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Science

4-1929

South Dakota Horticulturist, 1(2)

South Dakota State Horticulturist Society

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South Dakota State Horticulturist Society, "South Dakota Horticulturist, 1(2)" (1929). *South Dakota Horticulturist*. 6.
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SOUTH DAKOTA HORTICULTURIST

Volume 1

Number 2

APRIL
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. Application has been made to have the publication entered as second class matter at the Post Office of Pierre, South Dakota, under the Act of August 24, 1912.

SOUTH DAKOTA HORTICULTURIST

Published 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.
Librarian—Chas. McCaffree.....Sioux Falls, S. D.

THE SUGAR CRAB, FINE TO EAT OR CAN

John M. Downer, Freeman, S. D.

About 1920 I received a Sugar Crab tree as a premium from the South Dakota State Horticultural Society. In 1926 the tree bore a few apples, but in 1927 it bore a heavy crop, while in 1928 the crop was light. The fruit is good size, and plump in appearance. The skin is exceptionally smooth and slightly brownish in color. The fruit is sweet and everyone, grown folks as well as children, think they are delicious. The stems remain attached to the apple when they are gathered. They are fine when made into sauce or pickled. The apples cook tender but keep their shape after cooking.

This is an early apple in one sense of the word, but it keeps well. It is hardly necessary to say that the apple requires very little sugar to sweeten either the sauce or pickles. In summing this apple up, it would seem that it is a worthy apple for South Dakota. It is not often we get fine quality and hardiness combined in a fruit as we have in this apple. I believe anyone who plants this apple will be pleased with the fruit.

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LANDSCAPING FOR SOUTH DAKOTA

By Max Pfaender, Landscape Architect, Sioux Falls, S. D.

The landscaping of God's big out of door's is wonderful, no matter what the landscaping may be, forest, hillsides river scenery, bluffs, prairies, or bad lands. Some individuals love all these types, others only certain ones. When it comes to prepare the landscape for your own door yard, you will naturally adopt the kind of landscape that you prefer. But on a small 50 foot lot, it is hard to imitate nature, so all we can do is to make it look attractive, neat, and pleasing. To accomplish any sort



Artistic Park Scene

of effect at all you must know at least a little something about what will look good and what plants may be used, and where to plant them.

This is a subject that requires many volumes, but I will try to tell all I know in just this one short article. Also I don't claim that what I say today will be good for all time, as I do once in a while change my ideas as I grow older. In fact I have sometimes contradicted myself the same year, but this is due to the fact that in one case I was talking to one class of listeners, and in the other case, to an entirely different type of audience. So everything that I may say will have to be taken with a grain of salt.

First, let me make some remarks about home grounds in towns and cities. All we can do here is to plant the front yard so it looks good to those people who have some standing in the community, so they will pass your front yard and say to themselves, or to the one walking with them: "Now here is a nice yard, not over crowded, not too gaudy, and a nice big open lawn, and that shade tree towards the side and back is just in the right place, isn't it?" When they say that of your front yard, you can be proud of it. But when they say "Look at that cluttered lawn, all kinds of

scrubby shrubs (or scrubs) scattered hit and miss over the lawn, must be tough on his temper to mow the lawn in that jungle, and that big round bed of perennials in the middle, how unsightly the whole thing looks, I bet his brains are just as cluttered as his yard," then you better re-arrange it unless you are one of those rare individuals that has enough stamina to be oblivious to "What people will say," and then I take my hat off to you, as long as you are getting a kick out of that yard. Possibly your wife is to blame, and you really know better, then don't try to convince her that it ought to be changed, let some disinterested friend, with a surplus of diplomacy make the suggestion but very mildly at first. This system sometimes works wonders.

