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NORTH AND SOUTH DAKOTA HORTICULTURE

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GARDEN OBSERVATIONS

Mrs. M. W. Sheafe, Watertown

After the very erratic season, through which we have labored so hard to keep alive our garden treasures, some observations from my own garden may be of interest, and assistance to others if we have future dry years.

ADLUMIA (Alleghany Vine)

This vine of which I am very fond, has been a real joy this season in spite of the extreme heat and drouth. It is a biennial, comes from seed the first season, lives over winter, and blooms the second year then dies. Once you get it started you will always have it, but it is not a nuisance for it is easily controlled. The foliage is lacey like the maiden hair fern or rue, very dainty, clean and lasts well when used with cut flowers. It has rather small, shell pink flowers, in clusters, grows luxuriantly and covers quite a space in a season. Have never known it to harbor insects of any kind, and it has withstood the drouth better than any other vine. Sow the seed in the fall.

STATICE (latifolia)

To combine with other flowers, as well as for use alone, the statice, is one of my favorites. Having a very deep tap root, it is not so easily affected by drouth. It has long broad leathery leaves that cling closely to the ground, and from the crown tall candelabra like stalks appear, and later develop minute, dainty, lavender flowers resembling somewhat the perennial gypsophila, which comes later in the season, this plant fills a large place, and is very attractive in the border. It has proven very hardy and drouth resistant.

GAILLARDIA (portola)

As we find these flowers growing wild in dry gravelly soil, in the open, they are much to be desired as a garden feature, as they can practically take care of themselves once they have been started.

A new hybrid gaillardia, has been introduced that is proving very worthwhile, called (Portola). This variety forms compact clumps, much taller than the older type, has very brilliant markings and are also very free bloomers. To readers who like to try new things in their gardens, this plant is suggested as worth the effort, as it is both hardy and drouth resistant.

The Jumbo tomato surpasses all other varieties in quality that I have eaten so far this year. The tomatoes are large and the plants are setting many small tomatoes which indicates that it will bear over a long season.

NORTH DAKOTA STATE HORTICULTURAL SOCIETY NEWS LETTER, SEPTEMBER, 1930

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

With this issue of our News Letter your secretary relinquishes his job for a year at least. Whoever the new secretary is, he will want some funds immediately and I suggest that you send in your dues. You can still send your dues to my office until further notice but please make your checks payable to the Horticultural Society and not to me personally.

If you have an opportunity to use cold storage do not forget that you can store some sweet corn in the husk for this winter's use.

So far as we know, a record for bringing corn to roasting ear stage was made this summer when we planted Golden Gem June 20 and had corn large enough for use 49 days later. This was ten days under the record made by Sunshine several years ago.

Mrs. Wicks, of Valley City, says that dandelions in the asparagus bed can be killed with a salt solution, using three pounds of salt to two gallons of water.

Caragana seedlings started last spring had best be left where they are until next spring, when they may be set in their permanent location.

Next year's crop of fruit buds are being formed right now on your plum and apple trees. Of course they may be killed by cold weather next winter or frost next spring but their formation is accomplished this year. That means that the condition of your plants this year has much to do with what you will harvest next season.

When you water your shrubbery and trees be sure that enough water is applied so that it will soak into the ground well. Roots penetrate many feet into the ground. Just a little water on top is not effective in stimulating a great amount of growth on a tree.

The Anoka apple has again produced more fruit than any other variety in our orchard. However, our trees are in very poor shape. Even at that, ten-year-old trees have borne eight crops while many other varieties which have produced large husky trees have not yet borne one crop.

Production of seed by a rhubarb plant is a perfectly normal process. A healthy rhubarb plant may be expected to send up a seed stock. However, this seed stock should be cut out before it blooms as the production of seed will weaken the root and reduce the amount of stalks.

Painting tree trunks with ordinary paint is dangerous. The oil in the paint may kill the bark.

The Home Economics Department at the North Dakota Agricultural College says that meats and vegetables should be canned in a pressure cooker. Ordinary hot water bath may not destroy all the germs.

One correspondent complains that the potatoes rot in the ground and that they have a bad odor. This rotting is due to black leg which is controlled by planting potatoes free from the disease. This may be determined by cutting off the butt ends. If they show a dark spot or ring, do not use them for seed. Potatoes should also be planted on ground which has not been in potatoes for several years, as it has been found that the disease may be transmitted from infected soil to healthy potatoes by a tiny maggot.

A recent letter from a patent attorney in Washington reminds me again that new varieties of fruit and ornamental plants propagated by division or grafting may be patented.

Mrs. Wold, of Enderlin, asks how to save potato seed and how to raise seedlings. The seed balls may be gathered when ripe, the seed squeezed out and dried about the same as tomato seed. Seedlings are also raised in the same way so it might be well to sow the seed two or three weeks later than tomato seed as the young plants grow very rapidly.

Will potatoes, beans and onions do well on new breaking which has been farmed one year? Potatoes and beans will probably be all right but I have my doubts about onions.

Is cold water harmful to plants? We have never observed that it was. If you have water about which you are in doubt as to its value for irrigation, you might send a sample in to T. H. Hopper at the Agricultural College, Fargo, and he can tell you whether it contains harmful chemicals.

One correspondent suggests that there might be possibilities in breeding varieties of Elm trees. Undoubtedly he is right. We could develop strains of Elms of various shapes. One street might be planted to pyramid shaped trees, another to drooping trees, a third to vase shaped trees and all of them Elms. Our prediction is that the future will disclose many such distinct varieties. A little extra cost in grafting trees would certainly be well worth while where uniformity is desired.

