

**A UNIFORM COURSE OF
STUDY IN AGRICULTURE
FOR THE ELEMENTARY
SCHOOLS OF OHIO**

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A Uniform Course of Study in Agriculture for the Elementary Schools of Ohio by Frank W. Miller

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FRANK W. MILLER

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A UNIFORM COURSE OF STUDY IN AGRICULTURE

FOR THE

ELEMENTARY SCHOOLS OF OHIO

PREPARED BY THE DIRECTION OF THE

STATE COMMISSIONER OF COMMON
SCHOOLS



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To the Boards of Education, Superintendents and Teachers:

Agriculture is not a wholly new subject, nor is it one foreign to our public school system. The last General Assembly made it a mandatory part of our courses of study for the Elementary and High Schools. The wisdom of this is patent to us all.

This course of study arranged by the four Supervisors of Agricultural Education and myself is intended to suggest ways and means of giving to our boys and girls of all the schools the most helpful plans of acquiring a comprehensive knowledge of those parts of the subject that are appropriate and the study of which will be profitable; it is further intended to teach the happiness, health, and wealth of country life and to make the boys and girls proud of rural life whether they live in the country or not.

In laying out the work for the year, it should not be presumed that all found in this course is to be studied or taught; the material herein is suggestive throughout; select from it what is wholesome and in harmony with the agricultural and home life of your several communities; select only sufficient topics and amount of work as can be well done during the year; it might be well to outline the work month by month so that too much may not be attempted; four or five subjects properly planned for the year's work and well taught may be sufficient for the average school, for agriculture and home craft are to have only their appropriate share of the time and efforts of the teachers and pupils,—the other studies must have theirs.

It will be well for the members of boards of education, superintendents and teachers to keep at hand the name and address of the Supervisor of the district in which they live for he will endeavor to answer by mail the questions sent to him and will also be glad to come to any part of his district when called upon to render any aid possible.

Finally, the teaching of this subject will have reached the stage most helpful to the boys and girls when home and school work together heartily and sympathetically; the teaching must fail in its highest and best sphere if it does not touch and retouch the farm, the farm home and all farm life; let it be our constant aim to make a happier and a better citizenship while we are making better farmers, and better home makers; this being our ideal, the teaching of this subject will find its best results and consummation in the homes and on the farms.

Yours very truly,

FRANK W. MILLER.

OUTLINE OF A COURSE IN AGRICULTURE FOR THE ELEMENTARY SCHOOLS.

INTRODUCTION.

In the primary grade the chief object should be to lead the child to observe carefully and develop the habit of investigation. Throughout the entire course the teacher should be ever mindful of the fact that the subject of agriculture, if properly taught, is of high educative value. It imparts to the child the ability to reason, the power of independent thinking and creative expression, richness of imagination, appreciation of that which is beautiful, and the culture which are generally developed through the instrumentality of the classics, mathematics, science, and art.

It is not the intention of this course to make farmers of all farmers' sons, but to make better farmers of those who wish to remain in that occupation, and to make better citizens of all. The subject is full of human interest and we can never wholly separate our interests from the soil on which we walk, and the plants and animals upon which our lives depend.

This course is divided into four divisions, to be known as the Primary Division, composed of all pupils below the second grade. The First Division, composed of the second, third, and fourth grades. The Second Division, composed of the fifth and sixth grades. The Third Division, composed of the seventh and eighth grades of the Elementary School.

Primary Division.

Note to Teacher: The work outlined in this division can be taught in connection with language and alternated with Oral Geography and Oral Physiology. Can also be given in connection with general exercises in the mornings or Friday afternoons.

There should be at least two ten (10) minute periods a week. The teacher shall select such parts of the following work as may be suitable for his grade, grades or school. Use supplementary work.

TREES.—Gather leaves. Note differences in size and shape. Recognize a few trees by their leaves. Some trees drop their leaves in Autumn. Some do not. Evergreens.

The different parts of plants, stems, roots, leaves, flowers, fruit, etc. Collect seeds to show how they are protected and distributed. Gather seeds of thistle, milkweed, and dandelion and let them sail in the wind. Effect of frost on tender plants like tomatoes, etc..

Make a collection of caterpillars and place in box with leaves. Observe spinning of cocoon. Emergence of moth or butterfly in Spring.

Change in appearance of landscape as winter approaches.

ANIMALS.—Animals of the farm; their uses. Wild animals found in the community, rabbits, squirrels, etc. Tell stories about them.

BIRDS.—Migration; return in Spring; permanent residents. Nest building. Learn to recognize four or five birds.

Grow cuttings of pussy willow and lilac in water. Germinate beans in sawdust. Learn the common names of a few flowers and trees. Fruit and seed come from the flower.

Note change in landscape as Spring comes.

Teach the children to be kind to animals. Teach them not to be afraid of insects and spiders. The house fly a carrier of disease. Breeds in filth. Dangers of fire.

First Division.

(Grades 2, 3, and 4.)

The work outlined in this division can be taught in connection with Language, and alternated with Oral Geography and Oral Physiology. Can also be given in connection with general exercises in the morning and on Friday afternoons.

The subject of Agriculture is now one of the regular studies of our schools and as such must be placed in the regular school curriculum for its full share of time and execution.

