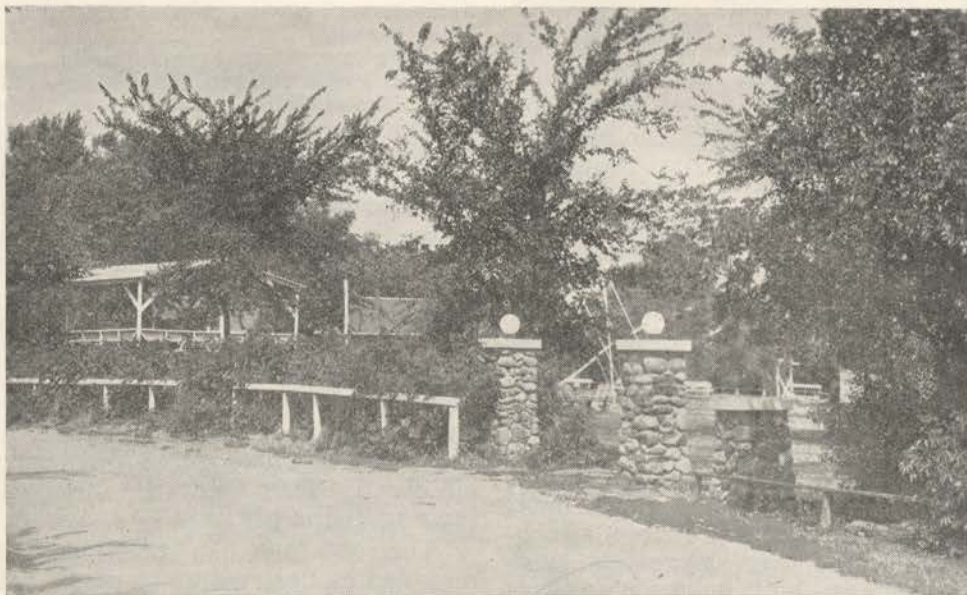


NORTH AND SOUTH DAKOTA HORTICULTURE

APRIL, 1934



The ladies of Centerville are responsible for the beautiful gate pillars and much of the planting in their River Park.



THE RED-WINGED BLACKBIRD

O. A. Stevens

With the coming of April we are attentive to all the sounds of early spring, and few of these are more characteristic than the "kong-quer-ree" of the red-winged blackbird. The word "blackbird" seems to carry a suggestion of evil character, but we would not wish to lose the cheerful spring call of the red-wings, regardless of what we may think of the birds otherwise.

The red-wings and the meadowlarks are the hardiest members of a strictly American family of about 150 species of birds, most of which remain in the warmer regions. The typical eastern red-wing nests from the northern parts of the Gulf States northward into Ontario and Quebec. Most of the birds move down into the southern states for the winter, but a few remain as far north as the Ohio River or even farther. The birds found in our region are now known as Giant Red-wing, a race of slightly larger size and darker color than the eastern form. Our birds nest as far north as central Mackenzie, retiring to the southern states for winter. It is only a rare straggler which may be seen in North Dakota in winter. Races which are not migratory, occur in the south, and the Pacific Coast region has still other races of red-wings.

The noisy migratory flocks of blackbirds cannot fail to attract attention. The first red-wings in small groups appear in the latitude of Fargo about the first of April. These are bright-colored old males, which take up their positions at their old nesting ground. The dull-colored, striped females, which show only a trace of color on their shoulders, will not join their mates until three or four weeks later. More birds continue to arrive, and in late April large flocks consisting mostly of young males with little wing color, spend the night in our groves.

Nesting activities are quite closely confined to marshy areas. For several years I have watched them along a certain half-mile of drainage ditch, this being the most convenient local area. The first nests are built on the old stems of cattails, hardly a foot above the water. Late nests in July may be in the new growth, three or four feet higher. Nest building goes on rapidly at times, wet pieces of old grass and rush leaves being woven around three or four stems until a well formed cup is made. Frequently the nests are placed in small trees or bushes, especially in willows, at various heights above the ground.

In 1925 the first evidences of nests were found on May 10 and two sets of eggs on May

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21. The height of the nesting season is reached by the middle of June, and late in July most of the families have moved away and the ditch is nearly deserted. The eggs are usually four, often three or five. They vary in color from pale blue to nearly white and have a variable amount of marking in the form of irregular brown lines or a few spots, especially on the larger end. Hatching takes place in two weeks and in another two weeks the young can scramble about. They wear the streaked patterns of their mother's plumage.

The red-wings, like other blackbirds, are often regarded as destructive to crops. Many writers, on the other hand, rate these birds as decidedly beneficial on account of the numbers of insects destroyed. As a matter of fact, this species is a good example of variation in economic status according to time and place. An extensive study of its food habits was made by the Biological Survey of the United States Department of Agriculture. This report showed a total of 13.9 per cent of grain, taken chiefly in April, May, July and August; 26.1 per cent of insects, taken most-

(Continued on Page 48)



PREPARATION OF THE GARDEN SOIL



Purley L. Keene

smaller amount of seed, thus lessening the amount of thinning necessary.

