6-1931

North and South Dakota Horiculturist, 3(6)

South Dakota State Horiculturist Society

NORTH and SOUTH DAKOTA HORTICULTURE

Volume III Number VI

JUNE 1931

TABLE OF CONTENTS

	Page
Cutworms on Columbines, Mrs. Fannie M. Heath, Grand Forks, N. D.	82
News Letter, May 1931, North Dakota Horticultural Society, C. B. Waldron, Secretary	83
The Waxwings, O. A. Stevens, Fargo, N. D.	84
Extracts from the Diary of a Traveling Man, W. A. Simmons, Sioux Falls	85
The Mariposa Tulips, Claude A. Barr, Smithwick, S. D.	87
South Dakota's Opportunity to Benefit under the Clarke-McNary Act, Jay Higgins, U. S. Forest Service, Deadwood	89
Early Spring Flowers, O. A. Stevens, Fargo, N. D.	90
Garden Miscellany, Mrs. M. W. Sheafe, Watertown	92
Horticultural Notes, John Robertson, Hot Springs	93
International Honey Producers Meet	94

Annual membership fee, $1.00, fifty cents of which shall be for a year's subscription to the North and South Dakota Horticulture. Entered as second class matter at the Post Office of Pierre, South Dakota, under the Act of August 24, 1912.

NORTH AND SOUTH DAKOTA HORTICULTURE

Membership in the South Dakota Horticultural Society is one dollar, fifty cents of this amount is for the subscription to "North and South Dakota Horticulture". The subscription rate for affiliated organizations is twenty-five cents.

Published Monthly at Schubert Building, Pierre, S. D., by the North and South Dakota State Horticultural Societies.

WRENS

If you will pardon me I like to thank Mrs. F. M. Heath of Grand Forks, N. Dak. for her good words in favor of the Wrens. I have been a friend of the wrens for the last 30 years and expect to remain so for the rest of my life.

I wonder if any of you have had an experience like I did back in 1925. The second of July was a very hot day and coming home in the evening I noticed that one of the wrens was laying half way out of the entrance to the nest. Being very hot, I thought that she was only trying to cool off and paid no more attention to it. The next day I was out of town and did not see my friends but the next morning, on July 4th, I noticed the bird in the same position and I suspected something wrong. Getting a ladder I climbed up and found the female bird dead. Inspecting the nest I found three motherless young ones that I did not know what to do for; immediately on my departure I noticed the male entered his domicile and like a true father he reared the family alone.

I would like to know if any one has had a similar experience.

Yours in favor of the Wrens.

Thos. Cruickshank,
Vermillion, S. D.

CUTWORMS ON COLUMBINES

Fannie M. Heath, Grand Forks, N. D.

For the benefit of those that have been bothered with cutworms, supposedly that are eating and destroying their Columbine plants, that said cutworms are the children of the Colorado Columbine borer and now is the best time to get rid of them by clearing away all dead tops and rubbish of every kind about your Columbines and burning it, for the pretty moth that causes all the trouble lays her eggs near the old plants. These eggs hatch out the following spring and the tiny worms eat through the Columbine stalks near the ground and go down inside the stem and eat the entire crown out of the plants, often killing the plant entirely. So by destroying the eggs now or very early next spring you will get the worms that are doing the damage. I am sure that by sprinkling the Columbines with any of the poisons would also help if done early in the game before the tiny worms have gone inside the stem. These borers took most of my wonderful collection of Columbines before I found out what they were and how to get rid of them.

NEWS LETTER, MAY, 1931
NORTH DAKOTA STATE HORTICULTURAL SOCIETY

C. B. Waldron, Secretary

Of the large number of Arbor Vitae trees planted in Fargo last spring very few are alive at this writing. As the minimum temperature during the winter was 15, many people are at a loss to understand why their trees did not live through. The answer of course is that the Arbor Vitae does not hold onto its moisture as well as the Colorado or Black Hills Spruce and such warm, dry weather as we had last winter caused a complete drying up of the plants. The winter killing of the plants is usually due either to immaturity or drouth conditions. In the eastern states where the rainfall is heavier, immaturity is the principal condition which induces winter killing, while in the western Plains States drouth conditions are apt to account for the death of more trees than does immaturity. This applies not only to coniferous trees but also to raspberries, spirea and some other shrubs.

It is important in selecting plants where drouth conditions are apt to exist, to get plants that hold on to their moisture no matter what the weather conditions are. Drying out is more apt to occur with plum than with apple trees and with all woody plants having rather slender twigs and thin bark. This would explain why the lilacs and red dogwood come through the winter oftentimes in better shape than the spireas and raspberry, though they may all endure the same degree of cold. The juniper is much better suited for drouth conditions than is the Arbor Vitae and gives about the same ornamental effect. The Rocky Mountain Yellow Pine resists the drying out process to a remarkable degree while the eastern White Pine and Norway Spruce usually fail to get through the winter in this region, though they may withstand a greater degree of cold in other places.

Taking account of the shrubs at this time of the year the Yellow Flowering Currant is easily the most attractive thing that we have. It seems to be wholly indifferent to drouth or cold and at this writing is in full bloom, and full bloom with the Flowering Currant means something as they are literally masses of gold. This shrub does not grow so tall but what it can be used for foundation planting and is equally well suited to the shrubbery border. It is the first thing to leaf out and bloom in the spring and seems never to be injured by unseasonable frosts.