"How can I bleach endive?" asks a correspondent. There are two ways this can be done. One is to tie the tops together with a string and the other is to lay a flat board over the row. The leaves which grow in the dark will be blanched.

North Dakota people are invited to exhibit at the Eighth Mid-West Horticultural Exposition at Shenandoah, Iowa, November 11 to 16.

Some rotting onions recently sent in contained onion maggots. We have had little trouble from this pest except where sets or shipped in transplants were used.

Mr. F. E. Stefanowicz, of Wildrose, intends planting out 450 plum trees in his orchard. He expects to use Opata, Sapa, Compass, Zumbra and Underwood.

The Maine Experiment Station states that degenerative diseases such as mosaic will not be transmitted in cutting the potatoes provided the seed pieces are dried off before planting.

The Missouri Experiment Station says that if you put bouquets of flowers in your orchard to provide pollen, the bouquets should be located some distance from the bee hive to be most effective.

Experiment Stations have found that it is necessary to keep apple trees growing at a reasonable rate in order to keep them healthy and productive. Trees should produce from five to six inches of new wood on the ends of the branches each year. If the growth is shorter than this, fertilizer with nitrates may be desirable.

One of the most interesting publications for North Dakota people I have seen recently is a report of the Morden Experimental Station for 1929. Mr. W. R. Leslie is superintendent. His address is Morden, Manitoba. If you wish a copy of this report we suggest you send 10c with your letter to pay the cost of publication.

Farmers bulletin No. 1371-F is entitled "Diseases and Insects of Garden Vegetables."

There are two species of Elder which are grown to some extent in this state. The fruit of the red-berried Elder is not edible. The fruit of the black-berried Elder may be used for pies or other purposes.

The best time for planting Iris is now past. Our supply of plants is about exhausted, hence we cannot send more Iris premiums this year.

The small black objects along the stems of the Tiger Lilies are bulb-lets, not seeds. However, these bulb-lets may be planted the same as seed this fall and will make new plants.

Now is a good time to plan improvements for your garden. Everything is fresh in your mind. It will be more difficult to recollect these things next spring.

If one is contemplating building a lily pool, rock garden or bird bath you can select some fine specimen rocks when you are touring the Black Hills. We understand some of our nurserymen in the Hills will offer these rocks for sale next spring but there isn't any way quite so satisfactory as selecting your own specimens.

The native Black Hills Pine (*Pinus Ponderosa*) grow well in the gumbo soil west of the Missouri River where we have the least rainfall. They are long lived trees and seem to endure the past two dry years better than any other tree.

EXTRACTS FROM THE DIARY OF A TRAVELING MAN

W. A. Simmons, Sioux Falls

June 29th—It is with regret we learn of the death of Colonel William Boyce Thompson, copper magnate, philanthropist, and horticulturist. Born at the little inland Vigilante town of Virginia City, Montana, sixty-one years ago, educated in the best colleges of the east, his was a most useful and busy life, his activities extending into many fields. Flower culture was his hobby and the Boyce Thompson Institute, which he founded six years ago and which he recently endowed with \$10,000,000, has become known over the world for its experiments in studying the diseases of plant life. He travelled extensively and returned from one of his trips with seeds from the tomb of Tut-Ankh-Amen in Egypt with which he experimented in his greenhouse. With mines in Montana, diamond interests in Africa, sulphur interests in Texas, and a greenhouse in Yonkers, New Jersey, Colonel Thompson was "interested in anything and everything that came out of the ground." Horticulture loses a devoted friend and the world a most useful and estimable citizen in the passing of this truly great man.

Miles City, Montana, July 6, 1930.—The sun and wind have accomplished what the enforcement officers have labored in vain to effect, the drying up of Montana. I have been in sections this past week so dry that even the cacti were unable to blossom and their leaves presented the dry and leathery appearance they have in winter.

Last night I reposed sans night shirt with a sheet for covering part of the time, but along toward morning I was compelled to kick even that off. I made a serious mistake in trying to josh the literal-minded chambermaid this morning by requesting her to bring an extra blanket for the bed. She went at once to fetch one before I could explain the joke.

It is claimed that it is only 105 in the shade today though it seems much warmer, but I suppose Sunday is the proper day to prepare for the hereafter.

July 25th—On the highway a few miles south of Buffalo, Wyoming, I came to a sign which read "Caution, Ford 500 feet ahead." As the Ford is quite a dangerous animal, I naturally slowed up and was wondering if this Ford that drew such a special warning was a Model T or a Model A; and thinking whatever it was it must be a man-eater. I came to a cemented depression on the road, through which in some seasons a stream flows. Then the realization was brought home to me that there are fords and Fords.

Professor Ralph Curtis of Cornell says two lawn grasses succeed in shade, these being rough stalk blue grass and red fescue. If we have many seasons like this, we may have to resort to Russian thistles to get something that will succeed without rainfall.

Dr. Oswald Schreiner, Principal Biochemist in Charge, Division of Soil Fertility, Bureau of Chemistry and Soils, United States Department of Agriculture, is of the opinion that the generally accepted ten chemical elements considered essential to plant life for more than fifty years may within a few years be expanded to twenty-four or more. He emphasizes especially the functions which elements like manganese, copper, boron, iodine, zinc, arsenic, barium, strontium, cassium, titanium, chromium, vanadium, aluminum, and silicon play in the newer research in plant and in animal physiology. He gives results of numerous experiments on various crops in widely scattered sections of the country to show the growing importance of these rarer elements in plant nutrition.

