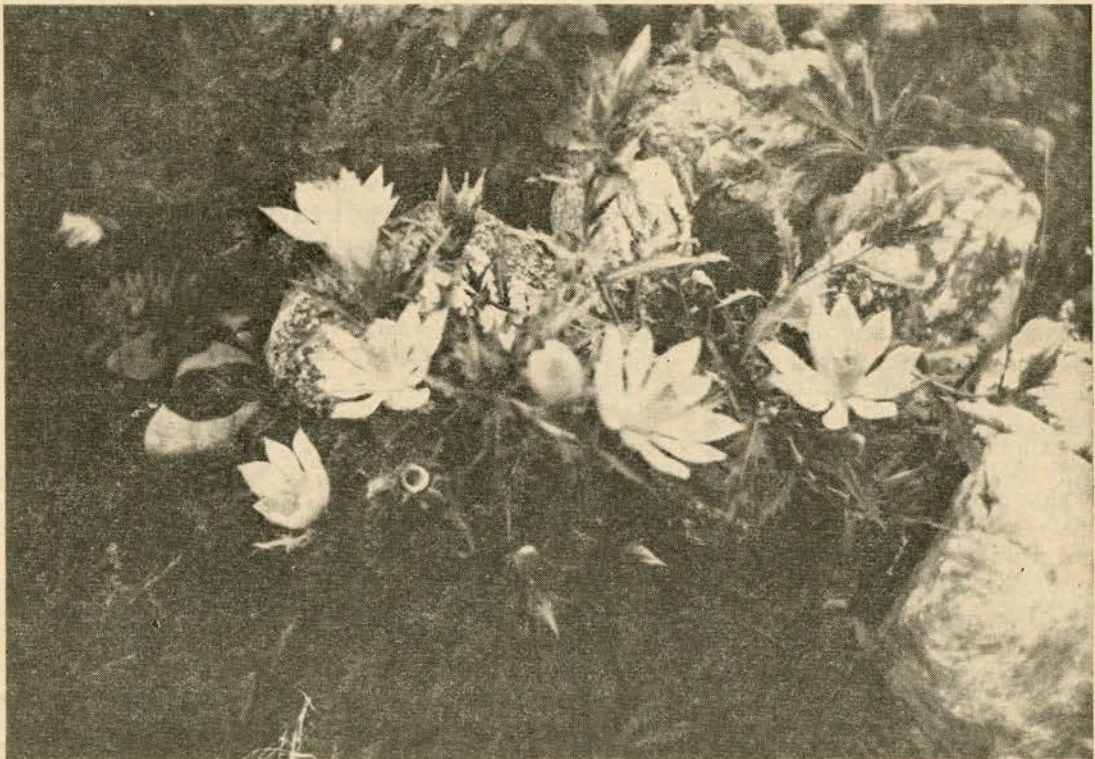


# NORTH AND SOUTH DAKOTA HORTICULTURE

JUNE 1937



The Sand lily, denizen of the Bad Lands and other western lands, where it is always found growing in gumbo. Probably so named because it takes sand, to grow in such soil.

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## THE DICKCISSEL



O. A. Stevens

These little birds are among the last of our summer residents to make their appearance. Usually I do not see one until the very last of May or perhaps the first of June. They are hardly common here, though in some years at least, quite common as far north as southeastern North Dakota. They have been recorded as far as northwestern North Dakota, but over most of the state they are rare or absent. Through the central states from Nebraska to Texas,

they are among the commonest summer birds which one finds along the roadsides or in the fields and meadows.

The dickcissel is a kind of sparrow, rather closely related to the indigo bunting and lazuli bunting. It could almost pass for one or another of the various streaked sparrows, but the male bird is somewhat conspicuously marked with a yellow breast and a black patch bordering a white throat. This black and yellow pattern is quite suggestive of that of the meadowlark. The wings are brown. The female lacks the black patch and is otherwise somewhat paler or duller than the male.

The bird was first described from New York State about 1790 by John Latham, an English author. To the earlier writers it was known as the black-throated bunting. The name dickcissel refers to the song written, "dick, dick, cissel, cissel, cissel," though "chip, chip, chee-chee-chee" seems to express it as well. The first syllables are sharply separated, the last ones close together. The bird is generally rated as a poor singer but a persistent one.

The fact that the dickcissel has far to travel may account in part for its late arrival. During the winter they are found chiefly in northern South America. George K. Cherrie found them abundant in northern Venezuela during the first half of April. At that time they were no doubt on the point of departure, for they appear in Texas about the middle of April.

In the north they are notably uncertain. Formerly they were common along the Atlantic coast, but in recent years they are rare there. Dr. T. S. Roberts states that they were exceedingly abundant in Minnesota in 1925 but the next year were scarcely to be found except in the southwestern part of the state. In 1921 they appeared at Bismarck, North Dakota, but only for the one year. Adrian Larson found them common in McKenzie county that year, otherwise rare. In 1936 I failed to find any at all

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in my own territory, though in 1933 they had been quite common. Similar reports of them come from other parts of their northern range, though, Philip Dumont states that they have been quite constant in Iowa.