As has happened for the last three years, the terminal buds on our Black Walnuts have been killed just as they were ready to open. This means that all the growth will have to come again from the small buds at the base of the terminal buds. This delays leafing out and makes a crooked growth but when the tree is in full growth this is hardly noticed. The flower buds were not far enough advanced to be injured and we are hoping for a crop of nuts this year.

If the ash trees seem unusually late in coming into leaf this spring it is because they, too, have suffered a similar fate. Normally, they should not be far behind the elms but since the buds are more tender there will be a difference of probably three weeks this year.

These are the days for planting gladiolus and probably most of our readers will have theirs in before they read these notes. Some people imagine that because the gladiolus plant has but little foliage during the early part of the season they do not need much water, but recent tests have shown that they do much better with generous watering from the beginning. It might be noted here also that those of our readers who are planning on making an exhibit at the peony show will do well to begin watering generously from the early part of the season. A little available plant food will help of course, but generous watering is essential for large blooms. If one is really out to win he will do well to cut out all but half of the stalks of the peony plant and of course cut off the side buds from these as soon as they appear.

THE WAXWINGS

O. A. Stevens

The waxwings are birds of distinctive appearance but my vocabulary fails me when I try to describe their color. "Pinkish wood brown or brownish fawn color" and "vinaceous brown" are some of the terms used by Robert Ridgway who was the final authority on both birds and colors. The name refers to the bright red tips of some of the wing feathers but these are not very conspicuous. The prominent crest on the head is a feature which is almost unique among the birds of our region. A black stripe across the side of the head and a black throat adds much to the birds' appearance and further color is furnished by the yellow tip of the tail and the yellowish under parts in case of the cedar waxwing. Somewhat larger than orioles, they have plump bodies and short tails. Their manner of flight is similar to that of the robins.

The cedar waxwings are summer residents in northern United States and southern Canada, spending the winter in the central and southern states. It seems rather peculiar that they are seen as far north as Minneapolis during winter, yet they migrate late in the spring, arriving here the last of May. They are deliberate also about housekeeping affairs and are seen in small flocks through the first part of June. No doubt the late migration is associated with the late nesting, yet they usually manage to raise two broods. The nests are placed in trees and are built chiefly of grass stems and leaves. The eggs are bluish gray spotted with black and lavendar.

Fruits of various kinds are the chief food of these birds and have been calculated to comprise four-fifths of the total amount of food of the cedar waxwing. They have been called cherry birds, also cedar birds on account of their fondness for these two fruits. One rather remarkable fact is that they have been observed to feed the very young nestlings the juice of fruits. I have several times observed the birds at points in this state where high bush cranberries grow. This may be only a coincidence because these berries ripen rather late for the cedar waxwings while chokecherries and June berries would be found in the same places.

Such birds may be destructive to fruit at times. Careful study of their food habits has yielded favorable evidence on their economic status. Beal found 74 percent wild and 13 percent cultivated fruit in 150 stomachs. From 40 of these collected in cherry season, only 9 contained cherries. Forbes found almost nothing but canker worms in 7 stomachs of birds collected in an infested orchard. Apple blossoms are a favorite food of the cedar waxwings. Last year the birds were seen daily for a week in a large apple tree in our yard. I have not determined whether they eat more than the petals but in this case at least a severe thinning would be an advantage, and certainly no loss of crop occurred.

The Bohemian waxwings are northern birds which visit our region in winter. They are somewhat larger than the cedar waxwings, gray beneath, and with some bright reddish brown feathers at the base of the bill and under the base of the tail. They feed upon various fruits which can be found at that season. A flock which I watched last fall fed mostly upon asparagus berries.

The waxwings must have a family history of exceptional interest. They are considered most closely related to shrikes and swallows but are entirely unlike either in habits, unless it be in lack of song. There are only three species, the cedar, the Bohemian which is found also in Europe, and the Japanese waxwing. A soft hissing or lisping sound is their only note. This is louder when they are alarmed and is at all times an easy recognition feature. Waxwings are particularly mild and gentle. I was therefore surprised when a trapped Bohemian made vigorous efforts to bite, but they were by no means serious.

EXTRACTS FROM THE DIARY OF A TRAVELING MAN

W. A. Simmons

April 15th. Oregon is a great rose state and makes effective use of this flower in advertising the state. Roses are to be planted along the sides of the road for the entire fifty miles of the distance between Salem and Portland, this year. The Mayor of Portland, the city of roses, will plant the first rose early in June.

April 19th. Home again, and it was like getting into a new and beautifully green world after the brown prairies of the northwestern corner of the state. I found our plum trees a beautiful and fragrant sight in full bloom and apparently not aware that they were blooming several weeks in advance of their best interests from a fruit standpoint. After the hard freeze that came later, I think we shall have to consider their blooms as paying us for their ground space this year, as it does not seem possible that any fruit could set.

Our three small pear trees, one each of Douglas, Mendel, and Anjou, were full of well defined buds. We shall probably continue to depend on the fruit stores and the canneries for our pears, for another year at least.

Early iris, tulips, and violets were in sparing bloom, giving a little color to the garden. While Arbor Day had passed, I celebrated it belatedly by pulling up several thousand box elder, elm, and ash seedlings from the garden and orchard. I have often wished our elm and the neighbors' box elder and ash trees could scatter their seeds out in the western part of the state where their seedlings would be welcome instead of a nuisance.

