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South Dakota Horticulturist

Department of Agronomy, Horticulture, and Plant
Science

10-1929

South Dakota Horticulturist, 1(8)

South Dakota State Horticulturist Society

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SOUTH DAKOTA HORTICULTURIST

Volume 1

Number 8

OCTOBER 1929

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

SOUTH DAKOTA HORTICULTURIST

Published Monthly at Schubert Building, Pierre, S. D., by
South Dakota State Horticultural Society

President—Dr. N. E. Hansen.....Brookings, S. D.
Vice-Pres.—John Robertson.....Hot Springs, S. D.
Secretary and Editor—R. W. Vance.....Pierre, S. D.
Treasurer—H. N. Dybvig.....Colton, S. D.
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A FEW WORTHWHILE PERENNIALS

Mrs. M. W. Sheafe, Watertown, S. D.

Linum Perenne (Flax)

In a recent number of an eastern flower magazine the question is asked, "What is *Linum Perenne*?" A description and cultural directions will be appreciated.

There may be some of the readers of this magazine who are not familiar with this fine plant, so will use it as my first number. *Linum Perenne* resembles so closely our field flax, that many persons think it is the field variety. The color and shape of leaf and seed, is the only similarity.

The garden flax forms a compact plant two feet or more in height, covered with beautiful blue flowers from earliest spring until late summer, when the plant will be so filled with balls of seed it can scarcely hold more. Like the field flax the blossoms last only a day, but each morning it greets you with a fresh supply. Have never known it to be troubled with insects, makes a fine border, or in groups in front of peonies or phloxes, especially pink ones. If it is cut back (not too near the ground) after filled with seeds, it will soon put forth new growth, and continue blooming until severe frosts destroy it. Seeds germinate readily, and as it self sows, one always has plenty of new plants to supply vacant places.

Arabis Aplina (Rock Cress)

This plant makes a very nice ground cover for tulip plantings, or for a low border. It forms a dense mat, and is covered with dainty four petaled white flowers, from the time vegetation starts, and continues for several weeks. After through blooming shear off the seed stalks, and it will present a mound of beautiful green foliage the balance of the season.

Alyssum Saxatile (Basket of Gold)

Another very early spring bloomer, that forms a dense mat of glaucous foliage, and clusters of beautiful golden yellow, fragrant flowers. This plant grows readily from seed, and may also be propagated from cuttings placed in sand or moist soil. It is usually in bloom from the last of May when we have so few flowers, and is so very satisfactory.

Artemisia Lactiflora (Mugwort)

A late autumn bloomer that is very satisfactory. It grows to a height of five or six feet, finely cut foliage of a dark green, flowers, in huge plummy spikes, creamy white and very fragrant. A few sprays used with rather stiff flowers (or used by itself) is very pleasing. The one trouble is, its desire to rush forth in early spring, so it is well to scatter a few leaves or some straw over the roots in late fall. Cut down the stalks after severe frost kills it back. Increase by division of roots.

STATE PARK POSSIBILITIES OF NORTHEASTERN SOUTH DAKOTA

L. M. Meland, Sisseton, South Dakota

As we know the neighboring states all have made some progress in maintaining the early, natural and historic points of interest. This is undoubtedly a great achievement. I am sure that there is no question in any of your minds that it is time that South Dakota should also take a similar step.

In South Dakota we have a great many places which should be preserved by some state regulation before it is too late. I happen to live at Sisseton and am therefore fairly well acquainted with the historic places as well as the places of natural beauty in Northeastern South Dakota. In a few words I will try to show you the possibilities as well as the necessities for developing some system of parks in this section of our state.

The locality in which we are interested is situated in eastern Marshall and Day counties. Here we have what is known as the Les Chateau range of hills. On these hills we have a large number of beautiful lakes which are surrounded by considerable timber. We also have in this same locality Old Fort Sisseton, which is very important as a point of historic interest. The fort stands on a hill surrounded by lakes and rolling land that can be viewed for twenty miles from the top of the stone walls. Then looking at the fort and one becomes melancholy. The stone walls are falling down and the heavy oak roofs and floors are rotting and crumbling. There are also a large number of Indian Mounds that were built by the early tribes of Indians that lived in this section of our state. The area covers a strip about fifteen miles wide and thirty-five miles long and in it there are at least twenty beautiful lakes. These lakes form the recreation center for many people during the summer as there are no lakes to the west between here and Aberdeen, none to the north until you get well up into North Dakota. To the east we have Lake Traverse and Big Stone but they are on the state line. To the south near Watertown is located Lake Kampeska.

The territory is now accessible to tourists as we have the state highway known as the Les Chateaux Trail entering the northern end of the area and joining several of the most beautiful lakes and the Yellowstone Trail running along the southern border. These two highways are connected by the Meridian Highway and by roads which are improved and are being graveled, thereby making all points readily accessible. Since the development of these highways this section has rapidly been gaining in popularity with tourists and sportsmen. It is visited every year by tourists and hunters from eastern cities.

