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ORCHARD AND GARDEN

August 15 to 22

Transplant iris now.
Practice seed-selection for tomatoes and beans as you do for corn.
The second crop of everbearing strawberries is now beginning to ripen.
If old peony roots are divided in August they will bloom the next spring.
Cultivate the strawberries and do not allow the runners to become too thick.
Keep suckers off fruit trees and vegetables, they take the strength of the plant and retard the development of the fruit.

Take cuttings of geranium, coleus and other bedding plants to have in the house this winter. They should be put in sandy soil and kept moist until well rooted.

As soon as a vegetable crop is all gathered, clear the ground and plant to clover. It keeps down weeds and can be turned under in the spring, enriching the soil.

If blight appears in the orchard, cut out and burn all affected branches. If scab or codling moth is severe, spray with concentrated lime sulphur, 1 to 40, and arsenate of lead, 3 pounds to 50 gallons of water.

Spray lilac bushes with potassium sulphide—one ounce to two gallons of water—to remove mildew.—University Farm, St. Paul.

ORCHARD AND GARDEN

August 22 to 31

Plant spinach in August for fall and early spring use.

Spray orchard and garden crops with Bordeaux mixture.

Cut asparagus tops as soon as dry and burn them; they harbor insects.

Keep celery growing rapidly. Keep out weeds and give plenty of water.

If red spiders appear on evergreens, spray frequently with a good insecticide.

Cut off all dead flower stalks. They reduce the vigor of the plant and make the garden unsightly.

Order bulbs now. They reach this country in September and should be potted in October.

Watch for two-legged marauders in the melon patch. It may be necessary to sit up nights but it pays.

Instead of sprinkling the garden, dig ditches between the rows and fill them with water two or three times a week.

Keep the fallen fruit picked up. "Falls" usually contain grubs of insects, and by killing these next year's crop dangers will be lessened.

If onions have stopped growing, pull them and lay them on the ground to ripen. When the tops are dry twist them off and store the bulbs.

The motor car is fast becoming a necessity in marketing fruits and vegetables. Not only is time saved which can be used profitably otherwise but the products of the orchard and garden reach the market in much better condition than if several hours on the way.

If blight appears, spray with 5-5-50 Bordeaux mixture.—University Farm, St. Paul.

Hand selection of fruit pays

Though it is poor business to put large apples only in the top of the box, R. S. Mackintosh, horticultural specialist, University Farm, St. Paul, says that time used in picking, grading, and packing apples by hand is well spent. A uniform grading system, a good box and careful handling are requisites of high prices for Minnesota fruit. All apples should be carefully picked by hand from the tree before they become "hard ripe," Mr. Mackintosh says. Those which become "water-cored" must be picked especially early.

Grades, particular attention being paid to the varieties of apples, should be carefully separated. All fruit placed in the boxes of any grade should be uniform in shape and each grade must have a size limit, below which none in the grade falls. Not more than 10 per cent of the first-grade apples should vary from the standard type or size.

Regular apple barrels, or bushel or half-bushel baskets for the local market, are most convenient for packing choice apples. The first few layers should be packed with the stems down and after each half-bushel is put in the barrel should be shaken to settle the fruit. The top should be put on firmly to keep the apples in place. A screw or a lever press is best for putting on the top.

After the barrel is filled and the head nailed securely in place, it should be turned over and should have the variety, the grade, and the size of the smallest apple written on the other end. This end is to be opened as the top.

When hand packing and grading is done carefully by all fruit growers of the state, there will be a considerably increased incentive for consumers to eat Minnesota apples.

CULTIVATE NOW TO SAVE RASPBERRIES

Wormy raspberries, still fresh in the minds of the pickers, are fortunately not a necessary evil. Berries which are infested with raspberry fruit worms cannot be shipped any distance. They make the box unsightly, soon fall apart and require unnecessary work of the housewife.

During the picking season, and immediately after the season's close, the worms drop to the ground, where after about six weeks they change to a helpless, delicate pupa. In the spring they transform to small, adult, brownish beetles about one-seventh of an inch long. Being hungry, they immediately chew elongated holes in the young tender leaves and later make holes in the buds. Often from 10 to 15 per cent of the buds may be destroyed in this manner.