"We have considered for more than a half century," he says, "that only these ten elements, potassium, phosphorus, nitrogen, calcium, magnesium, sulphur, carbon, hydrogen, oxygen, and iron, were necessary for growth and maturation of our agricultural crops. In fertilizer practice, to increase crop growth, we have contented ourselves chiefly with the application of phosphorus, potassium and nitrogen to our soils, with lime to correct soil acidity and not as plant food, on the assumption that

soils, fertilizers, and manures supply sufficient of the other mineral elements for profitable crop production. Modern researches have shown us strikingly that magnesium, iron, sulphur, and manganese deficiencies can exist in comparatively large soil areas. Similarly, we have been able to show a marked phosphorus deficiency in some middle western soil regions of the United States devoted to sugar beet culture, so that the application of even small amounts of this element produces large increases in sugar beet production and in sugar content of the beets."

July 28th—I have seen some wonderful tiger lily blossoms at Billings, Montana, today, the earliest I ever remember seeing them. It is strange but true that this easily propagated lily is still heavily imported, and the sad part of it is that the imported form of this lily is considerably inferior to the form usually raised here. It seems many of our nurserymen are overlooking the demand for this lily and leaving the filling of it to foreign growers.

If you have some of these lilies and also have some other varieties blooming at the same time, you can easily do a little interesting plant breeding by dusting the tiger stigma with pollen from the other variety, thus inducing the tiger to set seed, and from this seed producing some new and interesting hybrid lilies. As the tiger lily does not ordinarily set seed and will not accept its own pollen, it is not necessary to emasculate the blossom or to protect it with the usual paper sack afterward. If the tiger can be made by this means to set seed, it is possible to produce two kinds of lilies from it the same year, the hybrid sort from the pollen crossing, and the regular tiger sort from the bulbils so freely produced in the leaf axils. A crossing of the speciosum and the tiger should produce a handsome lily having the hardiness of the tiger and the sweet scent of the speciosum.

July 29th—I have been in sections today where the only green things in evidence were Russian thistles in grain stubble. Farmers had turned their live stock into the grain stubble, as the thistle furnished the only pasturage in sight.

July 30th, Red Lodge, Montana.—The landlord here claims that no fly screens are required, that the altitude of 5548 feet makes it impossible for these pests to operate. What few that appear get cold feet and lose their pep and die young. Certainly none appeared to share my bed with me, and it appears that there is some virtue in altitude.

July 31st—I was driving along the beautiful, crystal-clear Clark Fork River today, one of the few Montana streams that held up its volume this dry year and continues to furnish all the irrigation water desired. Presumably Captain Clark also had a knife, but it was not considered worthy of having a stream named for it. In that day of extensive "sword swallowing" probably a knife caused no comment, while it is possible that Clark's fork was the only one in the expedition.

In this valley are many nice little apple orchards, and they are still free from disease and insect pests, so that no spraying is required. The varieties are mainly Duchess, Wealthy, and McIntosh, the first two being good, while the latter seldom attains a satisfactory size.

In Better Homes and Gardens there is a picture of "a leg of a bee bearing a nectar pocket."

Some varieties of winter radishes that were planted early did not seem to summer very well. They were very much set on producing seed.

Place an inner cover in which you have placed a bee escape beneath the super of honey you wish to remove the day before you wish to remove it and save time and possibly some discomfort.

Whitman Coffey, in the American Bee Journal says, "I may be too sanguine, but I am hoping that some day every beekeeper in the United States can be induced to contribute to an advertising fund for the purpose of advertising honey continuously over the entire country."

RATING THE NEW FRUITS

John Robertson, Hot Springs

Some field notes taken in our orchard August 18th.

Found two top grafts of Early McIntosh bearing for the first time, with a heavy crop of fine appearing medium sized apples, that on sampling proved to be of good quality, and near ripe. We had picked some nice samples of the Melba apple a few days before. This too is of McIntosh parentage, of good size and color. With these two sorts, and others including the Lobo, it is now possible to have high grade apples of McIntosh quality, beginning with the earliest, and continuing till late spring, finishing with the Cortland. One trouble with the McIntosh hybrids is, that few of them have proven to be any hardier than the McIntosh itself, and none quite as hardy as Wealthy. While the Melba appears a trifle in the lead as to size and earliness, yet the Early McIntosh seems a bit the hardier. The Lobo ripens a little later on, and is just a little hardier than McIntosh. But most of these may be grown where average hardy sorts of apples do well, and all may be grown ~~top~~ worked, in most any section.

The Milton is another new apple sort bearing first time; and having a heavy crop of above medium sized nice appearing fruit. This sort will not be matured for two or three weeks yet.

The Erickson is bearing its usual good crop, and is about ripe. This is a very hardy sort, bearing very large apples, of somewhat irregular shape; color red, and quality similar to Duchess.

The Monona, and Sharon, new sorts from Iowa, are bearing heavily. We have had these in bearing in former years. Both are of fine quality, and keep well along into winter.

The Anoka bore a good crop, and is now ripe along with the Duchess. The Anoka is one of the earliest to begin bearing. It appears inclined to overbear here, so the heavy crop comes every other year. We have two young trees. The tree that bore heavily last year, had only a single fruit this year, while the other tree had 4 boxes of apples.

Three small trees of Hansen's Red Flesh crab, planted in the spring of 1929, are making a strong growth this summer. We have this top grafted too, and hope to have fruit of it to show in another year or two.

There is only a small crop of Dolgo crabs this year. This seems to be another sort that loads every spur with fruit one year, and then must have a summer off in recovering. We would not mind this feature so much if it were not for the fact that customers having gotten this crab once are calling for it again each year. It takes time explaining about shortage in crop; then some few first orders get what there is, while those who do not get any think they have hardly been treated fairly. We have many varieties of crabs, but the Dolgo is one so superior and distinctly different from others, that there is no near substitute.

