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ORCHARD AND GARDEN NOTES

January 1-8

Look out for rabbit work on the young fruit trees. Either get the rabbit or protect the trees.

Hardwood cuttings of willow, dogwood, etc., may be made now and carried over winter in sand or sawdust.

Notice the branch tips of golden willow, dogwood and soft maple on bright, warm days. They are worth planting for the air of cheerfulness they give.

Now is a good time for the farmers' club to discuss the matter of fixing-up around the home, the school house, or the cemetery. Make plans that can be carried out next spring.

Don't expect the house plants to flower as well during the cold, dark months of early winter as when we have more sunshine. Most plants require sunshine for their best growth.

The Colorado blue spruce, red cedar, mountain pine, paper birch, white pine and white spruce add much to the landscape at this time of year. When placed as a windbreak about buildings they save fuel and add to comfort.

When the deep snow comes, the birds appreciate feed placed where they can get it easily. Suet tied to trees or grain placed on boards or on pans off the ground will be visited by many friends that you perhaps did not know were here.

Send for seed and plant catalogs. Get a few evenings' enjoyment from a study of their pages. Make up a list of the things you will use next spring and get the order off. Purchase only the true and tried sorts unless you can afford to experiment. Many of the seeds can be purchased from a seed dealer near home. Don't trust the grocery store ready-made packages. They may be good, but there are better seeds.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minnesota.

ORCHARD AND GARDEN NOTES

January 8-15

The American white elm and hackberry are the best two street trees for general planting.

Rose geraniums need a well-drained, sunny location. In the house they should also have a light, warm place.

Root grafts of apples may be made now if they can be stored in sand or sawdust till time to plant next spring.

It is worth while to grow some evergreens about the place to get the beautiful effect of the snow on their branches after a snow storm.

Go over cabbage and root crops stored in the cellar and throw out decayed material. This will prevent further decay and help keep the cellar clean.

The Surprise plum seemed to have a good many friends at the horticultural meeting in December in spite of the fact that it is a shy bearer in a great many places, possibly because it is not always well pollenized.

Get busy on that plan for fixing up the school yard. Does it need a hedge or a few trees and shrubs for comfort and appearance? Talk matters over with the teacher and the older children. Pleasant surroundings at home or school pay.

In a discussion on the state flower at the horticultural society's meeting, E. A. Smith, of Lake City, said he believed a better known flower should be taken as the state flower. How many have seen or know the pink lady slipper which is our state flower at present? It is a wonderful flower, but growing more uncommon each year.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minnesota.

DO YOUR HORSES EARN THEIR BOARD?

Statistics in Minnesota on a number of farms indicate that the horse is a costly item of equipment on the farm. Assuming average state yields of grain and hay for the last five years and considering the amount of feed fed annually to a horse it is apparent that the average farmer is giving close to 4.5 acres of his best land to each work horse. This is besides the straw consumed and the pasture, which also may be very productive land. Be sure the horse is giving you back an equivalent in productive work on a sufficient acreage.—Francis W. Peck, Minnesota Experiment Station.

HOW TO PREVENT "CATCHING COLD"

"Colds are catching," says Dr. I. J. Murphy, of the Minnesota Public Health Association. "People suffering with a cold should not cough or sneeze without holding a handkerchief over both nose and mouth. They should spit only in proper receptacles. Small drops containing millions of germs may be scattered about in coughing, sneezing, or as a result of ordinary conversation. A person with an acute cold should try not to infect others.

"To keep up the general resistance the skin should be kept in a healthy condition. This can be done best by taking a warm bath at bed time at least twice a week and a cold shower or a sponge bath of very short duration every morning.

"At this time of the year most living quarters are kept too warm. The habit of living in overheated rooms lowers the general resistance and injures the membrane lining of the nose and throat so that one becomes easily a victim to a cold, bronchitis, or pneumonia. Fresh air, too, is just as essential in a sleeping room in the winter time as it is in the summer time. It should not be excluded, but there should be a proper amount of clothing for protection. Clothing should suit the kind of weather, not the season. In warm spells clothing should be reduced; in cold snaps, increased. Clothing should be reduced when one enters a warm room and put on again when exposed to the cold."

