

U. S. S. G.

AN OUTLINE OF
A COURSE OF STUDY
IN GARDENING



*Designed to Prepare for Supervision of
School-Directed Home Gardens
— under the Plan of the —
United States School Garden Army*



Washington

DEPARTMENT OF THE INTERIOR

U. S. - BUREAU OF EDUCATION



INV. '60

GOVERNMENT PRINTING OFFICE :: WASHINGTON :: 1918

UNITED STATES SCHOOL GARDEN ARMY

ADMINISTRATIVE OFFICIALS

FRANKLIN K. LANE, *Secretary,*
Department of the Interior.

PHILANDER P. CLAXTON, *Commissioner.*
Bureau of Education.

JOHN H. FRANCIS,
Director.

REGIONAL DIRECTORS

CLARENCE M. WEED, *Northeastern States.*

LESTER S. IVINS, *Central States.*

FREDERICK A. MERRILL, *Southern States.*

CYBIL A. STEBBINS, *Western States.*

JOHN L. RANDALL, *Southeastern States.*

REGIONAL AREAS

NORTHEASTERN STATES.—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia.

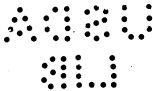
SOUTHEASTERN STATES.—Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi.

SOUTHERN STATES.—Kentucky, Tennessee, Louisiana, Arkansas, Missouri, Oklahoma, Texas, Kansas, Colorado, New Mexico.

CENTRAL STATES.—Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, North Dakota, South Dakota, Nebraska.

WESTERN STATES.—Montana, Wyoming, Arizona, Nevada, Utah, Idaho, Washington, Oregon, California.

A garden for every child;
Every child in a garden.



INTRODUCTION

The plan for school-supervised home gardens that the Bureau of Education has been fostering for many years is this:

A garden supervisor or supervising teacher for each town or city, employed throughout the year, usually with a vacation in the winter.

An assistant supervisor or garden teacher for each large building or each garden group—to continue the work throughout the summer.

The organization of the United States School Garden Army has been worked out in accordance with these long-established principles. The garden army has greatly increased the demand for supervisors and garden teachers, while it has also given them efficient helpers in the officers of the garden companies and has added a new dignity to the work. On the latter point this testimony from one of the most efficient city supervisors, with a long experience with garden pupils, is worthy of note:

I can't help telling you just what a great thing this army organization has been and is to the children. Last Saturday 600 to 700 of my soldiers had a splendid parade. It was long, and yet the entire distance they marched like true soldiers. My officers are helping me with garden inspection, the captains reporting at stated intervals. It has not only developed a sense of responsibility, but their whole attitude has changed, for each and everyone seems to feel that he is an absolute need to "Uncle Sam." I hope and know you must be receiving the same sort of word from many other places.

The United States School Garden Army gives an opportunity for a more effective appeal to the patriotism of American youth than is possible through any purely local organization acting alone, even though it be statewide in its scope. President Wilson, as the head of the United States Government, is the dominating spirit in the world to-day, and the tying up of the gardening activities of the schools to the Garden Army, established and fostered by him, has already given the work a dignity and importance which would have been impossible under any other plan. Thousands of local organizations have found it helpful to unite with the United States School Garden Army without seriously disrupting their own plans.

This brief outline has been prepared in the hope it might be helpful as a guide in the preparation of garden teachers and supervisors. It aims to show that getting ready for this great work need

FEB 7 1919

not require an undue amount of time and that thousands of pupils in normal schools and teachers in service may readily prepare themselves for the many calls for this patriotic service.

The outline may prove helpful in the following cases:

In normal schools or other teacher-training institutions; in special courses for teachers in city, county, or village school systems; in courses conducted by extension divisions of State departments of education, normal schools, colleges, and universities; in general reading courses for teachers.

The outline should also prove suggestive to individual teachers as a guide to preparing themselves for this opportunity for usefulness, even if they are not able to attend regular classes.

In the present wealth of publications on gardening it is easy for anyone to get books, bulletins, and reports covering every phase of the subject. The leaflets issued by this Bureau may serve as a basis for study. They are listed on the following pages in connection with the various topics and will be sent to anyone on application.

J. H. FRANCIS, *Director.*

AN OUTLINE OF A COURSE OF STUDY IN GARDENING

I. GARDENING LESSONS.

PLANNING THE GARDEN:

The garden site—

- Direction of slope.
- Amount of sunlight received.
- Drainage.

