8-1929

South Dakota Horticulturist, 1(6)

South Dakota State Horticultural Society

SOUTH DAKOTA HORTICULTURIST

Volume 1 Number 6

AUGUST 1929

TABLE OF CONTENTS

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

BEES AND APPLE POLLINATION

Planting of trees in large acreages has greatly upset the balance of Nature which would normally have bad sufficient native pollinators. It is, therefore, the commercial orchardist who must look for additional pollinators as he has changed Nature's balance in the first place and, secondly, he is more interested economically in increasing the amount and regularity of his returns.

A Michigan grower who questioned the value of bees was persuaded to cover a McIntosh tree with an insect-proof cage. This tree produced 8 apples whereas the uncovered trees averaged better than 12 bushels, providing proof enough to the grower.

Eleven acres of Northern Spy at Belding, Michigan, had never yielded more than 1600 bushels during the previous eight years, and these came largely from the north side of the orchard close to which was located a small home orchard of mixed varieties. In 1925, 40 colonies of bees were moved in but there was no material increase in crop. In 1927, bouquets of Ben Davis and one or two other varieties were placed in tubs near the apiary and 40 tubs were scattered through the orchard, especially towards the south side. Additional bouquets were hung in many of the trees. They harvested that year 5200 bushels, according to the report. Pears, peaches, cherries, etc., are similarly depending on insect visitors and proper pollen.

Several experiments have indicated that one colony of bees to the acre of trees in bloom is needed to give the best results, but as yet no one has reported an attempt to correlate the strength of the colonies with the number needed.

—From Beecause.

GARDEN CLUB CONTEST

One of our enthusiastic Society members offers the following prizes to the person organizing the largest garden clubs:

First Prize—One King of England, Peony.

Second Prize—One Madame Emile Galle, Peony.

The contest ends September 1, 1929. The Peonies will be sent to the winners at the proper planting time. The person organizing the Garden Club with the largest membership will win the first prize. The one organizing the Garden Club with the second largest membership will win the second prize. These peonies are rare varieties and will be a prizable prize for the winner.

CONTEST FOR BEE CLUB MEMBERS

The Editor will give the following prizes to Bee Club members:

First Prize—One complete ten frame standard hive.

Second Prize—One two-pound package of bees.

The contest closes October 1, 1929. The first prize will be given to the member sending in the best essay on Bee Club work. Choose your own subject. The thought contained in the essay will be given more weight than the composition. The second prize will be given to the member securing the largest number of pounds of honey from one colony.

Will the losers get stung? Let us hope not.

BROOKINGS FLOWER SHOW WAS FEATURED BY A SPLENDID DISPLAY OF PEONIES

Flower lovers enjoyed a real treat at the first annual spring flower show given under the auspices of the Brookings Garden Club and held at the show rooms of the Ford garage. The Garden Club is to be congratulated on the fine show and the people of Brookings on their interest in it. Special credit is due the flower show committee for their efforts in providing for the ararngements and exhibits.

There was a good variety of exhibits, almost every kind of flower in bloom at this time of year being shown. Although near the end of the season, the peonies presented by far the greatest showing. Blooms for a show of this kind should be picked just when the bud is cracking and showing color and placed in cold storage where they may be kept for several days. They will open beautifully when placed in the show room. Too much emphasis cannot be placed upon this point. It is very important and a wide range of blooms can thus be secured for a peony show.

There were several outstanding features in this show. Most prominent among them were the shadow boxes, of which there were six. These shadow boxes are features in large shows and have always provided considerable comment. It was a real thrill to see them at this show. They showed careful thought in composition and arrangement and the winning box was an exceedingly beautiful creation.

When one considers how long it takes to grow a seedling peony, it becomes of special interest to see a whole vase of them at a show. These were most interesting, especially a pink one of bomb type in which the petals lay over like those of a chrysanthemum. There were some fine specimens of peony blooms and a good range of varieties, but there is still much room for larger and newer varieties and no doubt there will be much improvement in the peony class in the near future.

A coral lily, Chinese red, and looking as perfect as if made of wax, drew the attention of many visitors. The columbine was especially fine, the largest bloom measuring fully three inches across.

The brilliant red of the oriental poppy drew much attention. One of the collection brought from the Wahoo gardens measured nine inches across.

The Wahoo Lodge Gardens at Sioux Falls and the Dybvig Nurseries at Colton brought exceptional exhibits of peonies and their perennial flowers. These exhibits provided an opportunity for visitors to study the various kinds of perennial flowers and especially some of the finer named varieties of peonies. They added considerable to the show and both concerns are to be congratulated on their displays.

A. H. Hanson, landscape architect from Sioux Falls, judged the show and was much delighted with the exhibits. He said: "The Garden Club is doing a great deal toward beautifying your city in creating and stimulating such an interest in flowers and gardens. It speaks well for future community improvement and home beautification. I hope I may have the opportunity of being present at your fall flower show."

According to the secretary's books, there were 30 exhibitors with nearly 100 entries. The iris which was exhibited by W. H. Beals is worthy of special mention. Due to the lateness of the season, very few entries were made in this section.