As the day was warm and summery, I, like the plum trees, was deceived as to the weather prospects and uncovered my lily beds. I was delighted to see that the madonna lilies had come through the winter in fine shape and had started a flower stalk an inch in height. I have learned how to winter these lilies by giving them a bale of hay to sleep under. Now all I shall have to learn is how to convert the weather bureau man to a course of Christian behavior or to restrain my impatience as to uncovering them. I think I shall leave the covering on them until the 4th of July next year.

April 21st. Many people profess to be disturbed at the activities of the communists in this country and fear our nation may be misled into going "Red", Bolshevik, or hay-wire, synonyms for the dictatorship of the unwashed proletariat. To me this danger does not appear imminent, for aside from the fact that so many of our people own more than one pig, there would be the practical difficulty of providing flags. Our Highway Department seems to need the entire output of the red flag factories to mark the holes in our gravelled roads made by the heavy trucks. Our motorists are the ones who constantly see red. A possible remedy might be to compel the trucks to travel on the main gravelled roads while allowing travelers in lighter cars to seek the more even dirt roads that parallel them.

I am in receipt of a letter from Mr. Claude Barr of Smithwick, South Dakota, well known to our readers through his interesting articles in our magazine. He tells of being much interested in the Mariposa lily and wishes that any of our members living near its natural habitat would dig some of the bulbs and send them to him.

April 23rd. The weather forecaster plays safe. Forecast for South Dakota today: "Probably fair tonight and Friday, excepting possibly rain or snow."

April 26th. Dr. C. L. Nelson, bacteriologist at the North Dakota Agricultural College, has an article in today's Forum headed "House Cat Condemned as Menace to Human Health." After reading it, one is rather left in doubt as to which is taking the longest chance in the association of the two animals—the cat or mankind. He gives an instance of a lady contracting a fatal case of diphtheria from associating

with a cat and of a cat contracting an equally fatal case of diphtheria from associating with children. Probably the only way to keep our houses entirely free from disease is to bar out both animals. In all fairness to the cat, we might point out that in their natural place in the animal world they were pretty free from disease; also that they probably had little to do with giving up their freedom for a mess of pottage or whatever else they are able to cajole the housewife into giving them as food. If the cat were real solicitous about its health, no doubt it would refuse to associate with us at all. But I am glad that our cat, like the man in the restaurant who ordered baked hash, is willing to take a chance.

In the March issue of American Fruit Grower appears a very interesting article entitled "Fire Blight from Infected Beehives," by H. R. Rosen. He tells of the scant knowledge we have of this disease and the few known procedures for fighting it as follows: "The chief control measure which is relied upon at present for controling this disease consists of pruning out and destroying all previously diseased wood prior to the development of new spring growth. This remedial measure is based on the assumption that the germ responsible for this disease is capable of living over winter only in diseased wood of the previous season and that with the removal of such wood, there will be no opportunity for the germ to gain entrance into an orchard save from some extraneous unpruned and unkempt trees."

The theory has been that in early spring the germs of this disease ooze out of the infected wood and that this ooze is visited by bees and other insects who carry the infection to the blossoms they visit, or it is spattered over blossoms and healthy tissue by the rain drops. He tells that for four successive seasons he, with the help of assistants, has tried to locate this ooze before blight developed in the blossoms and when found, susceptible varieties of pears and apples were inoculated with it, but in only one case out of several hundred did blight develop. Being forced to look to other sources for the cause of early infection, he continues: "Investigations were thus undertaken on ten beehives located in an apple orchard which had suffered seriously from blight. Hundreds of inoculation on healthy pear trees were made from samples of honey plus comb, pollen cells and brood cells taken from these hives throughout the summer, winter and early spring prior to the development of blight. Briefly, it may be recorded that the fire blight germ was isolated time and again from this material and from the bees themselves taken from the hives in early spring prior to any signs of blight in the orchard. Such cultures were in every instance proved to be infectious and disease-producing on healthy pear trees in artificial inoculation tests. Thus it was proven that the infected beehive is in part at least responsible for the current season's blight." The author does not believe that bees can be dispensed with in pollenating self-sterile varieties of pears and apples, but he advocates the maintenance of uninfected beehives for the performance of this very necessary work.

Many of the people living in the Black Hills plan to tour the Hills with us during our meeting July 29 and 30. We will not be able to visit the beekeepers in the northern part of the Hills during the two days but those interested in this work can profitably spend a day visiting this territory. The sawmills, mines, logging camps, caves, mineral formations and the thousands of little beauty spots at different altitudes having different types of soil, growing different plants will just keep one so busy that the two days will be over before you feel you have gotten started to explore the Hills.

Mr. Hobart does not grow tomato plants and has not for several years. He wrote me that people were writing him for plants. It is hoped that this notice will save the readers and Mr. Hobart some time and the trouble of corresponding.

THE MARIPOSA TULIPS

Claude A. Barr, Smithwick, S. D.

There is more than charm of color, intrigue of novel form, and surprise to the Mariposa Tulips. In them is a spirit more expressive of the West, of high altitudes, of intense light, of free sweeping breezes than in any other flower I know.

Those who live near or in certain rugged parts of western South Dakota or more restricted portions of North Dakota and Nebraska and visitors there in the month of June are familiar with the wild tulips, three-lipped shining cups of fascinating delicacy and grace, creamy white, with butterfly "eyes" of rich yellow and brown, or maroon, at the base of the petals. Flowers of mystery, on slender stems that often are all but dry and dead, their few grass-like leaves near the ground crinkled and brown, these Sun worshippers return to a brilliant sky the concentrated essence of freshness and brilliancy.