This country was settled by white men soon after Fort Sisseton was built. Before this time the Indian maintained control of the land and many interesting reports are still told regarding the early life in this section of the country. At one time there were about five hundred soldiers stationed here in order to hold the Indian in check. The Indians recognized the beauty and value of this area, therefore they fought hard to keep it out of the hands of the white men.

Ranching predominated in this section for some time but as time went on it gave place to livestock and grain farming. There still however is a large proportion of this land in native prairie grass.

The early settlers' accounts of the beauty of these lakes with beautiful trees are verified by the evidence of the many large stumps of trees. Prairie fires destroyed many of these trees and the remainder of them were cut down by the early settlers. The trees at present are of second growth and are of such size that they are again threatened by the ax and saw.

At present we have the passing of some of the nicest locations into the hands of private interests such as exclusive country clubs, hunting clubs, fur farms, and privately owned resorts, which are operated for the exclusive profit of the owner. The possibilities for further exploitation in this direction are very probable and they are not the conditions which are desired. The land in this area can yet be obtained at a low price and it is for this reason that private concerns are rapidly trying to pick it up.

To the people who live in this section of our state the possibilities and necessities of park do not need to be emphasized. They know the necessity of some government control to maintain, as well as preserve, these points of historic and scenic beauty against obliteration by private interests that are now partially, and will soon be occupying all of these locations. Unless some action is taken the public will in the matter of a few years be excluded from many of the most desirable places and the remainder will be operated for profit.

The land in this area consists largely of Indian land and about one-fourth of it is located on the Military reservation; the remainder is owned by individuals. There still are places in this area which are suitable for State Parks and which have as yet not passed into the hands of private concerns. These places however must be reserved very soon or it will be too late.

While we are interested in the development of this locality and can not prevent private interests from monopolizing what nature provided for the public to enjoy, we are not interested in this kind of development.

The state game reserve in the western part of the area in question, established several years ago, has proved to be a fine breeding place for wild animals. The remainder of the area also furnishes a natural home for wild life of our state.

In this area there are various locations which could be selected for State Parks or a chain of parks where the public of the present generation and future generations could be insured accessibility to these lakes. Something must be done soon if these lakes are to be maintained.

A friend in Devils Lake asked about planting onions in the fall. We find it a risky proposition. If one could plant late enough so the ground would freeze immediately and the seed not germinate until spring it would be all right.—North Dakota Horticultural New Letter.

Letters have arrived asking whether potatoes which had the blossoms hailed off would produce any tubers. Blossoms are not necessary for tuber formation but plenty of good healthy leaves are.—N. D. Horticultural News Letter.

The Rhode Island Experiment Station has found that adding manganese to fertilizers where a heavy application of lime is given is a very paying proposition. On the other hand our own North Dakota soils man has had serious damage in many cases where it is applied.—N. D. Horticultural News Letter.

EXTRACTS FROM THE DIARY OF A TRAVELING MAN

By W. A. Simmons

August 4th: Maudlow, Montana, is a pretty little town on the main line and the electrified portion of the C. M. St. P. P. Railway in Gallatin county and about thirty miles north of Bozeman. It occupies a pretty little narrow valley up among the mountains, and a car with a stout hearted motor and good brakes is required to get one there and back. I always look forward with pleasure to my annual visit there, for it is the home of Mr. J. J. Scheytt, a great flower lover and a very successful raiser of both house and outside blooming plants. His store faces the north, and he always has his large store windows filled with great healthy house plants including such varieties as geraniums, begonias, amaryllis, petunias, fuchsias, oxalis and Christmas cactus, many of which we have always supposed a sunny window was required for.

He has a theory that most house plants require light rather than sunshine. Also that if one starts plants in the sunshine they will always require sunshine, but if one starts them in a north window where they get but little sunshine except at the ends of day in summer and practically none at all in winter, they will do well even in this supposedly unfavorable environment. Mr. Scheytt's success seems to bear out his theories and there is no question about his success as I have never been there when his plants were not ablaze with blossoms. In porch boxes outside his windows he makes very effective use of "Gill Run over the Ground" or Creeping Charley, which overhangs the boxes and adds much to the beauty of the main blooming plants in the boxes.

Altogether Mr. Scheytt has created a little beauty spot up there among the mountains where one would least expect to find one.

August 11: Anent the tribulations of lily pool owners, Mrs. E. W. Gould of Minneapolis, the Minnesota flower authority, writes me: "A friend has just built a rock garden with a fountain and two pools with gold fish in them. Early in the morning after she had put her water plants in the pools she was awakened by a tremendous quacking and, upon looking from her window, she beheld twenty-two ducks belonging to a neighbor, having a wonderful time in the pools. Friend husband had to run out in his pajamas and drive them home, leaving a scene of desolation and ruin."