EXTRACTS FROM THE DIARY OF A TRAVELING MAN

W. A. Simmons, Sioux Falls, S. D.

May 31: Leaving northern North Dakota in the dandelion stage of floral development I proceeded south and after going about fifty miles, noticed a plum tree in bloom. At Fargo the apple trees were blossoming and another hundred miles brought me to where the lilacs were putting on their annual flower show.

When I reached Sioux Falls the spireas and iris were in season while the fruit trees were laden with apples and plums as large as ordinary marbles. It was quite a disappointment to miss the apple blossom and lilac season at home, but I knew that on my return north I should again see these favorites in flower and should have more time to linger among them and enjoy them.

In view of the almost constant freezes while the fruit trees were in bloom, it was a very pleasant surprise to see such a good setting of fruit. The apples and plums had grown to the point where one could tell which fruits would come off in the June drop and which ones were likely to remain on the trees until maturity, and the trees gave one the impression that as many would remain on the trees as was good for them.

The regal lilies seemed to have suffered more than anything else from the late spring frosts. Evidently they are not subjected to such things in Thibet, their native home. It seems rather strange that this beautiful lily that can remain on top of the ground all winter without being harmed in the least should be so tender as to be killed by the late spring frosts. Probably we shall have to either build a frost proof cold frame over them or hold them back with a very heavy mulch if we are to bring them safely through a spring such as this has been. The auratums and speciosums withstood the frosts without apparent injury as did the more hardy tigers and Elegans.

During my absence the head of the house had a lily pool constructed, and this had been adopted as a bath tub by a nighbor's fox terrier pup. This pup does not content itself with a Saturday evening bath either, but must use the pool several times a day. The lilies and water hyacinths in the pool evidently interfered with his ablutions, as he would drag them out each time he bathed, and, annoyed at finding them always replaced, took to dragging them across the street to his home and hiding them. Under this system of having to replant them daily, the things that were supposed to grow in the pool were naturally not making a very satisfactory growth. When birds eat our fruit, the bird enthusiasts advise us to plant more fruit so that there will be some small remnant of the crop left for the owner to enjoy. Employing this reasoning, I presume the dog enthusiasts would advise us to make two pools so the dogs could have the free and unhindered use of one of them.

On returning north I stopped at Watertown and found that Mrs. D. F. Jones had solved the problem by installing a mutt-proof fence around her very pretty pool.

June 4: Had a very pleasant visit with the very lovely lady that conducts our garden flower department. Mrs. Sheafe was discovered hard at work in her very large garden and I can assure our readers that they can take her statements as gospel, for she is a real "dirt gardener" and no mere theorist. Among the things that interested me most in her garden was a large bed of lilies of the valley, some glorious golden balls of the trollius, and some lady slippers. With such a large garden to attend to it is surprising that she also contrives to find time to write such interesting articles for our magazines.

While I am on the subject of flowers, I want to advise our members that are without it, to plant some Fairy Iris this fall.

June 30: The last of the perfect days of June, and we cannot expect another supply for nearly a year, but if we are at peace with the world and there is joy in our hearts, we can make every day perfect.

Was in Glacier park again this week and found the wild flowers performing as usual in this great wild flower garden. The season being so short, each blossom must take its turn and be polite enough not to exceed its allotted time. Consequently the display changes rapidly, and if one varies slightly the time of his yearly visits, he is apt to be treated to the sight of blossoms he is entirely unfamiliar with. This year the pretty lemon colored Glacier lilies had had their turn and retired in favor of the wild hyacinths. The wild hyacinths are a rich dark blue in color, throwing up a flower stalk from one to three feet in height. They seem at home in either muck or rocky soil and have a bulb like a small onion, usually found about four inches beneath the surface. The delicate little blue forget-me-nots were also blooming and also the Iris. A botanist or a flower lover could stay there all summer watching and recording the flower procession and discover new blossoms daily.

Outside of the park the loco weed is in blossom now, and very pretty and sweet scented it is, giving no hint by its appearance of its sinister character. Also the wild roses are in their glory, the first choice of about 60 percent of those 100,000 who voted on a national flower. Considerable organized effort was made to make the Columbine carry the election and none at all, so far as I know, was made for the wild rose, but in spite of it the wild rose received a decisive majority of the votes. As one sees them in bloom and inhales their fragrance one can easily understand why.

July 5: The red prairie lilies are again in bloom in the few places left for them. Their good looks are their undoing, and people thoughtlessly pick them, pulling the stem off close to the ground, leaving no leaves to nourish the bulb. Many more have been destroyed by the breaking up and cropping of their native fields, and it begins to look as though we would have to bring this little lily into the protection afforded by our gardens if we are not to lose it altogether. It has the reputation of being hard to move but by personal experience and that of several friends, I know it can be done. It is practically impossible to move it at any other time than when it is in bloom for the reason that it cannot be found at any other time. But if one lifts it carefully at this time with quite a block of soil, it does not seem to know it has been moved; the bulb will mature normally getting the benefit of the plant food in the leaves and flower stalk as it would were it undisturbed.

Mr. H. N. Dybvig has a very fine bed of them, which have blossomed every year for several years. He removed these from a meadow that he knew was soon to be plowed up, and these lilies owe their life to his keen appreciation of beauty and seem properly grateful.