The nests are rather bulky affairs of grasses and weed stems, and are built either on the ground or in a low bush or tree. The eggs are

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## NORTH DAKOTA STATE HORTICULTURAL SOCIETY NEWS LETTER



**A. F. Yeager,**  
Secretary,  
Fargo, N. D.

It is evident, after checking over the experimental plots this spring, that last winter was more destructive on fruit trees than the preceding one. At least, the evidence of winter killing is much more noticeable now than it was a year ago. Much of this is probably a cumulative effect, resulting from the weakening of the plant a winter ago, followed by the extreme drouth last summer, then topped by some additional winter injury this year. Plums for the most part, are in much better shape than are apples. Because of the very widespread damage to apple trees, a list of those varieties which appear to have outstanding ability to withstand the unfavorable conditions we have had should be of great value. Among the older varieties, those showing no apparent injury are Florence and Dolgo crabs. Varieties where the trees are practically all alive, but not over vigorous, include Hibernial, Haralson and Whitney. New varieties which look unusually well are Morrор and Morris from the Dominion Experimental Farm at Morden, Manitoba. North Dakota No. 5 and No. 6, and Minnesota No. 671, also look well. Grapes in general look better than usual.

Seed stalks from rhubarb plants should be removed as fast as they appear.

Rotenone dust may be used to control cabbage worms in place of the usual Paris green. This material, while killing the worms, is not harmful to man.

Did you ever have difficulty in arranging bouquets of large flowers because the support inside the vase tipped over from the weight of the blooms? If so, you will be interested in some of the new supports which have a suction base to prevent this.

The Central Experimental Farm, Canada, reports that a deficiency of potassium in the soil greatly reduces the hardness of strawberry plants.

THE FLORISTS' EXCHANGE describes a fertilizing gun which kills weeds by depositing a small amount of fertilizer such as ammonium phosphate directly in the heart of a weed. Applied thus the material is strong enough to kill the plant, but later when it becomes dissolved in water and distributed through the soil it is a valuable fertilizer to the remaining plants.

INSECTS OF THE FLOWER GARDEN AND THEIR CONTROL is the title of Bulletin 99 of the Canadian Department of Agriculture, Ottawa. This is a very comprehensive publication of 70 pages, and for anyone wanting such information is well worth the 25 cents asked for it.

In cultivating garden crops do not cultivate any more deeply than is absolutely necessary in order to destroy weeds. Continual stirring of 3 or 4 inches of soil will prevent any roots from growing in this area or else cut them off after they have occupied it. The result is that any rain which does not penetrate through the upper 3 or 4 inches of soil will not supply moisture to the roots. Repeated cultivation experiments have shown the desirability of shallow cultivation and with most crops there is no benefit from any cultivation beyond that necessary to kill weeds.

HOUSE AND GARDEN calls attention to the fact that lilacs do not need to be pruned back each year after blooming as do many other shrubs. In fact, it is detrimental. They do best when given plenty of room and plenty of sun.

Carl D. LaRue in SCIENCE reports a test with dandelion flowers to determine at what stage dandelions' heads cut from the plants would produce seed which would grow. He found that a dandelion flower could fully open, the head close and the corollas (the yellow parts of the flower) failing before cutting without the seeds being far enough along to germinate. He says that apparently until the white of the dandelion pappus (down on the seed) begins to extend beyond the closed flower tip, the heads may be cut and allowed to dry on the lawn without danger.

Despite the drouth and extreme cold of the past few years, black walnut trees are still holding their own where they have been given plenty of space and clean cultivation. Butter-nuts have fared less well.

Mr. J. H. Gerbracht of Hettinger in speaking of the hardness of trees says that half a dozen varieties of plums seemed to make it all right and a couple of crabs seem hopeful. Spruce scorch pretty bad, but native pines and cedars seem immune.

A new book that will appeal to anyone interested in fruit in this state is HARDY FRUITS, the author of which is C. F. Patterson of the University of Saskatchewan. The book may be secured through George Murray, Saskatoon, Saskatchewan, price \$3.65.



**PRESIDENT'S CORNER**

**F. X. Wallner**  
Sioux Falls, S. D.

I have been at a loss for a name for the skimpy seed packets one gets at times, but Mrs. P. L. Banks of the Clark County Garden Club calls it a pinch, but thinks that last lot of 13 seeds of Italian red pear tomato seed was just a nip. I thot a nip was a glass about half full. I suppose it was carelessness on my part to give all this Italian pear seed to my good friends at Clark and then ask for a packet back, then to let the seed flat fall off the hot water pipe; then to have Mrs. Banks chase out to the farthest corner of Clark county to locate the nip of 13 seeds. Well, I am deeply grateful and will repay you at the Deli Rapids meeting, June 19th and 20th.

We have had our own garlic sets since about 1911, using the same stock all this time but this winter it must have frozen so it was not fit to set out and we had to buy 10 lbs. of new stock sets. Some of the bulbs contained 20 to 23 sets or cloves and it was larger than ours, so it may have been time to make a change.

April 23rd: Today we are ordering two tons more of fertilizer, one ton of bone meal, 500 lbs. of super-phosphate 0-45-0 and 500 lbs. of 4-16-4. The 10 tons received 30 days ago is most used up. One potato grower used 6 tons 2-12-2, another vegetable grower used 4-16-4, also 1000 lbs. of sulphate of ammonia; all customers can have their soil tested so that they can buy the fertilizer best suited to their particular soil.

Growers all over the Wenatchee, Wash., apple growing district are pollinating their apple trees by hand. A group of 15 or 20 girls gather the pollen and a group of men, apply it to the blossoms of the varieties that do not bear so well. So many inquiries come in regarding this unique and fascinating process that F. L. Overly of Washington State College is preparing a bulletin on artificial fertilization of apple blossoms, that will be available in a short time.

