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ORCHARD AND GARDEN

July 15-22, 1918

Use arsenate of lead for currant worms, or, in fact, for most insects that injure foliage of ornamentals. Nicotine preparations will keep most of the insects from roses, sweet peas, etc., if sprayed on frequently. Prune out dead wood from currants as soon as fruit is picked. Burn all trimmings and get rid of some insects.

Do not cultivate when the soil is wet and sticky. It is hard on the tools and soil and will not tend to improve the temper.

Cultivate the garden often and shallow in dry weather, even though there are no weeds in it. Cultivation will save moisture.

Give plenty of fertilizer to asparagus and rhubarb and cultivate them thoroughly. They are forming the buds for next year's crop.

Hydrangea Hills of Snow makes a fine lawn plant at this time of year. The flowers last over a considerable season.

It will not kill your dandelion plants to cut off the top. The roots will still be able to come again. A drop of sulphuric acid on each heart is said to stop the action of both roots and top.

Perennials like hollyhock, columbine, and Shasta daisy may be sown this month, transplanted when large enough and carried over winter in a cold frame or sheltered place. They will bloom next year.

Sometimes hoeing is hard work, not because the ground is especially weedy, but because the hoe is not set at the right angle or is dull and rusty. Bright, sharp tools make the work more easy.

The Japanese lilac was one of the most showy shrubs on the campus the latter part of June. This forms a tree and very seldom fails to show its large white flowers each year. It is especially good in contrast with green-leaved shrubs or trees.

There are few more satisfactory flowers for the home garden than the larkspur and columbine. If the larkspur flower stalks are removed as soon as they are through flowering they will frequently flower again in the autumn.

Pennsylvania State College, at the request of the Pennsylvania Public Safety Commission, has organized and trained four camps of High School boys to work on farms. They were given eight or ten days' work at the college and have been sent out to farms. Not much training, of course, but it seems to have been worth while in putting them into the spirit of the work and giving them some elementary instruction that is much needed.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minnesota.

ORCHARD AND GARDEN

July 22-29, 1918

Keep the late cabbage well cultivated.

Dust rose bushes with powdered sulphur to stop the work of mildew.

This is the time of year when the shade in the pasture and in the doorway is appreciated by man and beast.

The Juneberry makes a fairly good clipped hedge for early summer. Its fruits add much to its appearance. Do not try to keep it cut low.

Keep sweet pea flowers picked every day if you want a good crop of flowers. The plants will die as soon as seeds form.

The hackberry properly trimmed will make a good hedge along an alley or to cut off a poor view. It also makes a fine street tree.

When watering shrubs or trees on the lawn it is a good plan to dig well into the soil to aid the water in getting to the roots.

Chives furnish flowers for the garden as well as flavors for soups, etc.

Some of the improved strains of petunias make excellent bedding plants and a few make good pot plants for winter use.

Indoor tomatoes and cucumbers around the Twin Cities were hard hit by diseases and insects this year. In some cases the damage amounted to thousands of dollars.

The red-berried elder is worth planting on home grounds or in parks because of its early flowers and bright colored fruits in late June and early July. Birds like these fruits very much.

Water the lawn and garden after sundown if you want to get the most value from your use of water. Then do a thorough job. Let the water go to the root tips for best results.—LeRoy Cady, associate horticulturist, University Farm, St. Paul, Minn.

TEN COMMANDMENTS FOR THE COMMUNITY

- Expand home trade.
 - Market home products.
 - Facilitate employment of labor.
 - Construct better highways.
 - Make public business efficient.
 - Provide wholesome recreation for the youth.
 - Publish town affairs.
 - Develop community consciousness.
 - Sacrifice for the community's common good.
 - Build the town beautiful.
- Judge Frank T. Wilson in the June issue of Minnesota Municipalities, University of Minnesota, Minneapolis, Minn.

CLEARING PAYS RENT; STUMPS FURNISH FUEL

A farmer in Pine county has rented a farm and is paying his rent by clearing a certain number of acres on the farm each year. He is using a two-horse stump puller and a home-made piler. The land being cleared contains about seventy-five good size white pine stumps per acre. The stumps are old and the land has been in pasture for several years. A crew of three and a team was clearing and piling at the rate of an acre a day. The plan of paying rent by land clearing is a good one for the timbered section.

