

prehensive physical education program can be carried out by the class teacher.

The hearty and cheerful acceptance of responsibility by the teacher for this important phase of the child's training is necessary to the realization of any complete scheme of preparation for life.

T. BRUCE KIRKPATRICK

## II

### TEACHING AGRICULTURE IN THE RURAL SCHOOL

In arranging one's course of study for agriculture in our rural schools, there are many important things for the teacher to consider. In the first place, it should be borne clearly in mind that the course of study prescribed by the State Board of Education is merely suggestive, for it is absolutely impossible for any one to prepare an outline course of study suitable to each one of our one hundred different counties, having as many different types of farming as we have in Virginia. For the same reason, because of our diversified agricultural conditions, no textbook can be expected to meet all of our demands. Usually part of the textbook should be omitted. This should be supplemented with bulletins prepared by the United States Department of Agriculture, Washington, D. C., State Board of Agriculture, Richmond, Va., and Virginia Polytechnic Institute, Blacksburg, Va.

Before making any attempt to arrange a course of study for a school, it is imperative that the teacher should know the type of farming followed in that particular community, as well as the whole county, the important animals, crops, plant diseases, and serious insect pests of the community. This information may be obtained by a survey of the community in question, by referring to the United States Census, or more easily by consulting the County Agent. Taking Rockingham County as a whole, the important animals are draft horses, dairy cattle, beef cattle, poultry, sheep, hogs, and the honey bee. The important crops are corn, including corn for grain and silage, wheat, and the minor

cereals, pasture, alfalfa, hay, legumes, fruits and vegetables. From an economic standpoint, the important plant diseases are: wheat scab, bunt smut of wheat, loose smut of wheat, root rot of corn, bitter rot of apples, scab of apples, cedar rust of apples, root rot, blight and canker of apples, violent root rot of alfalfa, black rot of grape, black knot and brown rot of plum, brown rot of peach, peach scab and peach curl, potato scab and blight, tomato blight, root rot of cabbage and corn smut. The important insect pests are codling moth, curculio, Hessian fly, San Jose scale, eel worm, or nematode disease of wheat, Colorado potato beetle, and aphides, or plant lice. The foregoing list by no means includes all of our plant diseases and insect pests, but it embraces the most important from an economic standpoint. All the most serious of these pests, including the diseases of wheat and corn, have been mounted by the students of Bridgewater Agricultural High School for illustrative purposes in class work. Teachers desiring to become familiar with these plant diseases are welcome to visit this school. A recent survey of the state by the Extension Division of V. P. I. reveals the alarming fact that Virginia lost ten per cent. of her wheat crop last year because of the above-mentioned wheat diseases. The percentage of loss in Rockingham County was even greater than in the state at large. Using the state percentage of loss as a basis of our calculation, we find that Rockingham County last year sustained a loss of nearly three hundred thousand dollars due to wheat diseases alone.

After the teacher decides definitely what he expects to teach, the next important step is to arrange the material constituting the course of study according to seasonal sequence.

Preparation of the land and seeding cereals should be the first thing to be taught in the fall, as this work is being done on the farm when school opens. Just before corn is ready to cut is the time to select seed corn from the field. There is always a field of corn near the schoolhouse; hence the selection of seed corn in the field should be given as a field trip about this time. The writer has yet to find a farmer in Rockingham County not willing to co-operate in instruction of scientific agriculture. Yet before taking a

class to visit a farm, one should always obtain permission of the owner. Usually it is more convenient to study crops during the fall and spring, as it is much easier to procure illustrative material for visual instruction at those seasons of the year. The study of animals, animal products, and soils may be pursued very well during the winter, as the latter should be studied almost entirely in the laboratory and field. Grafting is done in the spring soon after the leaves first begin to appear. If it is not practical to take the class to an orchard, a few fresh apple branches which the orchardist has just removed may be brought into the class room where each pupil is given a chance to show his skill.

Alvine Dille, Specialist in Agricultural Education of the U. S. Bureau of Education, gives great emphasis to visual instruction:

"Teachers do well to remember the interest of their pupils in tangible things and in processes in which action is involved. If this is kept in mind teachers will be appreciative of the value of illustrative material in arousing interest and will develop discrimination in its selection and use. There are few teachers who may not profitably give more time to visualizing their instruction through wise selection of illustrative material."

As it is not always convenient to use material when fresh, it will be found very useful to mount some of the plant diseases previously referred to. The pupils will not find it difficult to make these inexpensive mounts during laboratory period on referring to Farmers' Bulletin 586 of U. S. Department of Agriculture. Samples of fertilizers, feeds, seeds of farm crops, and weeds may be procured locally without cost. A few inexpensive charts and maps will be very convenient and helpful. Several ten-ear samples of seed corn, the varieties used in the neighborhood, should be provided for judging purposes during the winter. Boys will be interested in testing seed corn for neighbors, as laboratory work. At the same time this broadens the school's sphere of usefulness, which should not be overlooked by the thoughtful teacher.

It is very important that the teacher should cultivate the importance of the County Agent's work. This may be accomplished to some extent by encouraging pupils to join the County Agent's Clubs, which are of inestimable value in developing the rural boy.

The teacher may reciprocate the services of the County Agent in club work by attending the meetings of the local Farmers' Club and trying to build it up. Occasionally the Farmers' Club should be invited to meet at the school house, where it is entertained by the school literary society. In this way the membership of the club, which should consist of all the farmers of the community and their wives, is increased. A two-fold object is accomplished; the school becomes a center of extension education, thus increasing its sphere of service and at the same time developing the interest of the patrons in the school. The present marked interest in agricultural education and improvement of rural life offers to the school an opportunity to begin a reorganization which will change the direction of its efforts to give it new vitality as a rural institution. The accomplishment of such a result will establish the school as an important rural social institution and will be of much more importance than the mere introduction of agriculture as a subject of study.

The following books and bulletins will be of great help to agricultural teachers having very little equipment for laboratory: Cumberley's Rural Life and Education; Butterfield's Rural Progress; One Hundred Experiments in Elementary Agriculture, by Riley Johnson, Cal. State Normal, Chico, Cal.; Bulletin 16 of State Department of Agriculture, Richmond, Va.; Lyon's Soils, Macmillan Company; Farmers' Bulletin 1041, U.S. Department of Agriculture, Washington, D. C.

The laboratory equipment need not cost over ten dollars. Some teachers may find it difficult to give instruction in technical agriculture, but any teacher can follow the foregoing suggestions given for extension education.

J. M. McCLUNG

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#### A HUNDRED?

"Every one knows that the educational and amusement value of good motion pictures is a hundred times greater than that of good books. But it is also true that a bad motion picture is a hundred times more harmful than a bad book."—William Sheafe Chase, D. D.