In thinking of the preparation of the garden soil we naturally give most consideration to the work done in the spring of the year. However, the preparation of the soil goes much farther back than the spring preparation. It includes consideration of the larger items which interfere with fine cultivation. These items include a consideration of stumps, roots, trees and shrubs, rocks and boulders and corn stubbles which would interfere with the preparation and cultivation of the soil. Soils that are intensively cultivated for vegetable crops should be free of stumps, tree and shrub roots, boulders and even small rocks. Corn stubble or any other material which would interfere with the use of small garden cultivation implements and their efficiency.

A consideration of the crops which were grown on the soil the preceding year is important. Some crops leave the soil in very poor physical condition while others leave it in good physical condition. Potatoes, for example, usually leave the soil very mellow and loose so that it is easily prepared and friable the following year. Corn on the other hand has a tendency to leave the soil in poor physical condition, frequently requiring considerable discing and harrowing to place it in good condition for receiving the seed of next year's crop. Some crops drain more heavily on soil fertility than do others and this fact should be taken into consideration in the maintenance of the fertility of the soil. The fertility of soils upon which vegetables are grown should be maintained to a higher degree than for field crops. The residues of some crops seem to be toxic to other crops which follow them. Rotation of vegetable crops is beneficial in the control of insects and diseases.

Since vegetables are usually more intensively cultivated than field crops the preparation of the soil and its subsequent cultivation is much more important. The spring and summer control of weeds is materially lessened by thorough adequate spring preparation of the soil. A more uniform stand of plants is secured in well prepared soil which necessitates the use of a

It is generally considered orthodox to plow the soil in the fall of the year. This is especially desirable where large quantities of strawy stable manures which have not been composted are used in maintaining fertility. The strawy manures plowed under in the fall of the year have several months to decay before the next growing season while if they are applied in the spring of the year and plowed under they may give considerable trouble in cultivation during the following months. Fall plowing is not so desirable where the conservation of moisture is important. It is true that fall plowed soil will absorb more moisture from rains and snows during the fall, winter and early spring months than unplowed land. If, however, these rains and snows are not plentiful the fall plowed land has a tendency to be more rapidly dried out than that which was not plowed. Therefore, it is quite common to delay the plowing in the western part of our state until the spring of the year. Spring plowing usually gives better results with sandy or sandy loam soils than it does with the heavier clay loam soils. When the plowing is delayed until spring it is necessary to follow the plowing closely with discs and harrows in order to prevent the soil from becoming lumpy or cloddy. The depth of plowing should be deeper in gardening than it is in general farming. Especially is this true where deep rooted root crops, such as parsnips, are grown. It is also true for the perennial vegetables, asparagus, rhubarb, etc.

The spring preparation should consist of discing and harrowing. When the garden soil is not to be planted until late in the spring of the year, as it might be with tomatoes which are transplanted into the fields from hotbeds, the preparation of the soil should extend over several weeks time, cultivating the soil at intervals of about ten days. This will give a chance to kill many weeds which will start to grow, thus eradicating many of them before the crop is planted. Weeds may be much more economically killed by discing and harrowing before planting than they can by cultivation between rows after seedage. The spring preparation of the garden soil should be started as soon as the soil is in condition for work, regardless of the time of seedage. By double discing the surface of the soil is left smoother than single discing. For this reason it is always customary to double disc wherever the disc harrow is used in the preparation of garden soil. In discing the soil the second time travel should be at a different angle than the



first discing. In other words, the first discing may be north and south and the second discing east and west. Some gardeners even go to the extent of discing diagonally the third time. By this practice better and more thorough preparation of the soil is secured and the surface is left smoother.

I was somewhat surprised a few years ago when I had an occasion to call on Tony Moberg, our Brookings market-gardener, and found that he was double discing his onion soil for times, thoroughly harrowing it with a smoothing harrow between each double discing. This may seem to the average gardener as an unnecessary expense but Tony pointed out that subsequent hand wheel hoeing during the growing season was materially lessened by this thorough spring preparation.

Where well rotted stable manures are applied in the spring of the year it is not considered necessary to plow them under. They are merely disced and harrowed into the soil. Final preparation for seedage is usually given with tools which leave the soil in fine mellow condition for seed bed purposes. These tools consist of cultipacker, Meeker and Acme harrow, and in some cases the planker and the roller although these last two implements are not as generally used as the cultipacker and harrow. The roller and planker are resorted to when the soil works up lumpy. By either rolling or planking these lumps are crushed and broken up or firmed into the soil where they will be softened by the absorption of moisture. Subsequent harrowing will break them apart. Most gardeners do not like to leave the soil rolled or planked very long for it is apt to crust and crack. This is especially true of the heavier types of soil and also if they contain considerable moisture as may be the situation in early spring.

The maintenance of the fertility of garden soil should be given consideration and preferably taken care of in its preparation. While commercial fertilizers may be used and are used in the maintenance and fertility of soil, in this section of the country, stable manures are and will be for some time the main source of additional fertility. Stable manures not only add the necessary elements for plant growth but they also improve the physical condition of the soil. They have a tendency to lighten the heavier types of soil, to make them more friable and easier to work. They also, when added to sandy soils, help to retain the moisture by filling air spaces with moisture holding humus. The fertility of manures is more readily available if they have been rotted or composted. For this reason composted manures are to be preferred in the in-

tensive growing of crops. The garden soil should receive a fresh supply of well rotted stable manure every year at the rate of from 15 to 25 tons per acre. Some use as much as 40 tons per acre per year.