General condition of soil (W. S. Leaflet 2).¹

Making plans (S. S. Leaflet 8; S. E. S. Leaflets 8, 47)—

- Size of garden (W. S. Leaflet 1).
- Arrangement of crops.
- Selection of follow crops.

Diagram of garden (C. S. Leaflets 1 and 2; W. S. Leaflet 1).

Selection of crops to be used (N. E. S. Leaflets 8, 14; S. S. Leaflet 4; S. E. S. Leaflet 4)—

- Determined by—
 - Family needs.
 - Community needs.
 - Marketing value.

Seasonal choice—

- Spring crops.
- Fall crops (N. E. S. Leaflets 36, 37; W. S. Leaflet 20).
- Companion crops (N. E. S. Leaflets 12, 13; C. S. Leaflet 37; S. S. Leaflet 56).
- Succession crops (C. S. Leaflet 38; S. S. Leaflet 57; S. E. S. Leaflet 49).

SOILS:

Types of soil—

- Sandy soils.
- Clay soils.
- Lime soils.
- Humus soils.

Preparing the soil (W. S. Leaflet 2; S. S. Leaflet 1; N. E. S. Leaflet 4; C. S. Leaflet 8; S. E. S. Leaflets 1, 49)—

- Plowing or spading.
- Pulverizing the clods.
- Smoothing the surface.
- Depth of soil preparation.

¹The references in parentheses are to the leaflets issued by the United School Garden Army, namely, N. E. S. Leaflet refers to Northeastern States series; C. S., to Central States; S. S., to Southern States; S. E. S., to Southeastern States; W. S., to Western States. Any of these will be sent free upon request.

SOILS—Continued.

Garden tools needed (C. S. Leaflet 13; W. S. Leaflet 23; S. S. Leaflet 42)—

Hoes.

Rakes.

Turning forks, etc.

Drainage—

When needed.

Methods of draining—

Open ditches.

Closed ditches.

Tile drains.

Irrigation (C. S. Leaflet 43; S. S. Leaflet 61; S. E. S. Leaflet 39)—

When needed.

Methods to be employed—

Ditches.

Overhead sprinklers.

Use of garden hose.

ENRICHING THE SOIL:

Humus and its uses (N. E. S. Leaflets 23, 44; S. E. S. Leaflets 51, 52, 53)—

What humus is.

How obtained.

Value of decayed leaves, lawn rakings, etc.

How applied.

What it does to the garden.

Manures (S. S. Leaflet 2; S. E. S. Leaflet 2)—

Types.

How and when to be applied.

Values to garden.

Fertilizers (S. S. Leaflet 3; S. E. S. Leaflet 3)—

Types of commercial fertilizers (C. S. Leaflet 9).

Care to be used in selection.

How applications should be made.

Value to garden.

Green manures (C. S. Leaflet 48)—

What they are.

How worked into soil.

Kinds available.

ENRICHING THE SOIL—Continued.*Mulches* (N. E. S. Leaflet 45; S. S. Leaflet 55)—

- What they are.
- Value to crops.
- How made.
- Kinds of—
 - Dust.
 - Straw.
 - Leaves, etc.

THE SEED:*The seed list* (N. E. S. Leaflet 12; S. S. Leaflet 5; S. E. S. Leaflet 5)—

- Make list for garden.
- Indicate amount of each kind needed—
 - Determined by size of family.
 - Determined by ease of marketing.
 - Determined by canning demands.

Buying the seed (S. S. Leaflet 7; S. E. S. Leaflet 7)—

- Where to buy (C. S. Leaflet 3).
- How to buy (C. S. Leaflet 5).
- Order by varieties (N. E. S. Leaflet 2; C. S. Leaflet 6).
- Government seeds.

Seed testing (W. S. Leaflet 3)—

- Test for viability or sprouting qualities (N. E. S. Leaflet 3; S. S. Leaflet 9; C. S. Leaflet 10; S. E. S. Leaflet 9).
- Record results carefully.

PLANTING:*Planting dates* (N. E. S. Leaflet 5; C. S. Leaflet 4; S. S. Leaflet 6; S. E. S. Leaflet 6)—

- Seasonal adaptation of various seeds.
- Plot planting dates for home work.
- Spring and fall frost maps.

Preparation—

- Pulverizing of soil.
- Treatment of soil surface (C. S. Leaflet 8).
- Laying off rows (C. S. Leaflets 1, 2).
- Making the drill.

Planting the seed (N. E. S. Leaflet 21; C. S. Leaflet 7)—

- Depth of planting.
- Distance between seeds.
- Broadcasting and drilling methods.