Since the insects are helpless in the ground, cultivation in the late fall and early spring will kill many of them or expose them to their enemies. They can be killed also by spraying with 4 pounds of lead arsenate paste to 50 gallons of water about the first or second week in May, when the young plants are about six inches high. It is important to have all neglected wild bushes destroyed, for these serve as breeding grounds.

Black Caps and Cutthroats do not seem to be subject to attack by the worms to any great extent, while Kings are the most severely infested.—S. Marcovitch, section of economic entomology, University Farm, St. Paul.

BLISTER RUST IS MENACE TO ESTATE

Coöperating with the plant pathologist of the Minnesota Experiment Station and with the state forestry service, F. L. Washburn, state entomologist, is working to stamp out the few cases of white pine blister rust found near the eastern border of the state. Nurserymen have been asked to bring no white pine or other five-leaved pines into Minnesota from another state and importation from Europe is absolutely prohibited.

While it will not kill an old pine, blister rust is absolutely fatal to young trees, and on that account it is a serious menace to reforestation as well as to planting ornamental trees of the pine family. Because one stage of the disease is found on currant and gooseberry bushes, it is particularly hard to combat.

The situation, so far as the nurseries of the state are concerned is handled with comparative ease. The chief danger, according to Professor Washburn, is in private individuals bringing affected trees into the state without the nursery inspection department's knowing anything of it.

The remedy that the entomologist advocates is for private citizens to BUY FIVE-LEAVED PINES ONLY FROM DEALERS IN MINNESOTA, insisting upon a definite statement that they have been raised in this state.

Under the law, the state entomologist has authority to enter any premises on which he has reason to suspect the presence of an injurious insect or a contagious plant disease. Private property of this kind can be destroyed if, in his opinion, a necessity exists.

The regular nursery inspection work has been delayed this season on account of the imperative need of work in connection with the white pine blister rust. The regular inspection will begin shortly, however, and in view of the fact that nurserymen's certificates are valid until November 1, no inconvenience is expected because of the delay.

FIELD MAN TO AID IN GUARDING HEALTH

A permanent field secretary will be employed by the Minnesota Public Health Association. Dr. I. J. Murphy, executive secretary of the association is looking for a man and hopes to have one at work by the time the schools open in September. Requests from counties and towns trying to coordinate the various public health interests will be looked after by the new secretary.

The two field nurses will be retained. They will devote their time to demonstrating how a nurse can assist in the control of tuberculosis, infant welfare work and school supervision, as well as to organizing dispensaries in counties already equipped with tuberculosis sanatoriums.

At the annual meeting of the association recently, Dr. W. L. Beebe of St. Paul was elected president. Other officers are: First vice president, Dr. J. W. Andrews, Mankato; second vice president, Mr. A. L. Robinson, Warren; secretary, Dr. E. L. Tuohy, Duluth; treasurer, Dr. P. B. Cook, St. Paul. Governor J. A. A. Burnquist and President George E. Vincent of the University of Minnesota are honorary vice presidents. Doctor Murphy will continue as executive secretary.

A DAY'S WORK MAY PAY \$25; SPEND IT PICKING SEED CORN

Do you think a salary of twenty-five dollars a day would tempt you to work harder or for a longer time?

This is what you may make by spending from one to five or six days selecting and caring for your seed corn. Good seed corn means at least \$25 to \$50 more money for the average farm next year. If every corn grower in this section would select seed corn carefully it would mean an increase of \$50,000 in the community's wealth. Selection in the field may develop a variety that matures well, grows on a good stalk, and yields more grain in proportion to the total weight.

The agricultural extension division at University Farm will give suggestions to any one desiring aid in selecting seed corn for next year.

IT WILL PAY EVERY CORN GROWER TO SELECT HIS SEED CORN EARLY THIS FALL.

MINNESOTA LEADS IN PLAGUE FIGHT

Minnesota leads all other states in its preparedness for the fight against tuberculosis. The number of beds available for patients at the sanatoriums is 59 per cent of the number of deaths from the disease last year. New York, the state which is next best prepared, has 45 per cent as many beds as annual deaths.

Dr. Philip P. Jacobs of the National Association for the Study and Prevention of Tuberculosis says Minnesota conditions compare well with those in other states. Many things, he says, encourage popular interest in general public health work.