In this Division pupils can be taught to observe and study domestic animals, plants, trees, and bird life more extensively than in preceding division. Make seed collection and study methods of planting seeds. Observe nature's plan of seed distribution by securing samples of each method. Learn to recognize seeds of familiar farm plants. Make a study of familiar fruits and grains.

Shelter for farm animals. Natural covering of the different animals. How animals spend the winter; hibernation. Study migration of birds on basis of sojourn here—permanent residents, summer residents, winter residents, migrants, service rendered by insectivorous migrants. Take excursions when convenient to the woods and creeks, observing plant and animal life.

Care of young chickens and young farm animals. Learn to distinguish some common flowers and to know the uses of animal, vegetable, and farm products.

Experiment in growing cuttings in water, sand, or loam. Make a collection of leaves and name them. Study buds, how protected, how arranged. Teach common names of trees in your locality.

Use blackboard calendar for weather record. Study cause of rain, frost, hail, snow, and ice. (See some good text in Oral Geography).

Study use of thermometer and make records of out-of-door temperature. Use shadow stick to show altitude of sun at noon, during different months of the year. Time and place of rising sun; of setting sun. **Phases of moon.** Great Dipper. North Star.

Objects and specimens in this work can be used very profitably in the lessons in Drawing, in this and all following grades.

Simple experiments with seeds, germinated between blotters or cloth, and in sawdust. Study conditions of growth by varying moisture, light, temperature, etc. Peas, corn, or pumpkin seed suggested for use.

Preparation of the soil; the growth and cultivation of plants. Care and use of garden tools. Plant the seed of flowers and vegetables at home or at school. Keep a record of the work done in cultivating same. Exhibit.

The Primary and First Divisions may be combined when convenient and feasible. Time required to cover this work—three years.

Second Division.

(Grades 5 and 6.)

Teach the work outlined in the Second Division in connection with Language and Geography and alternate with lesson in Physiology, History, Arithmetic, and Reading. Work can also be done in connection with general exercises in the morning and on Friday afternoons.

Use Supplementary work.

The work in this Division should be a continuation of that suggested under "First Division." It is expected, however, that pupils are to learn more detail and become more familiar with the modes of living and the uses of plants and animals to man when they reach these grades.

The practical work at home by the pupils must be carried out as carefully as the theory study at school if we are to have a full measure of success with Agriculture in the schools. Teachers may supervise this work at home.

Review study of familiar flowers and home farm products.

Study migration of birds on basis of sojourn here—permanent residents, summer residents, winter residents, migrants; service rendered by insectivorous migrants.

Classify *plants* as useful, injurious, annuals, biennials and perennials; *trees* as deciduous evergreens, fruit trees, trees for ornament, fire-wood or commercial purposes. Study *roots* under useful, injurious, different forms and purposes. *Stems*—Aerial and underground, useful and injurious. Distinguish underground stems, bulbs, tubers, etc., from roots. Give example of each. *Leaves*—Margins, veins. *Flowers*—perfect and imperfect. Make a collection of flowers by pressing and mounting specimens.

Animals.—Fur-bearing, food-producing and domestic.

Minerals.— Make a collection of common minerals. Give a short description of each, as to uses to man, where and how mined. Make a collection of common rocks or fossils found in your neighborhood. Teach uses of limestone, sandstone, shale, coal, slate, marble and granite; how formed; where produced? Perform some simple experiments. Grow radish and lettuce for early market or home consumption—use home seed if possible. Study catalogue to gain knowledge of varieties of vegetables, etc. Experiment by planting different varieties to find those best suited to your locality. Keep record of work done in cultivating your plots or gardens.

The Lawns.— Preparation; selection and sowing of seed; rolling; watering, fertilizing; mowing; lawn weeds and how to combat them. Special study of most common weeds found, common garden plants, and common garden insects— useful and injurious.

Study of Simple Tools and Machines.— Various levers; uses and advantages of Jackscrews, pulleys, wheel and axle, derrick, etc. Names and uses of various pieces of farm machinery; cost of each; care of tools and machinery. Plan to build a hot bed. Discuss uses of same. Distribute plants among pupils from a successful hot bed. Have a contest among pupils receiving plants to grow or from plants grown at their home. Conduct potato or other vegetable contests followed by exhibit of products—keep record of work done in cultivating. Find yield and value of products produced.

Learn to identify useful birds, injurious birds. Obtain colored pictures or birds to study, if necessary.

Origin of Soils.— Identification of sand, gravel, loam, clay, silt; experiment with soils. Study local soils. Value of farm lands and village lots. Drainage; ditches; tiles. Draw diagram showing drainage plan on home farm. House and cellar drains; distinguish between drainage and sewer tiles.

Household Pests.— Damage done; how destroy them—mouse, rat, fly, mosquito, cockroach, bed bug, clothes moth, etc.

Water Supply.— How secured. Types of wells and pumps; wind-mills. Methods of getting water to stock and for house use. Impure water. Garden irrigation.

Lighting Systems.— History of lighting. Methods used in your locality. Protection against fire.

Transplanting Tree Practice.— Study common trees, value for posts and ties, etc. Secure and plant useful trees at home and at school. Orchard methods. Learn to grow the common fruit tree found in your locality. Insects injurious to fruit and life history. Learn how to combat them. Distinguish between sucking and chewing forms, insecticides for each.

Good Roads.— Transportation, marketing.