The back yard is the place to express your individuality and to arrange and plant it so that you and your family will get the most enjoyment out of it. Here you can have your flowers and your rock garden and your lily pool built just the way you want it, it is yours. Here you can screen yourself in from the street and from prying neighbors, by a tall hedge all around the back yard, or by shrub borders, or by a lattice fence with grapes or other vines. Or if you don't care for privacy, leave it all open, so every one within two blocks and every one passing your place can see how it looks back there, how the ashes and the tin cans and other unsightly items accumulate, and how you are dressed when you work in the garden, and what every member of the family is doing each day including Sundays. I don't mean to plant a tall hedge and then have the inside of the backyard untidy. But screen out the chicken coop and hide the ash can with a lilac, or a spirea, etc., you know what I mean.

This will be the don't paragraph: Don't plant any privet in South Dakota, or none of the following: Deutzias, weigelias, Althea or Flower of Sharon, osage orange, Japanese quince, or Arbor Vitae trees. Don't plant evergreens in front of the house, don't prune evergreens from the bottom, don't plant shrubs, trees and flowers all over the lawn. Don't forget to prune every tree or bush that you plant. Don't sprinkle the newly planted things every day just a little, soak them down good once a week. Don't be disappointed if some of your finest perennials die out each winter, it is nobody's fault, it can't be helped. Don't try to imitate your neighbor in the arrangement of your yard. Don't spend money for trees and plants and after planting expect them to give you all and you give them nothing, in the line of attention and care. There are a lot of other "Don'ts" but I don't want to bore you with them just now.

On the farm, there is more of a chance to develop a real yard, and every farmer ought to rear at least one boy who will take an interest in trees and plants. The house should be seen from the road; trees, shrubs and evergreens can be planted on the side of the lawn, or meadow, to the road, and a few shade trees should be growing around the back door yard. A small hedged in park along one side of the house would be fine, with some shade trees and benches or hammocks. Then there should be a good evergreen windbreak around the entire farmstead, this would be a real home, not only for the family but for the animals as well.

Parks also require landscape gardening. Here, trees should be planted in groups, rather than straight lines, shrubs in big masses, or borders, flowers in large beds on the inside of the shrub borders. There should be large open lawn areas. The walks should go some place. The trees in groups should not be pruned the first three or four years. Good trees for parks are the White Elm, Chinese Elm, Walnut, Ash, Hackberry, Bollenana Poplar, Honey Locust, Niobe Willow, Laurel Leaf Willow, Horse

(Continued on Page Eleven)

HARDY APPLES FOR SOUTH DAKOTA

John Robertson, Hot Springs, S. D.

One of the most important missions of our State Horticultural Society is giving reliable advice as to varieties of trees, fruits, flowers, and vegetables best adapted to the different sections of our state; with its varying formations of soil, altitudes, and rainfall. The very best, and only really dependable information comes from those having had experience; so I am asking that each one reading this consider it his duty and privilege in helping others, to send in any notes he cares to make from experience in growing things. We may not all agree; but the average of the sum total of many minds can always be depended upon to be near right. It is not always safe to be guided by the experience of a single individual; but through hearing a subject discussed from different angles by many, we can often arrive at a more certain conclusion. Your experience with growing things may not all sound cheerful, but send it in anyway. We aim to overcome difficulties. There is no real development without troubles to overcome; and the fellow that quits is losing his share of the main interest in living. Tell us about the different varieties of trees, fruits, flowers, and vegetables that you have tried; and the kind of soil, climate, and altitude. Did you try the same variety more than once, and were you reasonably certain that it was true to name? If nursery stock, tell us about what date in spring the goods were received, time of planting, condition of soil, spacing of plants, and after care.