The Fairest Flower in the Garden

Miss Geraldine Goecke, in a pretty corner of the garden of her aunt, Flora V. Nilsson, 220 W. 23rd St., Sioux Falls.

August 18: The Florists Review gives the results of the latest discoveries in forcing the Regal lily. They advise potting them right after they have finished blossoming in the open, and without waiting for the tops to die down. Leave the pots outdoors until late fall, by which time much root growth will have been made, and they will be much better than dormant bulbs for forcing. When they are brought in to heat they will start growth very quickly and bloom much earlier than the so called Easter lilies. For outdoor planting they advise a depth of eight inches with a heavy mulch to prevent premature growth in the spring, at which time they are very frost tender. They should be held back until all danger of late frosts is over.

Mr. E. L. Crabb of Shoshone, Wyoming writes: "The Oka cherry is the first to ripen, and I must say it is a good taster and fine to eat out of the hand. Grapes are doing fine, the Beta, Dakota, Alpha and Janesville having a race with one another. These are doing all right here, but I am going to try out some better varieties and see what they will do.

Our friend the Loring prize plum has a pretty good crop and in the middle of it one branch is loaded with Underwood and another with Waneta. Note that your suggestion did not fall on waste places. The Hansen pears, seedlings that he sent me last year, put on a good growth but some slight signs of blight showed up. However it seems to be disappearing. This is my first experience with this disease. Hope it will never show up again. Most of my pear grafts, on apple, sent me by Robertson, are doing well."

The Loring plum seems to do better in some parts of Wyoming than in most any other place, but it is poor in quality there, as elsewhere, and if any prize were to be awarded it, it should have been the booby prize.

September 4: While gingerly eating such small portions of an apple, evidently a windfall, as a coddling moth larva had overlooked, I at last came on to the culprit in his lair near the core and brought him out to the light of day and placed him on the steel window ledge of the car. At once he anchored one end of himself to the ledge and then rearing himself up to his full height of about a half inch, began a rotary motion, evidently attempting to dig himself in. After ten minutes of strenuous effort he would look down evidently surprised at the lack of results, and after a short rest, another period of hard work would ensue. After some two hours of alternate working and resting he gave it up and left the car for an easier formation.

Scientists refuse to make sweeping assertions not yet proven, so I think we must make our recommendations on this one make of car alone at present, but I feel safe in assuring Ford owners that their car is strongly resistant to coddling moth larvae and to assure them that, for the present at least, it will not be necessary for them to spray their tin Lizzies.

Now is the time to prepare for any early opening of the flower season next spring. Every spring when our tulips are in bloom, visitors come and admire them and want to buy some. Of course we never have any to sell as we have only a few hundred, but were our stock numbered by the thousands instead of the hundreds, we would still not be able to bring ourselves to a frame of mind where we considered it possible to part with a single one. These people forget all about them in the fall when the bulbs

THE MEDITERRANEAN FRUIT FLY

(Editorial Note.—The following is part of an address delivered by Mr. H. Harold Hume, August 13, 1929, at 'Farmers' and Fruit Growers' Week,' University of Florida, taken from The Monthly Bulletin of the State Plant Board of Florida.)

I am rather afraid that our presiding officer has given me a large order and I can only ask you to be lenient if I do not measure up to what he has said. I would much rather have come to you upon a happier occasion and spoken to you upon some other and more pleasing subject.

As I look at it today, the situation in Florida is but a part of man's warfare against the living things of earth that has been going on down through the ages. Man came upon earth at whatever time and in whatever way he may have come—with certain distinct handicaps. He was the prey of every carnivorous animal that roamed the woods and the wilds, if perchance, it were larger and stronger than he, as many of them were. If he tried to climb trees to escape, they could climb better than he; if he tried to escape by running, they could run faster than he could; if he chose to seek refuge in the water, there again he was handicapped, and he had no means of taking to the air. The warfare between man and the wild life around him has been going on from the day of his first arrival down to this. And in this warfare man has won his way. The cave man, even when he disputed the possession of his cave with a cave bear, was able at least to hold his own; and so down through the centuries man, gaining strength and advantage through his inventions and his manufacturing ability, has been able to maintain his place against animal life.