This year the Tecumseh plum got ripe ahead of the Opata. There was not much of a crop, but the quality was up to the old standard. We have been thinking more of the Tecumseh each year past, and now consider it one of the leaders. This, with Opata, Sapa, Oka, and Zumbra, have all ripened before this date; while the Pembina, Ojibwa, Cree, Russian Green Gage, and LaCrescent are now ripe. While all of these are bearing, none are heavily loaded. The LaCrescent bore a few samples for the first time, a year ago, and has a fairly good crop this year. This is a medium sized, distinctly yellow sort, of very fine quality, mainly valuable for home use, though it will have a place in local markets. The Russian Green Gage is a nice shapely round plum, of good medium size, tender skin, and sweet. While fairly hardy, this is not of the hardiest.

We find the Renfrew pear bearing for first time. This is an attractive looking sort, of good size, and fine reddish color, looking very similar to Minnesota No. 1. Tait No. 2 is not bearing this year, while Tait No. 1 has a fine evenly distributed crop. These are only medium

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WILD FLOWERS OF AUTUMN

O. A. Stevens, Fargo, N. D.

Shorter days and lower temperatures bring the season to a hesitant close, summer passing gradually into fall. The first week of September in the latitude of Fargo usually sees the first frost and the passing of the more tender flowers, though a few of the hardy species may continue even until well into October.

The plants of the mint family usually may be recognized by the following characters: opposite leaves, square stems and two-lipped flowers. Foremost among them is the Wild Bergamot which begins to flower late in July. It grows in grassland but on hillsides or near woods rather than on the open prairie. A plant may have a large number of stems and these are topped with dense heads of large but slender pink flowers. A more common but less showy member of the family is the False Anise which is found in woods or especially in brushy places throughout the state. It grows rather tall and slender, bearing finger-like spikes of small bluish-purple blossoms.

The Obedient Plant is well named. The pink flowers stand out from their spikes in four neat vertical rows. If they are pushed aside they remain in that position instead of swinging back as would most flowers. The plant is not very common but is found frequently in most rich soil along the banks of streams where its showy pink flowers may be sought in August. In the same places is found the Monkey Flower. Its flowers which are fully one-half inch wide are a handsome violet-purple and grow singly on slender stems from the upper leaves. This is one of several plants which would be placed in the mint family by the usual characters. The pods, however, contain a large number of very small seeds. This puts it in the closely related figwort family for the mints have only four nutlets nesting in the calyx.

The Gerardia, another member of the figwort family, is common on the prairie in some places. It has slender stems with narrow leaves and many pink, bell-shaped flowers. In similar conditions are found the gentians of which several species occur. The deep blue blossoms of these plants are among the most popular of wild flowers. The Downy, with flowers an inch and one-half wide, is the largest. A species similar to the famous Fringed Gentian is rare, occurring in a few localities in boggy meadows. Another with medium sized blossoms is somewhat more common. The tall Closed Gentian, so called because the flowers remain bottle-shaped and do not open widely, is fairly common in the eastern half of the state. Grass of Parnassus, a low plant with rounded leaves and white flowers at the ends of single stems is found in wet meadows, especially through central North Dakota.

There are several kinds of flowers besides the evening primroses which open in the evening. One interesting plant of this sort occurs in western North Dakota, blossoming in August. The name Evening Star has been suggested and seems very appropriate. The flowers are two or three inches wide, creamy white in color, and have many petals and stamens like a cactus flower. The plant is two or three feet high, quite rough and rather coarse. It grows especially in loose scoria or similar material. Golden Coreopsis, a plant which is widely cultivated, is abundant in some localities in the western part of the state.

In the fall even more than in the summer, tall weeds seem to replace the delicate flowers of spring. I have been disappointed in exploring western localities which had such an interesting spring flora to find little but coarse plants common all over the state. The eastern woods in many places are filled with nettles, burdocks and other varieties of "stick-tights". Certain spots are gay with monkey flower, obedient plant, hedge nettle, asters and other composites, while the coarse weeds and bushes are festooned with wild cucumber.

The fall is especially the season of asters, goldenrods and their relatives. One of the latter I have called Early Goldenrod for it begins to flower the last of July. It is a low prairie species, with smooth stems and

quite large flower heads. The Tall Smooth Goldenrod is nearly as early. It grows in low moist ground and spreads freely by root-stocks. The Canada Goldenrod is one of the most common. It can be distinguished from the last named by its finely hairy stems. The small Hoary Goldenrod with one-sided flower clusters grows on the hills with the Early. The Stiff Goldenrod is well named from its broad leaves, stout stems and flat-topped flower clusters.

Two of our asters are popular in cultivation, the New England, which is rather rare and the Smooth Blue which is very common and one of the latest plants in flower. The White-Prairie Aster produces a wealth of flowers late in the fall. Its stems are graceful, but the plant is so very common that it is about as often regarded as a weed. The Tall White Aster, growing in low ground, we must regard as a weed for it spreads freely and may be quite troublesome. The Silky and Oblong-leaved with large purple heads are very pretty plants of the hills and higher prairies. Two others with purple flowers are found in a few localities in the eastern part of North Dakota. The Arrow-leaved is very common in the woods farther east. The other is found especially in wet meadows.

Boltonia or False Aster also is cultivated. It is much like the tall white aster in appearance and habitat but is not weedy. The Golden Aster is a low, bushy, very hairy plant found on the prairies and hill-sides. It begins to flower the first of July, one of the earliest of this group. Another plant with similar flowers is *Sideranthus*. It has low slender stems and finely cut cottony leaves.