Native Mariposa Tulips

This flower's specific name is Calochortus nuttallii, and by that name only can it be distinguished from others that bear with equal fairness its common names, Mariposa Lily, Sego Lily, or Mariposa Tulip.

Differently from most of us this hardy and successful pioneer came out of the West, being the most widely distributed member of the genus Calochortus. Probably it ranges farthest east in South Dakota. It would be interesting to determine its eastern limit. At the west it is found in the Yosemite Valley, and it occurs from southern Utah into Montana.

One other Calochortus inhabits the Black Hills and probably does not go farther east. C. gunnisonii is similar to its cousin but has a greenish tinge throughout the creamy petals and the colors of the eye are hidden by clusters of green hairs. The characteristics of both these tulips are constant however their petal colors may vary in distant localities.

Some eight or ten other species are found in the Rocky Mountain region and among them new colors, markings, and shapes come in. There are pure yellows and lavenders, and green bands and purple and blue spots. But it is in California that the greatest numbers make their homes. There may be met at 6000 to 9000 feet in the Sierras, C. leichtlinii, a smoky white dwarf with a nearly black blotch; at lower altitudes C. clavatus, a great bowl-shaped flower of deep yellow, five inches across at its best and three feet high; on the sandy southern coast and on all the coast islands C. catalinae, white tinged with lilac to lilac-purple and with a purplish maroon mark. And there is C. kennedyi that blooms even in Death Valley when moisture favors it in rare seasons. It is reported to be "a dazzling vermilion, probably the most vividly colored flower on Earth." Altogether there are forty or fifty of them. Nearly all colors are represented in tinges or clear tones either in the petals or the markings.

In California and neighboring states are many Star Tulips, or "Pussy Ears," and Globe Tulips, or "Fairy Lanterns, that belong to the Calo-

chorti. They are flowers of quite different types from the mariposas, and, as read, more hardy.

Many of the Calochorti are on the market and may be grown in most parts of the country, some special requirements being granted. Most all prefer a sandy soil though a few do better in clay. A mixture of ordinary garden soil with much fine gravel or grit or sand is recommended. The bulbs are placed 2½ to 4 inches deep, and may be left in the ground if they can be treated to a thorough drying out after blooming. That makes a prerequisite of good drainage—sloping ground is natural to them—and a location where no watering is done. The more sensitive of the Californians require to be kept dry from blossoming time until October. Digging and storing is perhaps safest for most or all of the more western species.

Those mariposas are hardiest and most easily managed which come from the high mountain regions or the northernmost ranges. From rather limited observation C. leichtlinii from the high Sierras, C. howellii from the Oregon mountains, C. macrocarpus which reaches into Montana, C. eurycarpus which grows in Yellowstone Park, and C. nitidus also of the north seem nearly or quite as hardy as our native C. nuttallii. This is but a few of those which may be satisfactorily hardy. But with many of the California species it is different.

Due to their peculiar climatic adaptation success with them is not uniform, nor are their demands fully understood. It has been established that they are hardy to simple cold, having been flowered in many parts of the East and in Canada, by protecting from alternate freezing and thawing after the foliage appears in the spring. Even light frosts are at times hurtful. But there are other unaccounted for failures.

Even with the best gardeners it seems to be a hit or a miss. If I may venture a guess it is that too much **unfrozen** moisture between planting and the start of growth in the spring causes decay.

Thus there is room for experiment with these bulbs which Carl Purdy calls the most beautiful wild flowers of the West. In spite of difficulties one who knows a few species of mariposas, or has carefully studied descriptions, can hardly be content while there remains a possibility of seeing others, so sooner or later we may learn to grow them without loss.

The two species at home in South Dakota, inured as they are to practically everything in the way of climate, it is reasonable to expect may be grown with much the same care as the so-called Dutch tulips. That is they should be handled while nearly or quite dormant, and placed where drainage is good in a soil lightened by sand or fine gravel. In my garden which is quite heavy clay C. nuttallii has prospered for several years with an inch of sand below the bulbs. It has rewarded cultivation with larger and more abundant blossoms, as many as six from a single bulb.

Unfortunately for those who live outside their habitats C. nuttallii and C. gunnisonii are not generally on the market. I know of only one source for C. nuttallii and for C. gunnisonii none at all. Let's hope for the time when they may be had by anyone to whom the new and strange and exquisitely beautiful in flowers appeals.

I should like to enlist the cooperation of all who may read this in learning the eastern range of these species. The flowers are out usually between June 10th and July 1st. If you live further east than the Black Hills, either in South Dakota or Nebraska or North Dakota, will you not just enclose a fresh flower with a word as to where it was found to Claude A. Barr, Smithwick, S. D. Word would be appreciated also of the occurrence of other species in Wyoming or Montana. I shall be glad to answer any questions I can and to mention sources of Calochortus bulbs.

SOUTH DAKOTA'S OPPORTUNITY TO BENEFIT UNDER THE CLARKE-McNARY ACT

Jay Higgins, U. S. Forest Service, Deadwood

(Paper read at Horticultural Meeting, January, 1931)

In 1924 Congress enacted a law providing for federal cooperative assistance to the various states (1) in the protection of forest lands from fire, (2) for the procurement, production and distribution of forest tree seeds and plants for windbreaks, shelter belts and farm woodlots and (3) to assist owners of farms in establishing, improving and renewing woodlots, shelter belts, windbreaks and other valuable forest growth. This act is popularly known as the Clarke-McNary law. It has a number of other provisions but those mentioned are particularly applicable to South Dakota. In general the federal cooperation and assistance is offered within the limitations of the federal funds available on condition that the cooperating state spend an amount of money at least equal to the federal funds received.