PROTECT THE CHILD AGAINST TUBERLOSIS

"Recent studies of the mode of attack by tubercle bacilli indicate that children are much more easily infected than adults, and that in most cases the disease is contracted in very early childhood." This is the opinion of Dr. A. T. Laird, a director of the Minnesota Public Health Association and Superintendent of the St. Louis County Sanatorium.

"Practically no child in a family where there is open tuberculosis escapes infection," says Dr. Laird. "Adults probably rarely contract the disease but develop it from foci within themselves acquired in babyhood or early childhood. Consequently, excessive fear of consumption, as it is usually called, is foolish, and reckless living is much more dangerous to adults than casual contact with consumptives.

"Children especially should have a long period in which to grow up strong and well under open air conditions and accordingly should not be returned to unfavorable surroundings after a brief stay at the sanatorium.

"It is the children who are in most danger and every effort should be made to protect them; the babies especially."

TONICS FOR HENS ADD TO PROFITS

To get the best results from the poultry yard, great care must be used to protect chickens from diseases induced by changes in the weather, by poor ventilation, exposure to drafts, and other things. One means of securing such protection is the use of tonics. A tonic of tried quality is suggested by N. E. Chapman, poultry specialist of the agricultural extension division of the Minnesota College of Agriculture. It is made as follows:

Magnesium sulphate, 10 ounces; magnesium oxide, 1 ounce; iron sulphate, 2 ounces; ground ginger, 2 ounces; sulphur, 3 ounces.

One table spoonful of this mixture in moist mash is a dose for twelve birds. Such a dose should be given each morning for three mornings, and then discontinued for a week or ten days.

Permanganate of potash may also be used in the drinking water—as much as can be piled on a ten-cent piece, in a gallon of water.

Apparently, chickens are subject to much the same ills that afflict human beings at this season of the year—colds, catarrh, bronchitis, pneumonia, diphteria, and roup.

The careful poultryman will visit his roosts at night and look and listen for signs of colds. He will at once remove any birds showing symptoms of disease, in order that the rest of the flock may not be infected. Labored breathing, wheezing, rattling in the throat, gaping, and sneezing are symptoms to be looked for. The bird showing these symptoms should be treated at once with one of the following mixtures: Zenoleum and kerosene, equal parts; sweet oil and kerosene, equal parts; or chloroform, one part, and cottonseed oil, three parts. The head of the chicken should be immersed in the mixture for a moment, or a small amount of the mixture should be injected through the nostrils and mouth. This should be supplemented with the tonic already recommended, or with epsom salts in moist mash—one teaspoonful to each bird. The bird should then be kept in dry quarters and fed bread soaked in milk, and cabbage leaves.

If the roup develops, with a fetid odor, infected birds should be killed and burned, and all birds and chicken houses should be thoroughly disinfected.

BUSINESS COURSES BY CORRESPONDENCE

The general extension division of the University of Minnesota is offering a series of business courses by correspondence. The courses are outlined briefly as follows:

A careful study of national and state banking institutions, their organization and operation; the federal reserve system; the money market and discount rate; and currency problems of banking. Twenty-four lessons. Fee $12.

The application of principles underlying the science of accounts, demonstrated by a series of graded problems, each illustrating one of the principles involved; double entry bookkeeping; the preparation of balance sheets, and profit and loss statements; adjustments and accruals; controlling accounts. Twenty-four lessons. Fee $12.

The principles of accounting as applied to a general merchandising business, with demonstrations of modern credit and short account systems. Twelve lessons. Fee $6.

Contracts: Formation of contracts; offer and acceptance; consideration; capacity of parties; minors; misrepresentation; fraud; legality of object; operation and interpretation; remedies. Agency: Methods of forming the relation of agency; who may act as agent; who may act as principal; liabilities of principal to third parties; liabilities of agents; termination of agency. Sixteen lessons. Fee $8.

Business English; letters in general; complaint answers; reminder letters; recommendation letters, application letters, credit-adjustment letters; "ginger" letters; form letters; follow-up letters; general sales letters. Twenty-four lessons. Fee $12.

CROP-IMPROVERS PLAN BIG SHOW

The annual convention and seed show of the Minnesota Crop Improvement Association will be held at Worthington, Minn., February 15-18. F. C. Tripp, the high school agricultural instructor, has arranged with the extension division, University Farm, for a series of stock-judging demonstrations for the forenoons of each day. The afternoons will be devoted to discussions of live farm topics. Governor W. S. Hammond will speak Tuesday evening, February 15, and President George E. Vincent, of the University of Minnesota, will deliver an evening address Wednesday, February 16. The annual banquet of the association will be held Thursday evening.