But you will agree with me that as the larger animals were conquered and man came to deal with the smaller ones he was placed at a distinct disadvantage, and he still is. The smaller the foe, the greater his difficulty in overcoming it. He found that, as years went on, when the smaller animals such as rodents—rats and mice—attacked his fields or stored crops, he had a graver problem confronting him than when, perchance, he met the lion or the tiger in the woodlands; and what has been true of rats and mice has been true to a greater degree of those smaller animals in the form of insect life that have fed upon him, upon his food supplies, upon his wearing apparel, and have handicapped him in every line of progress along which he tried to develop. Man has had to combat the flea, an insignificant creature, and yet the flea has wiped whole sections out of existence. He has had to contend with the common body louse, and it, too, has been instrumental in wiping out the population of towns and districts. Bubonic plague, typhus, malaria, yellow fever and all of those other insect-borne diseases are the things he has had to combat, and he has only been able to stamp out those diseases as he has been able to conquer the insects that carried them. His food supplies have been attacked, whether growing in the field or stored in the warehouse or on his pantry shelf. His clothing, too, has suffered, whether growing in the field as cotton or flax, or hanging for the summer in the closet as a manufactured garment. His dwellings, too, preyed upon by ants and other insects, have fallen to pieces about him. His cattle, horses and other domestic animals have been subject to insect attacks, and man has had a constant fight on his hands, growing in difficulty as the years have gone by, because he has increased the food supply of insects in one way or another; and the fight is not yet finished.

Dr. L. O. Howard, of Washington, formerly head of the Bureau of Entomology, once said that man's last great fight would be against insect life, and sometimes there is a doubt in my mind whether man is finally going to win out or whether the insects are going to gain the upper hand of man himself. Man has matched his wits against the ability of insects to travel about, to belt the world, and to multiply at an astounding rate, and among these pests that prey upon our fruit crops and our vegetables perhaps none is more widely known or more dreaded than the Mediterranean fruit fly. It has been known for a little more than one hundred years. At one time it gained attention in a rather remarkable way in the fruit stands of the London market where it had come on tropical fruits. There is still some uncertainty and some discussion as to where it came from. It is so widely distributed that many are confused as to its native home. All that we know today in regard to its nativity is a guess on which scientists themselves are in dispute. Compere thought it came out of Brazil or the Argentine, others believe that it came from South Africa; but the consensus of opinion is that it probably came from West Africa. Since 1824, when it first became known and was described, it has practically belted the globe and established itself in those sections where climatic and other conditions were suited to its development: South Africa, Egypt, Morocco, Australia, Hawaii, the Azores, Bermuda, Spain, Southern France, Italy, Greece, Brazil and the Argentine; and at last it has found its way to us. How it came we do not know, nor are we certain of the time of its coming. It has probably been here two or three years.

* * *

What, then, is this insect? How does it work? What does it do? How shall we know it? First of all let us have very definitely in mind that it is a fruit insect, first, last and always. That is fortunate, for if it attacked the leaves of plants, if it infested their stems, or bored into their roots, it would be much more difficult to handle. But it is a fruit insect and nothing more. To this let me add another thought: that the word "fruit" is used now in its true and correct sense, and under this definition a bean, a tomato or a watermelon is a fruit, just as much as a plum, or a peach or an orange is a fruit. So, in line with this, the Mediterranean fruit fly attack fruits and nothing else. Many different fruits are infested by it; not all fruits, but the major ones in which we are interested commercially are all subject to infestation. We need not look for it in the potato or the cabbage, nor in celery or lettuce. It does not attack such plants.

The female fruit fly attack fruit by puncturing the skin and laying its eggs in the hole made with its ovipositor. These may number from a very few, two or three, up to twenty or even thirty. It sometimes happens that another fly may come along and lay more eggs in the same opening and it has been found that there may be a very large number, upwards of one hundred, in a single puncture. The punctures are dotted here and there over the fruit so that it may be very much spotted if infestation is heavy. The eggs are white and very small. From them hatch small maggots or larvae. If you don't like the term "maggots" call them "larvae." These (very small at first, practically no larger than the eggs from which they come) eat their way through the pulp and grow as they feed, until finally,

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FROM "TRAVEL OBSERVATIONS"

Charles McCaffree, Librarian

It was a real privilege to visit in August the home of George H. Whiting, former nurseryman and former president of the Horticultural Society of South Dakota, at Bayfield, Wis. This is the north part of Wisconsin, where the land juts out into Lake Superior. Mr. Whiting went out there quite a number of years ago and bought eleven hundred acres of cut-over land. Cut-over does not mean that it is bare because there is a fine growth of younger timber covering all the land. He bought it partly as a speculation and has recently sold fifteen acres of an old stone quarry which will make a wonderful location for a home and orchard. The quarry leaves a considerable lake which may be made as attractive as any residence grounds in the country. Mr. Whiting now has between thirty and forty acres of bearing apple trees, mostly Mackintosh red. He expects to plant more of the land into apples and also small fruits. The site itself for the home and the orchard is as beautiful as one could hope to see. It is rather high up on the bank just above Chequamegon Bay with a gravel road running between the property and the water. A group of islands may be seen out in Superior at a little distance and the property lies on the Bayfield peninsula. That is on the one side and the Ashland, Wisconsin, shore of the other. It gives a splendid vision way out on Lake Superior where the heavy boats may be seen making their way. Mr. and Mrs. Whiting both seem very comfortable and enjoying life. And they were glad to see a South Dakota friend.

