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## ORCHARD AND GARDEN

October 15 to 22

Everbearing strawberries were a good crop up to the time frost killed the blooms, in spite of dry weather in some sections of the state.

Stratify gladiolus cormels in sand if you want them to germinate well next year.

Strawberries may be mulched with clean straw to the depth of four or five inches as soon as the ground freezes. Corn fodder is apt to be too heavy for this purpose.

Corn should be well cured before subjecting it to freezing weather. It is better to store it in a cool place a little above a freezing temperature.

Autumn leaves collected in piles in out of the way places will decay and furnish some excellent leaf mold for greenhouse or garden work. Oak leaves are better than soft wood trees like box elder and soft maple.

Root crops and cabbage require a cool cellar with some moisture in the air. Squash and pumpkins require a dry warm cellar. Onions should be placed on shelves or in bins not over eight or ten inches deep with a good circulation of air about them.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

## ORCHARD AND GARDEN

October 22 to 29

Well grown and free flowering canna varieties make excellent vase flowers where large heavy material can be used.

Keep gladiolus and dahlia bulbs at about the same temperature as potatoes. Clean up the garden and burn all trash. If the ground is not frozen, spade or plow the garden area.

Go over the root crops and cabbage in the cellar and throw out all decaying specimens.

Cabbage keep well wrapped in newspaper and turned bottom side up on shelves in a cool cellar.

See that all weeds and grass are pulled away from the trunks of trees before cold weather so that mice will not be harbored there and eat the bark of the trees.

The corn fodder, burlap or boards about young apple trees or other newly set smooth-bark trees to protect them from sunscald during the winter.

Barnyard manure, well rotted, is an excellent fertilizer to put on the lawn early in winter just before snow flies. It holds the snow as well as soaks into the ground and builds up the plants.

Many of the berry bearing shrubs will furnish good bouquet material for this time of year. Wahoo and wild roses are among these.

Better locate some good potato seed now for planting next spring. You can not get the best potatoes as a rule from seed picked out of the grocer's bins. Some folks tried that this year to their sorrow.

A few bird feeding stations near the house will attract the birds and prove interesting to the younger members of the family at least. Now is a good time to get these set up.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

## BANKER'S HENS NET HIM \$1,000 A YEAR

Frank E. Bauer, bank cashier of Barnum, Carlton county, says he is going to make a net profit this year of \$1,000 from his flock of White Leghorn chickens. N. E. Chapman, poultry specialist of the extension division of the state agricultural college, who induced Mr. Bauer to go into the chicken business back in 1915 and who has kept a close check on the side line of the banker every year since, is likewise positive that the Bauer chicken ranch will show profits this year of \$1,000, if not more.

Mr. Bauer's "ranch" is the back of two lots on the corner of a business street. In 1915 he made a profit of \$115 on a flock of 123 chickens purchased when they were a day old. In 1916 his returns above the cost of feed for 500 chickens were \$514. Every year since, his Leghorns have made a substantial addition to his income. This year he has sold 200 hens that have passed the pullet year for \$1.50 apiece as breeders, and has 500 pullets that are just beginning to lay. Later he will sell many of the pullets for \$2 each at Duluth and Superior.

Three hundred and fifty farmers comprise the State Poultry Demonstration Community at Barnum. Mr. Chapman has been its sponsor several years. "We are really demonstrating, not simply experimenting," he says, "what may be done with poultry if the hens are well bred, well fed and well housed and the products well sold. The eggs are put up in cartons, guaranteed to be full size, strictly fresh and two ounces in weight. What the Barnum community is doing any other in Minnesota can do."

## "PREVENTION" FIRST IN CARE OF SHEEP

Parasitical diseases of sheep are hard to fight and overcome. Dr. C. P. Fitch, head of the division of veterinary medicine, believes that the ounce of prevention is worth more than the pound of cure. He says:

"Most diseases of sheep are caused by parasites such as stomach and lung worms, mange, ticks, and tape worms. In Minnesota the losses due to stomach worms are probably the heaviest; next to them probably is the toll taken by lung worms. Any treatment for lung worms is unsatisfactory and sheep afflicted with them should be disposed of promptly. Diseases caused by stomach worms can be treated to good purpose by the use of one per cent solution of copper sulphate, 100 cubic centimeters for the older sheep and half that quantity for lambs. The solution is given in the form of a drench and should be repeated once or twice at intervals of ten days, care being taken not to get the fluid into the windpipe of the animal. Tape worm can be expelled by the use of aspidium, otherwise known as the extract of male fern.

