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## ORCHARD AND GARDEN

July 1 to 8

Do not let a crust form over the garden. Keep the cultivator going.

The Icicle is a good white radish for late spring and early summer use.

Save the seed of choice flowers. Seed of many varieties were hard to obtain this year and may be harder next.

A last planting of beans and sweet corn may be made now with a chance of their maturing enough to be used.

Now is a good time to begin to plan an exhibit for the county fair. Only the finest material should be exhibited and it should be well staged.

Spiraea Van Houttei makes a good unclipped hedge. Its only objection is that it is so common. Cut out much of the old wood as soon as through flowering.

The old strawberry bed may be plowed up and rutabagas sown on it. If it is near water and not too much sod in it, celery may be set out. Cabbage are also sometimes put on land of this sort.

Thunberg's barberry is said to be rust proof and so may be used even in grain sections. It is a very fine foliage plant for borders and lawns. It sometimes dies back to the snow line but recovers easily.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

## ORCHARD AND GARDEN

July 8 to 15

Sow some endive and Chinese cabbage for late fall use.

Plant lice thrive at this time of year. Tobacco preparations or soap suds usually will destroy them.

This is the season when the canning machine should be in use frequently for both fruits and vegetables.

When the larkspurs are through blooming cut them back to the ground and cultivate. They will send up stems for fall flowers.

Have you tried growing your own sage? It is fresher and better than the store kind. The plants are quite easily carried through the winter.

Currants and gooseberries may be mulched with clean hay or lawn clippings when the fruit is so far advanced as to make cultivating injurious.

Keep the seed pods off pansies and sweet peas if you want them to continue to blossom. When sweet peas begin to blossom give them plenty of water at the roots.

Hen manure, nitrate of soda or other nitrogenous fertilizer may be put on onions and leaf crops if they do not seem to be growing well. About 300 pounds per acre is used.

During a season of plenty is a good time to advertise. Use the local paper if some of your produce is going slowly. See that the advertisement is attractively written and to the point.

Swiss chard is prepared for table use in the same manner as beet tops. It is also liked very much by chickens. Cut off a part of the leaves at a time and others quickly grow in their places.

Now is a good time to sow some of the perennials desired for next year—hollyhock, larkspur, columbine, etc.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

## JOBLESS MEN LOOK FOR MANLESS JOBS

To supply the labor needs of farming communities, the Minnesota Public Safety commission has established an employment bureau at Marquette avenue and Second street, Minneapolis, in charge of Don L. Lescohier, recently of the office of the state labor commissioner.

We have more men than we have jobs for now, says Mr. Lescohier, but we expect this condition to last only as long as it takes the farmer and dairyman to learn that we have experienced help to fill their every need and can supply it at a moment's notice.

Mr. Lescohier wants every employer in need of men to get into communication with his bureau at once in order to relieve the congestion of jobless men.

## 128 ARE GRADUATED BY FARM COLLEGE

The department of agriculture of the University of Minnesota graduated 128 students this year. Of this number, 73 were from the college of agriculture, 52 from the home economics division and 3 from the college of forestry.

One hundred and fifty graduates were back to get a glimpse of campus life Wednesday of Commencement Week. They held their annual meetings and shared a luncheon in the home economics building, prepared by students in the home economics division. Following this luncheon brief talks were listened to, including a word of farewell by Dean A. F. Woods.

## AN AIR-TIGHT SILO KEEPS SILAGE BEST

Practically all the trouble from spoiling of silage comes from the action of air on the material after the first necessary fermentation is over. The first fermentation or "heating" of the green material uses up all the oxygen of the air which is present in it when it is packed into the silo. If no more air can get in, no further fermentation or decay can possibly take place. If the silo is airtight, therefore, silage will keep indefinitely. Of course, most silos are open at the top and some spoilage will take place from the top of the mass downwards. But this can be prevented, in large part, by covering the silage, after it has finished settling, with a layer of chopped hay or straw well wetted down.—R. W. Thatcher, chemist, University Farm.

## FEED FROM SILO TO SAVE SILAGE

The diameter of a silo should be limited by the amount of silage fed in a day. Fresh silage, exposed to the air, will soon spoil. This is especially important in summer feeding. If about two inches is fed daily, spoilage will be reduced to the minimum. This means that for a 10-foot silo there should be at least 17 head of stock; for a 12-foot, 25 head, and for a 14-foot, 30 head.

