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Short Course For Farmers.

The annual "Short Course for Farmers" at University Farm, St. Anthony, is one of the most beneficent of the propaganda carried on by the Department of Agriculture of the University of Minnesota. For its course to men already engaged in farming, and who cannot spare the time to take the regular Agricultural course, an opportunity for becoming acquainted with the salient features of the advances made in scientific farming, year after year; the application of which to their own fields and farms may often be of the greatest advantage.

The Short Course for 1912 will cover a period of four weeks, Jan. 22d to Feb. 17th inclusive. Prominent features for this year will be: 1. A discussion of the means of improving the Corn Crop, with lectures by P. G. Holden, of Iowa; 2. Lessons in Corn Judging; 3. Lectures on the Breeding of Horses, with special reference to the co-operative maintenance of pure-bred stallions, and to the comparative utility of sires and geldings in the economy of the farm; 4. Lectures and demonstrations in the slaughtering, cutting and curing of meats; with a view to increasing the variety of fresh meats on the farmer's table, and the disposal of cured meats.

These prominent features will not, however, be allowed to occupy so much time as to impair the balance of the course. It will cover almost every agricultural interest of importance. For bulletin with full particulars, address D. D. Mayne, Principal, 1. M. Drew, Registrar, University of Minnesota, St. Paul.

Extension Division Notes.

By A. D. Wilson, Supt.

We believe in the Farmers' Clubs, and these organizations, as carried out in Minnesota, provide, as a rule, that one membership shall include a farmer and his family. The club family, as a rule, attends the sessions of a Farmers' Club; and on such an account is able to continue, in its home circle, discussions started at the club, and thus more firmly fix its points brought out, and more thoroughly inform each member of the club. There should be a Farmers' Club in your community.

During the winter considerable spare time can be very profitably spent in planning the work for next year and the steps to follow. We know of two farms of equal size and character; one of which is so planned that men and teams travel an average distance of but 28 rods from the farm buildings to the fields. The other is so planned that an average distance of 100 rods must be traveled from the farm buildings to the fields. The second farmer is handicapped by a good many miles of unnecessary travel for himself, his teams and his machines. Planning ahead will often avoid this handicap.

That one should keep accounts with various enterprises is as important as that a merchant keep accounts with his various customers. While a merchant does not, as a rule, do business with as many people as does a farmer, any of his live-stock enterprises, fields or crops are as likely to prove unprofitable as are the merchant's customers. Only by keeping records of these various enterprises, and knowing what each one is returning, can the farmer be able to determine the lines along which it is advisable to make increases, and the lines in which it is advisable to curtail or discontinue.

Agriculture is being taught in a large number of rural schools. Many teachers are striving hard to overcome the difficulties encountered, and to give some valuable instruction along this line. We believe these teachers deserve the hearty co-operation, assistance and support of parents. With such support, any teacher who takes an interest in farm boys and girls, and in country life, can study with them many of the simple farm problems, to the great advantage of the school and community.

While planning the work for next year, do not forget about the home. It is now possible and practical to have in many country homes modern conveniences, such as flowing water, hot and cold, and sewage-disposal facilities. A septic tank can be constructed for from \$15 to \$25, suitable to take care of the sewage from an ordinary farm family. On farms equipped with windmills and force-pumps, hot and cold water can be run into the kitchen sink, and the sink connected with a cesspool, at an additional cost of not to exceed \$50. Such

improvements usually prove excellent investments.

Seed and the preparation of soil are the two important items determining the yields of crops. Rental value of the land, harvesting and threshing usually have very little to do with the yield of the crop. In grain crops the preparation of the soil and the seed usually amounts to between \$2 and \$3 per acre. Oftentimes a little additional effort and care in seed-selection or in the preparation of the soil, costing perhaps \$1 or \$2, will increase the yield a great deal more than that amount.

Hot Lunches at Schools.

The introduction of some appetizing dish, hot from the stove or "fireless cooker," is an improvement on the old-time cold lunch at noontide, which is finding quick appreciation in the country schools of Minnesota. The suggestion of such a hot lunch, elaborated by Miss Mary L. Bull in Extension Bulletin No. 19, has led to numerous experimental trials; and the results have been so satisfactory that the hot lunch bids fair to establish itself as a permanent feature of the noon hour in our schools. It recommends itself, not only as promoting the health and enjoyment of the boys and girls, but as affording daily a practical lesson in Domestic Science; the benefits of which accrue, not only to the pupils, but to "the folks at home" as well.