"Prevention" should be emphasized in the matter of sheep diseases. Farmers and breeders should exercise every possible care when buying sheep to avoid bringing infested animals into the country. Newly purchased animals should be kept by themselves and confined to single fields for the first six months. In this way the spreading of disease to original flocks can be reduced to the minimum. Now that the sheep raising industry is being stimulated in Minnesota, it is exceedingly important that all breeders inquire carefully into the history of flocks from which they may purchase. All imported stock should be closely inspected by a competent veterinarian."

## DEEP FURROW TURNED ON EDGE HELD BEST

The nature of the soil and the crop to be grown should determine the question of whether to plow deeply or more shallow. As with most other farm problems, the farm operator's judgment and experience must be called into play in determining which practice is best on any farm.

Andrew Boss, vice director of the Minnesota experiment station, believes that deep furrows turned on edge, or "three-quarters over," furnish the best conditions for pulverizing and sweetening the soil. "It is not good practice," he says, "to deepen the plowing greatly in any one year. It is better to deepen it by one-half inch or an inch each year until a sufficient depth has been reached. Rarely is it necessary to plow deeper than seven or eight inches except for certain deep-rooted crops like sugar beets, carrots, potatoes and like crops.

"Where it is desirable to incorporate in the soil water holding material, such as a green manure crop or a dressing of coarse barnyard manure, deep plowing is wise. Either a very sandy or a very heavy dense clay would be benefited by such treatment periodically."

## RECORDS SHOW IT PAYS TO STORE OATS

In a study of the Chicago market for oats for the 53 years from 1866 to 1918 inclusive, William L. Cavert, farm management extension specialist at University Farm, finds that for seven years highest prices for this cereal were reached between August 1 and November 30; for 19 years between December 1 and March 31, and for 30 years from April 1 to July 31. The total is 56 instead of 53 because there were three years in which the highest price was recorded at two different seasons. In like manner, there were 33 times in which the lowest price was reached from August 1 to November 30 and 19 times in which the lowest price occurred from December 1 to March 31 and only four times in which the lowest price occurred from April 1 to July 31.

"In determining the best time to sell," says Mr. Cavert, "such considerations as the condition of roads, interference with field work, and need of ready money are frequently as important as the question of seasonal variation in price. However, the figures would seem to indicate that on the average those who hold oats until late winter or summer receive a price that gives a profit above interest, insurance, and cost of storage. There is practically no loss of weight on small grain during storage except such as is due to pests like rats and mice.

"Particular emphasis is placed upon the fact that in any particular year the market may behave very differently from what would be indicated by average prices."

Boarders in the shape of lice and mites on fowls are unnecessary. The energy absorbed by these parasites will never go into eggs and meat.

## STRAW VALUABLE FARM BY-PRODUCT

Because livestock raising is increasing and the demand for forage and roughage is rapidly growing, straw from the grain crops has become an important by-product. Every stock raiser recognizes its value for feed or litter. On many stock farms not nearly enough straw is raised for the needs of the stock. And yet much of it is wasted. A great deal is still burned at threshing time or soon after. More of it is blown into poorly made piles and stands unused for a few years, occupying land that should grow crops. And more is wasted in these poorly made piles by stock tramping over it and pulling it down.

When straw is scarce and needed for litter or feed it should be as carefully stacked as is hay. This is sometimes difficult where the blow stacker is used. Much can be done toward saving the straw by trimming up the pile after threshing. If the straw is dug away from the bottom so as to form a straight wall five or six feet high all the way around stock can not well tear it down.

The straw so dug away should either be hauled to the barns for use or spread on the land thinly for plowing under. The top should also be trimmed up and put in shape to shed rain as much as possible. This will result in dry straw for feed or bedding when wanted and will add much to the dryness of the barn where used and to the comfort and health of the livestock. Frozen chunks of straw make poor bedding and in thawing result in a damp barn.—Andrew Boss, vice director of the Minnesota Experiment Station.

## MACHINERY SHED FLOOR PLANS VITAL

In building a shed for housing farm implements, L. B. Bassett, assistant professor of farm management, University Farm, says that the floor plan should be given careful consideration. Otherwise the shed may be so unhandy that the farmer will be disposed to leave most of his machinery out of doors during summer months, only housing it after the work is done in the fall. Mr. Bassett says: "If the floor plan is so arranged that the machine can be taken out easily and returned, and if the shed is located near the scene of activities on the farmstead, the inclination to leave machinery outside will be greatly reduced. A machine shed standing idle, with the machinery outside and exposed to all sorts of weather, is not giving service."