There is an example of over-production of vegetables in Michigan. In one county onion plantings have increased over 1000% in the past 5 years. Where that district shipped one carload in 1930, they had shipped 1081 carloads up to April 1st.

Secretary Fitch of the Iowa Vegetable Growers Association is also concerned about the women that buy the green top carrots all winter, instead of the local grown mature roots. He admits

that the rub is to keep the bloom, crispness and bright color on the stored roots. The fresh bunch that travels thousands of miles in tight cars, packed in ice and never allowed to dry out until put on display in stores, are the carrots that sell and the roots without the green tops remain in the grocer's basket. "Fifty years progress in a billion dollar Industry" is a glamorous and romantic story, the main items in this industry are celery, lettuce, cantaloupe, oranges, grapefruit, apples and onions.

April 30th: Today as we were setting out cabbage plants, there was a flock of Franklin Gulls flying over, picking up earth worms that were at or near the surface after the 2 inches of rain received last night. A little later they all alighted and were very near us and it was interesting to see them run a few yards to a spot where they would pull a worm out. This gull is one of the most interesting and valuable of our birds.

"The wild flower season is almost here and it would be a fine thing if parents would caution their children about not picking at one time, more than can be enjoyed. We do not mean by this that wild flowers should not be picked at all. Providence intended that they should be enjoyed and a bouquet is one way of enjoying them. But it does seem almost criminal to allow children to spend an entire afternoon stripping a certain area of flowers which they have no intention of saving and which would not keep even if taken home and placed in water. Why not teach the youngsters to enjoy the flowers where they grow and if they must pick some, take only a few over a wide territory."—Beresford Republic.

The way the Argus-Leader knocked the Chinese Elm the other day makes me think it has reached its peak of popularity and more plantings from now on will be of the good old standbys, the ash, the American elm, the hackberry and others. An Iowa State College horticulturist reports an apple tree still living that had 18 inches of bark removed by rabbits, all around the trunk, a year ago. The 7 ft. tree has incomplete breathing organs.

The champion liar of the world, a farm woman in Michigan, grew pumpkins as large as barns, that were fertilized with cod liver oil. She moved into one when a fire fly burned her house, and she stuffed tobacco into the mouth of a snake when she caught it stealing eggs in the farm hen house.

I have had three reports this month of the wild black potato of Mexico that I distributed two years ago, but Mrs. A. F. Horock of Mitchell, with 244 pretty tubers in a big wide-spreading hill, got the best yield.

The "Master Gardener", whoever he is, writes—  
(Continued on page 65)





## LILACS

By D. H. Scott

Lilacs are natives of Europe and Asia. Perhaps nowhere else does one find the variation within a particular group of woody plants that one finds in this most interesting of flowering shrubs. Of the 26 species listed, three are of special interest to us. One of these is the common lilac that is native to Northern Europe. A second is the Hungarian lilac with its distinctive late, profuse bloom. The third species is the Persian lilac which, despite its aristocratically refined appearance, withstands the severest conditions of intense cold and burning drouth.

The lilac is a plant that can and should be grown more within the Dakotas. No better manifestation of the ruggedness and beauty of this shrub can be obtained than by observing the drive around El Zagal Park at Fargo when the flowers are in full bloom. The hedge bordering that natural amphitheater is a gorgeous array of soothing, feathery, almost exotic bloom.

Although Nature itself has furnished a wide variation in these plants, the modern scientific plant breeder has enhanced these variations by combining the desirable differences. Then, by skilful selection, he has chosen plants to fit particular conditions. The results have been outstanding. We now have distinct plants in which there is variation in time of blooming from early through mid-season, to the summer type; variation in the individual flower itself—single or double, large or small; but the most noticeable and valuable variation is the marvelous range of colors from white, light pink, brilliant red, deep red, lavender, sky blue, to royal purple. Consequently, the assortment of characters has been combined by these scientists to form readily distinguishable varieties of lilacs. At the present time, over 200 named varieties can be found in Highland Park, New York, or the Arnold Arboretum; and last year over 50 varieties blossomed at the Valley City Nursery.

Mr. Frank Skinner of Dropmore, Canada, is a plant breeder of international fame who has combined the hardiness of one variety with the early maturity and deep blue color of a second to produce a hardy, early maturing lilac that flowers when only three years old.

When we see the achievements of science in these living plants, isn't it rather thrilling to stop and think of the work that is yet untouched, work that can be done along similar lines in the plant kingdom? This beautification of plant life by the scientific plant breeder, and the following use of the artistic effects by the people, would seem to indicate the part that is to be played by the interaction of science and art for the betterment of society.

In his article, "A Better Place in Which to Live," Edward Bok, the great humanitarian and plant lover, expressed this one central theme:—an enriched fulfillment of human life by the increased manifest beauty of the surrounding plant life. May we too adopt this apothegm: "Make you the world a bit better or more beautiful because you have lived in it."

### PRESIDENT'S CORNER

(Continued from page 64)

ing in the Argus-Leader about the low cost of annual flowers for the garden, lists Kochia or summer cypress. This has got to be one of the worst annual weeds that we can think of. A few years ago there was a short hedge of it near my home and now it is coming up all over the place; the first thing to start, early in April and it is a very bad weed wherever it gets out of bounds.