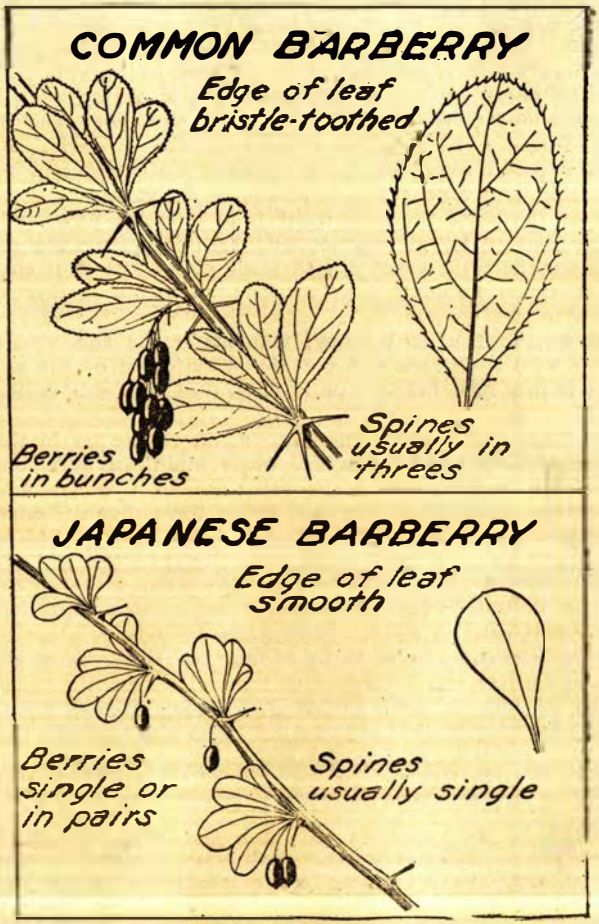
Mr. H. W. Ullsperger tells us in the May issue of the Minnesota Horticulturist that they found that lime-sulphur will produce larger cherries than Bordeau mixture. The Bordeau mixture lasted longer. One additional spraying with lime-sulphur would give the same control as the Bordeau mixture.

The sand cherry, or as some nurserymen call it, Rocky Mountain cherry has some of the same characteristics as our plums in that it requires cross pollination. You must have more than one plant and these must be of different varieties if you are to get fruit.—North Dakota News Letter.

BARBERRIES, GOOD AND BAD

(Continued from July issue)

Common barberry is a woody, erect growing shrub that ranges in height from three to twelve feet. Extremely old bushes may grow to a height of almost twenty feet. When found in cultivated plantings, it resembles spirea or bridal wreath, in general appearance. When growing wild in woodlands and pastures it resembles wild gooseberry, common buckbrush, prickly ash, and other bushes, but a close inspection reveals characteristics which easily distinguish the barberry from these and other bushes.



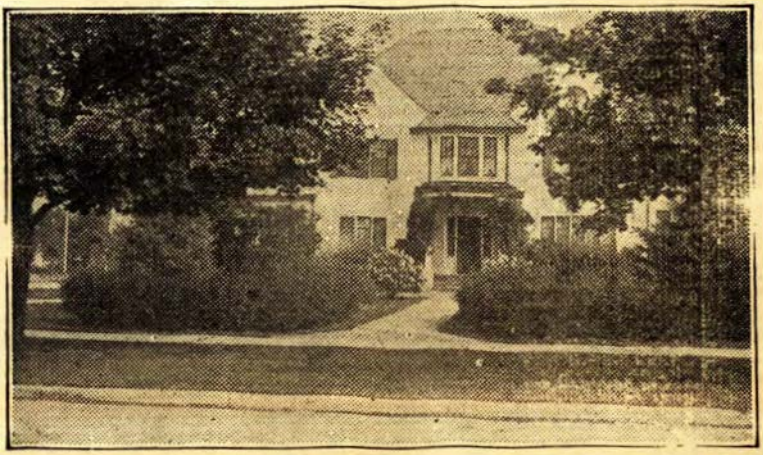
Distinguishing Characteristics

Foremost among its characteristics are the leaves which are produced in rosettes like apple leaves. The leaves may be either green or purple in color and have small spines on the edges, making the edges look like a fine-toothed saw. Just below each rosette of leaves is a set of spines or thorns, usually three or five appearing from the same base.

Early in the spring, small yellow blossoms are produced but they are

noticeable only a short time. In the fall many small, red berries, oval in shape and hanging in clusters like currants, may be noticed. The berries are numerous and sometimes hang on the bushes throughout the winter. The outer bark of this bush is gray in color while the inner bark and wood are bright yellow.

Furthermore, common barberry is not a weed growing in the grain fields. It is a woody bush and may be found on lawns, in and around orchards, in pastures and woodlots, along fence rows, near streams, and, in fact, wherever bushes grow. Before laws condemning the common barberry were passed, these bushes were usually set out in hedges and in ornamental plantings around farm and city homes. These plantings have been responsible for most of the escaped bushes which are now being found in out-of-the-way places. Birds carry the seeds to timberlands and other places and in this way barberry has been scattered over a wide territory.