GARDEN NOTES

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

Many Societies are to meet on Pasque Knoll east of Sioux Falls some Sunday afternoon in April when the State flower is at its best. They will inspect the wild flower preserve, and deep water fish preserve. Delegations from the following Societies will be present: S. D. State Horticultural Society, Izaak Walton League, State Nurserymen's Association, Dell Rapids Garden Club, Sioux Falls Peony Society and others. All Floriculture, native trees, and shrubs, and bird life will be identified by experts on the ground. The public are invited; bring the children. Watch the Argus Leader for dates.

Several inquiries have come to me regarding sweet potatoes, even as far North as Canada. Many find that sweet potatoes are treated or kiln dried, so do not grow. Very few catalogs list sweet potatoes, but do list the plants. We can not bother with these doubtful tubers, when we can get hardy southern plants free from insects and disease for about \$3.50 or \$4.00 per 1000. But they usually look rather dry and sometimes are beyond recovery. They should not be set in the field at once, but rather reconditioned, opened up and the roots muddled and kept moist until new rootlets are started, then set in the field. Six inch plants should be set in the ground five inches. I use the potato planter just as if I were planting potatoes; then set the plants in this mellow ridge. Frost and sand storms may destroy the inch above ground, but a good stand will show up later. Some Iowa Growers recommended two plants to a hill. I suggest the Life Member in Canada try a few of these reconditioned plants rather than try growing plants. Several life members, myself included, are wondering how to get some of the dandy premiums offered by the Society.

When using Semasan on your tomato seed, mix only what you sow at once, as it will kill the germ in a very few days in a box or bag.

March 6th. While watering my hotbeds this morning, the bank robbers dashed by. We foolishly followed a short distance only, then repaired tires while the plants were almost freezing.

Several boxes of Pink Heart tomatoes are up and looking fine, better than some of the regular kinds.



NORTH DAKOTA NEWS LETTER



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

Here is a true story. Last spring the son of a professor at N.D.A.C. who was a junior in College, decided because the State had cut his dad's pay 50 per cent that he would no longer be a burden to his parents. He therefore left home, went to New York and because he had taken work under Prof. Arvold got a place helping with a play. He now draws \$35 more per month salary than either his father of Prof. Arvold. How

long do you think a man like Arvold whose reputation is sufficient to give a student such a start, will pinch and save in order to stay in North Dakota? He, and many like him are waiting to see what the North Dakota legislature does about salaries next winter.

The Illinois Experiment Station reports that Concord grape vines on which about 56 nodes are left after pruning made the best crops.

A correspondent from Litchville asks about pollarding trees around a school yard. This is another name for the heavy heading back sometimes practiced. Sometimes poplars are cut back this way to thicken their tops and if growing conditions are pretty good will recover. Ordinarily, however, topping is likely to shorten the life of trees rather than lengthen them and the cutting off of large limbs makes a place for the entrance of wood rotting fungi. Unless you know exactly what you are after, therefore, better not behead trees.

The question is asked whether it is possible to grow tobacco in North Dakota. It is possible by growing the plants indoors and transplanting, but I do not know of any having been grown commercially. Tobacco seems to require special soil conditions and climate for the development of a high class product.

A friend asks whether it is possible to start potatoes inside and then set out the sprouts, thus hasten the crop. The most satisfactory way of hurrying up the potato crop is to lay the potatoes in a sunny window a month before planting time where they will form heavy short green sprouts. When such potatoes are planted, they will come up very quickly. A good many experiments have shown that the crop may be earlier and larger. Of course, this method is

only recommended where one wishes some extra early new potatoes in the garden.

Mr. Shaw of Roseglen says that last year he had Triumph and Blue Victor potatoes growing side by side. Grasshoppers attacked and ate up all the Blue Victor plants two weeks before touching the Triumph.

Treating aster seeds before planting will not prevent aster blight or yellows. This is a disease carried to the plants by insects. Some manufacturers now put out a product they call Aster Cloth which is used to cover commercial aster plantings to prevent these insects getting in. Around the home grounds, while covering could be practiced, probably the most practical thing is not to plant asters for a year or two.

There has been a great deal of loss this year with potatoes which have rotted in the bins due to either dry rot or a disease known as Black-leg which produces a bad odor. Potatoes showing a brown area when the stem end is cut off should not be used for seed as this indicates that the potatoes are probably infected with one or the other of these diseases. If they are, the potato crop raised from this seed will also be affected.

The Wanakena Garden Club of Fairmount is one of the most active in the state. A beautifully fashioned little booklet arrived from its secretary recently which gives their proposed program for the whole year.

A correspondent suggests that the reason why plants started inside drop over at the ground line is because the ground gets hard and simply chokes the plants to death. This is not true. The trouble is a disease controlled by sterilizing the soil or by using soil which is free from it.

Winter onions will soon be making their appearance above the ground. There are two principal varieties, the Welch, propagated by seed and the Egyptian, propagated from top sets. We rather think the Egyptian is the better. Either of these varieties will give green onions in the garden by the time one is thinking of planting ordinary garden crops and will live from year to year.

When you plant cucumbers it will pay to plant pickling varieties if you are primarily interested in that product. The large slicing



kinds will produce many less cucumbers in a season. Likewise, of course, the pickling varieties do not make a desirable sized cucumber for slicing purposes.

While it is possible to grow strawberries in a barrel by filling the barrel with earth, boring holes in the sides in which plants are set, we cannot recommend it as a paying proposition.