Michigan growers are putting collars on cabbage, cauliflower, Brussel sprouts and brocoli plants before setting them out into the field, because of the very heavily infested district where the flies lay the eggs at the base of these plants, then the maggots destroy the crop before it matures. I have not seen as many of

(Continued on page 69)

## Bargain Offer

ORDER DIRECT FROM THIS AD

Coral Lily, this is a beautiful rock garden Lily and can be planted any place in the border. Blooming size bulbs, \$1.00 per dozen prepaid.

Regal Lily, Henryi Lily, Umbellatum Lily, Tiger Lily, Single and Double, all large blooming size bulbs, 25c each; \$2.50 per dozen prepaid.

Chinese Elm Seedlings Special offer, mention North and South Dakota Horticulture.

Per 100 prepaid

6-12 inch seedlings.....	\$1.50
12-18 inch seedlings.....	2.00
18-24 inch seedlings.....	2.75
2-3 foot seedlings.....	3.50

**DYBVIG NURSERIES**

COLTON, S. DAK.





## SECRETARY'S CORNER

W. A. Simmons

Dr. N. E. Hansen recently returned from an 18 day tour of orchards in Arkansas and Missouri, where he collected much apple pollen, which he plans to use at the Robertson orchard at Hot Springs and also in the state orchards at Sioux Falls and Watertown, as well as his own experimental orchard at Brookings. Some interesting seedlings should result from this trip.

Mr. Raymond A. Kelly, our State Auditor, in a recent letter to Mr. H. E. Beebe, says in part: "I was born and raised in Kingsbury County of this State, and still own and operate my father's original homestead, tree claim and pre-emption right. I feel that if more attention had been given to our water supply, both above and below the surface, that any eighty acres of land in the principal river basins of this state would supply normal living necessities for any family, and then we would not have the present economic questions now so prevalent thruout our state and Central west. When I first stood, as a young man, upon the levees along the Mississippi River some thirty years ago and saw hundreds of miles of these levees built for the express purpose of saving the low lands of the Yazoo and Mississippi valleys, I was first impressed with the foolishness of it all. Records which I have studied since then, as put out by the Federal Government, disclose that \$11,000,000,000 has been spent in the last 40 years on these levees. I should like to see \$1,000,000,000 spent in South Dakota and North Dakota to conserve these waters at their source, and where we need the water most. To me, the best program of today is the building of dams. It should be enlarged and become a bigger part of our economic life. Ten acres of South Dakota land, with abundant water, is worth as much as any other ten acres anywhere on God's earth, and will grow anything that a man has the industry to plant. A properly developed program would take the doubt out of raising crops in South Dakota, and would assure every farmer, gardener and dairy man that he would receive just returns from the efforts of his labor. We have lived too long in a land of plenty, without feeling that we owed anything to future generations yet to come. It is high time that we wake up to realize that the natural resources must be conserved. This is the road I expect to travel and regardless of any opinions to the contrary, regardless of the splendid rains this summer, I intend to continue my fight to bring about greater conservation of that which must be conserved, in order to preserve our people."

Our friend, Mr. John S. Robertson, lock box No. 242, Hot Springs, S. D., will be 71 years

young, on June 13th. His health has not been of the best this winter and he is now on the slow come back trail, often discouraging to the one travelling it. At such times, a message from friends and the knowledge that he is in the minds of others, interested in his recovery, helps a lot to relieve lifes burden. Let's all give him a birthday card shower this year.

We are advised by Merck & Co., the manufacturers, that Hormodin A., which is the name of the rooting substance mentioned in the article of Dr. Zimmerman in the May magazine, may be obtained from the Henry Field Seed Co., Shenandoah, Iowa. The price of the smallest size is one dollar, which makes about a pint of the rooting solution. As tried here, it has been found to greatly hasten the rooting process. In the case of geraniums and chrysanthemums, after standing in the solution for 18 hours, then planted in the usual rooting media, the cuttings were found to be splendidly rooted in two weeks, while the check cuttings, planted at the same time had barely begun to throw out roots. While the time savings in the case of the two easily rooted plants mentioned above, is of importance to commercial growers, the chief utility of the substance comes from its making possible the rooting of many plants that could not be rooted at all, without its use.

We hope you have not forgotten the summer meeting at Dell Rapids, June 19th and 20th. Those picnic dinners are always enjoyable where one can eat with a singleness of purpose not possible elsewhere. We have arranged for a committee of heavy eaters to provide the food, with the understanding that they will not be allowed to approach the table until all others are gorged, thus insuring an ample supply. Better give the poor little weeds in your garden a break, by spending these two days with us. If they grow as fast as those in my garden, they will be large enough to afford a worthwhile handhold, when you return to them.

### THE DICKCISSEL

(Continued from page 62)

pale blue, almost the same as the bluebird's eggs, one writer suggests. Some observations upon nesting habits indicate that the male is a very shiftless fellow, neglecting his brood even sometimes when the female has been killed. Like others of the sparrow tribe, they feed chiefly upon insects while they are in our part of the country and thus destroy large numbers of grasshoppers and caterpillars. One series of birds collected in an Illinois orchard had eaten 43 percent of canker worms and 22 percent of beetles.





## NATURE AND HUMAN NATURE

### Work Creates Wealth



Sam H. Bober  
Newell, South Dakota

If I had but two loaves of bread, I would sell one and buy Hyacinths, for beauty is the bread of the soul.—This is one of the finest sayings of the Koran.

A year ago I spoke on the subject of Gardening as a Hobby, at our convention. At that time I emphasized health and pleasure benefits, as well as the character building benefits and the better social attitude resulting from this class of work.