A Beautiful Hedge of Japanese Barberry Bushes

The Japanese barberry, which is not harmful in any way, is a low, graceful, spreading shrub, seldom more than four or five feet tall. The outer bark is reddish in color and the thorns are smaller than those of the common barberry. They are usually single, but sometimes appear in two's and three's. The edges of the leaves have no teeth. The flowers are yellow and the berries are red, like those of the common form, but both the flowers and berries are in small bunches of two or three, like gooseberries and not like currants. A red-leaf Japanse barberry is now on the market and makes a very attractive ornamental shrub. Like other varieties of Japanese barberry it does not spread rust and is highly recommended for use as shrubbery.

Mahonia (Mahonia spp.) is a shrub with leaves somewhat resembling those of the common holly. The leaves are compound, that is, composed of several leaflets like those of a pea, rather large and stiff, often with spines along the edges. The berries are blue. There are four varieties of Mahonia that are known definitely to rust the same as the common barberry. Only a very few bushes of Mahonia Aquifolium, a rust spreading variety, have been found in South Dakota, but Mahonia repens, another harmful variety, is quite abundant in the Black Hills region of this state.

Many difficult problems confront those in charge of the barberry

eradication campaign. Even though the common barberry was brought to America by the earliest colonists, who never once realized that it was harmful, and has been growing in various places in this country since that time, very few people can identify it or distinguish it from other shrubs. The problem of teaching people to recognize the barberry when they see it is indeed very important.

Perhaps the hardest task of all is finding the barberry bushes in order that they may be killed. The federal and state departments of agriculture have field men searching for these outlawed bushes during the summer months, but the small force cannot cover much territory in one season. The barberry bush was used extensively for shrubbery purposes before the law demanding its eradication was put into effect in 1918. From these planted bushes seeds have been scattered to all kinds of out-of-the-way places. This is the reason it is such a hard task to find all these bushes. With the active cooperation of every man, woman and child in reporting the location of bushes the campaign may be brought to an end much sooner and with a saving of a great deal of grain in the meantime.

Many organizations have cooperated with the department of agriculture by supplying barberry information to their members and by urging them to look for barberries and report bushes whenever found. Agricultural organizations such as the Farm Bureau, the Grange, and the Farmers' Union, have given much assistance, as have Parent-Teacher associations, garden clubs, and nature study clubs. Crop improvement associations, farmers' elevator associations, and nursery associations have given splendid cooperation.

Thousands of harmful barberries still remain in South Dakota. Until the last one is found and destroyed, small grains are not safe from stem rust. The state and federal governments need the help of every one. Learn to know the common barberry. Look for it. And when you find one, report it immediately to The Barberry Office, State College, Brookings.

FULL SHEETS OF FOUNDATION AND WHY

W. G. LeMaistre, Central Experiment Farm, Ottawa, Ont.

Foundation is used for four reasons, namely, for the production of strong combs well attached to their frames, to save the bees energy and time in building the combs, to ensure a maximum number of worker cells, and to encourage the bees in building straight combs. Only by using full sheets of foundation can all these aims be attained.

There are a few beekeepers who still adhere to the old practice of supplying the bees with "starters", because it seems to cost less and is fairly satisfactory. The slight saving on initial cost is poor business, for by so doing, the two most important aims for giving foundation are defeated.

In the first place the bees are not saved the time and energy that they would be had full sheets of foundation been given. It is commonly understood that the production of wax and building of comb takes more energy from the bees than the production of honey; if full sheets of foundation be given, then the energy of the bees is being conserved. While the bees are building that part of the comb that comprises the foundation they are using time that might otherwise be used in storing of honey. Furthermore, it requires about ten or twelve pounds of honey to manufacture a pound of wax. At ten cents per pound for honey, the cost of making a pound of wax is one dollar. Foundation can be purchased for about seventy-two cents per pound.

(Continued on Page Fifteen)

DAHLIAS FOR WATERTOWN

A. J. Albrook, Watertown, S. D.

The first ancestors of our gorgeous modern dahlias were from seeds sent from Mexico to Spain in 1789. Dahlias in varied hues grow wild in Mexico, and there they bore the Aztec name of accocotli, meaning water pipe, for the stems are hollow.

The plants were later named dahlia in honor of Andreas Dahl, a great Swedish botanist living in Berlin. It was not until the English Lady Holland, wife of the English ambassador to Madrid, sent seeds home, that dahlias became known in England. They were considerably improved in those early years by selection and hybridizing.

Many people today, knowing only of some of the old round and stiff forms of dahlias raised by some of our grandmothers many years ago, have said that dahlias are an acquired taste, like olives. These folks do not know, and have never seen our modern dahlias, and these wonderful modern blooms have surely been bred up a long way from the Mexican wildings.

South Dakota, I think, is an unfavorable place in which to grow dahlias. They need a longer season than we have here, and they do much better, also, where the normal humidity of the air is greater.

Humidity tempers, for plants, the torrid heat of the sun during the very hot weather, and extreme hot weather without humidity is very hard on dahlias in this section. They do better near the oceans, and where the growing season is longer.

But a worthwhile degree of success with high bred dahlias may be had in most seasons here, if the gardner will study and learn the needs of the plant. If these, and other fine flowers, were as easy to grow as sunflowers and dandelions, we would not prize them so highly.