Under the provisions for the protection of forest lands from fire, South Dakota is now receiving financial aid in protecting the Custer State Park and other state owned timbered lands from fire. For the fiscal year 1931 this assistance amounts to $1,125.00 under the cooperative agreement entered into by the United States Department of Agriculture and the State Land Commissioner of South Dakota.

For the past four years the United States Forest Service, which is charged with handling the work under cooperative tree distribution provisions of this act, has urged South Dakota to participate in the benefits of Sections 4 and 5 of the Clarke-McNary law. These sections provide for the distribution of forest planting stock for windbreaks, shelter belts and woodlots on farms and for the educational activities in giving assistance in establishing these windbreaks, shelter belts and woodlots. Before the state can participate in the federal money available under the Clarke-McNary act it will first be necessary for some state agency to be designated to carry on the tree distribution activities. The educational work under Section 5 of the Clarke-McNary act must be conducted by the State Extension Service and as the tree distribution work can also be handled by the extension forester it has been thought best to have the two activities centered under one head. A bill to be introduced in the legislature now in session designates the State College of Agriculture as the agency to handle these activities and also provides for the necessary appropriation of state funds to carry on the work.

Nebraska has for the past five seasons been receiving federal cooperation from Clarke-McNary funds. The plan followed there has been so successful and beneficial both to the commercial nurserymen and the farmers of the state that the Forest Service recommends that South Dakota follow the "Nebraska Plan" of tree distribution. Under that plan the extension forester buys his hardwood trees in wholesale quantities from the members of the Nebraska Commercial Nurserymen and is obtaining coniferous transplant stock needed for this farm tree distribution from the government nursery at Halsey. This nursery grows millions of conifers for planting in the sandhills of the Nebraska National Forest and supplies the extension forester with his conifers inasmuch as the nurserymen have not been growing coniferous forest planting stock in quantity, but some of them are now beginning to do so. South Dakota may also obtain its conifers at very low prices from the Bessey Nursery at Halsey if this is desired. The federal allotment of funds and state funds are used to purchase these trees. The trees are sold only to farmers of the state at a delivered average cost of 1 cent per tree. This 1 cent per tree is the full share of the cost represented by state money and therefore the state recovers the full share it has invested in the trees. That part of the cost of the tree represented by the federal funds allotted to the state can not be recovered but must directly benefit the farmer

receiving the trees. In Nebraska the distribution which has included a number of hardwood species as well as conifers well suited to different soil and climatic conditions of the state, has grown rapidly and last spring over 800,000 trees were handled. As an indicator of what this business amounts to the Nebraska 1931 budget for Section 4 work under the Clarke-McNary act calls for the use of $10,550.00 of state money and a federal allotment of $2,000 or a total of $12,550.00. A good share of this money goes to purchase the trees from Nebraska nurserymen. The nurserymen heartily endorse the Nebraska plan and have stated that it has been very beneficial to their business and has resulted in greatly increased interest in planting of fruit trees and ornamentals as well as for forest planting stock. Because of this entirely satisfactory sentiment the Forest Service feels that South Dakota can likewise bring about a greatly stimulated interest in tree planting on farms by qualifying to receive its share of federal money waiting for it at this time.

Thirty-seven states of the Union are now receiving assistance under this act and South Dakota is the only one of the north-central plains states not now benefiting by this federal money. This federal money all goes toward helping provide trees for farm planting and for expert advice and assistance in the planting and care of trees on farms. The law does not permit of use of any of this money for tree planting anywhere except on farms and further limits the kinds of trees to forest planting stock only. Ornamentals and fruit trees are not included.

Before there will be any appreciable increase in planting of trees on farms there must be made available (1) a plentiful supply of suitable planting stock at the lowest possible price to the farmer and (2) the farmer must be instructed as to proper methods of preliminary preparation of the ground and the most suitable species for the purpose intended. The question of suitability of various soil conditions is important and if the best results are to be realized there should be available expert advice as to the best methods of caring for plantations after the windbreak, shelter belt or woodlot has been planted. The purpose of the Clarke-McNary act is to make all these things possible and to directly benefit the farmer in tree planting on the farms. South Dakota can participate in the benefits of this tree planting program equally as well as Nebraska and other neighboring states. The cost to the state to provide for this activity would be a very minor item of expense. Based on the estimated net cost of about $2,000 per year to the state and apportioning it over the total number of farms in the state, the average cost would be approximately 2½ cents per farm unit. It is confidently believed that the benefits which would result from this activity would far outweigh this trifling cost. The state should therefore no longer dalay participating under the Clarke-McNary act.

EARLY SPRING FLOWERS

O. A. Stevens

The study of flowers has one advantage over that of birds. We can expect to find certain ones in a particular place, barring the occasional loss by various means. Signs of spring are always welcome. The appearance of the homely knotweed coming up thickly beside the walk is to me a special event. Pussywillows, as everyone knows, are about the first to appear. Scarcely anyone cares about pussywillow blossoms. It is only the furry undeveloped catkins, showing two weeks or a month before flowering, which are of interest.