#### Affinity of Finer Living

My observations lead me to believe that flowers, plants and ornamental shrubs and trees have a distinct relation and affinity for finer, cleaner, happier and more prosperous living. You can notice it among city folks and you notice it among farm people. Wherever you see some green grass and some ornamental shrubs around a house, there you will usually find a real home occupied by people of character, the kind of good citizens who take an interest in community and civic affairs and who know of the proper relation of the many to the one and of the individual to society. And when a majority of our people are so minded, a proper balance is achieved and human happiness and social progress are attainable.

### Eliminate Slum Conditions

Occasionally you notice some writer in magazines allude to the subject of "peasantry" in this country, and it puzzles me. I have seen and observed the peasant class in European countries where they constitute a large number of the population. In this country of ours, however, we have very few that we can classify that way.

Once in a great while you come across a farmer who lives in a small house showing need of repair, possibly a leaky roof and unscreened windows and doors. You occasionally find in such place of living, flies, chickens, sheep, dogs and children wander in and out at will. Inside the house you may find the unceiled walls papered with newspapers. In this house you do not usually find any flower plants inside or ornamental shrubs outside.

Make people garden conscious and such undesirable conditions and the cluttered-up yards disappear. Instead, a desire is created for clean-

er and more healthful surroundings, with beneficial results to the immediate family and indirect benefit to the whole community.

### Promotes Friendly Rivalry

Planting of flowers and shrubbery creates friendly rivalry and pleasant relations among neighbors. Gardens need not be costly to be beautiful and useful. The important items are the soil, a lawn, some ornamentals and a few evergreens.

The beauty of flowers and plants has a universal appeal to young and old. It elevates your conception that there are certain universal values. Association with and working with flowers and plants help settle your nerves after you are through listening to the radio and reading the newspaper of people in the midst of revolution which threaten to sweep away the very basis of civilization in which they live.

### It Teaches Tolerance

The love of flowers and green growing things are universal in their appeal, knowing no boundaries of state, nation, race or economic or social system. Talk to flower lovers and as a rule you talk to reasonable people. They have a better than average conception of truth, morality, social justice and beauty. They can see the firm root, out of which we all grow, though into branches. And you do not find them among the malicious applauders of our differences.

Our business should be to get more heaven into our world and we can do it by creating more interest in the cultivation of flowers and plants. This has not been easy with weather conditions such as we have just gone through.

### The Pioneer Spirit

And here I wish to pay tribute to the fine brave spirit of our Dakota people. A lesson for all of us lies in the seemingly universal fortitude and cheerfulness of our drought stricken farm folks, who have been going through what really amount to here, about six years of record dry weather, of blazing heat and dried-up earth.

Of the many people we meet, very few rail against fate or talk of giving up. Yet none was sure of what the future held in store, with the family garden burned out, the field crops dried up, the pastures brown and useless and the water supply for animal and human needs running short. Pioneer days may be ended, but the pioneer spirit is not dead.

We are lucky to have men and women like these. Many in the cities and towns hardly

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## UTILIZING RHUBARB IN UNUSUAL WAYS

Dorothy Berrigen

Rhubarb is rightly classed as a vegetable, but its acidity, flavor and large amount of juice causes it to be used as a fruit. Most housewives have, at one time or another, used rhubarb in making pies, sauces, and possibly have combined the rhubarb with other fruits in making jam.

Because of its lovely bright color and tart flavor, experiments were carried out to determine its jelly-making properties. Rhubarb is high in acid, but lacks sufficient pectin to give a jelly of the desired consistency. Both pectin and acid must be present in jelly-making fruits. Commercial pectin can be added but a less sweet, truer fruit-flavored jelly is obtained if the additional pectin needed is added in the form of the natural fruit juices, i.e., tart apple juice, gooseberry juice, currant juice, etc.

### RHUBARB JELLY

Several methods have been used to extract the juice. The Oven Method has proven the simplest, and the most efficient. The rhubarb is thoroughly washed, the skins left on, and the stalks are cut into one-inch lengths. No water is added. The rhubarb is baked in a casserole or covered baking dish for 50 minutes at 325°F. (slow oven). The juice is then drained thru a cotton flannel jelly bag which has been wrung out in hot water. Three pounds of rhubarb will yield from three to four cups of lovely brightly colored juice. Jelly can be made from this juice with the addition of commercial pectins, following the general directions accompanying the pectin. We have found though, that the use of a slightly under-ripe high-pectin fruit gives a less sweet, more natural flavored product.

The proportions of the fruit juices to that of rhubarb may be varied to suit your own taste. Sugar is added in the usual proportion of  $\frac{3}{4}$  cup of sugar to one cup of fruit juice. Regular jelly process is then followed. For method of jelly making see Agricultural Experiment Station Bulletin 281, The Native Fruits of North Dakota and Their Use.

Very pleasing results have been obtained by using the following proportions: One fourth strawberry, raspberry, currant or grape juice with one half apple juice and one fourth rhubarb juice. One half gooseberry juice with one half rhubarb juice. Two thirds tart apple juice with one-third rhubarb juice, or one-half tart apple juice with one-half rhubarb juice.

The jelly obtained by using rhubarb has a distinct flavor which is particularly adaptable as an accompaniment with meat. The rhubarb

juice acts as an extender for the more expensive fruit and berry juices, and at the same time lends itself nicely in combination with the other more bland flavors.