As you know there are several different climates in the different parts of Mexico, ranging from extremely hot to very temperate regions. The places where wild dahlias flourish in Mexico are on the sides of extinct volcanic mountains, and nearby, and their soil is of mineral origin, being disintegrated lava and rock. This soil is very rich in phosphates and potash, and also contains humus, supplied by decayed vegetation of many years. These elements, phosphates, potash, and humus, are necessary for the prosperity and well being of the dahlia, especially the fine, high bred dahlias, for these must have better care than scrubs if they are to do well.

Bone meal is a splendid source of phosphates, and for potash we use hard wood ashes, if you can get it. I haven't found any, and so use muriate of potash crystals. Humus is also important in the soil. For best results the soil should be good garden loam about sixty per cent sand and forty per cent clay, and we add either sand or clay to give about these proportions. For practical purposes we can simply say that the soil should not be too heavy, nor must it be light and sandy.

It is best to prepare the dahlia bed in the autumn. We have more time then, and the soil is in better shape by spring. It should be spaded again in the spring, however. Bone meal, potash, and leaf mold or other humus added to ordinary good garden loam, makes about an ideal soil for dahlias. The loveable veteran of gardeners, Dean Hole, once remarked that it is better to plant a ten-cent root in a hole that cost a dollar to make, then to plant a root costing a dollar in a hole that cost ten cents to make. It will cost something to properly prepare the hole for the dahlia, but it is there to stay and all you need to do afterwards is to add some bone meal, a little potash, and possibly a little humus each year. The dahlia hole should be 16 to 18 inches deep and two feet wide. But

it is better to prepare properly the entire plot where dahlias are to go, than to dig holes.

Dahlias are grown from tubers or roots, from cuttings, and from seed. From skillful cross pollination of seed we get our new and wonderful varieties—and that is a long story. I will speak only of raising dahlias from tubers.

The time of planting dahlias must be controlled by climate and season. It is best to plant dahlias late where you can. But with our short growing season they must be planted as early as possible, in order to have any blooming time before frost cuts them down in the fall.

I like to grow dahlias tall, using the staking system. (Nurserymen pinch out the tops, growing them more stocky and avoid staking.) The strong stakes should be set close to the dahlia tuber when it is planted, before you cover the tuber. If set later damage to roots is likely. Dahlias should be planted six inches deep, but covered only two inches until they come up, and the soil filled in gradually. Lay the tuber down flat, never on end, and allow only one sprout, seldom two, to grow. Select the best sprout, and pinch off the others, if others should start. The eye on the dahlia tuber is found only at the end where it was attached to the stalk the previous year. Eyes do not occur in different places on the tuber as they do on a potato. Always face the eye upward when planting.

Dahlias should be at least three feet apart.

As soon as the plant appears, cultivation should begin, and must be frequent, to keep the soil in good growing condition. Cultivate rather deeply at first, and later quite shallow, as many of the feeding roots come up near the surface, and must not be injured. Dahlias must be kept growing. If they get stunted they are done for.

When the plants are a few inches high, they should be sprayed or dusted once a week, as a preventive and control for leaf hopper, thrips, and other pests. You must spray under the leaves, as well as on top, and the growing ends of the branches.

Begin early to tie the plants loosely to the stakes, using soft raffia or strips of soft cloth. Tie firmly, but not tight, as the stem will grow and must not be choked. If you don't tie them up to the stakes, winds will break the plants.

Don't let too many branches grow, and some varieties need much more pruning than others. Flower buds come in groups of three. Pinch out the two side buds as soon as they are as large as peas, letting only the center bud grow. Two branches will start from each pair of leaves, and these branches should be cut off as soon as they start, from the flower bud back to the last pair of leaves on that stalk. That throws more strength into the flower, and enables you to pick it later with a fine long stem, suitable to the beauty and dignity of this magnificient flower.

Two or three days after frost ruins the plants in the fall, the dead stems must be cut off at the ground, and the tubers dug very carefully. Remember, the eyes are just where the tuber is attached to the stalk, and if the neck of a tuber is broken or strained it is ruined.

The clumps when dug should be turned upside down at once, and dried for a few hours in the sun—then put under shelter safe from frost, and after being dried out a day or two, store them in a cool basement or vegetable cellar, where there is no danger of freezing. For our long winters, where dahlias must be kept many months before planting time again, the tubers should be buried in dry sand, to keep them from drying up. In the spring, the clumps must be carefully divided, each tuber having a

(Continued on Page Fifteen)

CODLING MOTH

(Carpocapsa pomonella Linnaeus)

This insect is usually responsible for the fact that in neglected orchards the apples become "wormy". The pest is widely distributed over South Dakota and in an average year causes the orchardists a larger financial loss than does any other insect enemy. In some of our neglected orchards over 90 per cent of the apples may become wormy. Such fruit may drop prematurely or if it does not do this, it should still be graded with the culls.