As a sort of guide to beginners, our Society has been in the habit of publishing a list of trees and fruits that could be depended upon to be most hardy and fitted for each section of the state. The state has been divided into four sections, comprising the northern and southern east of the river, and the western and Black Hills west of the river. The fruit lists for each district have been revised from time to time, as experience seemed to dictate; but no very important changes have been made in the list of apples during several years past. The lists of plums, and some other divisions of fruits, have been quite radically changed in the past few years, and with improvement. Some of the old standard sorts of apples advised, and which are still most dependable in all sections, are: Yellow Transparent, Duchess, Okabena, Hiberna, Patten's Greening, Wealthy and Malinda. These are named pretty much in the order of ripening and keeping. Many other varieties may be grown successfully in certain localities, but the above have proved most dependable under all conditions. During the past few years several new and promising varieties have issued from our own State Experiment Station at Brookings, as well as those in Iowa, and Minnesota. Professor Hansen has given us the Anoka, which has shown from the first that it is hardy, and very early to come into bearing; so this may now be placed on the list as an additional dependable sort. The Anoka ripens about same season as the Duchess, and its greatest merit appears to be early and regular bearing. This single feature makes it very desirable for planting in the family orchard, especially in the beginning when anxious for first trees to come into bearing. Prof. Hansen has introduced several other sorts of apples, some of which may prove very valuable in certain sections. We find the Goldo very good as a fruit, but the tree has not proven hardy enough to recommend in northerly sections. The Sasha is a sweet apple of medium size, good quality, long keeper, and tree appears hardy. We have also found Hansen's Dolgo, Amur, and Olga crabs to be very

worthy additions in the jelly class; and his Ivan, and Sugar to be good running mates with the Whitney, for eating in the natural state or preserving. These are later to ripen than the Whitney, and keep much better. Of the new Minnesota apples, I would recommend the Folwell, Goodhue, and Haralson as being very worthy for trial in any part of the state. The first two are not better keepers than the Wealthy, but average larger, are of fine attractive appearance, and good quality. The Haralson is the hardiest long keeping apple out of many we have tried. It is of good medium size, fair color and quality. While some of the very high grade sorts, such as Delicious, Golden Delicious, McIntosh Red, and Jonathan, may be grown successfully in some certain sections of the state as individual trees; it will pay best in most instances to top work these onto the hardiest of varieties, such as Hibernial, Patten's Greening, Virginia crabs, or others of the hardiest crabs. Spreading growers, such as Hibernial, are best for top working; and the best time for beginning the process of working new sorts onto the top, is after the young tree has been set about two years. Our experience so far with new sorts from Iowa, is that all are above average of common varieties in quality, but most will prove just a little tender for general planting in South Dakota. Two of the best from those we have had in fruiting, are the Monona, and Earlham, both of which are very worthy of trial.

THE NEW RED SILVER CRAB

J. M. Bennet, Brookings, S. D.

Last summer while visiting the Carl A. Hansen Nursery of Brookings, South Dakota, I had the pleasure of inspecting Mr. Carl A. Hansen's new introduction, the Red Silver Crab.

This crab is a beauty for ornamental purposes. It is a sort of rich maroon red all over the tree, not only being maroon red in leaf but also in bark and wood. This color of the tree fades but slightly during the summer. Its foliage is somewhat cut leaf and on the under side of the leaves there is a sort of leaf hair which is a silvery white in color, adding a beautiful silvery tinsel to the leaves. The tree makes a well branched growth from small size up. It is of course, a new introduction and its true merit only time can prove, but from its appearance so far it gives every indication of being a worthy ornamental which will be propagated widely.

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.

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.

THE MENDEL PEAR

By Max Pfaender, Sioux Falls, S. D.

Many pears of various sorts have been planted in South Dakota the last twenty or more years but there are at the present time only very, very few bearing trees. This wholesale failure with pears has been due mainly to two reasons; first, the ordinary varieties of pears are not hardy in our state due to the long dry winters; and second, the varieties heretofore tried, and even though they may have stood the winters, they died soon from blight, the deadly fire blight, which attacks pears all over the world. Once in a while we find a Flemish Beauty, or a Kieffer, or some other variety that is bearing fruit, but even these trees are partly crippled from the ravages of blight.