## "HOOTY" THE OWL FRIEND OF FARMER

Wholesale destruction of hawks and owls, says F. L. Washburn of the division of entomology, University Farm, has been responsible in localities for an enormous increase of field mice and other pests.

"Owls in particular," Mr. Washburn says, "are the farmer's friends. It is easy to determine the food of owls by a study of the pellets of indigestible matter disgorged after a meal. Out of 39 stomachs of barn owls, a Minnesota bird, 17 were found to contain mice and a like number of other mammals, while 675 pellets examined contained 1,123 skulls of meadow mice. In 109 stomachs of the horned owl examined by experts, mice were found in 46, rats, red squirrels and chipmunks in 18 and insects in 16. Fifty pellets from the long-eared owl contained 114 skulls of field mice. In the case of the great horned owl, the pellets showed that very many rabbits, muskrats, field mice and shrews were eaten.

"The small screech owl so common about barns and sheds is perhaps one of the most useful birds on a farm. It destroys large numbers of field mice as well as house mice that have gone into the fields in the early fall. It is evidently fond of caterpillars and it wages war on the English sparrow."

## LICE ON CHICKENS NEEDLESS, SAYS RILEY

Louse infestation of chickens is needless and they should not be allowed to enter upon the winter with such a handicap, says W. A. Riley, chief of the division of entomology of the University of Minnesota. Dr. Riley holds that the most satisfactory control measure is the use of commercial sodium fluoride. This powder is applied by the "pinch method." The chicken is held by the legs or wings and a small pinch of sodium fluoride is applied to the head, another to the neck, two on the back, one on the breast, one below the vent, one on the tail, one on each thigh and one on the under side of each wing. Another efficient remedy, says Dr. Riley, is the Cornell, or Lawry, louse powder. "With either of these powders available," he says, "there is no point in buying proprietary lice powders which can not be more efficient and which are vastly more expensive."

## PROPER CARE WILL CUT MACHINERY BILL

Prices of farm machinery have mounted until the machine cost per acre, according to L. B. Bassett, assistant professor of farm management, University Farm, is now nearly double what it was formerly. "This," says Mr. Bassett, "should stimulate farmers to pay more attention to the care of all implements. The useful life of the machine is no longer now than it was when prices were much lower. One of the greatest sources of loss in farm machinery is the loss from the lack of housing. This cost should not exceed 4 per cent annually of the value of the machinery housed. That is, if a machine shed cost \$200, the annual cost of the shed could be figured about as follows: Interest on \$800 at 6 per cent, \$48; depreciation of shed, 2 per cent, \$16; interest, \$2; taxes, \$2; repairs, paint, etc., \$4. The total, \$72, is 4 per cent of \$1,800, therefore a shed that cost \$800 should house at least \$1,800 worth of farm machinery. If this is true, the cost of shelter of machines would be approximately 4 per cent of their value, or it would cost about \$4 a year to house a machine that cost \$100. If the shed can be built for less money, the machinery cost and cost of production will be correspondingly reduced."

## CARELESS HANDLING OF POTATOES COSTLY

Improper handling and storing of potatoes last winter in Minnesota alone cost producers, it is estimated, more than a million dollars. Much of this enormous loss of valuable food might have been prevented.

The potato is subject to several diseases during the growing season and yields are also largely dependent on weather conditions. Often, however, the losses are heaviest in the late fall and winter, after the crop has been produced, from rots in storage. These storage losses are to a large extent preventable.

G. R. Bisby, assistant plant pathologist, University Farm, thus summarizes losses which often occur after the crop has been made:

Delay in digging until some of the tubers at or near the surface have been frosted.

Cutting and bruising of the potatoes during digging.

Permitting the potatoes, after digging, to lie too long in the sun, particularly if the weather is warm.

Handling of the potatoes like cobbles. Whenever the skin of the potato is broken, rotting is likely to follow.

"The cellar or storage bins should be as near 35 degrees Fahrenheit as possible during the winter and should be dry and well ventilated," says Mr. Bisby. "Care should be taken that none of the potatoes near the walls of cellars or bins freeze. Care in handling the potatoes, sorting out diseased and cut potatoes before putting the crop in storage, avoidance of chilling or heating of the crop, and the provision of cool dry, well ventilated storage will result in largely preventing losses."