Another farmer in the section was clearing land of a similar nature with a one-horse stump puller and dynamite. Most of the stumps were pulled. The effectiveness of the stump puller was increased by using the mattock freely around the roots and knocking off the earth as the roots were lifted. When the stump was pulled the earth had all been removed and was back in the hole, so that the land was ready for the plow when the stumps were hauled off. This farmer worked with one helper. The stumps were not burned, but were made into a fence around the field and the stumps not in the fence were piled for fuel. This farmer cleared about twelve acres in thirty days. Saving stumps for fuel is good economy and should be considered in many places where the stumps are burned. Look over your woodlot carefully before burning any more stumps.—A. J. McGuire, agricultural extension division, University Farm, St. Paul, Minn.

HOGS ON PASTURE PAY FOR GRAIN

Last year two farmers kept records on their pigs. One had little feed. The other had none on hand, but bought enough to feed his pigs liberally all summer. The first man fed his pigs an average of 72 pounds of grain per head in seventy-two days. The second averaged 323½ pounds of grain per head in eighty-six days. Pasture was poor on the first farm and excellent on the second. Feeds were charged as follows: corn \$1.50 per bu., oats 50 cents per bu., tankage \$90 per ton, milk 3 cents per gallon. Pasture was charged at \$5 per acre on the first farm and \$10 per acre on the second.

At the close of the season the two lots compared as follows:

	Little Grain, Poor Pasture	Liberal Grain, Good Pasture
Final wgt. per pig.	58.80 lb.	136.35 lb.
Total gain per pig.	11.72 lb.	80.12 lb.
Total feed cost for 100 lbs. gain.	\$14.10	\$10.70

Final margin per pig above feed cost (hogs at 16 cts.) \$0.22 \$4.26

The first man made 22 cents per pig and had only 58-pound pigs at the end. The second farmer made \$4 per pig and had 136-pound hogs, ready to finish for market.—R. C. Ashby, division of swine husbandry, University Farm, St. Paul, Minn.

PRUSSIC ACID IN SORGHUM

It is well known that sorghum cane, in its younger stages, at least, contains an appreciable amount of that deadly poisonous substance, prussic acid. Stock raisers often ask how poisonous sorghum is, and when it becomes harmless. Many analyses of Minnesota cane show that after the plants are four feet high there is no danger in feeding reasonable amounts of it. If the animals break into a field and gorge themselves, they will no doubt get the "colly-wobbles" just as they would in a field of green corn. It would require about 125 pounds of sorghum to furnish a fatal amount of the poison. The latter is always higher in amount during excessively dry periods, and in sickly, stunted, yellow cane. Sorghum seeds do not contain any prussic acid until several days after they have sprouted.—J. J. Willaman, plant chemist, University Farm, St. Paul.

HOME-MADE SPRAY KEEPS FLIES AWAY

By preventing flies from tormenting the cows a much greater flow of milk is obtained during the summer months and the remainder of the lactation period. Prof. H. H. Kildee, of the division of dairy husbandry, University Farm, St. Paul, recommends the following home-made mixture, which has given good results at the college dairy farm. It is better than several other mixtures tried and quite as efficient as the prepared sprays costing a dollar per gallon. It is made as follows:

- 1½ quarts of any standard coal tar dip
- 1½ quarts fish oil
- 1 pint oil of tar
- 1 quart coal oil
- ½ pint oil of eucalyptus.

Mix in ten gallons of luke warm soft water in which a bar of laundry soap has been dissolved.

Spray twice a day, in the morning after milking and in the afternoon when cows are brought in for silage or green feed. When a half-barrel cart with spray nozzle attachment is used, two men can spray a herd of forty cows in ten minutes. This mixture is not perfect and does not keep all the flies away and, furthermore, it leaves the coat rather harsh and causes dust to adhere; however, it is very beneficial and practical.

Shelter from the hot sun of summer must be provided if efficient and economical production is to be expected.

