

MARYLAND AGRICULTURAL COLLEGE
DEPARTMENT OF AGRICULTURAL EDUCATION

ELEMENTARY VOCATIONAL AGRICULTURE
FOR
MARYLAND SCHOOLS

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LESSONS OUTLINED BY MONTHS

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ology, and alternate the lessons in these subjects. That is, when two lessons in agriculture are provided for a week, assign three lessons in physiology, and when three lessons in agriculture are provided, assign two lessons in physiology. In this way the work may be carried on and still not overburden the teacher's schedule.

The practical exercises suggested take the direction very largely of club activities or home projects. It is urged that the teachers emphasize this phase of the work and in making up class records give it equal weight with the recitation grade. Teaching agriculture and correlating it with other subjects cannot be made effective unless the pupil demonstrates the principles taught in some kind of farm project and utilizes the project experiences in vitalizing the other subjects in the school course.

The correlation exercises set forth in connection with each lesson are largely suggestive. These are intended to indicate how the teacher may take advantage of the experiences and problems the pupils meet with in their club or project work to give vitality to the subjects of English, arithmetic, geography, history, drawing and the like.

LESSON ONE.

Subject: SOIL.

Topic: Winter Cover Crops.

Purpose.—During the summer and early fall much unused plant food is made available in the soil by the action of bacteria or small plant life organisms. If such soil is left unprotected during the fall and winter months the weathering agencies leach out and wash away this available food. There are certain hardy plants that may be grown on the land during the fall, winter and early spring. These utilize the available plant food, protect the land from washing by forming a mass of roots in the soil and a coat on its surface, provide grazing for farm animals during the fall and early spring and return plant food to the soil when plowed under in the spring.

Kinds of Cover Crops.—There are two general classes of cover crops adapted to Maryland conditions; namely, small grains and grasses such as rye, barley, oats, wheat and timothy, and legumes,

such as crimson clover and vetch. In all sections of the State where wheat and grasses are grown they form a winter cover for the land. These crops usually follow corn or sod. Rye, barley, oats, vetch and crimson clover may be used as a winter cover for land that has produced a crop of corn, tomatoes, potatoes or the like. Rye, barley and vetch are preferable in western and northern Maryland, and crimson clover and oats in the southern portions of the State.

Dates of Seeding for wheat and timothy range from the middle of September in the mountain section to the first of November in the southern parts of the State. The same is true of rye, barley and oats. Crimson clover and vetch should be sown at least a month earlier where practicable to do so.

Rates of Seeding.—Wheat and timothy: wheat 1 to $1\frac{1}{2}$ bushels, timothy 10 pounds; rye 1 to $1\frac{1}{2}$ bushels; crimson clover 12 to 20 pounds, depending on the date of planting. The later the planting, the more seed should be used. Vetch 25 to 30 pounds with $1\frac{1}{4}$ bushels oats, $\frac{1}{2}$ to $\frac{3}{4}$ bushel rye, or $\frac{3}{4}$ to 1 bushel wheat.

Methods of Seeding.—Wheat and timothy, rye, vetch and grain, barley, oats, and clover should be seeded with a grain drill—one-horse if in standing crop, two-horse if on open land. When crimson clover is hand seeded the land should be previously prepared and the seed should be lightly covered.

Inoculation.—If crimson clover and vetch are sown in fields that have not produced these crops before, inoculation is necessary to insure the success of the crops. Take soil a spade deep from fields that have produced these crops and broadcast it over the fields to be seeded at the rate of about two bushels of soil per acre and harrow in immediately to prevent sunlight killing the bacteria.

Textbook References.—Burkett, Stevens and Hill, pp. 192, 213, 215, 249, 254; Davis, p. 148; Nolan, p. 44; Buffum and Deaver, pp. 83, 95, 97, 114, 118.

Teachers' Reading.—Farmers' Bulletins Nos. 326 and 427.

Practical Exercises.—(1) Take pupils of the class to nearby field where a leguminous crop is growing. Carefully remove plants from the soil. Note: (a) the mass of roots, (b) the nodules or tubercles. Examine in the same way one of the plants that does not belong to the leguminous group. Note the difference and emphasize the fact that nodules are the homes of



FIG. 1. A GOOD METHOD, BUT THE LABOR COST IS TOO GREAT EXCEPT ON VERY SMALL FARMS.