PLANTING—Continued.

Covering the seed—

Use of garden tools to cover.

Firming the soil.

Marking the rows.

Growing the crop—

Surface tillage (C. S. Leaflet 13).

Weeding (N. E. S. Leaflets 28, 52; S. S. Leaflet 53).

Thinning (N. E. S. Leaflets 29, 30; S. S. Leaflet 54; C. S. Leaflet 11).

II. CROPS.

GENERAL OUTLINE FOR CROP STUDY:

Types of structure.

Seasonal adaptation.

Varieties.

Selection of seed.

Preparation of soil.

Planting.

Cultivation.

Protection of crop.

Harvesting.

Marketing.

Preserving.

CROPS TO BE STUDIED:

Cool season crops—

Salad group—

Lettuce (C. S. Leaflet 14; W. S. Leaflet 8; S. S. Leaflet 33).

Cress.

Parsley (N. E. S. Leaflet 17; S. S. Leaflet 34).

Endive.

Potherbs or greens group—

Spinach (N. E. S. Leaflets 16, 17; W. S. Leaflet 9; S. S. Leaflet 32; S. E. S. Leaflet 34).

Mustard (S. S. Leaflet 24; S. E. S. Leaflet 19).

Chard (N. E. S. Leaflet 9; S. S. Leaflet 18; S. E. S. Leaflet 22).

Kale (N. E. S. Leaflet 47; C. S. Leaflet 35; S. S. Leaflet 19; S. E. S. Leaflet 38).

Collards (C. S. Leaflet 36; S. S. Leaflet 16; S. E. S. Leaflet 27).

Root group (N. E. S. Leaflet 46)—

Radish (N. E. S. Leaflet 7; C. S. Leaflet 15; S. S. Leaflet 10; W. S. Leaflet 7; S. E. S. Leaflet 11).

CROPS TO BE STUDIED—Continued.

Cool season crops—Continued.

Root group—Continued.

Turnip (N. E. S. Leaflet 18; C. S. Leaflet 23; S. S. Leaflet 26; W. S. Leaflet 10; S. E. S. Leaflet 18).

Rutabagas (C. S. Leaflet 23; S. S. Leaflet 28).

Beets (N. E. S. Leaflet 10; C. S. Leaflet 20; S. S. Leaflet 13; W. S. Leaflet 10; S. E. S. Leaflet 20).

Carrots (N. E. S. Leaflet 11; C. S. Leaflet 22; W. S. Leaflet 10; S. S. Leaflet 17; S. E. S. Leaflet 14).

Parsnips (C. S. Leaflet 21; S. S. Leaflet 29; S. E. S. Leaflet 35).

Salsify (S. S. Leaflet 38).

Cole group—

Cabbage (N. E. S. Leaflet 38; C. S. Leaflet 18; S. S. Leaflet 15; S. E. S. Leaflet 17).

Cauliflower (C. S. Leaflet 35; S. S. Leaflet 37; S. E. S. Leaflet 37).

Brussels sprouts (C. S. Leaflet 35; S. S. Leaflet 40).

Kohlrabi (N. E. S. Leaflet 43; W. S. Leaflet 15; S. S. Leaflet 31).

Onion group—

Onions (N. E. S. Leaflet 6; W. S. Leaflet 16; S. S. Leaflet 12; C. S. Leaflet 17).

Leek.

Potato group—

Irish potato (N. E. S. Leaflet 19; C. S. Leaflet 24; W. S. Leaflet 4; S. S. Leaflet 35; S. E. S. Leaflet 12).

Peas (N. E. S. Leaflet 22; S. S. Leaflet 14; S. E. S. Leaflet 13).

Perennial group—

Asparagus.

Rhubarb (S. S. Leaflet 39).

Horse-radish.

Warm-season crops—

Beans (N. E. S. Leaflets 24, 25, 43; C. S. Leaflet 28; W. S. Leaflet 12; S. S. Leaflet 11; S. E. S. Leaflet 15).

String.

Shell—

Green.

Dry.

Lima (N. E. S. Leaflet 43).

CROPS TO BE STUDIED—Continued.

Warm-season crops—Continued.

Corn—

Sweet (N. E. S. Leaflets 20, 41; C. S. Leaflet 30; S. S. Leaflet 20; W. S. Leaflet 6; S. E. S. Leaflet 24).

Pop (S. S. Leaflet 20).

Okra (S. S. Leaflet 23; S. E. S. Leaflet 21).

