigs. Some herbs listed in your seed catalogues are camomile, thyme, hoarhound, lemon and rose geranium, chives, parsley, Hamburg turnip, Rosemary, rue, and Tarragon "Epicure."

In conclusion, the food problem will be one of the factors in winning the war and some state in writing the peace. Be judicious about the projects. Utilize waste or idle land in place of plowing and digging up existing beautified landscaped areas which are just as essential to morale. Use seed judiciously, buying the quantity which has been computed previously as being sufficient for your needs. Substitute some other variety if a specific variety is scarce or difficult to obtain, even substitute other vegetables if you have difficulty obtaining certain seed varieties. The biology teacher must remember that even if he does not have actual gardening experience there are still numerous ways he can be of assistance in the movement.

M. C. LICHTENWALTER,
Lane Technical High School,
Chicago, Illinois.

THIS DEFENSE ISSUE

The original dummy for this issue consisted of a few hurried penciled scrawls on the back of a used envelope, fished from my pocket, together with a sheet of Dallas hotel stationery. They are here beside me now serving as a final check on the progress of our thinking regarding the plans for the issue. These notes were made at the annual meeting held on the eve of this year. One by

one we were becoming nervously apprehensive, as we individually were recovering from the numbing shock of Pearl Harbor, anxious that something be done. We were all of the opinion that THE AMERICAN BIOLOGY TEACHER should have a Defense Issue.

A year prior to this meeting I had asked to be relieved of the duties of associate editorship. My request was granted but kindness kept my memory green honoring me with an Advisory Staff membership. Now a year later your new editor, Mr. John Breukelman, exercising his prerogative, asked if I would aid with the defense issue. Our immediate problem was to get such an issue out before the end of the spring school term—permitting it to do some effective good.

The response from the editorial membership was splendid. I am sorry that I was unable to answer each member as soon as his communication was received. The time was short; there was only a period of six weeks to make our contacts, secure our copy and go to press. There was no time to polish off a planned and well-organized issue. We took pot luck. Time would not permit us to proceed in any other manner. However we have a good cross-section of what is possible in this war effort. It may not be as detailed nor complete as it might have been. More time might have permitted different balance. The end of this emergency is not in sight and there is yet room for subsequent articles and material on biology and national defense. Give editor Breukelman your support.

In conclusion I wish to thank the editorial staff for their excellent support and cooperation. Each contributor also deserves special praise for his consent to work under pressure. Readers should remember that contributors, staff members and officers work without pay. We