Since the year 1900 my father, the late Wm. Pfaender, jr., of New Ulm, Minn., has been experimenting with pears and has collected many varieties for trial and planted many, many different lots of pear seeds from various sources, growing the seedlings until they blighted to death or were winter-killed. But from one batch of seeds, he was fortunate enough to produce a seedling which appeared to be hardy and did not blight like the rest of the pears. This seedling was one of several hundred that came from a peck of pears that my father had brought home from the grocery store, as they were spoiled and the grocer gave them to my father for very little or nothing. We boys helped to pick out the seeds from these spoiled pears and it was a mushy job. Then my father carefully stratified these seeds as he did many other batches of pear seeds and planted them the following spring.

This one particular seedling evidently was hardy and blight proof as it stood for many years in the planting of other pears and all the so called blight-proof varieties died from blight, even the trees right next to it. This was before it had produced any fruit. This tree was watched and safe-guarded with the hopes that it might bear some good fruit, and fortunately that was the case.

In describing the Mendel pear my father had made the following statements: "A wonderful new pear seedling. A bonanza for the Northwest. Hardy, non-blighting, and A No. 1 quality. The original tree stands exposed to the full sweep of the northwest winds and has never frozen back an inch in seventeen years. Leaf and body blight is the greatest draw-back to pear growing generally and this tree has never blighted a leaf, is very healthy and robust, and was never protected in the least. A number of named varieties of pears and many seedlings standing next to the Mendel were all killed by blight. The fruit of the Mendel is as large and larger than the Bartlett. Of A



WILLIAM PFAENDER, Jr.
Originator of the Mendel Pear

No. 1 quality. Sweet, good flavor and juicy. No grit. Color, a golden yellow when fully ripe. The fruit was sampled by Professors Dorsey, Brierly, and Aldeman, and by Mr. Chas. Haralson, Supt. of the Minnesota Fruit Breeding Farm, and by Mr. Redpath, Supt. of the fruit exhibit at the Minnesota meeting Dec. 9, 1920, at Minneapolis, and pronounced by them to be of A No. 1 quality in every respect."

Flowers are self-pollenizing and the fruit hangs well to the tree. The original tree had forty-two fruits the second time it bore, and we have seen more fruit from this one tree than from all pears we planted the last twenty years. The Mendel will be the pear for the Northwestern States, as well as farther south as it has all the good points necessary for successful pear growing. It keeps until the end of December.

The Mendel pear is now being grown in many places throughout the state of South Dakota and some good reports have already come in. Only few of the trees are old enough to bear. Mr. John Robertson, of Hot Springs, in the Black Hills, grafted some on other trees and has had some fruit in a few years and likes it very much.

The following letter was received from Mr. Schmitt, of Mankato, Minn., who had gotten some of the first few trees that were ever sent out, and the first trees sent out were mostly small one year old trees.

Mankato, Minn., Mar. 17, 1928.

Dear Sir:

Answering your inquiry of the 15th inst. I wish to say that I had the most agreeable surprise of my life in horticulture when the Mendel pear I purchased of your family came in bearing last fall. I think the tree was six years old and had some twenty-two nice large pears. They were apparently as hard as rocks and were fully as large as Bartletts, some of them larger.

Of course during the six years growing period I wondered what the tree would produce and whether the fruit would be fit to eat or not.

Again I was most agreeably surprised because, to my notion, the fruit was superior to the Bartlett. The tree had never been protected. I want to plant some more of them this spring, will you kindly advise me where I can get them?

Yours truly,

Signed, J. W. Schmitt.

Some of the bigger nurseries of the Northwest are now growing the Mendel pear for sale and we hope that it won't be long before every one can have pears on their farm or in their yard. The Mendel pear does not even have to be planted in the back yard, it makes a beautiful lawn tree, as it had a shape similar to a birch. The tree is somewhat of a dwarf which also is in its favor. I believe it would be well to head the tree low, and not over prune, in this way it would no doubt bear so much sooner. At planting time it should be cut back severely and then may not need any pruning for many years. They bear sooner if planted on soil that is not too rich, and will stand moderate neglect better than any other fruit.