Samples for the seed show should reach Worthington not later than Monday, February 14. Charges should be prepaid and packages should be addressed to the Crop Improvement Show, Worthington, Minnesota. Prizes will be given for corn, grains, grasses, clovers, and other exhibits.

FARM FERTILIZERS HAVE GREAT VALUE

Barnyard manure has value on the farm aside from that as a fertilizer. It improves the physical conditions of the soil and makes it easier to handle. Its decay produces heat and its presence aids chemical and bacterial processes. Moreover, it absorbs and holds a large amount of water and helps to areate the soil. The benefits of these indirect aids to plant growth are in some cases worth as much as the fertilizing power of the manure.

These are observations made by F. L. Kennard, agronomist in the Northwest Experiment Station at Crookston, in response to numerous questions received from farmers.

When it is added that barnyard manure is worth perhaps $2.50 a ton, and that each farm animal produces from five to seven tons per 1000 pounds of live weight each year, it is easy to see that as a fertilizer the material should not be wasted.

The best practice is to haul the stuff directly from the barn to the fields. If this is done, there is little loss through fermentation or leaching.

The agricultural instructor at Browns Valley did much to make his town a better place in which to live, by conducting a lawn contest and encouraging the setting out of street trees. The commercial club furnished the trees, the agricultural class boys staked the streets. Some 500 trees were set. The boys also cleaned up the park, and it was afterward kept in shape by the Boy Scouts.

THINGS THAT PAY ON THE GOOD FARM

With each new area visited or old area revisited by men doing the farm management demonstration work for the agricultural extension division of the University of Minnesota, it becomes more and more apparent that a good size of business, good yields from crops and from livestock, and a proper diversification of the farm business, are all essential to success in farming. A recent demonstration in Western Minnesota shows this in striking fashion.

The most profitable ten farms in a certain locality were compared with the average of some sixty farms visited, and in all respects mentioned, were found to be better than the average. In the matter of size, whether considering total acreage, acreage in crops, or acreage in potatoes, these ten farms averaged 60 per cent larger than the average of the locality. In returns from live stock, the ten farms showed 10 per cent more income from each animal than the average. The crops were better, especially potatoes, the most important crop, which went 122 bushels to the acre against an average yield of 99 bushels. The farm business was so arranged on these ten good farms that every man and every horse was able to cover from ten to twenty per cent more ground than the average.

As a result of these methods, the ten farms mentioned showed an average labor income of nearly $1400 while the average man in the locality had a labor income of only $414. This is all the more striking when one considers that a man's labor income is not merely what he makes above expenses, but is what is left as pay for his year's time over interest on his investment, which in the case of the larger farms of the ten men mentioned would be a heavier charge than the average.—S. B. Cleland, Extension Division, University Farm, St. Paul.

LARGE CROPS ALONE DON'T YIELD WEALTH

Crop yields are of outstanding importance in their effect on farm profits. Records show that farms with poor crops generally give low labor incomes, and that farms with good crops usually give high labor incomes. A labor income is the amount a farmer earns in excess of farm expenses, interest on the farm investment at 5 per cent, and the value of the farm produce used in the household.

Records from 400 farms in Rice county, Minnesota, show that the farms with crop yields of less than 70 per cent of the average for the 400 gave an average labor income of $202 less than nothing. In other words, the farmer had to take $202 from the interest on his farm investment in order to pay the farm expenses. Those farms having average crop yields gave a labor income of $319, and those with crops more than 20 per cent better than the average gave a labor income of $503.

Large crops fed to unprofitable livestock, or large crops produced at excessive cost, however, often cause losses. Most of the 400 farms in Rice county, which showed good crops but low labor incomes, had one or both of these causes to blame. Large crops alone do not assure farm profits.—A. H. Benton, Minnesota Experiment Station.

ICE HOUSES ADD TO DAIRY PROFITS

No producer of milk or cream in regions where natural ice is obtainable, should be without ice through the summer months.

In New England, 500 pounds of ice annually will cool the cream from each animal in a 20-cow dairy. The same figures, doubtless, would apply to Minnesota though it would be well to allow a margin of even 200 or 300 pounds for shrinkage and for household use.