The sunflowers might be omitted on account of their weedy nature but they are handsome in their way and characteristic of America. The Common and the Sand are annuals with brown centers in the heads. The Stiff Sunflower with solitary heads on slender stems is also brown centered and is perennial by long rootstocks. The Narrow-leaved grows tall and usually in dense clumps. The Jerusalem Artichoke occurs in rich soil and flowers late. It is a large plant with broad leaves and large yellow heads.

The cone-flowers are closely related to the sunflowers. The Prairie or Long-headed is a very common plant of the prairies. The heads are quite striking in appearance because of the greatly elongated, cylindrical centers which are encircled at the base by only a few broad golden ray-flowers. These latter sometimes have purple spots or are entirely dark brownish purple. The Tall Cone-flower is a woodland plant and is the wild form of our Golden Glow.

A description of the fall flowers would be quite incomplete without the blazing stars which furnish an abundance of pink color. One species with very narrow leaves and spikes of slender heads grows upon the hills and a second with rounded heads is found in soil usually suitable for cultivation. The third grows in moist meadows. It has very long dense spikes and begins to flower the last of July, a little earlier than the other two.

RATING THE NEW FRUITS

(Continued from page 7)

sized, greenish colored pears, but are of very good quality, and are of the hardiest. The Patten is showing a number of scattering fruits. This sort probably requires age before coming into full bearing.

We picked several ripe tomatoes of the Fargo variety, for the first, on August 3rd. The Red River, and Burbank were only a day or two behind in starting with ripe fruit; and at this time the Jumbo is turning off plenty of the largest, good quality tomatoes we have been able to grow at this altitude and latitude. It is quite common to find fruits of the Jumbo weighing one pound or more each.

The final, and most important item to mention, is that we have finally had plenty of rain for the time being. Beginning on the 11th, we have had several good rains, soaking the ground to a good depth, and reaching the roots of all trees and growing things.

WHAT GOOD IS THE BUFFALO-BERRY

Claude A. Barr, Smithwick

The buffalo-berry: I'm for it. Just why it is often overlooked among the native bushes and small trees suitable for ornamental use and fruit bearing about our homes I am at a loss to understand. It is thoroughly dependable, distinctive in form and fruit, and not to be dispensed with from any lawn or garden where its natural tendencies have been aided by training.

The berries flaunt their colors from mid-July until October. The golden one is the less brilliant but the more rare, the vermilion one is not too common in most places and fairly flames with its loads of fruit.

I first planted buffalo-berries when I knew of little else that might be expected to grow in my unirrigated upland gumbo location, and I have not regretted it. Rather, I have planted more. When an old-timer friend remarked, "Why, what do you want of those things? They're always dying back and looking ugly even where they choose their own place to grow," my liking for them was not shaken. It is possible he had gained his prejudice by eating too many of the berries in seasons when there was little other fruit in this country, and by contact with the wicked thorns in driving cattle out of thickets.

Certainly my trees at the side of the lawn and separating it from the garden appeared in perfect neatness that day, their branching trunks displaying that charming ordered irregularity so much sought in formal gardens for relief effects, and always elsewhere, their smaller leafy branches and twigs beautiful in soft green and faintly classical stiffness.

The dying back which is observed in wild thickets does not occur in cultivated trees if they are not crowded and the more or less frequent root sprouts are kept down. Neither root sprouts nor thorns occasion vital objections. If a lawn mower is run over the ground where sprouts might appear they are never noticed and in tilled ground they are easily taken care of. The thorns, which are simply the sharp tips of the twigs, one may avoid contact with except perhaps in pruning or early fruit gathering.

If plants are dug from the wild they should be moved very early in the spring, and care taken to get enough of their deep roots. Also take care that the stock bears well for the trees in some places seem to bear poorly or never at all. The berries may be used from late July on and are at their prime just after frost at which time they may be shaken onto a sheet in quantities by striking the branches with a stick. They deteriorate rapidly after this time.

Now let us consider something new in the use of the fruit, buffalo-berry "juice"—on the grape-juice idea. Buffalo-berry jelly is well known, and well made buffalo-berry jelly is delicious. There is no substitute for it. Nothing can be said to be just as good for there is nothing at all similar to it. The like may be said of buffalo-berry juice.

Its discovery came about in this way. At a neighbor's a certain jar of grape-juice had an interesting snap, not kick. "Oh say, how did it get that way?" "Why, just put a half-pint of grapes and a half-pint of sugar into a quart jar, and fill with boiling water and seal. The juice is ready in a month to six weeks and it should stay sealed till you're ready to use it. It's better than cooked grape juice, don't you think?"

We agreed with enthusiasm. The recipe make a delicious sweet drink which will keep for a year or more. If it does not keep we usually drink it anyhow as it produces no ill effects.

Liking the grape-juice so well we began to experiment with other fruits. The method worked excellently with wild currants. Then we tried buffalo-berries. The result was astonishing. Delightfully clean tasting and very refreshing and so different from what one would expect. There is a distinguishable flavor, yet so mild that friends with whom we shared the second jar of the experimental first two, not being told, could not guess it. The color is not enticing, just a little opalescent, but drink it.

GARDEN NOTES

F. X. Wallner, Sioux Falls

August 1st—This hot dry weather is doing more to reduce crop surplus than all the plans of the Farm Board could do in a year.

The birds by the hundreds—all kinds are perched on the irrigating pipes, drinking and bathing—no little birds to drop dead here.

All tomatoes and peppers not under irrigation develop dry rot and there will be a scarcity of these vegetables.

It is nice to pick the big dark green peppers in August and September, but it is nicer to be picking medium sized early ones in July—picked as many as ten from one plant which was about eight inches high.

In picking cucumbers I insist that they be cut so as to leave a stem on the pickle, they hold up much better. Even the big cucumber will keep longer with a little stem; and be sure and not leave any big ones or little short nubbins on the vines. Keep everything picked from the vines so that they will continue to bear. We keep water turned on the cucumber vines day and night to combat the dry hot air.