"Minnesota's score on the ratio of beds to deaths is very good. The minimum number of beds aimed at by all the states is one for each annual death. Minnesota, New York, Wisconsin, and Michigan have adopted similar systems. New York was the first of these states to declare war on tuberculosis; Minnesota was the last. Thirty-two counties representing more than 60 per cent of the population of the state have decided to build sanatoriums. Apparently the law is more satisfactory than that of many other states."

The following table, prepared by Dr. I. J. Murphy of the Minnesota Public Health Association, shows the relative positions of the leaders in this warfare:

	Beds	Deaths	Score
Minnesota	1,300	3,200	59 per cent
New York	2,400	5,400	45 per cent
Wisconsin	880	2,300	38 per cent
Michigan	725	2,900	25 per cent

RURAL PEOPLE TO HAVE MEDICAL AID

Children in the rural schools of St. Louis county will be the first to profit by a complete physical examination and an up-to-date system of medical supervision in rural schools. A visiting nurse began work there August 1, devoting her entire time to some 2,000 children in the consolidated schools, all of which are under a county school board. Several physicians in the county have offered their services to assist the nurse.

Plans are under way to have a private association furnish temporarily a nurse to supervise some 3,000 rural children in districts not under the county school board. It is hoped in St. Louis county that the next legislature will pass a law authorizing any county to employ a nurse for work in rural districts, whether under a county school board or not.

That counties which have many consolidated districts should not wait for the passage of this law is the opinion of Dr. I. J. Murphy, executive secretary of the Minnesota Public Health Association. "Many counties in the state have enough children in consolidated districts to make the full-time employment of a nurse profitable," he says. "So far Koochiching is the only county, except St. Louis, that has attempted to give the children of the rural schools medical supervision. The school board of this county employs a physician who devotes much of his time to the schools, though no nurse is employed."

The Minnesota Public Health Association and the State Board of Health are anxious to assist counties in employing these nurses.

The peak load of farm labor comes in September and October. If you have a well diversified crop system you will reduce the load considerably.

INSECT FIGHT MUST BEGIN THIS FALL

Taking thought of the morrow, the section of economic entomology and the state entomologist have issued a booklet giving means of controlling insect enemies of corn. Though it is impossible to check much of the damage of insects to this year's crop, the booklet really begins at the beginning, for war against many insects must be declared in the fall.

Seed corn maggots, white grubs, corn root-lice, corn root-worms, bill-bugs, wire worms, chinch bugs—these are some of the insects of which the life history and means of control are given. The booklet is fully illustrated.

Copies of the corn insect booklet will be sent free to anyone writing to the Office of Publications, University Farm, St. Paul, for Special Bulletin No. 8.

GOOD SHOCKS GIVE PROFIT IN THE END

Here is the best way to make a twelve-bundle shock of grain:

Take four three-bundle loads of the bundle carrier.

Set three pairs of bundles in a row, placing the second and third pairs on opposite ends of the shock. Then set a pair of bundles on each side.

Break the straw of the cap bundles in three parts. This makes the bundle fit on the top of the shock in such a way that it will not blow off.

Set the bundles up reasonably straight, bracing the shock from all directions.

Another type of shock in general use is the long, narrow, six- or eight-bundle shock. This is better than the round shock for oats or barley cut when the straw is slightly green, or when threshing or stacking is to be done soon. The long shock is harder to make stand and exposes more of the grain and straw to the weather. Barley that is for sale, especially that intended for seed or malting, should be set up in the round capped shock.

Grain properly shocked will keep through any amount of rain, while grain poorly shocked may lose several grades between the binder and the stack. It costs from 20 to 25 cents an acre to shock grain properly. The difference of prices between No. 1 and No. 3 wheat is about 6 cents a bushel and the loss on a sixteen-bushel yield amounts to four or five times the cost of shocking.

It seems poor economy after the expense of raising and cutting grain to allow it to deteriorate and some of it to spoil on account of poor shocking.—L. B. Bassett, University Farm.

FARM BUREAU IS COUNTY'S BEST AID

A county farm bureau association, the incorporation of which is provided for by state law, was recommended by the state department of agriculture for the required county organization when county agent work was established in 1913, and the experience of counties in the state which have bureaus indicates that it is the best means of coöperation in planning, directing, and extending the county agent's development and usefulness.

The farm bureau association is a county-wide organization of the people of the county, made up of and officered by farmers principally. Its chief purpose is to unite local farm interests, to develop the agriculture of a county, to help make farming more profitable and county life more enjoyable and to develop local initiative and leadership.