### RHUBARB JUICE

The juice can be extracted earlier in the season, canned without sugar and used later in jelly combinations with the other seasonable fruits. The juice also lends itself well in combination with lemon and orange juice as a very cooling summer drink. The pulp left after the juice has been extracted can be used in making rhubarb butter, or can be easily combined with pineapple, raisins, or apple pulp and sugar and made into a very acceptable jam.

### RHUBARB AND APPLE BUTTER

- 2 cups stewed rhubarb (pulp from jelly extraction may be used)
- 2 cups stewed apple (put thru a strainer)
- 3 cups sugar
- 1 orange, juice and grated rind.

Combine the ingredients and cook the mixture until it is smooth and clear. Pour into sterilized jars or bottles and seal immediately.

### RHUBARB AND PINEAPPLE MARMALADE

- 3 pounds rhubarb
- 2 pounds sugar
- 2 lemons, juice and grated rind
- 1 cup pineapple (cubed)

Combine all the ingredients and cook very slowly until thick and clear. Pour into sterilized jars and seal immediately.

### MOLDED RHUBARB

A very tasty, easily prepared gelatin dessert can be prepared as follows:

- 2 tablespoons gelatin
- $\frac{1}{4}$  cup cold water
- 1 cup milk
- $\frac{1}{3}$  cup sugar
- 1 cup rhubarb sauce
- Whites of 2 eggs or
- $\frac{1}{2}$  cup whipping cream

Soak the gelatin in the cold water until it is soft. Scald the milk, and dissolve the sugar in the hot milk. Pour the hot milk over the gelatin, and stir until the gelatin is dissolved. Set the mixture in a cool place until it begins to stiffen. Beat well with egg beater, add the rhubarb sauce, and fold in the well-beaten egg whites (or the whipped cream). Turn the mixture into a mold that has been first rinsed with cold water, and chill until it is set.

This dessert is particularly nice when served with whipped cream and garnished with canned or fresh fruit slices.



## SOME FRUIT OBSERVATIONS

(Continued from May issue)



W. R. Leslie

Oka seedlings and Opata seedlings give more promise on the average than those of Sapa.

Mulberries continue to be hardy and productive. Planting of hardy strains are advocated as hedges to supply interest to the plantations and appetising food for birds.

In grapes, Minnesota 194 and 69 are yielding well. Good crops in 1936 also came from Alpha, Beta, Campbells, Hungarian, Suelter, Eona, Wilkins, Lindley, Mary, Niagara, Cottate, Osbu, Pontigo, Sonona and Ree, and additional Minnesota numbers 22, 57, 62, 78, 87, 91, 109, 167, 171, and 198. Some of these are too late for normal seasons, e.g. Ree, Osbu, Pontigo and Sonona.

Pears went out in many cases, but Tait Dropmore (formerly labelled Patten 2222) bore a generous crop. It appears as hardy as many crab apples.

Apples holding up well include Erickson, Manitoba Spy, Ostem, Redant, Breakey, Stevenson, Godfrey and Morden Russet.

Of the newer crabs, McCreary, Caputa, Adam, Fischer, Rosthern 6, and Linda bore. They may be valuable farther North but are not likely to replace Rosilda, Trail, Bedford, Robin and Dolgo in the Southern plantations. Fischer seems to be identical with Transcendent. The new Toba crab of this Station is worthy of wide test due to its colour, size and quality.

Trail seedlings tend to bear striking resemblance to the variety.

In gooseberries, Pixwell and Abundance look more firmly secure as leaders than ever. They are much hardier than Houghton and larger than Perry as grown here. Of the large fruited sorts Clark and Green Sweet rate high although not completely hardy. Ross does not thrive here as it does at Indian Head. A Morden cross, Sunset x Perry, bears medium large fruit. Charles deserves the attention of those wishing to add variety to their gooseberry plantings. It appears better adapted to the prairies than Josselyn. Mr. Boughen's new Thoreson, a green fruited sort, will be watched with much hope.

In red currants, Stephens No. 9 is likely to win a high place for its size, productivity and dessert quality.

The Crandall variety of Golden Currant is outstanding as a thrifty black fruited sort under dry conditions. The Fleming black currant did better than other common varieties.

It is timely to draw attention to a few general considerations:

The prairies have a dry atmosphere that is harsh to apples and pears and these fascinating fruit trees will probably always be short lived here. It is well to provide for the setting of a new plantation at least every human generation or 30 years. Hardiness is directly correlated with soil moisture. Losses in 1936 may in large measure be accounted for by the dry hot summer of 1935 and the heavy crop of fruit borne. There was not sufficient soil moisture in late summer to build up in the trees a storage of starches and sugars. These are essential to comfortable wintering. They are the seat of "bound" water in the tissues. Their lack results in drying out, and probably predisposes to sunscald, bark splitting, and similar injuries. A thorough irrigation of the orchard in early October is usually very profitable. It usually pays to protect exposed trunks and lower main branches on the Southwest side against late winter.

Generous tree shelter on the south is vital. Examples are the heavy sunscald injury to Haralson and Rosilda trees on the south of hedges in 1936, and the comfort and fruitfulness of sister trees on the north side of hedges. In other words, place effect is very important to apples in test seasons.

Pruning wounds should be covered with a disinfecting and protective paste or paint to avoid weakening from fungus and insect organisms.

Clean cultivation is required in dry years. It is to be shallow and not disturb feeder roots. Spraying is now an annual operation at the Morden station as protection against defoliating insect pests.

In trying years comparatively young trees are likely to fare better than less vigorous old bearing trees of the same varieties. The orchardist is confronted with the task of keeping his fruit trees in thrifty growth.