We are asked whether special top-crossed Golden Bantam sweet corn is likely to give a better crop than ordinary seed. It is quite likely that it will. The process is one devised by scientists for the purpose of giving a more uniform product. However, it must be remembered that seed from such crosses should not be saved for the following year.

Watermelon and other vine crops may be produced earlier by planting the seed indoors in pots or in inverted blocks of sod about the first of May, then transplanting to the field about June 1 without disturbing the roots.

Some folks seem to think that groundcherries sprout from the roots, thus are sort of a perennial. This is not true. The idea comes from the fact that they do spring up frequently from self-sown seeds. These volunteer plants are usually too late to produce much.

If you think your trees need pruning, now is the time to do it. Do not, however, make the mistake of pruning them up. The principal pruning needed is to take out the branches which are crossing each other and rubbing. In a general way, trees which are fruiting, perhaps overbearing, should be given more pruning than those which have not reached bearing age.

Mr. J. H. Berry of Armour, South Dakota, writes that if anyone wishes to try Osage Orange, he would send them some seed secured from further south. However, he says he has tried them himself without any success at Armour.

Fritz Bahr in the Florists' Exchange in speaking of Delphiniums says, "Don't forget that good seed costs money, but it is the only kind worth growing."

Tests by the U.S.D.A. show that low pressure steam may be used for sterilizing soil and will give practically as good results as high pressure steam. Sterilizing the soil by steam makes it unnecessary to change the greenhouse soil every year or two.

M. A. Blake of New Jersey says that the budding of one year old apple trees at planting,

tends toward formation of narrow crotches and that treated trees make less growth than the ones not treated.

Cabbage seed in the United States is practically all raised in the Skagit Valley in Western Washington, according to J. C. Walker of U. S. D. A. Of course, there is a considerable amount of seed imported from foreign countries.

The following is the most satisfactory way we have found to raise Chinese cabbage: First, plant the Chihli variety. Either sow the seed inside in the middle of April and then transplant to the field about May 20, or else sow the seed directly in the field about the 10th of May. Up to the present, we have not had much success with Chinese cabbage as a fall crop.

A correspondent asks whether plants and shrubs of mailing size may be sent from the state without inspection. As far as North Dakota is concerned, it would not be necessary to have plants inspected to ship them out, but the place to which the plants go would likely require that they be inspected, just as North Dakota requires that plants coming into this state be inspected in order to prevent the introduction of serious diseases and insects.

According to Wisconsin Experiment Station, if peas are grown continuously on the same soil, pea wilt disease will gradually accumulate until it will be impossible to raise peas on the ground. Soil may have disease in it and not entirely kill plants until two or three years after its first appearance. While North Dakota does not raise a good acreage of peas, many people do raise a row of sweet peas. The Wisconsin Experiment Station would indicate that once sweet peas are killed by disease at the root it would be necessary either to change the location of the sweet pea fence or dig out the soil and replace it with soil in which the peas have not been grown.

A recent letter asks how to arrange a flower bed consisting of various kinds and colors of flowers. We were obliged to reply that there is no exactly right way to do it, any more than there is a standard way of arranging the furnishings in a house or decorating a hat. About all one can say is that taller flowers should be at the back side of the flower bed and that one must avoid too much of a clash of colors. I doubt whether any real gardener arranges his flower bed the same way two years in succession. He always thinks he can make some improvement, which is really what makes gardening interesting.

PLUM VARIETIES

John Robertson, Hot Springs, S. D.

After consideration of currants and gooseberries, the next in importance in growing fruit for the family is plums; so in this article I will try giving some helpful ideas as to characteristics of varieties, and some of the best. I do not want to make this article long, so will not try mentioning nearly all of the varieties we have tried during the past 35 years, but will confine to a comparatively few that have proven valuable; also some few that appear very promising; and a few comments on some that we had hoped would prove good, but which we are now considering doubtful in value.

We have had the Westesa, Yuteca, Zekanta, and Huya plum sorts on the place since 1908. These are select seedlings of natives, and are all hardy and dependable bearers of good quality fruit. Each is different from another, but we will not take up a description of each, excepting to say that the Wastesa is the choice sweet one for eating raw.

Another class of the hardiest good plums is, Assiniboin, Cree, Pembina, and Ojibwa. The Assiniboin is a seedling of the native plum of Manitoba; and the others are hybrids of the Manitoba plum. The Assiniboin blossoms very early, but stands cold well enough that it usually gets through with some crop. The tree is an upright, sturdy and stocky grower, with long thorns or fruit spurs. Fruit is large, early to ripen, and is of very good quality for home use. The Pembina is hardy enough in standing winters here; the fruit is very large, ripens early and is of the very best for either home use or market. However, the tree has proven too short lived to be profitable here. The Ojibwa is longer lived, bears young and regularly of good sized fruit, that is of fair quality, and ripens about mid-season here. The Cree does not begin bearing as early as the others, but is a very good annual producer later on. The fruit is of good size and fair quality. The tree is of good form, healthy and hardy, and has proven the longest lived of any of the *Prunus Nigra* hybrids we have tried over a period of years. We planted these hybrids first in the spring of 1917.