Life history and habits: In the vicinity of Brookings all of the

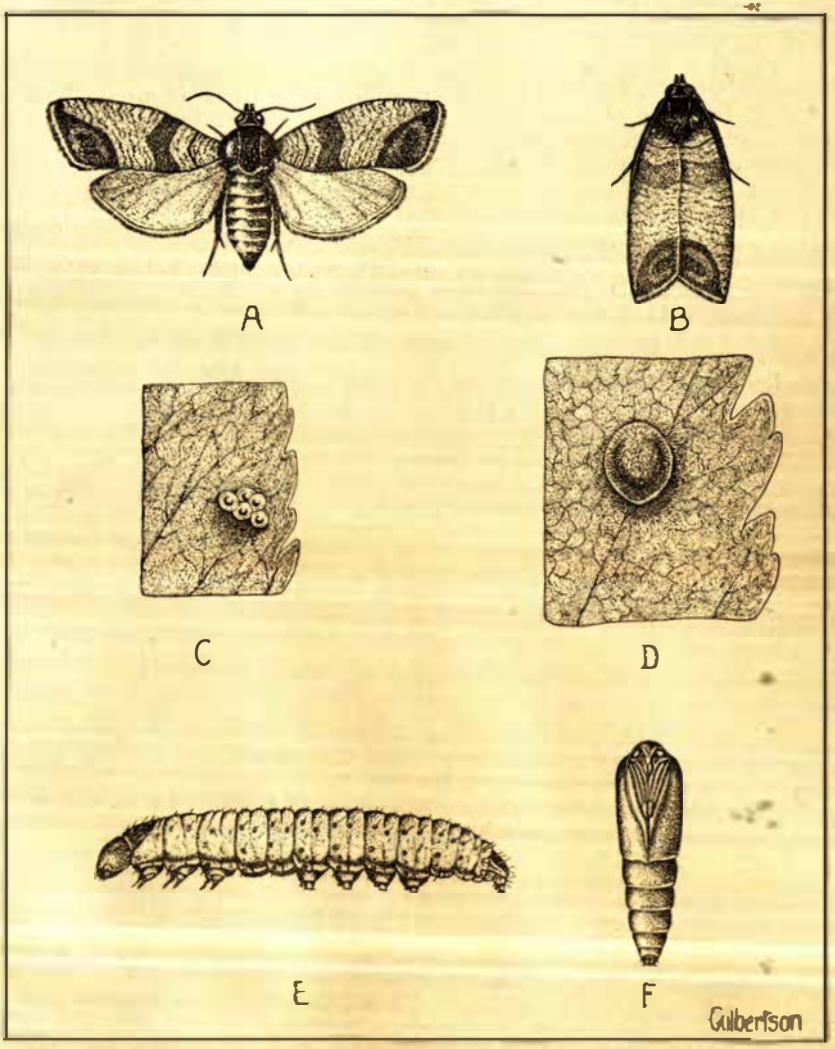


Fig. I.—Life cycle of codling moth; A, moth with wings spread; B, moth with wings folded over back; C, cluster of five eggs on leaf; D, egg highly magnified; E, Caterpillar; F, pupa. Original.

caterpillars that hibernated over winter do not pupate during the first days of warm spring weather, but transformations may take place from the latter part of April thru the first fifteen days of June. Usually, however, the majority of caterpillars have pupated by May 10.

The length of time that the insects remain in the pupal stage averages about 30 days, but those that pupated early in the spring require more time to become moths than do those that pupate later. The moths continue to emerge over a period of two months but most of them make their appearance shortly after the petals drop from the apple blossoms.

The moths measure about three-quarters of an inch across the expanded wings and three-eights of an inch from tip of the head to the tip of the wings when they are folded over the back (Fig. I, A, B). The insects in this stage of their existence are inconspicuous and dull colored. Each fore wing is marked with alternating, wavy lines of brown and grey except at the free end, where there is a large chocolate-colored spot that is ornamented with two metallic coppery bands.

The moths live for about two weeks and during this time they mate, feed, and lay their eggs. Each female is capable of laying between 200 to 300 eggs, but on an average this number is reduced probably below forty.

Under ordinary temperature conditions the eggs hatch into caterpillars in about 8 to 10 days, thus placing the maximum hatching period of the eggs 5 to 6 weeks after the blossoming period of apple trees or the third week in June on an average in the vicinity of Brookings. The young caterpillars that hatch from the eggs are slightly less than one sixteenth of an inch in length, with a head that is black in color and with a body that is transparent white except for black plates at the forward and back ends.

After a caterpillar has entered the calyx cup of the apple, it feeds in the cup for a short time and then burrows to the core where it eats out considerable tissue including some of the seeds. Other caterpillars making their way into the apple thru the side, chew out a cavity just beneath the skin before they begin their burrow towards the core. The openings thru the skin of the apple are plugged with frass and silken threads that are spun by the worms.

Each caterpillar, when full grown, measures about three-quarters of an inch in length. Its head is dark brown while the body is pinkish in color except for a brown plate covering the forward end and another covering the back end (Fig. I, E).

In the vicinity of Brookings the majority of this, the first brood of caterpillars, leave the fruit between July 14 and July 21 during ordinary years. These larvae will have finished spinning their silken cases by July 21 to July 28. However, only a part of this brood of caterpillars will pupate, the remainder passing the winter as caterpillars.