The following table, prepared at Iowa State College, gives capacities for a few of the more common sizes:

Diameter	Height	Tons	Acres to fill	Pounds to feed daily
10	34	56	3.7	525
12	36	87	5.8	751
12	38	94	6.4	755
14	38	128	8.5	1,030
14	40	138	9.2	1,030
16	38	167	11.1	1,340
16	40	180	12.0	1,340

## TAKE A VACATION EVEN IN WAR TIME

During our earnest preparation for war we should not neglect the customary vacation. This is the advice of Dr. I. J. Murphy of the Minnesota Public Health association.

"Vacations promote good health without which the citizens become a burden instead of a help," adds Dr. Murphy. "Where and when to take a vacation is of minor importance. The great thing is to have a change, change of work, change of scenery, change of food, change of everything. This may be in the form of a different but useful occupation. City workers may well work in the country for a few weeks in the summer or fall. Whatever is done should be done with moderation. Excesses and exposures while in search of amusement or recreation will not allow the vacationist to return rested and refreshed. No matter where one goes he should be fortified with anti-typhoid vaccine."

## NEW MEATS SECTION AT FARM COLLEGE

The board of regents of the University of Minnesota has created a section of meats in the animal husbandry division of the department of agriculture of the University. Philip A. Anderson is placed at the head of this section.

Mr. Anderson is a graduate of the school and college of agriculture and has devoted the major part of his time since graduation to a study of meats, under the supervision of T. G. Paterson.

The meats course of the department of agriculture was the first of its kind offered in the United States. Minnesota is recognized as the leader in this important branch of animal industry.

## ALFALFA IS CALLED THE "WAY OF GOLD"

Because alfalfa hay is higher in nutritive value than clover hay and yields between four and five tons of hay to clover's two and three tons, A. C. Army of the Minnesota Experiment Station, urges consideration of alfalfa, called the "hay of gold" for this year's planting. He adds the following suggestions:

On acid soils, lime is essential.

The alfalfa must be inoculated.

The seed bed must be well prepared and free from weeds. It should be harrowed each week or ten days up to July 1 or 15.

The alfalfa should be sown without a nurse crop—12 or 14 pounds to the acre. The weeds which grow up with the alfalfa must be exterminated or they will smother the alfalfa. It is all right to clip the crop to about four or six inches after the weeds get to be about eight or ten inches high.

Alfalfa must not be pastured close the first season. However, if sufficient growth is made hay may be cut up to September 15.

## MORE WINTER WHEAT FOOD COMMITTEE ASKS

In view of the fact that for four years winter wheat in Minnesota has given approximately a 26-per cent better yield than spring wheat, the crop subcommittee of the state committee on food production and conservation will encourage an increase of the winter wheat acreage next fall in parts of Minnesota where it has been grown with success, says C. P. Bull of the Minnesota Experiment Station, secretary of the crop subcommittee.

The percentage is not guess work but taken from the figures of the United States department of agriculture. In 1916, the winter wheat area was one fifty-sixth of the entire wheat area of the state, but its production was one twenty-ninth.

Minnesota's winter wheat area is in the southeastern section but it has been gradually extending westward and northward.

The crop subcommittee will not advise the growing of winter wheat on a large scale in Minnesota unless one has had experience, but will encourage the seeding of from five to ten acres this fall where the land is available and in a proper state of preparation.

## TIMELY HINTS FOR VEGETABLE CANNERS

In selecting vegetables for canning, use great care to get those as nearly perfect as possible.

Be sure that the vegetables used are fresh.

Grade carefully and avoid waste. Do not scald or blanch longer than necessary. Over-scalding tends to make delicate vegetables, like asparagus, soft.

Fit all the covers to the jars before filling with vegetables.

Be certain that the rubbers to be used are new and elastic, and will stand long boiling.

Do not let vegetables remain in cold dip. Dip and pack at once.

Scald and dip only as much as can be packed immediately.

Add salt and boiling water as soon as the can is packed.

Place the rubber and adjust cover loosely and set the jar in the canner at once.

Be certain that the false bottom in the canner is at least 1½ inches high.

When the water in the canner is boiling, keep the fire even, that the boiling may be continuous but not too violent.

Count the time for cooking from point at which water begins to boil.

Seal at once when taken from the canner.