In the class of more common hybrid plums, which are mostly from crosses of choice foreign or California plums with that of the native Americana, we will mention Tecumseh, Waneta, Hanska, Kaga, Underwood, LaCrescent, Monitor, Superior, and Minnesota Nos. 216 and 225. There

is another that we got scions from a private source in starting, and which we have listed as Haralson No. 4. This is very probably a cross between the Wixson and Kaga, same as the Superior is; but it has taken our notice as being the strongest grower in the plum line that we have on the place; bears early of fine quality extra large fruit, but the tree is one of favorites for borers. I might mention here, that there appears to be a very distinct difference in plum varieties in relation to the likes and dislikes of borers; and it is usually the sorts that produce the highest quality fruits that they prefer working in. The Tokata is one of their choice, as well as some few others. Many varieties are not troubled in the least by borers; and in most instances, borers do not attack a tree unless it is in an unhealthy or dying condition. But with some certain varieties, they will start in on perfectly healthy, and young growing trees, boring under the bark near the ground line mostly, but sometimes work a little underground too. As it is some job digging out borers, and the tree is usually killed in a few years anyway, a person is rather inclined to favor sorts that there is the least trouble in growing; with attention centered on a very limited few in the best of others.

We got a start in the Waneta plum about spring of 1913, and that of the Tecumseh in 1918. We still have the original Tecumseh tree, as well as having propagated and planted several more since. We also have a few trees of the Waneta, and consider it one of the good ones; but consider the Tecumseh of most value. In beginning, the Tecumseh was not considered the equal of some others in hardiness, but we have found that it compares very well in this respect. The fruit is not as large as the Waneta but still is plenty large. It bears early and regularly, ripens very early, is of a bright red attractive color, very good quality either for home use or market. While the young trees may kill back some in nursery row during severe winters, the tree becomes perfectly good later on when in bearing. Most any of the hybrids are subject to killing back during hard winter conditions, as young nursery trees. Some kinds get over this, while others never do make vigorous and fairly long lived trees.

The Hanska, and Kaga are very similar in fruit, which is of the very best for home use or market. Neither variety is overly hardy. I choose the Kaga as being most branchy, longest lived, and most sure annual cropper. Both blossom very early, but the Kaga keeps coming out over a longer period, so some of the later



blossoms are most likely to escape frosts. Of course, this makes more unevenness in ripening. The Underwood is an early ripening plum of good size and quality. LaCrescent is a good grower; fruit is medium in size, of a greenish yellow color, very sweet and choice for eating. This has not produced very heavily with us so far, but is likely to do better with age. The Monitor is a fine large plum, ripening about mid-season. The Minnesota No. 216 is one that we have only had a few years, but is one we have taken note of as an extra early and heavy bearer of good sized well colored fruit, ripening early. The quality is poor, but most other features are good. The Minnesota No. 225 is a good upright grower, bearing very large plums of good quality, ripening a little after mid-season.

In sand cherry hybrids we will mention Champa, Oka, Opata, Sapa, Zumbra, St. Anthony, and Nicollet. The fruits in each one of these is good; but the main trouble with some is in growing trees to produce well over a short period of years. I have given up the Zumbra as not being profitable; and am now considerably discouraged with the Oka. The tree appears fairly hardy for the first year or two, but on reaching a size that could produce a good crop it dies back to ground. The Sapa is very desirable as a fruit too, but does not last long as a tree. Of course, this as well as the Oka and other sand cherry hybrids, sprout up again from the roots; but the usual thing is to die down again before bearing in much quantity. We never prune our sand cherry hybrids up into much of a tree form, but let them grow much as we do currant bushes; but even at that, the older wood is constantly killing down too much during hard winters. We have not given the St. Anthony, and Nicollet very good trial yet; but so far the Nicollet has stood up to make a very fair sized tree, though it has not yet borne much fruit. The Champa is more of a select sand cherry, and is very hardy. It bears well, and the fruit is good, though smaller than the others. The Opata is much the most successful of all; both as a tree and in dependable annual production. In growing any of these hybrids, and including the Compass cherry, it is necessary to have two or more varieties growing in the near vicinity of each other, so as to get the benefit of cross fertilization in time of blooming, as a single variety will not bear well even though there may be several trees of it. It is much the same with any and all kinds of plums—there should be two or more sorts planted in company.

NOTES FROM A NORTH DAKOTA FLOWER GARDEN

A. L. Truax, Crosby, No. Dak.

The year of 1933 I took notes each month of the growing season as to time of blooming, habits of growth of the herbaceous plants and shrubs growing in my garden. Thinking that they might be of some interest and informative value, I am offering them as they were taken month by month.

Crosby is situated on a plain approximately 2,000 feet above sea level, and on the open prairie where there is no natural protection from sudden climatic changes and drying winds, both hot and cold. The original soil of the garden was a heavy clay of the type called "gumbo", together with considerable subsoil from cellar and ditch excavations. It would seem, therefore that what will grow here should grow anywhere in the Dakotas.

I have grown mostly perennials, though annuals, of course, have their place in any well rounded garden. Summer flowering bulbs such as dahlias, gladioli, etc., I have not grown because the season is rather short for them here, though many do grow them here with satisfaction.

The times of flowering will, of course, vary with the season and the latitude, and we may expect that things will flower a week or so earlier in, say South Dakota, than they will here four miles from the Saskatchewan line.