The Pasque flower is of course the early prairie flower par excellence. I wonder how many of our flower growers continue to call it "crocus" notwithstanding the Crocus vernus in their gardens. The pasque flower is truly a wild thing of the north. Acres of the lavender blossoms have fallen to the plow, nor do they take kindly to being moved from their native sod to domestic reserves. Venturing forth in the

warmth of early April, they often are covered with late snows. The most beautiful tints are said to be developed in the flowers which have melted the snow about them. This plant is related to the clematis as one might suspect from the feathery plumed fruits.

Two other flowers may be found with the pasque flower or at least following it closely. A species of wild parsley with finely cut leaves and small white flowers, is common on the prairie. As a wild flower it is rather insignificant, but at that season the humblest member is welcomed. The second plant has peculiar flowers which are rosy red on the outer side but seem never to open fully. In early spring they hug the ground closely; later they rise several inches higher. Fringed Avens, it is called in some books. I sought a common name and my friend, H. D. Long, suggested Torch Flower. This refers to the clusters of plumed fruits. These resemble the fruits of the pasque flower but they are more delicate and have a color suggestive of flame. The Prairie Buttercup blooms in the early period. Its flowers are not especially handsome, but are fairly large for a small plant and therefore somewhat showy.

The first of May finds portions of the woods of the Red River Valley white with Bloodroot. The leaves are very small at flowering time and are closely wrapped about the buds. Later in the summer the leaves may be as much as a foot wide. This is one plant which needs conservation. The leaves and flowers come from a shallow rootstock which is easily pulled out of the loose soil if care is not used in picking the flowers. The petals fall quickly so that bloodroot is of little use for cut flowers.

The first week of May is the beginning of spring flowers in the latitude of Fargo. It is then that the violets appear, white, blue and yellow. The large Bellwort, with drooping yellow flowers of twisted petals, is one of the showy plants in the woods. The familiar Jack-in-the-Pulpit appears about the same time; also the wild strawberry and Juneberry. The three kinds of plum and cherry have always interested me. The wild plum blooms first, about May 10, and its masses of white are conspicuous against the still bare woods. The Bird Cherry and Choke Cherry follow at periods of about five days each.

Western North Dakota presents quite a different group of wild flowers. Our white flowered phlox is but one of the many Rocky Mountain species. Moss Phlox, I have called it, because of its mat of fine leaves. The flowers are comparatively large and numerous so that the plant is quite showy. Another striking flower for that region and season is one called Lungwort, Bluebell or Forget-Me-Not. The last two names are usually applied to quite different plants but wild Forget-Me-Not is perhaps appropriate. The drooping, bell shaped flowers are a beautiful blue.

Tufted Milk Vetch is an attractive little plant which grows on the stony hills. It comes from a deep root and produces a small tuft of silvery leaves. The flowers, which are borne close to the leaves, are creamy yellow, about half an inch long. Many other species of milk vetch, mostly with blue or purple flowers, appear on the prairie during spring and early summer.

There is a kind of Borage, also without a common name, which is found with the tufted milk vetch. The plant is covered with coarse hairs and is unattractive except that it is rather conspicuous at that season. One species of violet is abundant on the western prairies and is very attractive though only a small plant. The petals are yellow with purple veins. It is called Nuttall's Violet and is named for Thomas Nuttal, an early American botanist who described many of our western plants.

We received a copy of the annual report of the Minnesota State Horticultural Society for the year 1930. This is a fine report and contains much valuable information. Some of the facts pertaining to our conditions should be in our college text books.

GARDEN MISCELLANY

Mrs. M. W. Sheafe, Watertown

"If you wish to appear agreeable in society, you must consent to be taught many things which you know already."

An early spring blooming perennial I have mentioned before as being most desirable is the Virginia Cowslip which botanists call (Mertinsia Virginica) is being very widely planted with tulips. Although a wild flower in the wooded parts of the northwest, it is easily domesticated and is prized for its dainty beauty and its ability to thrive in our rather severe climate. When this plant makes its appearance in the spring, it is quite apt to be destroyed as it is so dark colored and rather insignificant looking, so mark well the spot where planted. Also remember that the Mertensia dies down early in the season and seeds start readily, so if care is taken not to disturb the soil about the mature plant you may soon have a large collection.

The Siberian Wallflower (Cheiranthus Allioni) a lovely bright orange, is desirable and blooms for a long season, if seeds are not allowed to mature.

Nemesia is a very dainty pretty annual that does well in a somewhat cool shaded spot and kept well watered. The colorings are most pleasing and markings varied. Try it.

If you are looking for a shrub to use as an accent spot to your lilacs, Rose Hugonis, a hardy yellow rose, that blooms at the same time is worthwhile. When out of bloom this bush is attractive with its graceful sprays of fine foliage. Plant your Bleeding Heart (Dicuetra Spectabilis) near as the combination coloring is very pleasing, to me at least.

The little wild nook in my garden seems to interest many flower minded persons, also children; Jack in the Pulpit is curious to many and snuggled up to a tall glorious fern is cool and restful; then near plant violas, white, yellow, purple, Jersey Gem for the latter as they bloom all summer if cut back occasionally and the soil kept well enriched and moist. There are many wild flowers one may add that are pleasing and are preserved for future interested growers. If we do not preserve our wild flowers by placing in our gardens, many species will soon be lost to posterity.