From 10 to 25 per cent of the farmers are members in the different counties, each member paying annual dues. In most counties an executive committee is formed, on which is one person for each prominently organized interest in the county, such as the board of county commissioners, farmers' clubs, schools, county fair boards, livestock organizations, etc.

From five to seven local committeemen for each distinct community of the county are usually chosen.

A fence around the wheat field will enable the hogs to harvest grain that would be lost otherwise.

Here is the amount of man labor that it takes to raise an acre crop in Southern Minnesota: Wheat, 14 hours; oats, 14 hours; barley, 14 hours; flax, 14 hours; field corn cut, 38 hours; corn fodder, 32 hours; tame hay (2 cuttings), 21 hours; wild hay, 9 hours.

Here is the amount of man labor that it takes to raise an acre crop in Northern Minnesota: Wheat, 11.2 hours; oats, 11.5 hours; barley, 12 hours; flax, 13 hours; field corn cut, 32 hours; corn fodder, 32 hours; tame hay (one cutting), 13 hours; wild hay, 13 hours.

COUNTY AGENT IS BUSINESS BARGAIN

A county agent is a bargain as a business proposition to the county employing him. Of the \$3,000 a year needed, nearly half is paid from state funds and the United States Department of Agriculture. One thousand dollars is applied annually to the work in a county from the funds of the state. To get this state aid, the county must raise \$1,000 for one year and give assurance that a like sum will be raised for another year. The board of county commissioners then agree to hire an agent approved by the dean of the Department of Agriculture, University Farm, St. Paul. The agent must also meet the requirements of the United States Department of Agriculture.

The county commissioners may appropriate annually as much as \$1,000, subject to the order of the dean of the Department of Agriculture. In addition to this, there is available for each of the next two years, \$300 from the United States Department of Agriculture and the franking privilege is given each agent to be used in connection with official correspondence.

In addition to this total of \$2,300, from \$700 to \$1,000, should be made available annually through subscriptions or annual dues to a county organization. The subscription or membership fund should be used for keeping up a central office or agricultural clearing house, with a competent office assistant in charge.

Counties qualifying for the maintenance of county agent work should apply to the dean of the Department of Agriculture.

HERE IS WAY TO START FARM BUREAU

Here is the method followed commonly in the organization of farm bureau associations in Minnesota:

1. A person or an organization, usually of farmers, calls together at least forty or fifty representative farmers and business men at some central point to discuss the desirability of establishing a farm bureau association.

2. At the time it is decided to recommend a bureau for the county, an organization committee of five to ten persons, representing different parts of the county, is appointed to develop plans and to inform the people of the nature of the work of the association and of the county agent.

3. A series of meetings and conferences is called, one in each locality, to invite all the people of the county to cooperate.

4. A county-wide public meeting is called at the close of the preliminary meetings for perfecting the organization, electing officers, appointing committees and adopting a program.

5. Material for the press descriptive of the work of farm associations and county agents in other counties is frequently used to good effect.

Frank E. Balmer, state leader of county agents, University Farm, St. Paul, may be called upon for any information regarding county farm bureaus.

STATE GETS LARGE ROAD FUND SHARE

Minnesota will get \$142,394.06 as her part of the appropriation of \$5,000,000 of the federal aid road fund. This money will be available for use during the year ending June 30, 1917.

The amount appropriated under the Federal Aid Road Act, which provided for the allotment of the road fund, is divided among the states according to the mileage of public roads, rural mail delivery and star routes as shown by the records in the Postoffice Department. The population and area of the state and the assessed valuation of property will also be taken into consideration.

For each of the next four years an increase of \$5,000,000 will be made in the fund to be distributed to post roads. This means that Minnesota will get practically twice as much for the year ending June 30, 1918, three times as much for the next year, four times as much in 1920 and five times as much in 1921.

The money will be handled through the state highway department.

T. L. Haecker of University Farm, St. Paul, well-known investigator of dairy and beef cattle feeding rations, says that nearly twice as much grain is given fattening beef steers under ordinary methods of feeding as they can make use of.

Coöperative shipping associations will do nearly eighteen million dollars worth of business this year. They save farmers from \$20 to \$50 a car on the stock shipped and get a price according to what the animal is really worth.