As March can usually be considered a winter month in the Dakotas, I have only one entry in my notes for that month, viz:

March 26. Took part of straw covering off of border along the south foundation of the house and found crocus *versicolor*, or "cloth of Silver", already pricking through the soil. Next fall I shall plant bulbs of *Crocus susianus* or "Cloth of Gold" alongside it for contrast.

Crocuses need a warm dry situation, and the only place I can grow them in this climate is along the south foundation of a wall or building. They should be planted about two inches deep, and it is best to take them up in August or early September of each year and replant them, as the new bulbs form on top of the old, and so keep crowding towards the surface of the soil.

April 5th. Took the remainder of the covering off of the south side of the house foundation and found the autumn crocus *zonatus* and *speciosus* sending up their spring foliage in pre-



paration for their fall bloom. These bloom in the autumn without leaves and then send up their foliage the following spring. I shall write more about these autumn crocuses in their blooming period, which is September and October.

April 22nd. Spent all day cutting sprouts away from eight old-fashioned Lilacs. These sprouts come up every year like a young forest, sometimes as much as six or eight feet away from the mother bush. Moral: Plant the French Hybrid Lilacs instead as they sucker very little. One each of the old-fashioned purple and white for the sake of boyhood association is enough for me.

April 23rd. Crocus versicolor, (cloth of silver) in bloom, the first flower in my garden this unusually late season, coming even before the Pasque Flower on the prairie. Crocuses *imperati* and *sieberi* are said to be even earlier than *C. versicolor*, so I must try them next season. These wild crocuses from various parts of Europe seem to be hardier than the named varieties of Dutch Crocus (*crocus vernus*), which are most commonly grown in this country.

My heart always thrills to the first crocus of spring with its seemingly fragile blossoms braving the frost and snow, and today I recall these lines:

"Torches of the tiny year,
Cressets put to mark
Pathways where the spring may tread,
Groping through the dark;
Fires to warm the frozen heart,
Candles rare and small,
Gold flame and silver flame
Glow beside the wall."

—May Byron

April 24th. The Pasque Flower (*Anemone Patens*, var. *Nuttalliana*), reported in bloom on dry sunny spots in the prairie. This particular species, or rather sub-species of *Anemone* was named after Thomas Nuttall, the eminent English botanist, who visited what is now North Dakota in 1811, and in the summer of that year was at Fort Lisa near the present site of Stanton, together with John Bradbury, another English botanist and naturalist, who has left us interesting accounts of his journey.

Later botanists give the Pasque Flower a newer botanical name, viz: *Pulsatilla Patens*. It is often vulgarly called "Crocus", or "Wild Crocus", by those not well informed. Though the blossoms do resemble those of the crocus somewhat, it is not even a relative. Newcom-

ers to the western prairies are invariably charmed by this first flower of our spring season, growing, as it often does, in great sheets on sunny spots in the prairie.

April 29th. *Chionodoxa lucilla* (Glory of the Snow) in bloom. This charming flower from Asia Minor I like even better than *Scilla Sibirica*. Its bright blue blossoms are lightened with white centers, giving a brilliant effect. It seems to be hardy, as this is its third season of bloom with me.

April 30th. A few *Scilla Sibirica* are opening. The blue of this flower is unmatched by anything I know. Coming, as it does, from Siberia, it is hardy as a rock.

TREES IN TURTLE MOUNTAINS SHOW RIPE OLD AGE

School of Forestry, Bottineau, N. D.

When they speak of the Pacific Coast Redwoods and Bigtrees as living through several generations, the statements don't cause much comment as there are scores of Bigtrees standing in California that are over 3000 years old; but when mention is made of North Dakota's old tree veterans as having lived through several generations some may wonder where these trees are standing.

According to L. S. Matthew, Dendrologist, from the Bottineau School of Forestry, there are several species of trees standing on Masonic Island, Lake Metigoshe, that have passed through two centuries and are well into the third. The aged stalwarts are representative of the species of Green Ash, Bur Oak, American Elm, and White Birch.

Several of the elm and oak trees measure over 35 inches in diameter at d. b. h. (diameter breast height) says Forester Matthews. Age determinations were made by counting the annual rings on increment cores that had been extracted with an increment borer, this being the forester's method for obtaining the age of trees.

Forester Matthew says that the trees on Masonic Island are probably the only ones in the Turtle Mountains that have been protected from fire, which accounts for their unusual old age.

The New York Experiment Station reports an increase in yield of more than 200 bushels per acre in yields of spinach by proper seed treatment at a cost of about 25 cents per acre. The reason for the increase is a reduction in the amount of damping-off disease. The method of treatment recommended is dusting the seed with cuprous oxide powder, or soaking the seed in one per cent copper sulphate solution.



NORTH DAKOTA BEEKEEPERS' ASSOCIATION NEWS LETTER

J. A. Munro, Sec'y-Treas.

Just how well bees have wintered is not at this time (March 15) generally known. It is believed that the usual number of packages of bees will be required to restock hives. Recently the Association made arrangements for members to get a 15 per cent discount on their orders for package bees and an allowance of 25 to 30 cents on empty screen cages, less the freight charge. If you are interested in ordering your packages through the Association you should get in touch with this office.

We might add at this time that members may save 25 cents on the annual subscription to each of the bee journals. The regular subscription price of either journal is \$1 per year, while if ordered through this office is 75 cents. If your membership is not paid up you should include your \$1 dues.