Vallenthime Nursery at Custer

It was interesting to call on Mr. Vallenthime, who has been in the nursery game in Custer since 1892. There were some new plants there which this writer had not seen. He has, for instance, a flowering willow which blooms all summer. I noticed particularly that his peonies and iris are doing splendidly. He grows peonies at an altitude of around 7,000 feet up not far from Harney Peak, where he has some mining claims. His tulips, larkspur, columbine, aconite, and gaillardia are all growing at the altitude of 7,000 feet or over. Noted that on June 18 he still has some apple blossoms. The season there is fully a month later than on the lower altitudes in the east part of the state. But with some of the hardy plants like peonies and iris he may even profit by the colder temperature and delayed season. You'll remember that a leading peony authority claims that the best place in the country to grow peonies would be on the north shore of Lake Superior where they would get the cooling breezes from the lake all through the season. Mr. Vallenthime has done a notable work in furnishing seed for the U. S. government for planting the various species of evergreen. He has exported an enormous amount of the seeds.

The Miss South Dakota Peach

Arthur Ellerman, of Yankton, is pretty well known as the outstanding private rosarian of the state. He is growing about 325 varieties and has kept notes of his experience so he can suggest many methods to meet South Dakota conditions. He has some success in getting disease resistant plants. A visit to the gardens in August brought a real surprise which previous calls at the rose plots had not suggested. The Miss South Dakota was bearing and had about a bushel and a half of peaches hanging on a tree now 12 or 14 feet high and with a spread of about 18 feet. There are

several other bearing peach trees in South Dakota. Gurneys have been growing them for years. W. H. Lyon, of Sioux Falls, has produced several crops from a tree which he grew from a pit. A man who lives on the east edge of Scotland has several bearing trees grown from pits. But all of these, while satisfactory in quality have been rather small. The Miss South Dakota is a larger peach than can usually be bought on the market, averaging better than three inches in diameter. An exhibit was brought to the State Fair and George Gurney gave this reporter one, for strictly scientific purposes. The hotel had cream and this is expert testimony that no peach quite equal in flavor has ever graced our menu. We will likely have to be careful in growing this, but it is worth care. A well sheltered location or where the roots may contact a wall of a furnace warmed cellar should permit others to succeed as well, even though Mrs. Ellerman as well as her husband is highly skilled in growing fine flowers and shrubs.

Native Roses on Kampeska

George B. Elliott, editor of the Public Opinion at Watertown, has one of the interesting gardens of the state at his home on Lake Kampeska. It includes most of the hardy fruits but George is strong with the roses. On occasion of a July call there the outstanding bush was one of Dr. Hansen's new ones, the Yanka. It was planted in 1927 and has grown into a good large bush. There had been many blooms but the day I was there about 20 were out showing a rather odd shade of pink, pretty well doubled, 40 or more petals each, and the flowers in a cluster.

New Rose Information

A July visit found Dr. Hansen reading the proof on his new rose bulletin which should be distributed this fall. The pages scanned were mighty interesting, new material, new rose thought, along new lines, with Dr. Hansen's stamp of invention. His paper on Plant Heredity read at the International Congress last year will be published soon so that we laymen may learn the difference between homozygous and heterozygous and participate in thought with the most famous plant scientists of the world. At this time also Dr. Hansen was examining the Chinook apples which he placed in storage 16 months before. The apples had been kept in a common cellar and were sound. That will be the apple for use where the trees bear only in alternate years, and we can have fresh apples during the non-bearing year.

Our Largest Vineyard

Without question the largest vineyard in South Dakota is adjoining the graveled highway just in the north outskirts of Tripp. Last year the proprietors sold 20,000 pounds or ten tons of grapes right at the vineyard. That is stated as a fact by the owners, though it is difficult to see what those Germans of Hutchinson county will find to do with such quantities. The vineyard was started by a German immigrant a dozen years ago in a partnership venture with a Tripp doctor who owned the land. The man had cared for a vineyard in the old country and had faith in South Dakota. The crop is sold at 8c per pound, so the yield of last season brought \$1,600 and is grown on just a few acres. The practice of California or old country vineyards is followed except that grass is grown between the rows. The vines are about six feet apart in the row and rows are 8 to 10 feet apart. The vines are supported on wires in the usual vineyard custom and

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PLANT NAMES

Mrs. M. W. Sheafe, Watertown, S. D.

In mingling with people at gatherings of various kinds, among them flower shows, and listening to discussions and conversations about flowers and shrubs, I have been greatly impressed with the great lack of knowledge of plant names. A question so often asked is, "How can one remember so many hard names?"

If you had seventeen beautiful human flowers, each would have a name, indelibly fixed in your mind, and the mistake of calling Johnny, Tommy or Mary, Betty would never be made. So it is with plant names, they are learned in the same way, and become a part of ourselves. In olden days, when books of reference were less numerous than at the present time, and through indifference perhaps, we find the same plant had several common names, as for example the well known Virginia Creeper. We hear it called Woodbine, American Ivy, American Woodbine, Wild Woodvine and Five Fingered Ivy. Botanical names of this plant were equally numerous and led to great confusion.