Superintendent T. A. Erickson, of the Douglas County schools, is enthusiastic over this "new departure." He says: "We have never tried a new plan which has taken so well, with children and parents alike. Where a teacher shows a little tact and common sense in working it out, there is absolutely no objection on the part of parents. It is something that appeals to them at once." One teacher tells him "it is the greatest help to discipline that she has." The work of preparing the meal is attractive to boys and girls alike; and they are quick to apply their new culinary acquisitions at home. "On cold days, the noon hour becomes of unusual interest." Several teachers have introduced the home-made fireless cooker; wherein oatmeal, cream of wheat and soups are finished and kept hot. The menu is undoubtedly more wholesome than the ordinary cold lunch. Add to this the fact that the common human interest in "good things to eat" draws pupils, parents and teachers together; that good fellowship, democracy and refinement of behavior are promoted—and that all, after the noon hour, are in the best possible frame for carrying on the ordinary work of the school—and the beneficence of the "hot lunch plan" is easily perceived.—C. R. Barns, Extension Division, University Farm.

The Dust-Bath.

In every poultry-house there should be a dust-bath, where the hens may get rid of lice. Poultry-lice breathe through pores in their sides, and fine dust fills these pores and suffocates the vermin. Road-dust, hard-coal ashes, or dry dirt of any kind, will accomplish the purpose. Wood ashes, if damp, may stain the feathers and otherwise harm the fowls. Sometimes, if the hens are badly infested, Persian insect-powder may be added to the material in the dust-bath. A tight box, 3 ft. x 3 ft. and one foot deep, is a good receptacle for the dust. It should be placed where the sun can shine on it, as many hours as possible; for, when the hens are not exercising by scratching for their feed, they will spend a good deal of time in the dust-bath, which induces exercise. The hens will not use the bath freely unless the air is warm, for they dislike to open their feathers and expose their bodies to air below 60 degrees. One end of the box may be put on the window-sill, and the other supported on legs, with a canopy of denim or duck, open on one side and toward the window. This will confine the heat, and make the temperature in the box many degrees higher than the temperature of the house. The canopy should slant down from the upper part of the window, of course, and be closed up on all sides but one, so that there will be no draft to carry off the heated air. Such a dust-bath can be easily and cheaply made and will add much to the health and happiness of the hen. The hen that is comfortable is the one that makes money for her owner.—N. E. Chapman, Poultryman, Ex. Div., Minn. Agr. College.

An important consideration, in determining the feeding value of corn silage as compared with that of corn stover, fodder-corn or bundle-corn, is that in ensilage the whole of the plant, including the stems, is converted into succulent and nourishing food. When fed in any of the other forms, the stems are rejected, and are of value only as they gradually add to the humus of the soil.

Garden and Orchard Notes For December.

By LeRoy Cady, Horticulturist, Minn. University Farm.

Plan the garden and fruit plantation for next year.

Send to reliable dealers for seed and fruit catalogues.

Sharpen and repair the garden tools for next season's use.

Gradually bring the hyacinth and narcissus into the heat and light.

Go over the fruit and vegetables in the cellar, and throw out those decaying.

Mulch the strawberry-bed with straw if it has not been done, especially if the snow is thawing off rapidly.

Send orders for seeds and fruit trees and shrubs early. Purchase these from reliable dealers as near home as possible.

Don't wait till planting-time to secure seed, and then buy package-seed from the grocery store. This seed is apt to be of inferior quality.

Rhubarb which was dug in the fall, and frozen, may now be put in a cellar or other dark warm place, thawed out and watered, when it will begin to grow.

A good way to give house-plants the thorough watering needed when they are dry is to set the pot into water and leave it until the soil is thoroughly moist.

A good way to prevent the settling of the snow, during the winter thaws, from injuring the plants is to scatter ashes or sand over the crust. This melts the snow in spots, and the branches are able to break through it easily.

Visit your district school, and note the conditions under which the children and teacher are working. Is there a good windbreak about the yard? Are there any shrubs or evergreens planted on the place? This is a good time to plan for new shrubs and plants on the school grounds, and to order them. Get the school children and the neighborhood interested.

Weed-Seed Cases.

The Division of Botany and Plant Pathology at this Experiment Station has prepared a novel Weed-Seed Case, which is sold to the farmers throughout the State. The case contains twenty-four different kinds of weed-seeds. Up to date, two series of this case have been prepared.