### PRESIDENT'S CORNER

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these flies this spring as in former seasons and I hope they do not attack these crops, here.

May 19th: Only one month from today until our summer meeting at Dell Rapids. It promises

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## BIRD NEIGHBORS

Dr. J. F. Brenckle

Getting acquainted with the birds requires learning their names and being able to distinguish one from another. As we take notice of birds we find that where formerly there seemed to be but few kinds, there really are many. It would be confusing to have them all present with us at one time but as they come and go in the yearly procession of seasons we can study them singly or a few at a time. Also they can always be studied again in another season and it is surprising what pleasure it is to meet with old friends that you have seen before.

All birds have been classified. That is, those that are similar are grouped together. This makes it easier to study them as most of us are familiar with many of the groups, such as the ducks, owls, sparrows and blackbirds. Birds as a whole may be divided in various ways. We have the water birds and the land birds. The water birds may again be divided into those with webbed feet and the shore bird with wading stilts. When I first hunted ducks they were simply large or small ducks, but in time, names were applied to the different colors and shapes. Greenheads, teal, redheads, and all the others. We recognize a group by certain characters which all its members have. With the blackbirds one of the characters is the general black color. One can easily recognize the crow, the common grackle, the yellow headed blackbird and the redwing. Long ago I also noticed a small blackbird with white wing-patches similar to the redwings. Later, when I looked up bird names I could find none for this bird. Finally Prof. Stevens informed me that it was not a blackbird but the Lark Bunting. So we see that superficial resemblances may be misleading.

It is easier to study a bird if you have it in hand. The earlier bird students studied them by the shot-gun method. Even the so-called bird-lover considered it important to collect specimens, to be certain of identification. Contrary to the old method we now capture them alive in traps for banding and so have them in hand for a few minutes of study. In this game of bird-banding one of the rules is that no unidentified bird may be banded. This stimulates one to know accurately every bird, as misnaming one in a banding report may call forth an embarrassing letter from Washington stating, that you report banding a robin but a gentleman from Missouri reports catching a redwing with your band.

The study of birds can well be made a family hobby. Particularly at the farm or suburban home, trees and bushes. Old and young are always interested in every kind of bird. For

the youngster it is a year round occupation to build shelters, nesting boxes, and to feed birds and protect them. Friendly and useful birds about the farm should receive special protection and consideration. One of these is the prairie Burrowing Owl which tries to nest in the pasture near farm buildings. It lives mostly on mice and grass-hoppers when these are to be had, and on other insects, crayfish, small mushrooms and small animals that have been accidentally killed. Because the bird is an owl and sits quietly over its burrow during the day time it is often shot and killed. The young are the cutest creatures to handle and tame, but they should be fed and left at the burrow. Several years ago while banding these owls, I visited a burrow from which the young were about due to come forth, and found four pairs of wings lying around the entrance. The young bodies had been neatly eaten out by a cat. Another very useful bird, often wantonly destroyed for some minor offense, is the Flicker. In the spring he is apt to tap on your houses, usually early in the morning. He seldom makes or enlarges a hole in the house and much prefers a hollow tree to nest in, or digs out a hollow in a telephone pole or large fence-post. His food consists almost entirely of insects. Ants, tree-borers, grass-hoppers, moths and others. Six or eight large young are often in a nest and one can hardly imagine the number of insects it takes to raise them. They are inclined to become quite tame and friendly and should be protected and encouraged to stay about every home. Further study of the hawks and owls has shown that most of them are useful and interesting and should not be exterminated.

In the Dakotas we are fortunate in the large variety of birds that visit us. While most of them belong to the eastern fauna quite a few of the western and mountain species also come here. To help in the study of birds we now have many fine books with colored pictures. A partial list most useful for our region is here appended.

- Bird Guide—C. A. Reed. Doubleday Page & Co.
- Birds of Minnesota—T. S. Roberts. University of Minnesota Press.
- Handbook of Birds of Eastern North America—F. M. Chapman. D. Appleton Co.
- Birds of Canada—P. A. Taverner. Canadian National Museum, Ottawa.
- Birds of America—Edited by T. Gilbert Pearson. Garden City Publishing Co.

### PRESIDENT'S CORNER

(Continued from page 69)

to be the best summer meeting we have ever held, with a big delegation from the Clark County Garden Club and a delegation from Sioux Falls present, to invite us for the winter meeting.





## SOIL: ITS ADAPTABILITY FOR TREE GROWTH

By Walter H. Paul

North Dakota Extension Forester



Walter H. Paul

The soil survey made by the Plains Shelterbelt Project in 1934 place the favorable, difficult, and unfavorable soils for tree growth at 56, 39, and 4 percent respectively for the entire shelterbelt strip. This article will be limited chiefly to North Dakota conditions although they are generally the same for the remainder of the Great Plains region. Since we are interested in establishing good groves, windbreaks, and shelterbelts, it is probably well that we define what is meant by successful tree planting. By "successful" tree growing is meant the reasonably easy establishment of groves of trees whose average life will be between 30 and 60 years and whose ultimate average height will range between 25 and 40 feet.

Soils, due to their physical makeup and parent material, have a varying absorbing power, retention of moisture and other characteristics which make them either favorable or unfavorable to tree growth. The same soil under different moisture conditions may fall into either classification chiefly because of the speed with which moisture penetrates and the ease in which it is given up for tree growth. Generally speaking the vigor and survival of all but a few species of trees showing special soil adaptations increases with the sand content of the soil and decreases with the clay content.