Today we find, in all lines of endeavor, the effort being made to correct mistakes, and simplify, even to using phonetic spelling. Plant names have come under this observation, and through the efforts of three men of prominence in the flower world, we have "Standardized Plant Names" as our guide in the adoption of botanical and common plant names, and in their spelling. All the better class of flower catalogues follow this standardized list, so one may easily gain information if it is desired.

To know the names of our garden treasures, adds greatly to our pleasure. When we hear some one talking about a beautiful Scabiosa (an unpleasant name for so dainty a flower) it would be impossible to visualize, or enjoy the conversation, if not familiar with the name.

When we are making our list of plants or seeds for the next season, let us try to become more familiar with the names. The common names will do, but, as we learn more about the beauties of our gardens, the more we are interested to know all about them, how the names were obtained, the stories, and language of the flowers, and all so beautiful. Am glad to note, that many of the primary grades in school are now being taught these stories of the flowers. It is so worthwhile and very fascinating.

PREPARING COLONIES OF BEES FOR THE WINTER

The essential requisites of a colony of bees for successful wintering are:

1. Numerous young bees headed by a prolific queen.
2. Sufficient stores of good quality to sustain the colony, not only over winter, but well on into the spring.
3. Adequate protection from the cold.

To secure the above requisites, thought must be given to winter preparations of the colonies in the summer time.

REQUEENING: Six weeks prior to the end of the honey flow replace all old or failing queens with young prolific queens. Requeening this early has its advantages in that queens are more readily accepted during a flow than after the flow has ceased. Brood rearing is checked at a time when the swarming fever is at its height and the bees produced, after the period mentioned, do not mature in time to be a factor in increasing the season's honey production.

UNITING: Every fall certain colonies in the apiary have a tendency to become weak. It does not pay to winter over weak colonies. Therefore, all weak and queenless colonies should be united with medium sized colonies as soon as the flow ceases. These medium colonies will then build up into good strong colonies by fall. Uniting in this manner frequently prevents their being robbed, thus reducing to a minimum the danger of general infection of the apiary with American foul brood; should this disease have, unsuspectedly, gained admittance to the apiary during the summer.

FEEDING: The amount of food consumed by a colony in the winter varies considerably. Nevertheless all colonies in the apiary should be fed sufficient wholesome stores to bring their gross weight to 85 pounds. Feeding should be done early in the fall, preferably the last week in September or first week in October. If left until a later date, weather conditions frequently prevent the bees from storing the food, especially in the case when sugar syrup is used as a feed.

Honeys from different sources vary in their digestibility. It is, therefore, essential that some thought be given to the choice of winter feed. At the Dominion Experimental Station at Morden Manitoba, an experiment is at present being conducted as to the most suitable food for wintering. The following are being used:

1. Early honey from dandelion and fruit bloom.
2. Best quality procurable of sweet clover honey.
3. Best quality procurable of sweet clover honey and sugar syrup.
4. Granulated sugar, fed as a syrup (2 parts of sugar to 1 of water).

From observations made, it would appear that the combination of clover honey and sugar syrup is the most suitable for Manitoba conditions.

—Erdman Braun, Experimental Station, Morden, Man.

BLANCHING CELERY

Coast conditions in the majority of cases do not offer the requisite conditions for growing celery, nevertheless in well fertilized, heavy loams well supplied with moisture some good crops can be grown. The most successful varieties grown under the Agassiz Experimental Farm conditions have been Easy Blanching, Golden Self-Blanching and White Plume. These varieties do not yield as heavily as some of the late winter varieties but are of better quality, producing fewer pithy stock and due to their lighter colored stems, do not offer the difficulty in blanching of some of the later greener varieties.

Several different methods of blanching have been tried, chief of these is the use of boards and earth, the use of boards has been the most satisfactory. Two pieces of one by twelve from ten to fifteen feet long, laid on the flat with the inner edges close to the row are raised by their outer edges to form an inverted V over the row. The top edges can conveniently be held together with small wooden cleats. Blanching is completed in ten to fourteen days. When the boards are left for a longer period there is a tendency for plants to rot from the tops downward. Blanching with earth while frequently satisfactory has a tendency to induce rusting of the plants. It has as its chief advantage, an increased yield, as after hilling there is considerable growth which is not the case when boards are used.

—J. J. Woods, Dominion Experimental Farm, Agassiz, B. C.

REPORT ON CHERRY SETTING

Setting Dependent Upon Other Conditions as Well as Pollination

R. H. Roberts, Wisconsin College of Agriculture

Cherry pollination studies were begun at Sturgeon Bay, Wisconsin, eight or nine years ago. They were continued there and in Madison for five years with the assistance of Dr. Dorothy Bradbury.