Hold can upside down to see whether it is perfectly sealed.—Miss Mary L. Bull, Extension Division, University Farm, St. Paul.

## WILL INVESTIGATE ANIMAL DISEASES

Dr. Clifford Penny Fitch, professor of pathology and bacteriology in the New York State Veterinary College, Ithaca, has been appointed professor of comparative pathology and bacteriology and chairman of the veterinary division of the animal industry group in the department of agriculture of the University of Minnesota.

Dr. Fitch is a native of New York state, a graduate of Hamilton college, from which he lately received his master's degree, and a graduate of Cornell. In addition, Dr. Fitch is a man of broad experience, both in teaching and in investigational work, and his coming to Minnesota is a matter for congratulations of Minnesota stock men.

## WASTE LAND TREES ADD TO FARM GAINS

Waste land may be made to produce at least half a crop, except in unusual cases.

An astonishingly large percentage of Minnesota's farm area, even in the older and settled parts, is classed as waste land. In many sections the amount is as high as 15 or 20 per cent. Such land is incapable of producing a whole crop like the rest of the land of the farm and is, therefore, allowed to remain idle.

Much of such land is high or rocky, too steep or too rough to plow, but it will grow as good a crop of trees as much of the level land and the trees will easily produce a half-crop. Indeed, some such land by its trees has been more profitable than the land producing full crops of other kinds. The returns from tree crops on land of the kind described are usually comparatively low. They are, however, produced with very little trouble, and are certainly much better than nothing.

It is now fully recognized that it is possible to make big profits on the farm only through the complete utilization of every opportunity. The tree is an opportunity.—E. G. Cheyney, College of Forestry, University Farm, St. Paul.

## INOCULATED SOIL FOR ALFALFA SEED

The agricultural extension division of the University of Minnesota announces that it will furnish enough inoculated soil for use with one bushel of alfalfa seed to any farmer who will send six cents to cover postage for shipment. With the soil will be sent directions for its use. The extension division, also, will be glad to answer questions from any source concerning the seeding and growing of alfalfa. Communications should be addressed to extension division, University Farm, St. Paul.

## CULTIVATION MEANS ADDED CORN PROFITS

Careful experiments in the increased yield obtained from the proper cultivation of corn, made at the Minnesota Experiment station, show that profits may be largely increased by cultivating frequently. Late cultivation, however, should be given with care, says A. C. Army in Minnesota Agricultural Extension Bulletin No. 57. Late cultivation is given to kill weeds and to retain moisture in the soil. Shallow cultivation will do both of these things. Besides, it will not cut the roots growing near the surface and reduce the moisture supply of the plants. The rule based upon experience is to cultivate frequently enough to keep out the weeds and to save moisture but to make the late cultivations shallow.

## GRAIN SUBSTITUTE AND A SURE CROP

Farmers can secure some relief from the purchasing of high-priced grains to keep up production, by growing more alfalfa, says Ben Forbell, University Farm, St. Paul. Alfalfa balances admirably with corn fodder or corn silage, and corn, barley and oats, and gives splendid results. In case the prices of corn, oats, and barley should become prohibitive, farmers could still get fair results from feeding only alfalfa and silage.

The rules to follow to get a good stand are these:

Select only well-drained fields.

In the eastern part of the state, have the soil tested for acidity. A half-pound sample from the field intended to be put into alfalfa, sent to the Division of Soils, University Farm, St. Paul, will be tested without charge.

Work the ground well, in order to obtain a firm, clean, moist, seed-bed.

Sow 12 pounds of seed to the acre.

If fields are to be kept four or more years, write to C. P. Bull, secretary of the Minnesota Crop Improvement association, St. Paul, for lists of sources of reliable Grimm alfalfa seed.

Inoculate the seed. Gather a pound of soil from around thoroughly inoculated alfalfa or sweet clover plants. Air dry in the shade and pulverize. Dissolve five cents worth of furniture glue in one pint of hot water; cool, spread on seed; mix thoroughly and scatter the soil over the seed, and mix again. Do not expose the seed to the sunlight before seeding. Drag the field at once if the seed are sown broadcast.

The best time to seed alfalfa on heavy soils in Minnesota is in July or early August, if moisture conditions are favorable. The safest way is to sow on ground which has been fallowed during the early summer.