My father named this pear after Mendel, the old Austrian Monk who discovered the law of heredity in plants many years ago.

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CONSTRUCTION AND MANAGEMENT OF HOTBEDS

Purley L. Keene, Brookings, S. Dak.

Hotbeds are an essential part of the market gardner's equipment and are found in many home gardens. They make it possible to mature certain vegetables, which if started in the open would fail to mature or produce a crop before being killed in the fall by frosts. Thus their use enables us to have a greater variety of homegrown vegetables, which in turn lessens the grocery bill and helps to maintain the health of the family. Seed can be sown in hotbeds several weeks before it can be sown outside. The time of maturity may be advanced three to five weeks by planting plants from the hotbed instead of sowing seed in the open ground. These earlier vegetables, besides being highly appreciated, are also more profitable for the market.

Location

Hotbeds should be placed in a warm location, close to the house, where the slope is great enough to provide adequate drainage. It should preferably have a southerly aspect. It must be handy and conveniently located because considerable attention is required to handle a hotbed successfully. They should be sheltered from the north and west winds by buildings or windbreaks, either natural or artificial. They should be located close to a ready supply of water for large quantities are used at all seasons.

Sash

Standard hotbed sash can be secured in two sizes: 3 x 6 feet and 4 x 5 feet. They are constructed especially for hotbed use and give the most satisfactory results, although ordinary window or storm sash may be used. The standard hotbed sash have three or four rows of glass which are lapped one-fourth of an inch to prevent water leaking through. Double strength glass reduces the amount of breakage.

Frame

A frame must be built to support the sash. Durable light wood, 1¼ inches in thickness is preferred. Cedar or fir are frequently recommended. Two inch material may be used but makes the frames heavier. It should be six inches higher at the back or north side than at the front or south side. The usual dimensions are 18 inches at the back and 12 at the front. The length of the frame will depend upon the number of sash to be used. Market gardeners usually use four sash frames. The frame should be airtight, especially at the corners. It may be made collapsible in order to facilitate storage by using screws or hinges to hold the corners together instead of nails. When the frame is built to accommodate more than one sash, brace pieces are put across the top of the frame so that the sash will overlap on them.

Types

The pit type of hotbed is the most satisfactory for the home garden. The pit should be dug in the fall before the ground freezes. It should be from 18 to 24 inches deep and from 18 to 30 inches wider and longer than the frame. This allows the frame to be placed on top of the manure and to settle with the settling of the manure. The surface type of hotbed is made by spreading the manure over the area devoted to hotbeds without digging a pit. Where considerable area is devoted to hotbeds, this method is more satisfactory. In both cases the area to be devoted to hotbeds may be covered with manure in the fall to prevent severe freezing of the soil during the winter. Hotbeds are occasionally heated with steam or hotwater.

Construction

Secure a quantity of fresh, strawy horse manure that has been stored a few days, so that it will ferment readily. Place in a conical pile and turn over several times at intervals of from three to four days to thoroughly mix it and to insure uniform heating. After 8 or 10 days, when fermentation is taking place fairly rapidly, it is ready for use. Place in the pit (or over the area for surface hotbeds) in layers about 8 inches thick, scattering it uniformly and packing each layer firmly until the manure is from 18 to 24 inches deep. If the manure appears too dry, sprinkle with water to encourage heating and facilitate packing. The frame is set on top of the manure, leaving a uniform distance all around the outside. The outside of the frame and heating manure is banked with very strawy, dry, non-heating horse manure to a depth of from 8 to 10 inches to act as an insulator. The sash may be put on for two days after which they are removed and from 4 to 6 inches of soil placed inside of the frame on top of the manure and the sash replaced.

The hotbed should then be allowed to stand for 3 or 4 days to allow all noxious gases to be given off and the heating to settle down to a steady pace before planting. Lifting the sash a few inches for several hours each day will allow the escape of these gases as well as the excess heat and moisture.