August 15.—Hot and dry, still sowing radishes, lettuce and turnips. The seed sown July 15 is still there but it is not sprouted, while seed sown under the overhead irrigation is up within three days.

Insect life seems to thrive in this hot, dry weather. We never saw the cabbage worms so bad, also find that the big black squash bug is very bad this season. All ages and sizes on one plant, we try to destroy the bug villages by shaking them on the ground and crushing them under foot. This should be done every day until they are under control.

Just as a matter of record I will say that on August 10, 1930, I planted one native yellow water lily and one white one on the east shore of the little lake in the rock quarry at Iowa State Park in Northwestern Iowa.

I have been asked to go on a tour of seed potato buying with the Iowa Vegetable Growers Secretary but I am afraid it is almost impossible. We will surely want some of the seed for next year.

I have just received the Iowa State Horticultural Society report for 1929, a book of 430 pages. Reports of the Iowa Nursery Men, Iowa State Vegetable Growers, Iowa Peony and Iris Society, Iowa Gladiolus Society, Iowa Rose Society, Beekeepers, Florists and Fruit Growers, all these working in harmony for one big Horticulture Society and the Secretary in his letter of transmittal to the Secretary of Agriculture says: "The Society very much appreciates the support and hearty cooperation of the Secretary of Agriculture and of the Legislature in the Advancement of Horticultural interests in the State."

I think the seed trade must have all planned to put a worthless vegetable before the growers, although I see by the N. D. News Letter to try it next year. I tried it this year and sold one little lot to a store that had one "victim." Since I have sold none and I have not used it, it's taking up valuable ground and I am sure I will not try it again.

Our dark green cucumbers are doing well as pickles. We have not lost one on account of the yellow color. Even the very large cucumbers have been sold, the new kinds of long dark green cucumbers are a big improvement over the old varieties.

August 17.—A fifty acre truck patch and no sweet corn, potatoes or cabbage at this date shows what drouth has done to us. There has been no rain to date but a little cooler which is some relief and we are thankful.

The Hubam sweet clover planted this spring blossomed later than the ordinary sweet clover but it has some ripe seed at this time. This should be of considerable value to beekeepers for pasture at a time when the other clover has about finished blossoming.

REPORT OF SUMMER CONVENTION OF NORTH DAKOTA BEEKEEPERS' ASSOCIATION, HELD AT CARRING- TON, N. D., JULY 18, 1930

Mr. W. F. Boylan, Mayor of Carrington and President of the North Dakota Beekeepers Association, in a few well chosen remarks, welcomed the beekeepers and assured everybody of a pleasant time while in the city. Mr. W. W. Remington of Moorhead, Minnesota, responded with an address in behalf of the delegates.

How to raise better queens was the subject chosen by Sam F. Lawrence, manager of the Smith Brothers apiaries at Amenias, N. D. There are certain fundamental rules that must be observed in selecting and breeding better queens he said. To illustrate this point he cited the experiences of poultry, livestock and plant breeders and the methods they followed to improve their stock. He advised beekeepers to select breeder queens from normal colonies which have given a good account in honey production; whose bees are gentle and having other good traits and able to transmit these characteristics to their progeny.

Frank C. Pellett, Field Editor of the American Bee Journal, Hamilton, Illinois, gave a very interesting talk on the nectar flora of the northwest. In the course of his address he discussed both the minor and major sources for this territory. Various plants, including dandelion, snowberry, willow, elm, fruit bloom, mustard, alfalfa, sweet clovers and others were considered in relation to their value to beekeeping. The remarkable development of the beekeeping industry of the northwest is due largely to the ideal set of climatic and other conditions here, he said. Beekeepers of the northwest are indeed fortunate in having an abundance of sweet clover, a major farm crop as well as a major honey plant he pointed out.

The Kiwanis Club of Carrington entertained the beekeepers to a noon-day luncheon and program of entertainment which followed. The program included addresses by Paul Nagel, President of the Kiwanis Club, Carrington, and Hon. Joseph A. Kitchen, Commissioner of Agriculture, Bismarck, N. D. Music was rendered by the male quartette of the club under the leadership of Mr. C. C. Richardson of Carrington. To say that everyone enjoyed the dinner and program of entertainment is stating it mildly. The Kiwanians of Carrington are noted for their hospitality and ability to do things well.

Ralph G. Smith, President of the Mountain States Honey Producers Association, Amenias, N. D., gave a very informational talk on honey marketing and in addition reported on the past meeting of the American Honey Producers League held at Milwaukee, Wisconsin, to which he was a delegate. In regard to the present status of the honey market he pointed out that it is in a satisfactory condition provided the industry, at large, continues to stimulate the development of the home market. He brought out that honey exports have been cut down by recent prohibitive tariffs of European nations and that new markets must replace the old. The activities of the various beekeeping agencies interested in educating the public to the value of honey in the diet is already beginning to bring about a marked increase in the use of honey in this country he said. In discussing the past meeting of the American Honey Producers League he commented on the international character of the meeting and the spirit of good will that prevailed. Delegates attended this meeting from all of the important honey producing areas of this country and Canada. The next convention of the League will be held in Toronto, Canada, in February, 1931, he said.

Chas. Engle, commercial beekeeper of Fargo addressed the gathering on management of bees for honey production. To insure success, the beekeeper must have each colony headed by a good queen he said. He stressed the importance of providing the apiaries with proper shelter, especially during the cold weather of spring and fall and seeing to it that colonies are provided with plenty of room for storage of nectar during the summer.