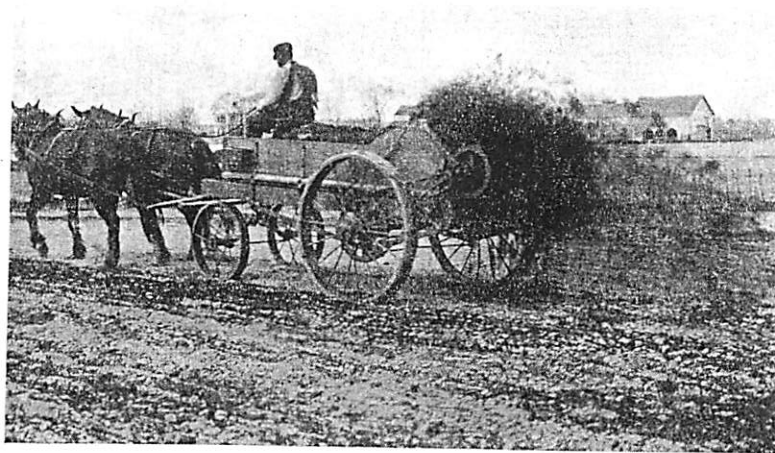


FIG. 2. THE BEST METHOD, BUT THE INVESTMENT IS TOO GREAT FOR VERY SMALL FARMS.

Storing Manure.—When it is impracticable to spread the manure on the soil as it accumulates it should be collected and (figs. 3 and 4) stored. The manure shed should have a good roof and a close fitting or cement floor. As the manure is stored it should be packed firmly.

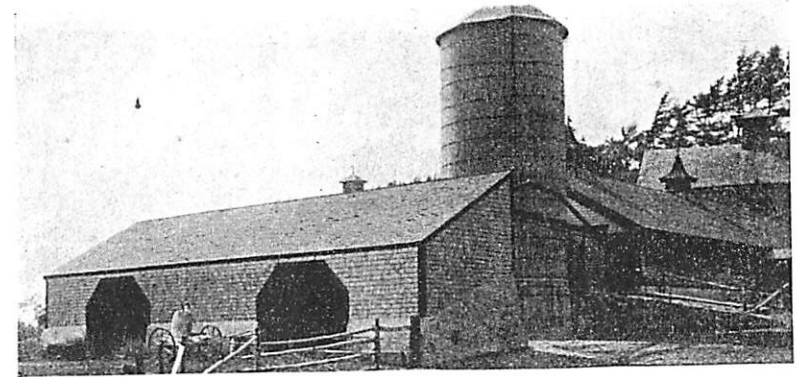


FIG. 3. A GOOD MANURE SHED WITH CONVENIENT ARRANGEMENT.

Textbook References.—Nolan, pp. 149-152; Davis, pp. 76-81; Burkett, Stevens and Hill, pp. 21-24.

Teachers' Reading.—Maryland Agricultural Experiment Station Bulletin No. 122; Farmers' Bulletin No. 192.

Practical Exercises.—(1) Have the members of the class report the methods being employed at their homes in the manage-

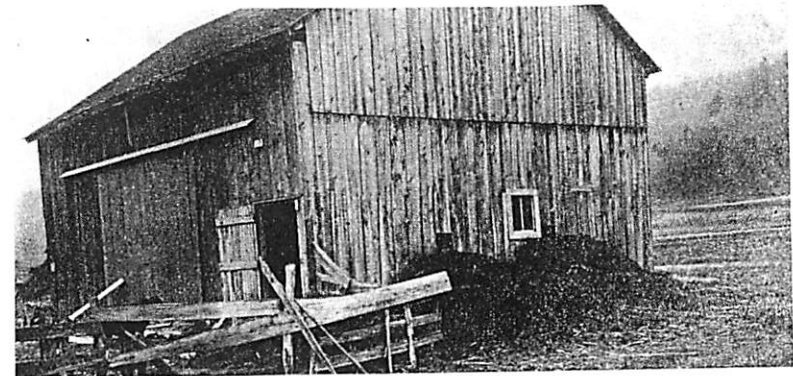


FIG. 4. A WASTEFUL PRACTICE IN HANDLING MANURE.