Soil

The hotbed soil should be collected in the fall of the year. A good sandy loam soil is preferred. If your soil is of a clayey texture, mix some sand and well-rotted manure with it. Soil from an old pasture is preferable as it will contain plenty of humus, few weed seeds, and be relatively free from disease. It should be screened before placing in the hotbed. It should be level and nowhere less than 4 inches in depth. Old composted sod makes excellent hotbet soil.

Ventilation

Probably this end of the management of a hotbed is one requiring the most care and attention. The hotbeds are ventilated by supporting one end of the sash on a small block of wood or by raising the whole side of a sash and blocking it up. The side or end facing the wind should never be raised. As the season advances, the sash are sometimes drawn partly off the frame, and as the warm weather comes, the sash is taken off entirely during the day.

Hotbeds should be ventilated every day, some days more than others. On a stormy day, a lath placed under the sash will give a good circulation of air. On a bright sunshiny day the sash can be raised as much as two inches. They should be opened in the morning when the sun becomes somewhat warm and can be left until the afternoon when it begins to get cool again. Care should be exercised not to leave them open too long in the afternoon. The question of just how long they should be left open must be determined by experience. A thorough circulation of air is essential but too cold air will give the plants a check. Always ventilate after watering to prevent scalding the plants.

Watering

Never allow the plants to wilt but have the surface of the soil rather dry than wet. This is to guard against damping off fungus diseases. Always water on a rising temperature, that is, during the forenoon in early spring and early in the morning in late spring. Climatic conditions, whether hot or cold, dry or wet, will govern the amount of water needed. Infrequent heavy waterings are considered better than daily

light sprinklings that never wet the roots. In very hot weather the air in the frame can be cooled by sprinkling lightly. The main thing to keep in mind is to have the foliage dry at night.

Planting

From 5 to 10 days after starting and when the hotbed has settled down to an even, steady temperature, planting may begin. After raking and leveling the soil, gently firm it by packing with a smooth flat board. Rows are made $\frac{1}{4}$ inch deep and from 3 to 4 inches apart, extending north and south. A smooth, straight piece of board having one edge planed to a V shape, is frequently used to make the furrow. Sow thinly so that the seedlings will not be crowded and to insure the development of firm, stocky plants. Label each row and cover the seed according to size—the smaller seed receiving lighter covering.

Flats

The practice of sowing the seed in flats which are then put in the hotbed deserves consideration. The seeding can be done more quickly, more rapidly and more uniformly. The work can be done inside at all times when it might be disagreeable working outside due to inclement weather. The flats can be shifted in the beds according to the size of the seedlings. The young seedling plants can be transplanted more frequently and with greater rapidity. Thus better germination and better plants can be obtained. Losses from damping off can also be more efficiently controlled by this method.

The sowing of tomato, pepper, egg plant and celery seed in flats is especially recommended since these plants are more exacting in their requirements than are cabbage, kohl rabi, brussels sprouts and cauliflower. When the plants are large enough, the flats in which they are growing can be removed from the bed and the seedlings transplanted directly into the soil in the bed. The size of the flats should be such that they are convenient to handle and fit into the frames without any waste space. Cucumbers, squash, pumpkin and melon seed should be sown in paper boxes or bands or in old strawberry boxes so that the roots will not be disturbed when transplanted to the field.

Transplanting

Seedlings, except those of the vine variety, should be transplanted soon after the first true leaves appear. Sometimes they are transplanted again before removing to the field. This is especially desirable with tomatoes, eggplant and lettuce. In every case, they should be transplanted before they become crowded, spindling and yellowish. It is helpful to lessen the watering the day before transplanting and then to water generously just before transplanting. About a week before time to transplant into the field, the watering should be lessened and the ventilation increased in order to harden off the plants so that they will be better able to stand outdoor field conditions.

(Continued from Page Four)

Chestnut and in the south east part of South Dakota, Lindens, Maples and Kentucky Coffee trees.