George Gregg of Garrison, N. D., who is both a beekeeper and a horticulturist, demonstrated the value of bees in connection with fruit growing. Mr. Gregg showed two branches taken from a cherry tree in his nursery. One of the branches had been screened with cheesecloth just prior to blooming and bees could not get to it; whereas the bees had free access to the other branch of bloom. The branch that had been screened had practically failed to set fruit, while the unscreened branch was heavily loaded.

List of Delegates

Beck, Andrew, McCluskey, N. D.; Boylan, W. F., Carrington, N. D.; Curtis, H. B., McClusky, N. D.; Elliott, Mr. and Mrs. Emmett, Clifford, N. D.; Elliott, Clifford, Clifford, N. D.; Elliott, C. W., Clifford, N. D.; Elliott, Mabel, Clifford, N. D.; Engle, Chas. S., Fargo, N. D.; Fruechte, John, Dorchester, Iowa; Ginsbach, B. J., Sioux Falls, S. D.; Gregg, Geo. W., Garrison, N. D.; Gunter, I. F., Manvel, N. D.; Hanson, Arthur C., Fingal, N. D.; Hausmann, Chas., Hillsboro, N. D.; Hoy, J. W., Heaton, N. D.; Huckle, Marvin, Wyndmere, N. D.; Johnson, E. A., Carrington, N. D.; Johnson, Paul S., Callaway, Minn.; Jones, D. T., Carrington, N. D.; Kienetz, Wm., Bordulac, N. D.; Kitchen, Joseph A., Bismarck, N. D.; Laurence, Sam F., Amenia, N. D.; Meyer, Mr. and Mrs. Albert G., Carrington, N. D.; Meyers, Ruth, Burlington, Illinois; McDaniel, James, Jaunita, N. D.; Miller, C. W., Fargo, N. D.; Munro, Mr. and Mrs. J. A., Fargo, N. D.; Oien, M. N., Bowdon, N. D.; Paczkowski, Jos. F., Kensal, N. D.; Parries, John, Moorhead, Minn.; Peightal, D. W., Coleharbor, N. D.; Pellett, Frank C., Hamilton, Illinois; Power, A. E., Cassleton, N. D.; Reichert, C. W., Carrington, N. D.; Remington, W. W., Moorhead, Minn.; Riemer, Mr. and Mrs. Ed., Douglas, N. D.; Roberts, Victor L., Anderson, Indiana; Sommerford, Fred, Fargo, N. D.; Smith, Mr. and Mrs. R. G., Amenia, N. D.; Swenson, N., Carrington, N. D.; Syverud, L. A., Aberdeen, S. D.; Syverud, Leo, Aberdeen, S. D.; Victor, Junior, Chaffee, N. D.; Victor, W. O., Chaffee, N. D.; Wieland, Mr. and Mrs. John Q., Dazey, N. D.

J. A. MUNRO, Secretary.

"THE WHITE-THROATED SPARROW"

O. A. Stevens, Fargo, North Dakota

The first of September finds the fall migration well under way. Many of our common insectivorous birds, such as the kingbirds, orioles, martins and chimney swifts, leave at about that date. The sparrows, which live chiefly upon seeds during the colder months, travel later, the bulk of them passing through our latitude in September and the first half of October.

The white-throated sparrows are among the largest of the group. Their general coloration is the streaked sparrow type, with the back decidedly reddish brown and the white wing-bars fairly prominent. The white throat is bordered below by a gray which becomes lighter on the breasts and belly and darker and brownish on the sides. A white stripe across the top of the head is separated from one on each side of the head by black lines. In fully colored birds these stripes are bright and very conspicuous. In young birds the black stripes are brown and the white ones dark gray so that there is little contrast. A yellow spot in front of the eye also is brighter in the old birds but can be seen in the dull ones. The closest relatives of the white-throats are the Harris, White-crowned and Gambel sparrows which migrate about the same time.

The white-throats in our region appear only as transients. In summer they are found throughout the forests of southern Canada and as far south as the northern parts of the eastern states. In the west they nest as far south as Wyoming in the Rocky Mountains and north to the Arctic Circle along the Mackenzie River but are not seen in the Pacific Coast region. Like so many of the sparrows, the nests are built on the ground, mostly of grasses, fine roots, etc. During the winter the birds

(Continued on page 15)

FRUITS AND BEES IN CLARK COUNTY

E. I. Underwood, Willow Lake

The subject assigned me was "Fruits in Clark County." Afterward I was given the wings of the honey bee that I might gather the sweets from field and orchard, and so today I shall touch lightly upon both topics—fruits and bees.

Clark county is the best county in the state of South Dakota. It may not be easy to convince you of this fact but I speak from the standpoint of one who has lived in this county for nearly 48 years. I might have said that I have known my county for 48 years but that implies a great deal, for the possibilities and resources of our county have only been scratched—they are so varied and unlimited in possibilities for its development. However, I do claim some knowledge of Clark county from the fruit grower's viewpoint.

Forty-six years ago I set out some of the first fruit trees in Clark county. Over 30 years ago I exhibited South Dakota grown crabapples. Our prairies yielded very little fruit at that time, and my crab trees were the source of much interest and pride to neighbors and friends. Encouraged by local interest, an exhibit was sent to the state fair, then held at Yankton. The name of the trees had slipped my memory, and guessing them to be Transcendents, they were so entered. Entries were far less numerous than they are now and first prize for Transcendents was awarded on them, although later years disclosed the fact that they were Florence crabs instead of Transcendents. Imagine, if you can, such a mistake being made at our present state fairs.