Vine Crops (N. E. S. Leaflet 34)—

Muskmelon (C. S. Leaflet 32; W. S. Leaflet 14; S. S. Leaflet 22).

Watermelon (C. S. Leaflet 32; W. S. Leaflet 14; S. S. Leaflet 22).

Cucumber (N. E. S. Leaflet 15; C. S. Leaflet 31; S. S. Leaflet 21; W. S. Leaflet 13; S. E. S. Leaflet 26).

Squash (C. S. Leaflet 33; S. S. Leaflet 27; S. E. S. Leaflet 28; N. E. S. Leaflet 50).

Pumpkin (W. S. Leaflet 5).

Tomatoes (N. E. S. Leaflets 26, 27, 42; C. S. Leaflet 27; S. S. Leaflet 30; W. S. Leaflet 11; S. E. S. Leaflet 10).

Eggplant.

Peppers (C. S. Leaflet 26; S. S. Leaflet 25; S. E. S. Leaflet 16).

Potatoes—

Sweet (C. S. Leaflet 25; S. S. Leaflet 36; S. E. S. Leaflet 29).

III. GARDEN PESTS.

INSECTS:

Injurious (S. S. Leaflets 44, 45, 46, 47, 48, 49, 50; S. E. S. Leaflets 31, 54, 55)—

Biting (N. E. S. Leaflets 31, 34, 38, 41, 53; C. S. Leaflet 19; S. E. S. Leaflet 32).

Sucking (N. E. S. Leaflets 35, 39; C. S. Leaflet 29; S. E. S. Leaflet 33).

Control measures (W. S. Leaflet 25; S. S. Leaflets 43, 52; S. E. S. Leaflets 31, 32, 33)—

Insecticides (N. E. S. Leaflets 32, 33, 40; C. S. Leaflet 29; S. S. Leaflet 51).

Other remedies (C. S. Leaflets 19, 29, 31).

Beneficial—

Parasites.

Predaceous insects.

Pollinators.

BIRDS:

Injurious (W. S. Leaflet 25).

Beneficial (W. S. Leaflet 25).

RODENTS:

Kinds.

Control.

FUNGOUS DISEASES:

Nature of fungi.

Rusts.

Smuts.

Mildews.

Bacterial blights.

Remedial measures—

Fungicides.

Other methods.

IV. GATHERING AND DISPOSING OF THE CROP.

HARVESTING (C. S. Leaflets 45, 46; W. S. Leaflets 27, 29; S. S. Leaflet 62; N. E. S. Leaflets 49, 50):

Root crops.

Leaf crops.

Vine crops.

Stem crops.

Corn and other crops.

MARKETING (General Leaflet 7; S. S. Leaflet 63):

Community types.

Individual types.

Cooperative types.

STORING (N. E. S. Leaflet 49; S. S. Leaflet 64):

Indoor-cellar storage.

Outdoor-cellar storage.

Pit storage.

Storage in cold frames.

CANNING, DRYING, PICKLING, AND PRESERVING.

V. FALL GARDENING.

THE FALL GARDEN (S. S. Leaflet 65):

Taking care of crops on hand.

Replacing gathered crops by others.

Preparing the soil for planting fall crops (W. S. Leaflet 20).

WHAT CROPS TO PLANT (S. S. Leaflets 66, 67, 68, 69, 72, 73, 74, 75; S. E. S. Leaflets 46, 47, 48):

Select fall crops carefully—

Aim to supply home table.

Study fall markets.

Plant only seasonable crops.

PREPARE FOR NEXT YEAR'S GARDEN (C. S. Leaflet 48):

Clean up unused land.

Sow cover crops wherever possible.

Spade up soil well—

Good preparation for spring work.

THE HOTBED (W. S. Leaflet 22; S. S. Leaflet 70):

What it is.

How constructed.

Uses—

To raise early plants.

To preserve growing plants.

THE COLD FRAME (W. S. Leaflet 21; S. S. Leaflet 71; S. E. S. Leaflet 47):

What it is.

How constructed.

Uses—

To harden plants.

To preserve growing plants.

VI. TYPES OF SCHOOL GARDENING.**SCHOOL GARDENS:**

Demonstration gardens.

Model home gardens.

Cooperative gardens.

Individual-plot gardens.

HOME GARDENS:

School supervised—

By supervisors.

By teachers.

By captains of U. S. S. G. A.

By lieutenants of U. S. S. G. A.

Home supervised—

By parents.