PRESERVE ONE CASE; SELL REST AT HOME

To have, as far as possible, every farmer and poultry keeper in the United States preserve, for home use only, one case of eggs—thirty dozen—and to sell to a nearby consumer one case, to be preserved, is the plan of the United States department of agriculture. It is believed that this plan will produce three beneficial results: (1) It will conserve supplies; (2) it will equalize distribution; (3) it will stabilize prices.

The water-glass method of preservation is recommended, or if water-glass cannot be obtained, the lime-water method. Write to the U. S. department or your state experiment station for full information.

SAVE OWN SEEDS ADVISES GROWER

H. J. Baldwin, of Northfield, one of Minnesota's leading vegetable growers, strongly urges that more people save their own seeds. According to the government reports, cabbage seed will be very scarce next year, and, of course, it is too late now to produce any more seed until 1919. Lettuce and radish seed are also thought to be scarce. Nearly every gardener can save a few ripe peas and beans for seed, and also seed of tomatoes, peppers, radishes, lettuce, squashes, pumpkins, spinach, corn, cucumbers, and melons. Everyone who can do his bit in saving seed is not only helping to defeat the Hun but is putting money in his own pocket.—Richard Wellington, division of horticulture, University Farm, St. Paul.

ROUT THE RATS

Some idea of the loss suffered by individual states from native rodents may be obtained from the following estimate recently submitted to the United States department of agriculture by state directors of agricultural extension work: Montana, \$15,000,000 to \$20,000,000; North Dakota, \$6,000,000 to \$9,000,000; Kansas, \$12,000,000; Colorado, \$2,000,000; California, \$20,000,000; Wyoming, 15 per cent of all crops; Nevada, 10 to 15 per cent of all crops, or \$1,000,000; New Mexico, \$1,200,000 loss to crops and double this amount to range.

SWEET CREAM TEST IS EQUAL TO SOUR

Does cream test more when it is sour than when it is sweet? This question has been asked many times, and many have been led to believe that by holding their cream until it is sour they would be given a higher test. "This would be possible under one condition," says E. O. Hanson, of the dairy husbandry division, University Farm, St. Paul, "and that is, if a can of cream is allowed to stand for a long time at a rather high temperature, enough moisture will evaporate to increase slightly the percentage of fat, but it will be very slight and the cream will no longer be fit for food. It would bring no higher price, as the extra percentage of fat would only make up for the moisture that had evaporated.

"To illustrate: In 80 pounds of sweet cream testing 30 per cent fat there are 24 pounds of butterfat. If this cream were allowed to stand until 5 pounds of moisture have evaporated, there would be 75 pounds of cream testing 32 per cent fat. It also would yield 24 pounds of butterfat, and it is needless to say that the butter made from this 75 pounds of so-called cream would not be fit for human consumption."

"How do you know that cream will not test more when it is sour?" In reply Mr. Hanson tested 8 samples, sweet, of one pint each, using re-tested glassware and one of the best cream scales on the market, making the tests in duplicate. They ran from 16.5 to 38 per cent. They were then kept in air-tight bottles sealed with paraffin to prevent the escape of any moisture. They were held at approximately 80 degrees F. for ten days. They were then tested again, using the same test bottles to avoid any possible error, and were again tested in duplicate. On comparison, the two tests were found to be exactly the same.

It may be true that in some cases a higher test has been reported when the cream was sour, especially in thin cream. If a can of cream has been allowed to stand for any length of time and has become sour, the milk solids settle and become very sour and firm, making it almost impossible to get the cream thoroughly mixed, and the sample which is taken will not represent the contents of the can, as there would be practically no fat in the milk solids, which are left unmixed. If a higher test is given it is neither fair nor accurate.

WILL HELP SPREAD CREDIT ASS'N IDEA

In answer to many requests from individuals and officials asking for assistance in the preparation of a suitable state law for cooperative credit associations or credit unions, the bureau of markets of the United States department of agriculture at Washington has prepared a publication (Service and Regulatory Announcement No. 30) which gives suggestions for such an act, and contains a bill embodying the best views on the subject. The bill, which is submitted only as a tentative model, provides for the organization of associations without capital, as well as for the more familiar form with capital stock. In the form without capital stock it is intended to exemplify to the fullest extent the cooperative idea, and to avoid even the appearance or the possibility of profit-making. It is believed, say specialists of the department, that the practical effect of the work of a cooperative credit association will be to accustom men who are not now making use of any banking facilities to take advantage of banking, rather than to withdraw business from existing commercial banks.