It was soon found that the two varieties, Montmorency and Early Richmond, were both fertile and inter-fertile. That is, they set cherries equally well when pollinated with their own pollen or with pollen of each other. As is commonly experienced, all pollination tests gave less set of fruit than the so-called checks or chance pollinated cherries. That is, the operation of bagging or caging always reduced the set of fruit.

When it was found that the cherries were clearly fertile, interest changed from a study of a question of set to the problem of drop fruits. To make a long story very short, it was found that sour cherry dropping in commercial orchards was not at all related to lack of pollination. It is not known if some pollen would be more effective in causing a fruit to set than some other pollen, but it is very certain that great numbers of pollinated fruits drop. For the past eight years in Wisconsin, the fruits which dropped early were found to be from 70 to 95 per cent pollinated, and all late drop fruits showed both pollination and fertilization. This situation prevails in the large orchards in Door County even where there appears to be practically no insect visitation during the blossoming period.

It may be noted in passing that it is a common practice to assume that the dropping of a blossom or young fruit is due to lack of pollination. While pollination is certainly necessary for a cherry fruit to set, it is not true that a pollinated and fertilized blossom will mature fruit. It follows then that other conditions in addition to pollination must be met before a fruit grows to maturity.

Some observations dealing with other conditions affecting fruit setting are:

1. Blossoms borne on spurs set better than "lateral" blossoms along terminal shoots.
2. Vigorous trees set better crops than weak ones largely because of the above.
3. Open-topped trees set better than dense ones.
4. Heavy drops often follow a heavy bloom.
5. A decided biennial bearing tendency is found apparently related to the matter of fruit setting.
6. In good crop years as many as 25 per cent of the fruits mature with shriveled kernels.
7. Dark, dull weather at blossom time adds or sometimes almost completely prevents setting. An unjustified conclusion is that pollination was interfered with. An examination of drop fruits in such seasons has shown that they were pollinated nearly as well as in seasons of "good pollination weather."

In connection with this matter of dull weather, two vigorous, productive young Montmorency trees were shaded during the blossoming period in 1929. An open shelter was used that permitted the entrance of insects and wind. A preliminary examination of some of the early drop blossoms on the shaded and unshaded trees shows an equally good pollination of both

lots. The percentage of blossoms maturing fruits was 0.92 for the shaded trees and 18.72 per cent for the adjacent unshaded trees. The crop averages were of a similar ratio: three quarters of one quart and 13.5 quarts per tree.

The setting of cherries is dependent upon other conditions as well as upon pollination. Do not blame lack of pollination until it is known that the drop fruits are unpollinated.

—Wisconsin Horticulture.

ROCK GARDEN PLANTS FOR THE BEGINNER

Having just completed making a small rock garden, we do not hesitate to say that there are easier things to do, but it is very interesting and instructive. One learns a great deal.

The plants we found especially good are as follows: Sedums; we place this first because no rock garden is complete without some of the sedums. The following species are all good: *Acre*, *Ewersii*, *Album*, *Sarmentosum*, *Stahli*, *Stonifer roseum*.

The *Dianthus* are perhaps next in order. *Deltodis*, *plumaris*, *caecius* and any of the other rock garden or alpine types are all very good.

We would not be without some of the *Campanulus*; *Carpatica*, *Barbata* and *Rotundifolia* and other rock garden types are excellent.

The *Edelweiss* is very much sought after and should be in every rock garden.

Among the newer plants which go to make up a well balanced rock garden are the *sempervivum* or house leeks. The cobweb types are the best, all the small types being the prettiest.

We must not forget *myosotis* (forget-me-nots) of which there are several species. The *alpestris* in blue, pink or white and *pulastris* are the best.

Nor would the rock garden be complete without *thymus* of which there are several very beautiful varieties. *Thymus* forms a thick carpet among the rocks. Also include some of the *iberis* or hardy candy tuft, and *incarvillea* or hardy gloxinia. *Alyssum saxatile*, *phlox subulata*, *Tunica* and *Veronica* should also be used.—Wisconsin Horticulture.

FROM "TRAVEL OBSERVATIONS"

(Continued from page 10)

kept pruned so as not to overlap. They are well cultivated in the row and all kept neat as any garden. Most of the planting is *Beta*, which has proven best as the main crop. However, the common varieties of tame grapes are grown somewhat, such as *Concord*, *Niagara*, *Worden* and *Moore's Early*. The *Hungarian* has grown about as large grapes as the *Concord*. At the early August visit it was expected the 1929 crop would at least equal that grown in 1928. Quite a planting of prunes and plums adds to the production of the garden. Notes of the owners' names and some other details were taken at the time of visit with Editor John Craig, of Tripp, who handled the German (probably his native tongue), but they have been mislaid. But that vineyard presages many more. This writer thinks our greatest advancement in any horticultural line during the next decade is likely to come with grapes. We must have them and they are on the way.