Pyrethrum or (Persian Daisy) is a perennial that may be started easily from seed and will bloom the second season. It is one of the most desirable plants as it is a profuse bloomer and free from insect pests. The colorings from white through the pinks to deep rose and the long stems and lasting qualities makes it a fine cut flower.

Another little low growing plant desirable for crevice or border use is violet cress or (Ionopsidium acaule). It spreads freely and has violet blue star shaped flowers.

Resolutions (By the Garden Club of Illinois)

"1. To make better use of the garden note book.

"2. To carry such a book with pencil to all nurseries or gardens open to visitors and to all lectures.

"3. To apply to my garden work the knowledge gained by listening to good lectures.

"4. To adopt a plan for the garden and adhere to it.

"5. To order bulbs, seeds and plants on time.

"6. To divide and transplant perennials in the proper season.

"7. To plant some new variety, either shrub, tulip, lily, gladiolus or perennial.

"8. To undertake in the garden only that which will be kept in order.

"9. To be helpful and respectful toward other peoples' garden efforts.

"10. To be loyal to garden club affiliations.

"11. To preserve the catalogs received and share them.

"12. To read garden magazines thoughtfully.

"13. To keep garden tools sharp and free from rust.

"14. To share my garden bloom with the afflicted."

HORTICULTURAL NOTES

John Robertson, Hot Springs

March 1. We have in mind to make a few random notes and remarks along horticultural lines, that may be of interest to nurserymen and those who do the more permanent planting.

Cuttings of willows, cottonwoods, currants, and grapes may be made at any time now and stored ready for planting soon as proper time arrives. Cuttings are usually made 8 to 9 inches long, preferably from wood of last year's growth. After making, the cuttings should be tied into bundles of a convenient size to handle well, with buds all pointing in same direction, and stored in damp sawdust, sand, or even soil, in an evenly cold place where buds will not come out before ground thaws and time for planting.

Seeds of various native forest tree kinds, as well as that in certain kinds of fruits, may be gotten together ready for planting. We do not advise this as a means of getting trees and plants cheaper than through some nursery firm; but in a way of creating more interest and eventually get more planting done. Then too, there is the benefit of a better knowledge of nursery practices, and the chance of an occasional boy who has the liking, to start growing nursery stock as a business later on. There is plenty to learn in this line, so it is well to start young. Seeds from apples and wild fruits may be included, as well as that of the Black Hills pine. Telling something about the handling of seeds, and growing of seedlings, is too big to be included at this time.

Now, a few words about nurserymen, and nurserymen's associations. A nurseryman is one who grows trees, shrubs, and plants, usually with the object of selling to the public. In most states the nurserymen get together in forming an association. This is not done for the purpose of taking advantage and keeping prices high, but simply as a matter of business in having prices more uniform and agreement with each other as to best business methods.

The nursery business is regulated in each state by a State Nursery Inspector. While no nurseryman is compelled to become a member of the nurserymen's association, yet no one may sell nursery stock without having had his nursery premises inspected by the State Nursery Inspector, and having a certificate of such inspection showing that he has a legal right to sell such stock as has been inspected and found apparently free from dangerous plant diseases and insects. The Inspector also has some power of control in regulating the workings of nurserymen of other states selling within the limits of his own state, as well as exercising a supervising of methods of those within his state.

This system is meant as a protection to the public against mistreatment. When anyone has reason to think he has been the victim of fraud, or that nursery stock is being sold illegally in his section, it is his privilege and duty to report same to his State Nursery Inspector. Each state has certain rules and regulations. In some few states there is an unusually high license fee charged outside nurserymen for the right to sell. This is partly meant as a protection to the home state nurserymen. Some states do not allow entry of certain plants from other states without additional inspection by their own State Inspector. There are many different rules and regulations, each intended for a good purpose.

Personally, we are not in favor of any laws and agreements being made in South Dakota whereby the smaller nurserymen may be discouraged, or outside state competition be unreasonably hindered. Under such state regulations as we now have, the field allows for very fair competition, which is fair to all concerned. The home nurseryman has enough advantage without additional protection, through his better acquaintance with conditions, and having his nursery right in the midst of those he wishes to serve. If he gives fair treatment in the way of helping others along with himself he will rise above his rivals. In any case, the customer is final judge, and master of the situation.

INTERNATIONAL HONEY PRODUCERS MEET

The banquet and program of entertainment held the evening of February 11 at the close of the second day's session proved a most enjoyable feature of the convention. Dr. C. I. Christie, President of the Ontario Agricultural College, was chairman of this program.

The delegates were given the opportunity to visit the Ontario Honey Producers' Cooperative Warehouse, the Star Publishing Company and other points of interest and many delegates took advantage of this.

At the business sessions of the American Honey Producers' League, the American Honey Institute, the Apiary Inspectors of America and the Ontario beekeepers, regular business was transacted and officers were elected for the coming year. One of the important steps taken was to change the constitution by which Canada is now placed on an equal basis with the United States and makes the league truly international in scope.

It has been the custom for the past few years to choose one man for honorary life membership in the league. This year the members at the convention chose Dr. J. H. Merrill of Raynham Center, Massachusetts, for this honor.

New officers in the American Honey Producers' League include James Gwin, President, Madison, Wisconsin; Floyd J. Buck, Vice President, Walla Walla, Washington, and V. G. Milum, Secretary-Treasurer, Champaign, Illinois, and director are C. A. Reese, Columbus, Ohio; D. D. Stover, Tibbee Station, Mississippi; T. W. Burleson, Waxahachie, Texas; H. D. Rauchfuss, Worland, Wyoming; W. A. Weir, Toronto, Canada.