Series I contains the following seeds:

Quack grass, Slender wheat grass, Yellow foxtail, Green foxtail, Wild oats, Curled dock, Sheep sorrel, Smartweed, Lambs-quarter, Pigweed, Russian thistle, Corn cockle, White cockle, Frenchweed, Peppergrass, Shepherd's purse, Wild mustard, Yellow trefoil, Sweet clover, Kinghead, Ragweed, Burdock, Canada thistle, Bull thistle.

Series II contains the following seeds:

Crab grass, Wild rose, Mallow, Witch grass, Evening primrose, Barnyard grass, Dodder, Pennsylvania smartweed, Blue vervain, Wild buckwheat, Catnip, Night-flowering catch-fly, Buckhorn plantain, Cow cockle, Marsh elder, Purslane, Mayweed, False flax, Prickly lettuce, Black mustard, Perennial sow-thistle, Five finger.

Each series is sold for fifty cents, to the residents of this State. New series, with different weed-seeds will be prepared from time to time.—W. L. Oswald, Division of Botany and Plant Pathology, Minn. Agr. College.

Corn Clubs.

It is from small beginnings in the co-operative line, as in other things, that the largest and most successful organizations have most frequently grown. A good way to begin—and with something the results of which are almost immediate—is for a few neighboring farmers to unite in a Corn Club. Let them join in a concentrated effort to increase the acreage and improve the quality of the corn grown in their vicinity, and it will not be long before they will be thoroughly impressed with the advantages which accrue from "pulling together." Not only this, but the lessons learned in methods will prove valuable in further co-operative endeavors.

Let no one think, however, that co-operation eliminates rivalry. Rather it stimulates the healthiest kind of rivalry—that which seeks to produce the best corn and the largest amount to the acre, not only with a view to

individual profit, but with the thought that the corn so produced, after going through a process of selection, is, by its distribution among the neighbors of the grower, to improve the crop of the entire vicinage.

The Corn Club may well include the boys and girls as well as the adults of the farms. The frequent getting together which its formation will induce, with the lively comparisons, sure to take place, of ideas and experiences, cannot fail to broaden and sharpen the intellects of all concerned. "As iron sharpeneth iron," so the contact of mind with mind works for the brightening and bettering of social as well as economic relations, especially when the motive which draws men together is of the beneficent order which underlies every proposal of co-operation.

Appended to a suggestive article by O. M. Olson, in the Minnesota Farmers' Annual for 1910, will be found a simple form of Constitution and By-Laws for the organization of such clubs. The Annual can still be obtained by sending 11 cents for postage.—C. R. Barns, Extension Division, Minnesota Agricultural College.

Care of Colts on the Farm.

There is a great tendency on the part of many to neglect the colts on the farm during the winter. It too often happens that there is an apparent shortage of feed, and the result is that colts are slighted. One way of running a young colt is to have his growth stunted during the first year or two. Most of the colts on the farm get a good start the first six months of their lives, from the fact that they are allowed to suckle the dam during that time. Early fall provides them with good pasture and possibly they have been receiving some oats or shared a part of the feed of the mare. Such treatment puts them in good shape for the winter, but liberal feeding must be kept up if a strong, well developed and matured horse is expected. The colt's system requires a considerable amount of bone and muscle-building material, and this can only be had by feeding nitrogenous feeds, such as oats, a little bran, oil meal; and, if obtainable, some clover hay. The feeding of corn, so often practiced, is not desirable for the growing colt, but had better be confined to the matured horses. Access to the straw-pile will not hurt a growing colt, but it should not be compelled to rely on the straw-pile for a livelihood.

The question is often asked: Why do we find so many promising colts at the county fairs during the fall, and such poor yearlings? The foregoing statement is in part explanatory of such a condition of affairs.

One of the best forms of investment on the farm is the liberal feeding of farm animals of all kinds; and the colt is no exception. A well-bred colt, if properly taken care of and fed the right kind of feed during his first three years of life, will bring from \$75 to \$100 more when three years old than the one that is neglected and poorly fed. Good young horses are always in demand on the market, and can only be supplied from the farms where colts receive the proper care and treatment.—W. H. Tomhave, Extension Division Minn. Agr. College.

Start Out Right.

Farming is now considered as a business. To be successful as a business man, the farmer must adopt business principles. He should know the cost of production of the various farm products, and which products can be grown and sold at the greatest net profit and with the least draft on the resources of his farm. He should know what he has invested in his business, and the rate of interest his investment is paying; also whether he himself is earning anything, or whether his income is earned altogether by his money. If the latter, he may as well invest his money in 6 per cent mortgages and take it easy himself.