Those caterpillars that do pupate will give rise to another generation of moths within usually 10 to 14 days. Thus a second appearance of codling moths make their appearance every year. The majority of these moths may be expected to appear in the vicinity of Brookings from August 1 to August 25. These moths deposit thir eggs from which a second generation of "worms" are produced. It is notable that the moths of this generation lay more eggs than did those moths that appeared in the spring. Most of these eggs are deposited within five days after the moths emerged from the pupae and since the eggs will give rise to caterpillars in about seven days, the caterpillars of the second generation begin to make their appearance in large numbers about August 10 in the vicinity of Brookings. (Continued on Page Thirteen)

BERESFORD'S NEW GARDEN CLUB TO HAVE FLOWER SHOW

L. D. Martelle, Beresford, S. D.

The Beresford Garden Club, organized last spring with thirty-five charter members. The club meets on the third Monday of each month. The officers elected were: President, Mrs. H. C. Carpenter; Vice-President, L. D. Martelle; Secretary-Treasurer, Miss Lydia Claussen.

The Beresford Club has designated the Iris as the official city flower. Covering, as it does, such a wide range of color and having a long blooming period. It's period of bloom covers almost three months when the newer introductions and improvements are considered.

The Club, besides its regular program, sponsored two other major activities this first summer. They are: a general flower show in August and a contest to decide the best kept home grounds within the city. There are over forty entries in this contest. Prizes offered are: first, ten dollars; second, five dollars and third, two dollars and fifty cents in Peonies offered by a local perennial grower. The judging is being done by the Lincoln and Union County Agricultural Agents who make their visits at un-announced times. This contest is not for the most beautiful or best landscaped home but for the Best Kept grounds, neatness during the season being the sole basis of the judging.

The Club accepted the invitation of the Sioux City Garden Club on Monday, July 8th, and joined them in a very interesting tour of some of that city's most beautiful home grounds and on Monday, July 22nd, they will journey to Centerville and be the guests of that enterprising club in a visit to Centerville gardens. These tours are very interesting and educational and are doing much to stimulate interest in improving the yard and the city as a whole.

The Flower Show which will be an annual feature, will be held August 6th and 7th and from the interest already shown it will tax the spacious store building to care for the many exhibits and crowds of flower lovers who will inspect them.

Besides the premium ribbons for each class there will be many prizes donated by the local nursery and from other sources. There are prizes for every known flower in baskets, bouquets and single blooms. If any flower is emphasized it is the Gladiolus which will be at its best at that time.

The local ice plant has offered the use of one of their refrigerating rooms in which to care for the flowers which exhibitors wish to hold back until show time. This is just one instance of the fine co-operation the Club received from local business houses.

Every one interested in flowers, whether a member of the Garden Club or not, is invited to bring exhibits.

(Continued from Page Twelve)

SUMMARIZED DIRECTIONS FOR SPRAYING

First spray: After 90 per cent of the petals have dropped and before the calyx lobes fold over the calyx cups, spray with lead arsenate at the rate of 1¼ pounds of the powder or 2 pounds of the paste to 50 gallons of water. Spray thoroly, and with good pressure, direct the spray downward into the calyx cups and if possible strike each apple. The object of this spray is to get some of the poison in the calyx cup of each apple.

Second spray: About 2 to 3 weeks after the petals have fallen, spray with the same materials, but now use a cover spray. This spray should be applied to foliage and fruit alike and should cover these like a mist. To get the maximum benefits from this spray, the application should be

(Continued on Page Fifteen)

NORTH DAKOTA NEWS LETTER

The secretary of the American Iris Society informs us that Siberian Iris should be transplanted early in the fall, perhaps late August, rather than now as is the case with other varieties of Iris.

Among several spray materials being tested for red spider on raspberries this year Volek seems to be giving the best results.

Will cutting off Iris or tulip blooms harm the plants for another year? No, it certainly will not, provided too many leaves are not taken with the flowers.

We are asked about transplanting an old asparagus bed. While it can be done, we think that new young plants would be much better. They can easily be procured from seed companies or raised from seed.

A distress call was recently received from a correspondent who had planted about an acre of onion sets this spring, many of which are producing seed tops. As to whether onions will produce seed or bulbs will depend upon the size. The large onion set may go to seed while a small one will produce a bulb. Bottom onion sets are only stunted ordinary onions.

One of the new shrubs which is a very great improvement over older varieties is a variety of Mock Orange known as "Virginal". The blossoms are very large, double, and pure white. They are produced in great abundance. While it is possible it might be a little tender in exposed locations, if it gets some protection it seems to be fairly hardy and certainly makes a very wonderful show.

Mr. Chaffee, of Amenia, suggests knot-week as a grass crop for drouth conditons.

It is estimated that insects do $1,000,000,000 worth of damage each year to crops of the United States.

A visitor recently came into the office who was greatly interested in finding out what the true shamrock plant is. We looked it up in our greatest horticultural authority, Bailey's "Encyclopedia of Horticulture", and found that authorities disagree. Nearly one-half the world calls white clover, shamrock, while most of the other half is equally positive that wood sorrell is shamrock. There are also some other plants which have supporters. This is a case where one may take his choice and have plenty of authority back of him.

Mrs. Corey, of Minot, says she has a Larkspur plant 88 inches high with blossom spikes 42 inches long.

"Woolgathers", in the Florists Exchange, calls attention to the fact that Mr. Edison has unjustly claimed that the botanists are not awake to their task and that they have done nothing toward discovering new plant sources of rubber. It is evidently a case once more of a great man in his own field talking about something with which he is not acquainted. Mr. Edison's criticisms on botany carry just about as much weight as a botanist's opinions on electricity. The moral is: Stick to your own last.