Beekeepers in this region have been favored with both state and national meetings this winter. The national meeting was held February 19 to 21 at Minneapolis, and it was one of the best meetings the writer has been privileged to attend. The program included many talks of interest and the honey exhibit was certainly a credit to the industry.

The North Dakota Beekeepers' Association held its meeting January 17 at Fargo. Officers elected are Wallace Manikowske, president; Mooreton; P. J. McGlynn, vice president, Fargo; and J. A. Munro, secretary-treasurer, Fargo; and for directors O. F. Miller, Fargo; John Q. Wieland, Dazey; and Ernest Kapaun, Alice. The association has affiliated with the American Honey Producers' League and has pledged support to the American Honey Institute.

Professor A. V. Mitchener of Manitoba in an article in a recent issue of the American Bee Journal stresses the importance of securing package bees during April for best results in honey production. His experience has been in line with results secured here at the North Dakota Experiment Station during the past year. Two-pound packages installed in hives in the middle of April gave better results than packages secured in May.

Charles Engle, Fargo beekeeper, believes it a good plan to install early package bees in hives in a cellar and allow them to remain indoors for a few days if the weather is bad, before setting them out in their permanent location. He says by keeping them in the cellar for a few days they are protected from inclem-

ent weather and drifting is largely prevented.

"The Flight Range of the Honey Bee" is the title of an interesting article in a recent issue of the Journal of Agricultural Research. The following excerpt is taken to illustrate some of the observations made: "When bees were separated from a given nectar producing area by the badlands, with no other source of feed intervening, they flew a maximum distance of 8½ miles. Colonies located within ½ to 2 miles of a given source of nectar made gains in weight, over a period of three years, as great as, or greater than, similar colonies located within the same nectar-producing area, and colonies lost in weight when placed 5 miles or more from nectar."

Memoir 147, "The Comparative Value of Different Colonies of Bees for Fruit Pollination", by A. W. Woodrow, is the title of a recent bulletin from Cornell University, Ithaca, New York. The writer concludes that the strength of a colony appears to be the most important factor in making honeybees useful for fruit pollination.

Gladiolus growers should be interested in Circular 149, "Gladiolus Culture, Insects and Diseases", published by the Agricultural Experiment Station, East Lansing, Michigan. The bulletin gives measures for the control of gladiolus thrips and other insects and various diseases which affect gladiolus. Since some of these injurious pests have already put in their appearance in this region, it would pay the grower to get the latest information and be prepared.

M. W. Cousineau of Moorhead, Minnesota, tells me that while he and his wife were vacationing recently in Florida they had a good visit with R. B. Millis, local beekeeper who spends his winters in Florida and his summers in the Moorhead vicinity taking care of his bees. Mr. Millis is a comb honey producer.

Other beekeepers who have spent all or part of the past winter in the south include W. O. Victor, Jr., St. Thomas; H. A. Hailey, Fargo; and Jack King, Buffalo.

Recently this office received several samples of new honey-food combinations manufactured by the Crane Company Inc., Tacoma Park, Washington, D. C. The samples look very attractive in their nicely labelled jars and although we haven't sampled them we know that they ought to be good. It is interesting to note that the recipes are patented and include the following combinations: honey-apricot, honey-banana, honey-fig, and honey-mint.

W. F. Boylan, Carrington, past president of this association, wrote this office not long ago that scale insects were causing serious injury



to the poplar trees in that vicinity. The specimens accompanying his letter are identified as the scurfy scale, a variety which is particularly troublesome on poplars, willows, and other trees within this group. We advised him to spray the trees with a good contact insecticide such as kerosene emulsion, while the trees are dormant. Mr. Boylan reports that his bees seem to be wintering fairly well but will require feeding this spring. He said he was sorry to have missed the annual meeting of the association in January but that it came a week too early. The week following the meeting he was in Fargo on Masonic work in connection with the Grand Chapter.

Not long ago we had a report from a farmer near Fort Yates, N. D., who said he had located several bee trees along the Missouri and he wished to have instructions on transferring them and securing the honey for table use. It is, we believe, the first report we have had of bee trees along the Missouri in North Dakota. We advised him to cut down the trees and split the sections which contained the swarms, afterwards transferring the bees to modern equipment by driving them into the hives with smoke.

Recently we had a letter from George Gregg of Garrison, North Dakota, making inquiry about the present rates applying on the American Bee Journal and Gleanings in Bee Culture. We wrote him that the special subscription rate, when sent through the association, is 75 cents, while the regular rate is \$1. Major Gregg is probably the most extensive beekeeper in his part of the state, keeping upwards of 100 colonies, and he has secured some splendid yields of honey. He combines beekeeping with the growing of nursery stock and finds that the two go hand in hand. He has a most interesting place. Annually those interested in beekeeping and horticulture gather at his place from miles around to get advice on their problems. We understand that he has recently built himself a fine new home.

J. A. Munro, Secy.-Treas.
Fargo, North Dakota.

JEWELS OF THE PLAINS

Claude A. Barr, Smithwick, S. D.

(Continued from March Issue)

Still higher and somewhat back from the rim rick was a colony of one of the Tansy Asters, *Machaeranthera*, the species to be determined by a botanist. Its slender stems with usually short lateral branches open their numerous purple-blue

one-inch blossoms in September. Both its habit and color are worthy.