The only way to learn these facts is to take an inventory of the farm and equipment; start a simple accounting system, carrying it through the year, and taking a balance at the close of the year. The accounting system need not be complex, nor the labor exacting. January 1st to April 1st is a good time to take an inventory, as the stock is at its lowest usually during that season. There are many simple forms of accounting suitable to the farmer's needs, any one of which forms may be used.

The winter season offers many spare moments for studying these systems and putting one of them into use. Why not utilize the moments, and do something that will be useful and at the same time add to the knowledge of the farm business? Often a grown son or daughter may be induced to become the accountant, thus getting a good business training and improving the mind at the same time. And it is surprising how much use will be made of the facts recorded, when once available. If any farmer is interested enough to

desire to start a set of farm accounts, the Farm Management Division of the Minnesota Agricultural College will advise a system of accounting, and aid in installing it.—Andrew Boss, Division of Agriculture Minn. College of Agriculture.

The Cereal and Flour Testing Laboratory.

The Minnesota Experiment Station has recently established a Cereal and Flour Laboratory, under the Division of Agricultural Chemistry and Soils, which will make a study of the cereals of the state. Particular attention will be paid to wheat and wheat flours, although the other grains will not be neglected.

The laboratory has an experimental flour-mill, in which small samples of wheat can be reduced to flour. This mill includes grain-cleaning devices, rolls for grinding, sifters, etc., all on a small scale, and a high grade of flour can be produced by this means. The flours so produced are tested in an experimental bake-room, and their bread-making qualities determined. In this work, small kneading machines, an electrically-heated raising or "proof" cabinet and an electric oven are employed, and all the tests are made under carefully-controlled conditions. The same quantities of all ingredients, with the exception of water, are used in making every loaf; the quantity of water used, weight, size or volume, color and general quality of the loaves are noted, and in this way the baking qualities of the flours tested may be ascertained. The flours are also analyzed chemically, and the percentages of the more important constituents determined.

At the present time two principal lines of work are under way: First, a study of the wheats raised in different parts of the state during the past season; and, second, the testing of commercial wheats received on the Minneapolis and Duluth markets for the State Grain Inspection Department. The first line of work was undertaken in order to ascertain the relative quality of the 1911 crop wheats, the differences between wheats raised in the several wheat-growing sections of the state; and, by continuing the work, to learn what ranges in quality occur when wheats are grown in the same localities in different years. The relative milling and baking qualities of different varieties grown under the same conditions will also be determined.

The testing of commercial wheats for the Grain Inspection Department is intended to aid its officials in inspecting and grading wheat in a correct and scientific manner. It is of course impossible to make milling and baking tests of every car of grain inspected; but, by testing representative samples, the inspector's judgment is backed by practical and scientific tests. Also, when wheats of a new or uncommon type or variety are received, the tests show in what classes and grades they should be included.

From time to time, special studies will be undertaken along these and similar lines, with a view toward throwing light on all the factors which influence the quality of wheat as it reaches the market. The effect of cutting at different stages of maturity, handling in the field after harvest, of weed-seeds, and of different forms of damage upon the quality of flour produced will be investigated. It is hoped by these means to aid in improving the quality of the wheat crop of this state, and thus increase its value to the producers, as well as to the miller.

NOTE.—Will all farmers who are willing to co-operate with the Experiment Station in this work, to the extent of furnishing an 8-lb. sample of wheat to be tested, kindly notify the Cereal and Flour Laboratory, University Farm, St. Paul, Minnesota? Farmers may in this way inform themselves as to the milling and bread-making value of the wheat which they have produced.—C. H. Bailey, in Charge Cereal and Flour Testing Laboratory, Minnesota College of Agriculture.

Possibly you have forty acres in corn, which yields only the Minnesota average of 30 bushels to the acre, or 1,200 bushels in all; worth, at 60 cents a bushel, \$720. You figure that, if you could buy another forty acres from your neighbor, you could raise twice as much, and make your income from corn \$1,440. But there are other farmers, not far away from you, who on similar land, but by the use of improved methods, get 60 bushels of corn per acre. These men get \$1,440 where you get only \$720. Why not adopt their methods instead of coveting your neighbor's land? The labor of man and horse that will produce 60 bushels per acre is but little more than that required to produce only 30. The secret of the larger yield, in most cases, is found in a careful selection of seed, a good rotation of crops, and manuring.—C. R. Barns, Extension Division, Minnesota Agricultural College.