An ice house with a capacity of ten tons can be built for $50. The harvesting and storing of ice in Minnesota can be done for less than $1 a ton. On this basis sufficient ice to cool the cream from 20 cows and to supply the needs of the farm home, would not cost to exceed $15 a year, or one-half a cent a pound for the butter fat produced. As the quality of the cream delivered is coming more and more to determine the price, this slight expenditure on the part of any dairy farmer, is amply justified.

Why not prepare for the ice harvest, as winter has set in? Farmers' Bulletin No. 623, which can be obtained by addressing the Department of Agriculture, Washington, D. C., gives instructions for the building of ice houses and for the use of ice on the dairy farm.

Keep the house plants clean and you will not be bothered with mealy bug or aphis.

CREAMERY PROMOTERS ABROAD IN THE LAND

Farmers in Northern Minnesota should be on their guard against the creamery promoter, says R. M. Washburn, of the Minnesota Experiment Station. A new and systematic attempt is on foot to promote coöperative creameries throughout the Northwest, and Northern Minnesota has been set apart as the territory to be "worked."

The creamery, says Mr. Washburn, is good, and the coöperative farmer-owned creamery is better, but there must be enough cows in the tributary territory to support it. Otherwise, it will not have the raw material with which to work, and will be certain to fail. The product of at least 500 cows, or about 60,000 pounds of butter fat per year, is necessary to secure success. Cream shipping, individually or coöperatively, or a coöperative cheese factory is to be preferred to a coöperative creamery, during earlier stages of the growth of the community.

Any community considering the building of a coöperative dairy enterprise, should first appeal to the College of Agriculture, or the State Dairy and Food Department, for the advice of their men with regard to possibilities. Such advice may be had simply for the asking. Advice given by the experts from these departments have saved many a community from suffering serious loss, and might have saved many more which listened to the tale of the promoter, and invested their money only to see it disappear never to return.

HOW QUACK GRASS MAY BE CONQUERED

Quack grass, which, like the soldiers in Europe, digs in and is hard to oust, can be ousted.

Minnesota Experiment Station Bulletin, No. 151, on "Quack Grass Eradication," by A. C. Arny, tells how the thing can be done. Here are a few pointed paragraphs from this bulletin.

"Quack grass seed will grow even if the plant is cut before the seed is mature. In order to prevent quack grass from developing seeds to the point where they will germinate, crops in which it is growing should be cut not later than the last week in June.

"Young quack-grass plants, if attacked before they have formed underground stems, are as easily killed as plants of wheat or other grains of the same age.

"Manure containing quack grass seed may be applied on plowed ground before preparing the soil for a cultivated crop. The seed will grow the same season and the young plants will be killed in the preparation of the seed bed and the cultivation of the crop.

"Digging by hand and removing from the field all portions of the plant, smothering with tar paper, and spraying with a solution of sodium arsenite are best for the complete eradication of quack grass on small spots.

"All methods of eradication on large fields are based on thorough tillage.

"The implements found on any well-equipped farm are all that are needed to eradicate quack grass."

A copy of this bulletin can be had by addressing the Office of Publications, University Farm, St. Paul.

FARMERS' ELEVATORS POPULAR IN MINNESOTA

One farmer out of every five in Minnesota belongs to a farmers' elevator company, says L. D. H. Weld, in Minnesota Experiment Station Bulletin No. 152, on "Farmers' Elevators in Minnesota." One farmers' elevator company has a membership of 600, one has a membership of 500, two of 400, and four of from 300 to 400. The business done by all the farmers' elevators of the state in 1912-1913 was $24,000,000; in 1913-1914, $30,000,000. Of the $24,000,000 business in 1912-1913, $22,000,000 was for grain marketed, and $2,000,000 for supplies of various kinds purchased for members of the company. A map of Minnesota, published in the bulletin, shows the entire grain area of the state dotted with elevators.

The bulletin gives a historical sketch of the growth of farmers' elevators in Minnesota; the present status of the movement; features of organization, and instructions as to how to organize; and an outline of the Minnesota law relating to coöperative associations.

A copy of the bulletin may be had by addressing the Office of Publications, University Farm, St. Paul.

Several fruit-growers stated at the horticultural society's meeting that they were able to get top prices for fruit sold through commission men. Inquiry showed that these men have established a reputation for good packing and good fruit, and the commission men are anxious to get their fruit.