Near this place precipitous slopes of small canyons headed to left and right, and in their protected depths and on their almost unscalable sides were many of the familiar flowers of the Black Hills. The tall, flame-blue *Aster laevis*, Pasqueflower, False Solomon's Seal, Harebell, Horsemint, Mariposa Tulip.

The tulips were up above as well, in full exposure, along with the carmine flowered Ball Cactus, *Neomamillaria vivipara*, Umbrella Plant, the sky-blue *Pentstemon angustifolius*, the Sand Pea, *Lathyrus stipulaceus*, the showy Loco, *Oxytropis lamberti*. These with the exception of the Mariposa are characteristic sand plants and it was strange to see them and many more mingled upon this compact sandy loam, smooth and soft to the touch, with kinds that are never seen on the coarse loose sand of the typical sandhills, Hood Phlox, Kumlein Aster, Prairie Blazingstar, Tall Parosela, and the like.

One of the sand-loving plants, Tooth-leaf Primrose, *Meriolix serrulata*, is a half shrubby thing, not usually over ten inches high, and charming in a modest way through a long season. The glossy dark leaves are good, and the satiny golden primroses are displayed from late May until frost, remaining open in the daytime. In late fall little close rosettes of leaves form at the tips of the tiny twigs in preparation for spring activity, and frost turns them to rich dark scarlet and finally to purple.

The Sand Pea, *Lathyrus stipulaceus*, is at its best in coarse sand, though it grows and thrives in my garden in heavy gumbo, and is one of the most beautiful species of the plains. It is a relative of the perennial Sweetpea, similar to it in the form and size of the blossoms, which are of two tones, purplish pink and pale pink, but very different in the narrow grayish leaves and slender, half-reclining stems that seldom rise above eight inches. This plant was formerly called *L. ornatus*. Another species that passed under that name is *L. incanus*, with densely hairy leaves and similar flowers, that belongs to neighboring states to the south and west. Still another with smooth leaves and flowers of lemon yellow is *L. hapemani*, at home in the central part of Nebraska's sandhills. I am keen to possess it.

On the return from Pine Ridge there were brought among others several plants of *Chrysopsis villosa*, commonly called Golden Aster, though it should be understood that the name covers half a dozen species. The three or four I have seen all have grayish green hairy leaves, stems ascending or erect, or often half reclining, covering a space of twelve to twenty inches, the most de-



sirable of them not over eight or ten inches high, and with very many bright yellow asters of good size, from August to October. *C. villosa* is quite variable in height and in the breadth of the petals. Some brought from Pine Ridge had broad petals making full rounded flowers, the best I have seen.

A Prairie Clover that inhabits only very light sand is *Petalostemon villosus*. Gray in every part with short, velvety hairs, it is neat, compact, and attractive, and the flowers are a soft silvery pink. This I have not tried in the heavy soil without some sand about the roots. With that little attention it has done well, and blossomed for several weeks in mid-summer.

Like an island in the sea of gumbo lying between Pine Ridge and the Black Hills is Cedar Butte. Travelers along the highway a mile to the south pay scant attention to this apparently barren remnant of badlands, the haven of upwards of sixty flowering species. Capped in part with broken slabs of this-bedded limestone, and in the remainder with the usual badland sand-clay loam turfed with short-grass, two miles long, a mile wide at the most, it stands a possible hundred and fifty feet above the adjacent draws.

Some of the clay-tolerant sand-dwellers are here, some few also that depend on rich crevice soil, but a host of lime-lovers like the fluffy *Eriogonum flavum*, and a greater army that finds contentment in the footing of sandy clay like the White Pentstemon. Others indulge to full satisfaction on steep slopes of the stickiest of badland clays strewn with limestone fragments.

Perhaps the most notable flowers at Cedar Butte are the *Orophacis*, not in point of numbers but rather for their unique character and beauty and because one of the species, *O. sericea*, with purple-red mats of blossoms, has not been recorded as growing in South Dakota. Botanical works credit it to Nebraska, Wyoming and Colorado.

To recall the description of the most frequent *O. caespitosa*, it is a low pillow of silky gray three-fingered leaves, four to eight inches wide and two or three inches high, that is turned to white through several weeks of April and May by the closely massed, odd shaped pea blossoms that rise with much elongated erect banners from the leaf axils to just above the leaves. The new one, *O. sericea*, looks much the same when out of flower, and to be frank I did not distinguish it until, one May-day morning, in a farm nook I found some of them glowing with bright purplish rose. One to three flowers are borne on each tiny stem just above the leaves. The leaves are a trifle smaller and less silvery than in the

other, but some of the older plants have a spread of as much as eighteen inches. These like many other members of the pea family have very deep tap roots that necessitate their being moved when small.

(Continued in May issue)

THE RED-WINGED BLACKBIRD

(Continued from page 38)

ly from April to July, and 54.6 per cent of weed seeds, taken mostly from September to March.

As soon as the young are reared, the birds scatter about and feed upon a variety of material. In early fall the migrating flocks gather and find the green corn in the fields an attractive supply of food. Upon this and upon the wild rice they often make heavy inroads. Dr. Thomas S. Roberts seems to have little use for these birds in Minnesota. There the numerous small fields adjacent to lakes and marshes probably are much more subject to damage than are the larger fields in the Dakotas where marsh land and trees are more localized and much less extensive in proportion to the area of fields.

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