HOME-GROWN SEED BEST TO PLANT

The available supplies of clover seed in the United States have been quite largely exhausted. There will be a heavy demand for seed again next spring, and the indications are that there will not be many fields to draw on for it, says Andrew Boss, division of agronomy and farm management, University Farm, St. Paul. Home-grown clover seed is the best. If, therefore, there are farmers who have good fields of clover that have been cut early for hay, they should consider carefully the profits to be gained and the necessity of saving the second crop for seed. Such seed should be used in the locality where grown so far as possible. Clover raised from imported seed does not stand the winter nearly so well as seed grown and raised in the state. Wherever Minnesota grown seed can be obtained, therefore, that is the seed that should be used in reseeding next spring. The clover seed crop is not a difficult one to secure except that it cannot be satisfactorily hulled in large quantities without a clover huller or a clover-hulling attachment to the threshing machine. Wherever there is a possibility of having the clover seed hulled, good profits are promised from saving any clover seed available.

GRAIN AND PASTURE PRODUCE GOOD PROFITS

At University Farm last year two lots of pigs were fed on alfalfa pasture. One group was given what shelled corn they would clean up twice a day. The second group received just three-fourths as much as the first. Corn was charged at \$1.68 per bushel and pasture at \$10 per acre. They were on pasture 137 days.

At the close of the season 100 pounds of gain had cost \$10.71 (corn and pasture only) for the first group, and \$10.62 on the second.

But the second lot weighed only 107 pounds per head, while the first lot averaged 123 pounds each. Moreover, the second group (heavy grain fed) made but 1,470.0 pounds of gain per acre of pasture, whereas the first lot produced 2,438.4 pounds of gain per acre of forage eaten. It is easy to see which made the larger net profit.

In most cases the net profit per pig or per acre of pasture is directly proportional to the amount of grain fed.—R. C. Ashby, division of swine husbandry, University Farm, St. Paul, Minn.


EARLY FALL PLOWING GIVES BEST CROPS

Now that this crop is nearly mature it is time to begin to prepare for next year's crop. The experience of farmers as well as experimental evidence goes to show that early fall plowing returns the best crops. It does this for the reason that a longer period is given in which to decompose the stubble and other particles of vegetable matter that are turned under in plowing and because it opens up the soil to the reception of fall rains, and also because it helps to dispose of the weeds which trouble the annual crops. Another reason for fall plowing early and for plowing all the land is that it lessens the amount of work that has to be done in the spring, thus permitting the prompt sowing of the crops next season. Beginning early also enables one to avoid crowding at any time, thus making it easier both for horses and men.

The advantages of early fall plowing are many, the disadvantages are few, if any. Therefore, plow early, deeply and well as insurance for a good crop next year.—Andrew Boss, division of agronomy and farm management, University Farm, St. Paul.

A SUGAR-STRETCHER

A pound of sugar will go further in making jam than in making jelly. That is, the same amount of fruit and sugar will make more preserve if both pulp and juice are included. For example, 5 quarts of fresh currants and 3 pounds of sugar will make about ten glasses of jelly, or about fourteen glasses of jam. Of course, jelly is pretty and sparkling and wobbly, but the jam will cover more bread for the same amount of sugar used, and that is what counts this year. Perhaps the seeds do stick in our teeth; that is but a very mild nuisance of war. Another argument in favor of jams is that more of the food value of the fruit is used, since the pulp retains a great deal of protein and mineral material. But since jams are used more as appetizers than as foods, this point will not appeal to most people. Still another argument against jellies is that they require more work and time in extracting and straining the juice.—J. J. Willaman, plant chemist, University Farm, St. Paul.



The United States Food Administration Says

This cut in single and double column sizes for use in merchants' advertising, mortised for insertion of food messages, will be furnished to newspaper publishers in Minnesota upon request to M. J. McGowan, Director of Education, Federal Food Administration, University Farm, St. Paul, Minnesota.

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