The school grounds should be planted so they look neat and attractive from the front, the playgrounds should have trees around the outside. The main shrub plantings should be the medium and low shrubs along the foundation of the building. Then after the walks are laid out the corners should have low shrub groups. If necessary, hedges may be planted wherever they are needed.

In my next article I will be more specific on the arrangement of grounds, and varieties to use.

HISTORY OF THE ABERDEEN BEEKEEPERS ASSOCIATION

Mrs. Grover Lothrop, Aberdeen, S. Dak.

The Aberdeen District Beekeepers' Association was organized at the Lothrop Apiary and Nursery at Aberdeen in July, 1925. The following officers were elected:

Grover Lothrop, Aberdeen, President.

A. J. Svarstad, Bath, Vice-President.

W. J. Perrin, Ferny, Second Vice-President.

Josephine Stewart, Mansfield, Secretary and Treasurer.

Approximately 60 beekeepers of Brown and the surrounding counties became members. During the year meetings were held monthly in various sections of the district. The first annual banquet was held in the Chamber of Commerce building in Aberdeen. As the association had been functioning such a short time, it was voted to retain the officers for a period of one year, bringing the close of the year in January. The principal speaker for the evening was Mr. Gaile M. Creger of Sioux City, Iowa.

1926 was a very good year for the association, much enthusiasm and interest being shown by the members and many new members were admitted. At several meetings, demonstrations and talks were given by men well versed in apiculture. Professor Farrar of the State College appeared on the programs several times and Mr. A. G. Pastian gave some interesting talks. In December the annual banquet was held in the dining hall of the McDiarmid-Slater building. Election of officers resulted in Grover Lothrop being re-elected President with A. J. Svarstad of Bath, C. H. Lamport of Hecla, W. S. Streeter of Groton, N. M. Morgan of Warner and Dr. Brenckle of Northville chosen for the district Vice-Presidents. Mrs. John Glau was elected Secretary and Treasurer.

At this meeting proceedings were started to draft a bill to be presented to the new legislature as South Dakota's new bee law. Senators Buttz and Howell were present to become acquainted with the bee men in their district and to familiarize themselves with the need of this new law.

Mr. Creger spoke at this meeting and Miss Thelma Svarstad and Miss Ruth Lothrop gave talks on the 4-H Bee Club work and the trips they had won through outstanding club work. During the session of our lawmakers at Pierre, the above mentioned bill was introduced by Senator Buttz in the upper house and by Representative B. R. Danielson in the House of Representatives and on March 9, 1927, Mr. Lothrop received a letter from Governor Bulow advising that the bill had passed both houses and that he had signed it and returned it to the Secretary of State to be placed on the Statute. The association was much elated over this piece of legislation as the bee industry was thus given the long needed assistance in protection from bee diseases.

A. G. Pastain was appointed State Bee Inspector through a petition from the Association requesting this appointment, and through the summer he gave thorough inspection to many apiaries. Due to extremely cold weather no annual banquet was held. Regular meetings had been held throughout the year and much the same program followed as the preceding year.

In the early part of 1928 a business meeting was called at the Brown County Farm Bureau office at Aberdeen and A. J. Svarstad, Bath, was elected President with Grover Lothrop as Vice-President and Mrs. John Glau, Columbia, as the Secretary and Treasurer. Few meetings were held but the association kept in touch with the Bee Inspector and through their efforts much disease was destroyed.

On November tenth, 1928, the annual meeting was held in the Wesleyan Methodist dining hall in East Aberdeen and after the one o'clock luncheon a business meeting was called and the following officers elected:

F. H. Erdman, Stratford—President.

Dr. Brenckle, Northville—Vice-President.

Mrs. John Glau, Columbia—Sec. and Treas.

The principal work in hand now is the getting out the new association label which was adopted at the last annual meet and which has been copyrighted and is in the hands of the printer.

Brown County, South Dakota, organized the first 4-H Bee Clubs in the state. On April 24, 1926, two clubs, one the Pioneer Apis with Grover Lothrop leader and the Gem Bee under the leadership of A. J. Svarstad.