Soils classified as favorable to tree growth in North Dakota are generally unfavorable for agricultural use. Sandy soils as found in sand hill areas and light sandy loams fall in this category. These soils were formed chiefly from coarse siliceous deposits which are extremely resistant to weathering. Such soils generally have a high water table and a lower concentration of lime than other soils of the state. In sand hill areas the soil is generally acid in reaction while on the light sandy loams the zone of lime enrichment is lacking or forms at a depth of several feet and then only to a very limited extent. As such soils absorb water more readily the lime that they absorb in the topsoil percolates down through the soil and is deposited at the maximum depth of moisture penetration. Due to the fact that the soil absorbs most of the available moisture and the moisture equivalent (amount of moisture nec-

essary to saturate the soil) is low, this lime is carried down to a much greater depth than on heavier soils. Consequently the lime is not concentrated and does not form the mechanical barrier to root development and the percolation of moisture as it commonly does on heavier soils. On sand hill areas chiefly the water table is relatively close to the surface thereby encouraging deep rooting of the trees. Well established trees reach a permanent moisture supply and are very resistant to drought.

Soils unfavorable to tree growth are very heavy soils, of a clayey nature that have developed chiefly from shale. These soils are found scattered over the state in various places as well as in old lake beds and basins where they may be alkaline. Heavy clayey or clay pan subsoils are present in most soil types which prevents proper downward drainage when the soil is wet and gives poor aeration. All of them have high moisture holding power but absorb water very slowly, losing much of the precipitation as run-off. During seasons of frequent rainfall such soils may be very productive, but in dry periods the topsoil moisture evaporates, the clay shrinks and cracks, and they become extremely droughty.

The usual rains penetrate to only a shallow depth and take with it the lime absorbed from the surface soil and deposit it in a zone of lime enrichment only a short distance below the surface. Because the soil below this zone is extremely dry, and because of the mechanical barriers this concentrated lime zone, together with the clay pan is to root development, the trees generally root shallowly. These shallow rooted trees in normal years receive sufficient moisture only for part of the growing season and in years of subnormal precipitation are very susceptible to drought injury. Upland soils of this nature can be planted only to the most drought resistant of species which cannot be expected to put on rapid and vigorous growth although with very good care fair success may be obtained.

Other unfavorable soils are sandy soils and moraine soils with a gravelly or stony subsoil which are extremely droughty due to exceptionally rapid and complete drainage.

Difficult soils are made up of the soils of intermediate texture varying over a wide range of conditions from the sands and light sandy loams on the one hand to the heavy clays on the other. In the glaciated section of North Dakota the upland soils range in texture from silt loam to fine sandy loam and are friable (capable of being crumbled by the fingers). The subsoils are only slightly heavier than the topsoils. A zone of lime enrichment is present at various depths usually 12 to 24 inches but the heavy, clayey subsoil is absent and the soil texture is





usually rather uniform from the surface downward.

Water is absorbed more rapidly than on the clayey soils and retention of moisture is not so great. Due to this condition soils of this group are usually favorable to tree growth and successful planting can be established in the eastern part of the state where precipitation is sufficient but fall into the difficult class farther west where rainfall is more limited. Depth of rooting varies considerably with the various species of trees and the amount of moisture available. A series of wet years usually causes the trees to root more deeply so they are better able to withstand the drought year that may follow. On the other hand years of drought cause most species to root near the surface to take advantage of whatever surface moisture is available.

A considerable portion of this difficult soil can be changed to a favorable category and successfully planted by proper choice of species, careful ground preparation, listing, terracing, and other water-conserving measures which are entirely practicable to undertake.

#### NATURE AND HUMAN NATURE

(Continued from page 67)

realize the problems of farm life, but times like these help bring them home to us. May the blessings of rain soon fall on our farm people. Let Jupiter Pluvius send us some good old fashioned sodsoakers.

#### Work Creates Wealth

I have been on earth quite a few years and I cannot lose faith when I see nature redeem her promise every spring. The trees bud and the flowers bloom and the goodness of life is an example for every one of us to follow. But some will say that it takes work to make things grow. Yes, it does that. But the only real prayer I ever remember having had answered was Work.

And while on the subject of work, let us see what wise old King Solomon had to say on the subject. It seems that King Solomon not only studied nature, but also human nature. He is credited with three thousand proverbs and a thousand and five songs; and he spoke of trees and of beasts, and of fowl and of creeping things and of fishes. In studying this man's greatness, we find it succinctly expressed in his words: "In all labor there is a profit."

Solomon did not believe in the dole. He had no scheme for the equalization of wealth. The greatest wealth he believed was for a man to

have work. When he found thousands of strangers in the land of Israel without jobs, he put them to work. The result was a temple on Zion's Hill, built by men who otherwise would have had to depend on the dole. King Solomon realized that along with a natural unemployment proposition he also had some men that lacked ambition and some that rather enjoyed being lazy, but that the dole was no cure for it. I believe King Solomon must have been the first one to start a W.P.A. Project.

#### Reap What You Sow

In all annals of life, knowingly or unknowingly, man reaps what he sows. He not only reaps what he sows, but in his sowing others reap what he sows, as he in turn must reap what others sow.

Let us try to create in every human breast a desire for the finer things in life—for music, for good books, for the songs of birds, for the beauty of flowers and the usefulness of garden plants and fruit trees that sustain life. This will help us grow materially and spiritually and make it possible for us to progress morally.

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