## GARMENT MAKING ADDED TO PROGRAM

Garment making has been added to club work for Minnesota boys and girls. Enrollment for this companion contest to breadmaking and canning in boys' and girls' club work was started on Oct. 1 and will close Feb. 1, 1920. The work must be completed and report and story filed with the local or state leader, T. A. Erickson, University Farm, before May 1, 1920. Minnesota girls between 10 and 18 inclusive who enroll in this project will be divided into two classes for four years of work. Class A will be for those who have had home training work in schools, and Class B for those who have not had such training. These classes are to be considered only in the judging of the work and all projects are to be open to both. Plans for conducting local, county, and state contests and team demonstration work will be explained in detail in bulletins which will soon be published.

## MIDWEST EXPOSITION TO OPEN ON NOV. 10

R. S. Mackintosh, horticulturist with the extension division of the University of Minnesota, expresses the hope that more Minnesota growers will exhibit fruits, vegetables and flowers at the Midwest Horticultural Exposition to be held at Des Moines, November 10 to 14. Mr. Mackintosh recalls that last year a Minnesota apple grower exhibited several packages of fruit and was awarded some of the best premiums. Mr. Mackintosh is state chairman for Minnesota of the exposition society.

Lay down and cover the rose bushes and grapes with soil.

## FALL PLOWING WILL KILL FIELD INSECTS

Various field insects pass the winter in the soil. Some of them make earthen nests lined with silk, while others hide at the base of the roots of plants. A. G. Ruggles, state entomologist, thus explains how countless numbers of crop pests can be destroyed:

"When the insect is in the transitional period between the larva or worm and the adult, they are very susceptible to disturbances. Disking or plowing the ground in the fall disturbs these forms and many of them die. It is also known that alternate thawing and freezing weather has a destructive effect upon insect life. Many insects can endure freezing alone, but the alternation of thawing and freezing is fatal.

"Also many of the more delicate forms, if the plowing is done properly, can be covered so deeply with soil that they are unable to reach the surface the following year. Many insects exposed by the plow are also devoured by birds. For these reasons disking or plowing are operations recommended by all economic entomologists."

## WOMAN'S BUILDING DECLARED MODEL

Women of Morrison county have set a fine example for women of other Minnesota counties in financing building and conducting a model fair building for women on the county fair grounds at Little Falls. This is the judgment of Miss Mary L. Bull, home economics specialist with the extension staff of the state agricultural college, who attended the Morrison county fair.

"The exhibits made by the women," says Miss Bull, "were magnificently arranged. There were cases for all food exhibits, and the fancy work was on shelves where it could be inspected to good advantage but not handled. The building has a good cement floor and a fairly well equipped rest room. Water is piped to this room, and a stove and various other conveniences are kept ready for use. Opposite the women's building stands a separate building for the display of school exhibits. This was financed by the efforts of the children of the county. These companion buildings are really monuments to the enterprise and public spirit of the women and children of Morrison county."

Miss Bull attended the Koochiching county fair at Northome. The grounds are some distance from the town, and one of the farm clubs, alive to the opportunity presented, put up a temporary building and served dinners to patrons of the fair and advertised the merits of agricultural extension work.

Farmers and breeders should take every possible care to avoid bringing infested animals into the country when buying sheep.

## SPACE FILLERS

Nebraska has organized its first boys' and girls' beekeeping club. Oh, you Minnesota.

To plow deeper gradually, not all at once, is advised by trained agriculturists.

Careless handling of potatoes cost Minnesota growers one million dollars last year, according to reliable estimates.

Corn silage added to a corn and alfalfa ration has proved a profitable way of fattening lambs at the Nebraska experiment station.

## EDITOR'S CORNER

## Boost Your Own Paper

David DeHaven, manager of the Western Newspaper Union at Fargo, N. D., believes that the newspaper publisher should blow his own horn. "If you fail," he says, "to boost your own paper by advertising its good points, you can expect very little boosting from the community."

## Editors In Good Company

A negro preacher in Virginia who had a particularly good field of corn, and who was proud of it, said there were three kinds of folks who ought to teach the people—the preachers, editors, and county agents. He was doing all he could, he added, to help the editors and the agents.

## Newspapers Best for Farm Sales

Only a few years ago the principal reliance of the farmer in advertising a sale was the "bill" or poster; now it is said he is doing most of his advertising in his local country newspapers. "This change is a change for greater efficiency in advertising," says the agricultural journalism department at Iowa State College. "When you consider the number of farmers reached," it adds, "the newspaper advertisement is much the cheaper. Wherever farmers have watched their sale advertising they are strong in their endorsement of newspaper space."