That was my first experience but not my last for I have exhibited fruit at local, county and state fairs for many years. During those years, it has been my privilege and pleasure to travel throughout the county a great deal, and the development of our fruit raising has been a source of much joy to me. Some of the outstanding orchards from which I have secured exhibit apples of different varieties are those of George Lindland in Merton township, the orchard originally known as the Chase orchard at Willow Lake, the Charles Clark orchard several miles north of Clark, the orchard owned by Dr. Ash at Garden City, George B. Ottens orchard and K. Pederson's orchard, both in Clark, the I. L. Jones in the vicinity of Raymond, besides my own orchard which adjoins the city of Willow Lake.

Where prairie grass and buffalo berries once thrived, we now produce strawberries, currants, gooseberries and grapes. Apples are quite generally grown within the Clark county boundaries. In 1928 I found 22 named varieties of apples grown by Clark county citizens, and in 1929 five additional varieties were located. Among these varieties not listed in the northern list were McIntosh Red, Pawankee, Red Wing, Grimes Golden and Lowland Raspberry apples. Fourteen varieties of crabapples have been located within our county up to the present time.

Plums numbering 20 varieties are grown in Clark county and can be definitely classified though there are many nameless orphans. Among those identified are the Waneta, Hanska, Sapa, Kaga, Toka, DeSota, Surprise, Odegard, Olson, Underwood and Compass Cherry plums. I have originated a seedling which I named the "Clark County Seedling," and I consider it worthy the honor of that name. It is very good and the fruit resembles that of the Surprise although the tree is scraggly and not so vigorous in growth as the Surprise, but unlike the Surprise is a heavy annual bearer.

Grapes are not generally grown in our county, however, the Beta has been successfully grown where attempted. Our soil and climate are well adapted to currants and gooseberries. The precautionary measures for caring for currants particularly, lies mainly in protecting them from the strong winds. We should raise more of them. Provided we have sufficient moisture, raspberries and strawberries do very well, especially the Progressive Everbearing strawberry. The early strawberries are too likely to be caught by frost in our locality.

In my 46 years of experience with fruit in Clark county, I have been convinced that we should never let the grass grow in the orchard. The ground should be cultivated every year for both fruit and forest trees, thereby providing a dust mulch to hold the moisture.

Cooperation between the orchard grower and bee keeper is a forward looking program for both parties concerned. The two industries go hand in hand. The value of the bee to the fruit grower is now recognized, for the fruit grower realizes that the presence of bees in his orchard means dollars in his pocket. H. D. Hootman, secretary of the Michigan State Horticultural Society, writes in the American Bee Journal: "In many of the fruit sections the growers have been convinced of the folly of wind pollination, and the need of bees for their orchards as a result of the failure of crops to 'set' on trees that were screened to exclude bees. The increase in heavy crops produced by other growers who took the hint suggested by these demonstrations and distributed colonies through their orchards at blossom time, has also had a marked influence in stimulating the brisk demand for bees."

One man reports a crop of 600 bushels of Hubbardston apples from a small orchard in which he had distributed bees, that formerly had never produced over 100 bushels.

Another writes: "We are now very busily engaged in harvesting our crop of Bartlett pears. Due to the 'busy bee,' we have bending branches."

The December South Dakota Horticulturist says: "King Alfonzo ordered 1000 colonies of bees to be placed in the royal park. During a visit to the bee society's headquarters, he tasted the wine made from fermented honey and said it was excellent." I would like to see several thousand colonies put in different sections of South Dakota, not for the wine to be produced from the honey, but because honey is one of the most healthful sweets.

Dr. Paul O. Sampson of the Battle Creek Health Food Company says: "Sweets are one of the essentials for body maintenance, and there is nothing better than natural sweets produced by the Creator as one of our principal foods but so many of us have turned from the natural sweets to the artificial sweets which is a detriment to our health."

This is not a beekeeper's meeting but a horticulturists' gathering, so I will say no more about bees though I assure you the study of the bee offers a most interesting field of study, even surpassing the study of fruits.

The apple has been the most prominent fruit since Eve presented the first one to Adam. The modern society girl defines the apple as an antidote for the doctor, and her definition for applesauce is—what the doctor tells you.

THE WHITE-THROATED SPARROW

(Continued from page 13)

are found in the southeastern states, north to Pennsylvania and west to central Texas. The average dates on which I have found them at Fargo for the last several years is April 27 to May 20 and September 18 to October 19.

The white-throats are to be found especially under the bushes, scratching among the dead leaves. During their principal migration seasons they are abundant and conspicuous. They are vigorous songsters and though the individual song is short, the thickets ring with their voices when a group is present. The song consists of two or three long notes followed by about three trills. Mr. J. O. Hovland, who used to send me bird records from Flaxton, North Dakota, said they sang "sweet, sweet, Canada, Canada, Canada."

The male birds are commonly somewhat brighter than the females but it is doubtful whether they can be distinguished with any certainty. A recent study of changes in the plumage of individuals which had been banded and recaptured one or more years later showed that the full plumage sometimes was acquired in a year and a half. In some individuals it had not appeared in twice that time and the authors suggested that some of the birds never acquire the final bright condition.

PLANT PREMIUMS

- | | |
|--|---|
| No. 1.—Anoka apple, usually bears the second year.
No. 2.—Lilium Elegans, red, three bulbs.
No. 3.—Gladiolus, 12 bulbs.
No. 4.—Iris, three varieties.
No. 5.—Oka cherry, one plant.
No. 6.—Peony, red, one root.
No. 7.—Peony, pink, one root. | No. 8.—Peony, white, one root.
No. 9.—Chinese Elm, 18-24 inches, two trees.
No. 10.—Dolgo crab, that good jelly crab, one tree.
No. 11.—Haralson apple, the large red winter apple, one tree.
No. 12.—Latham raspberry, 3 plants. |
|--|---|

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