EXTRACTS FROM THE DIARY OF A TRAVELING MAN

(Continued from page 6)

can be obtained so cheaply, and so never have any of their own and only think of them when they are in their glory and seem to think their money can make up for their thoughtlessness. We like to add a few dozen, to us, new sorts, each fall, and there are few ways of spending money that will bring a greater return of satisfaction.

Our planting has been mainly of Darwin varieties and some of these have been in the ground for fifteen years and seem to do better with each passing year. So we can justly term the Darwin a lifetime tulip. There are also many beautiful tulips among the Cottage group, particularly the Picotee, which is white with a delicate edging of pink. Plant the tulips five or six inches deep, water them thoroughly and then mulch their bed heavily to delay as long as possible the freezing of the ground, thus giving them a longer time in which to form roots, and you will get worth while blossoms the first year and for many years thereafter.

Some make a practice of taking up their tulip bulbs each spring and replanting them each fall. This is not only unnecessary but I believe objectionable, because one does not get the best blooms the first year of planting. When they are already in the ground in the fall, they start their root system early and the bed does not have to be mulched to extend their time of forming roots, but when one replants them each fall, every year is a first year for them, and one never gets them at their best. They are a modest flower and do not occupy the ground unduly long in the spring and when their foliage disappears, one can put annuals in their bed and continue to have blooms most of the summer.

THE MEDITERRANEAN FRUIT FLY

(Continued from page 8)

having reached their full development as larvae, they are prepared to leave the fruit. Sometimes fruits, such as the grapefruit, drop to the ground soon after they are attacked, while others, such as the pear, still hang to the tree. The larvae are either carried to the surface of the ground as the fruit falls, or they may emerge and drop to the ground independently. Having reached the soil, they penetrate it to pupate. The pupae are small, oval shaped and brown in color. Within the puparium the insect undergoes a change and in a few days it emerges from the soil a full grown adult fly as we know it. The journey of development from egg to adult insect takes a certain number of days, the number varying with the season of the year, temperature and moisture. Usually it takes about three weeks, though the period may be stretched into more than a month. The fly itself is about half the size of a common house fly. It is very quick and alert in its movements. I shall never forget the first one I saw on a tree in Florida, moving its wings, constantly flitting from one spot to another, never still, and looking at me as much as to say, "Well, I am here. What are you going to do about it?" And I hope the day is not far distant when we shall tell the Mediterranean fruit fly what we have done about it and that it may be gone from our state forever. Its wings are marked with brown and yellow, and the back of the thorax (the part immediately back of the head) is marked with bright shining black and white. Its abdomen is yellow in color, belted by two white bands. Such is a brief description of it.

WHEN FRUIT JUICE IS NOT FRUIT JUICE

"Fresh Apple Cider!" "Fresh Orange Juice, 10c per glass!" These calls were heard in different part of the State Fair grounds during Fair week. We tried out some of these so called fruit drinks and found that they were not pure fruit juice and in one stand at least the drink was made from an artificial compound. This was in the case of apple cider. In the stand was a large cider mill and press with a few apples to give the impression that the cider was being pressed out right on the grounds. One of our fruit men tried to sell them some surplus apples he had at the fair and was told that they didn't use any apples. The few they had were just for show.

How long are we going to allow the money grabbers to sell artificial compounds and call them pure fruit juice. Of course the word "hydrated" appeared on the sign advertising the product but how many people know what "hydrated" means?

Fruit growers should get together and have a law passed prohibiting the use of the name of any fruit in connection with a drink or food product which does not contain a large proportion of pure fruit juice or fruit.—Wisconsin Horticulture.

The people in South Dakota are fortunate in having a law and regulations covering the sale of imitation drinks. At our State Fair very conspicuous signs were placed on each container from which imitation drinks were sold.

Our law regulating the sale of apple cider reads as follows: Apple Cider. It shall be unlawful for any person to manufacture, sell, offer or expose for sale as cider or apple cider any other product than the whole, unfermented juice of clean, sound, mature apples.

The rules regulating the sale of bulk drinks are as follows: (k) Drinks sold from bulk must be kept in jars of glass or earthenware and should be drawn from the container through a faucet or spigot near the bottom. These containers for drinks must be kept covered by tight fitting covers of wood, glass or metal. Wooden tubs and galvanized vessels are not suitable containers for drinks. If dippers are used for filling cups or glasses they must be kept in the jars when not in use.

(1) All imitation drinks must be plainly and conspicuously labeled to show that they are imitation and naming the ingredients. For example, drinks made of water, sugar, acid and a few lemon peels in imitation of lemonade must not be sold as lemonade. For such a drink the placard should read, "Imitation Lemonade, composed of water, sugar, lemons and citric acid." Tartaric acid should not be used in such drinks. If the drink is colored this fact must also be declared on the placard in the words, "Artificially colored." All such placards should be printed on white cardboard in black ink with letters not less than one inch high.

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