Officers of the American Honey Institute and Apiary Inspectors of America were reelected. No decision was made for the 1932 meeting but it is expected that this matter will be decided upon soon.

It was worth the trip to the meeting if for nothing else than to hear "Honey Research at Home and Abroad" by Dr. C. A. Browne of the United States Bureau of Chemistry, Washington, D. C. Dr. Browne pointed out that years ago his interest in honey had been stimulated by his association with Dr. E. F. Phillips, then in charge of beekeeping at Washington, and how Dr. Phillips had provided him with many samples of honey for his analyses which he included in Bulletin 110, published by the Bureau of Chemistry. Dr. Browne in commenting on research on honey cited his investigations not only in America but also in many European countries. To illustrate some of the work on honey clarification being done by his bureau he showed samples of honey before and after the clarification process. The unclarified honeys were cloudy and amber and the clarified samples were clear and sparkling.

Commenting on "Honey in the Dairy Industry," Professor W. A. Smallfield of Guelph, Ontario, made the comment that certain honeys are particularly valuable due to the flavors which they lend to dairy products, and that there should be as closs an association between milk and honey in modern times as in the remote past.

Citing the results of recent research on granulation of honey, conducted at Cornell University, Dr. E. J. Dyce of Guelph, Ontario, pointed out that the quality of granulated honey depends largely on the size of the granules or crystals and that by providing certain conditions, which he outlined, the desired type of granulation may be secured. He commented on the action of air bubbles in the honey, temperatures and other factors which influence granulation.

In discussing microbiology of honey, Dr. A. G. Lochead of Ottawa, Canada, pointed out that the same food properties in honey which make it valuable as a human food also result in it being an excellent media for the growth of yeasts which cause fermentation. His address was illustrated with slides which showed evidence of yeasts commonly found in honey and floral nectars.

That the beekeeping industry should be reflected in the World's Fair to be held in Chicago in 1933 was the statement made by Dr. A. W. Bitting, in charge of exhibits. This is an opportunity for the industry to be on display and to be seen by millions of people and plans should be developed early for the industry to be properly displayed at this fair, he said.

"Carbohydrates in Health and Disease" was the topic discussed by Doctors F. W. Hipwell and Angus McKay of Toronto. They stressed the need for exact facts on the medicinal and food value of honey, indicating that honey should have an important place in the human diet.

George S. Demuth, Editor of Gleanings in Bee Culture, Medina, Ohio, in discussing the trend of affairs in beekeeping, explained that although the industry is in the midst of a business depression affecting practically all industries at the present time, that a gradual improvement is slightly noticeable. The depression has forced those in the industry to lower cost of production. When good times and good prices come back to normal those who have learned how to lower their production costs will reap this benefit, he said. Other bee journals represented by delegate included the American Bee Journal, Hamilton, Illinois, and The Beekeeper, Peterboro, Ontario.

James I. Hambleton, Senior Apiculturist at Washington, D. C., outlined the investigations in beekeeping conducted at the Bee Culture Laboratory. These investigations cover many phases of beekeeping, he said.

Discussing the present status of honey investigation, Dr. E. F. Phillips of Cornell University told of the enormous amount of literature on honey in various countries of the world which is of inestimable value, but unfortunately only a scant portion of this has been made available to beekeepers and honey packers.

Throughout the convention daily demonstrations on honey and its uses were given by Miss Malitta D. Fischer, Indianapolis, Indiana; Miss Mary I. Barber, Battle Creek, Michigan, and Miss Jessie M. Read, Toronto. These demonstrations received a great deal of favorable comment.

Professor V. G. Milum of Illinois presented a very interesting paper on "The Honeybee's Span of Life," illustrating this by slides. C. B. Gooderham of the Dominion Experimental Farm at Ottawa discussed "Wintering Bees in Canada."

H. B. Disbrowe of Guelph discussed the Watson method of artificial insemination of queens and pointed out that the main progress made on this subject to date has been in improving the technique involved in the operation.

Professor C. L. Farrar of Massachusetts discussed the colony's influence on brood rearing, illustrated by slides. He pointed out that many problems of management are closely associated with brood rearing and that it is well to have an insight into brood rearing because it is also the basis for colony development.

Professor L. T. Floyd led a most interesting discussion on package bees. He said that beekeepers of Manitoba are getting to rely more and more on packages to restock winter losses and to increase the size of their apiaries and that this condition was applicable to a large section of the Northwest.

Morley Pettit, at one time Provincial Apiarist of Ontario and now a commercial honey producer and package bee shipper, cited the developments in beekeeping throughout Canada and the United States during the past two decades. In the course of his remarks he complimented the investigators who are largely responsible for the present high status of the industry. Honey marketing was discussed by James Gwin, Department of Agriculture and Markets, Madison, Wisconsin.

A large exhibit featuring honey and beekeeping equipment arranged under the direction of G. L. Jarvis, Brantford, Ontario, proved one of the most popular sidelights of the convention. The exhibit was located

close to the convention hall and was visited by all beekeepers and hundreds of other visitors during the week. Exhibitors included the American Can Company, F. W. Jones Bee Supply Company, Ruddy Manufacturing Company, J. I. MacArthur, American Honey Institute, Kellogg Company, MacDonald Manufacturing Company, Stover's Bees and Queens and Dominion Glass Company. The exhibitors are to be commended on the excellent quality of their displays.