## STACK OR SHOCK FOR GRAIN--WHICH?

Stacking and stack threshing of grain are often advisable in spite of the fact that the cost is from 10 to 20 per cent higher than the cost of shock threshing, says F. W. Peck, University Farm, St. Paul. From five to eight minutes more is required to stack and stack thresh a bushel of wheat than to shock thresh the same amount. The difference for oats is from two to three minutes in favor of shock threshing. Practical reasons, however, have to be considered.

The farmer gains by stacking because he distributes his labor over a longer period, leaving his threshing to be done later, when shock threshing, owing to weather conditions, lack of machines, or scarcity of relatively high-priced labor, would have been inadvisable or impossible.

Stacking protects the grain, though little evidence of the gain here is available.

Stacking preserves the straw much better for feeding and bedding livestock, and stack threshing can usually be more profitably done near the barns than can shock threshing.

If, again, a community has not enough machines to thresh the grain in a short time, stacking as a measure of protection and safety is advisable.

## TEACHERS TO ATTEND RURAL CONFERENCE

Teachers from all parts of Minnesota will participate with churchmen and other community leaders in the rural life conference of the department of agriculture of the University of Minnesota, to be held at University Farm, July 19 and 20. The teachers will have an opportunity to share in this conference, because the conference this year will be held earlier than usual, so as to coincide in part with the regular summer training school for teachers. Those in charge of the conference believe that by this means they can get together several hundred of those interested in the problems of rural life.

The principal matter for discussion will be the task laid upon country life in the present period of national stress. Kenyon L. Butterfield, president of the agricultural college of Massachusetts, will deliver at least two addresses. The committee in charge of the conference is bringing President Butterfield to Minnesota, because he is the nation's recognized authority on rural community life.

## CRITICAL PERIOD WITH THE POTATO

The critical period in the life of the potato plant, says A. W. Aamodt, potato specialist, University Farm, St. Paul, is when it is beginning to blossom and set tubers. Injury to plant or root system at this time reduces the yield materially. In Minnesota this critical period comes at a time when climatic conditions are usually unfavorable. The effects of heat and drought in late July and early August are very noticeable. It is very necessary, therefore, that the care given potatoes preceding this time must be of the best.

Late cultivations should be shallow, to avoid injuring the roots and to form a mulch that will prevent the evaporation of moisture. The cultivator teeth should be narrowed as the potato vines grow and spread. Cultivation should cease when the plants have fairly covered the soil and the weeds have been killed.

## REPLANT FROZEN CORN AND HARVEST FODDER

C. P. Bull of the Minnesota Experiment Station urges farmers whose corn suffered in the recent frosts not to permit the acreage affected to remain idle for the rest of the season. If 50 per cent of the crop is coming through successfully, it will pay best to replant the thin or killed-out hills or patches. "It is too late to expect much from such replantings, except in the form of fodder," says Mr. Bull. "If rubbins or immature ears are present, the fodder will be so much the better. In the face of the world's shortage of crops it is every man's duty to make every available foot of land produce something for food or feed."

## UN SOUND PRACTICES IN CITY BORROWING

In the June issue of the "Minnesota Municipalities," which deals with municipal finances, Joseph J. Ermatinger calls attention to certain unsound practices in Minnesota. He says:

"Some unsound practices still obtain in Minnesota, which must result in cramping the future borrowing powers of the guilty communities. One of these practices is the matter of issuing too long renewal bonds. For instance, a city of the first class recently sold thirty-year renewal bonds to replace old thirty-year bridge bonds, though the bridge is ready for the scrap heap."

Other articles in the same issue are: "What Cities May Do," "Keep the Death Rate Down," "Some Practical Aspects of Municipal Borrowing," "Regulating Stables," "War Time Improvements," "Gardens," and "The New City Government."

## WIRE FENCE AND LIGHTNING DEADLY

Wire fences increase the dangers of livestock during thunder storms, unless the fences are carefully "grounded," say specialists at University Farm, St. Paul.

Such fences may be grounded by running a No. 8 or No. 10 galvanized iron wire from each strand of the fence into the ground. The wire should be twisted two or three times about each strand and should reach to a depth of four or five feet into the ground. If the soil is particularly dry the wire should be sunk much deeper. It should always reach down to moist soil. A crowbar may be used in making the holes. Projecting points above the fence will help to relieve the electric tension and prevent the lightning from striking.

Field fences should be grounded every 20 rods and fences about barnyards and feed lots every 10 rods at least.