The New York Experiment Station reports that on ground heavily infested with scab, no seed treatment is worthwhile for potatoes. The most likely treatment, they report, is organic mercury (Semesan), not because it controls diseases such as scab, but because it tends to preserve the seed pieces from which the young plants may draw nourishment for a longer time.

We are inclined to believe that one could top graft trees almost any time during summer by thoroughly covering not only the cut surfaces but the entire scion as well with either melted grafting wax or paraffin. At least we have made such grafts grow even where it was necessary to strip the leaves from the scions when they were inserted.

P. H. and J. H. Dorsett, of the U. S. D. A., in the National Horticultural Magazine, state that Chinese incense is made by grinding together ten parts of elmwood and fifteen parts of cedar.

The New York Experiment Station found that packet vegetable seeds sold in New York were over 11 percent entirely worthless for planting purposes; 39 percent were very weak; and less than 50 percent were equal or about reasonable germination standards. The poorest seed collected came from display racks containing packets which bore the name of no seed company. All of which indicates that if you are buying seeds from a source which gives you good germination you had best stay by it.

There is now a wheelbarrow on the market which has a caterpillar tread. It was first made and used in England and is recommended for use on soft ground. Isbell-Porter Company, Newark, N. J., are the American manufacturers.

Mr. Jensen, of Kensal, reports a large black walnut tree growing and bearing at Wimbledon. He also reports Basswood growing wild in Pierce County.

(Continued from Page Eight)

A second important argument in favor of supplying the bees with full sheets of foundation is that they will then build the entire comb of worker cells. A great many combs built from starters contain a considerable proportion of cells for the rearing of unproductive drones.

There is no doubt whatever that beekeepers are well advised to use full sheets of foundation.

(Continued from Page Ten)

little bit of the stalk stem on it, for that is where the eye will be found. Never plant entire clumps, as only one plant should grow to a hill.

The dahlia botanically is well named variabilis. They surely vary greatly. Some varieties would not be recognized when grown in different soils and localities than they are accustomed to. Some varieties must be grown two years in climates strange to them before they feel at home.

Fine varities that I have had success with are—Mina Burgie, Mariposa, Rosa Nell, George Walters, Papillion, Eastern Star, Jersey Beauty, Venus, Mrs. I. de Ver Warner, and others.

Many dahlia fans belong to the state and national dahlia societies, and dahlia shows are a great event among flower lovers in many places. Almost everywhere that civilized man has gone in the past 75 years he has taken his dahlias with him.

(Continued from Page Thirteen)

made as soon as the moths make their appearance. This can be determined by collecting some caterpillars early in the spring and placing them in a box or glass jar containing pieces of cloth or other materials. The container should then be placed in a crotch of a tree in the orchard. Ten days after the petals have dropped from the blossoms, the container should be examined daily for moths.

Third spray: If it is ncessary to spray for the second hatching of caterpillars, use the same spray materials in the same proportions as were used in the first and second sprays, band a few of the trees with burlap on or about July 15, examine the burlap every five days and as soon as empty pupal cases make their appearance, apply the poison in the form of a cover spray. —South Dakota State Entomologist.

The Black Hills have received an abundance of rain this year. The trees and shrubbery have made a good growth and the flowers were never more beautiful.

At present there are sixty-seven boys clubs in the United States having a membership of one thousand or over.—The Kablegram.

Three men west of the Missouri River are growing cherries. Two of these growers each have two varieties. We have three varieties of cherries in this part of the country. Some of the trees are ten to twenty years old and bear fruit quite regularly.

SOUTH DAKOTA STATE HORTICULTURAL SOCIETY

If you are interested in fruits, flowers or vegetables, you are cordially invited to become a member of the State Horticultural Society. Memberships are of two kinds, annual and life, the cost of which is one dollar per year for the annual, and $10.00 for the life membership.

Each annual member is entitled to select one of the plant premiums listed on this page, and the dollar paid for the year's membership includes fifty cents, for the year's subscription to the magazine.

New life members may select ten of the premiums and all life members whose membership is received after March 1st, 1929 will receive the magazine regularly for the period of their life.

PLANT PREMIUMS FOR 1929

Order by number and give first and second choice.

No. 25. Peony, Red, one root.
No. 26. Peony, Pink, one root.
No. 27. Peony, White, one root.
No. 29. Iris, three varieties.
No. 43. One back report.

Tear off coupon and mail with $1.00 to R. W. Vance, Sec., Pierre, So. Dak.

Please enter my name as a member of the South Dakota Horticultural Society for the year 1929 and place my name on the subscription list to receive your monthly magazine regularly. Of the $1.00 enclosed, 50 cents is for a year's subscription to the "South Dakota Horticulturist."

First choice plant premium No..... Second choice plant premium No.....

Signed .....

Street or R. F. D. No.....

City and State .....

Tear off coupon and mail to R. W. Vance, Pierre, So. Dak., with 25 cents.

I am a life member of the South Dakota Horticultural Society and want my name placed on your mailing list to receive your monthly magazine for one year.

Name .....

Street or R. F. D. No.....

City and State .....