Regular meetings were held and the members instructed in modern beekeeping. At the Tri-State fair in the fall each member exhibited honey and sent a demonstration team to compete in the 4-H demonstrations. The Gem Bee Club team won, securing the trip to the State Fair at Huron. Thelma Svarstad and Olive Hunstad comprised the team. Ruth Lothrop won the trip to the Junior Short Course at the State College, her work for the year showing the best record in the combined work of the clubs.

In 1927 the clubs reorganized for the second year's work and Mr. C. H. Lamport organized a club for first year work, the club to be the Hecla Bee Club. All clubs held regular meetings and again exhibited honey at the fair. The Gem club presented the only demonstration team to the club work this year and won enough points to gain the trip to the State Fair for 1927. Thelma Svarstad won the trip to Brookings in 1927.

In 1928 the Hecla Bee club continued its second year of work under the leadership of W. A. Koch and put on a fine exhibit at the Tri-State Fair.

There being no work outlined for more than two years there are at present no clubs in the county for the study of beekeeping.

SIMPLE CONTROL FOR CROWNGALL AND ROOT-KNOT FOUND

From Wisconsin Horticulture

Crowngall, root-knot, and similar malformations, which annually cause the loss of millions of young trees being propagated in nurseries can now be controlled.

This epochal and long awaited announcement was made December 31 before the American Phytopathological Society, meeting in New York, by A. J. Riker, of the College of Agriculture of the University of Wisconsin. In view of the fact that this has long been considered one of the most baffling of plant disease problems, the announcement was considered of unusual significance.

Riker reported upon a simple and inexpensive method devised by a group of three pathologists, consisting of G. W. Keitt, W. M. Banfield, and himself. This control method has come after five years of intensive research, as a part of the Wisconsin program in a crowngall project supported cooperatively by the Crop Protection Institute, the Iowa State College of Agriculture, and the University of Wisconsin, assisted by the United States Department of Agriculture.

According to Riker, crowngall, root-knot, and other malformations

occur most commonly at the unions of stocks and scions of apple trees grown from piece-root grafts. This union, under commercial nursery methods is usually wrapped with waxed string, but several other wrappers have also been tried. The control measures attempted at the Agricultural Experiment Station of the University of Wisconsin have been of three kinds: 1. The use of antiseptics on the soil, on the wrappers employed, or on the finished graft, with the aim of killing the micro-organisms that are believed largely responsible for many of the malformations. 2. The modification of the grafting methods, and, 3. Modifications in wrapping materials and methods. Riker and his associates made their discovery in the last group.

He reported that the use of adhesive plaster, or nurserymen's tape, on apple grafts, during four years, under widely varying conditions, covering a geographic range which included Iowa, Kansas, Minnesota, Missouri, Nebraska, Oklahoma, and Wisconsin has resulted in an average saving of 30 trees out of every 100. Counts made on several hundred young trees wrapped with the new type of tape show an average of 92 smooth, healthy trees out of each 100 treated. The untreated trees average only 62 out of each 100 that are free from malformations. In every experiment in each of the four years the plaster has increased the percentage of trees with smooth unions.

"The cost of applying the plaster is very small and in many nurseries is no greater than for the wrapper now used", declared Riker. "On the average one good tree saved out of each 100 treated more than pays for the increased cost. The tape, one-half inch wide, is applied in a spiral wrap over every part of the graft union, care being taken to overlap the edge of the plaster slightly, and to make a water-tight covering over every part of the cut surface. Not more than two thicknesses of plaster encircle the graft at any one point. After the scion and stock have united the plaster, being under the ground, rots, and no tendency for girdling occurs."

MEMBERSHIP CONTEST

Ex-President Simmons, offers the following prizes, for those getting renewals and new memberships for us this spring.

First Prize—One dozen Regal Lily bulbs.

Second Prize—One dozen Elegans Lily bulbs.

Third Prize—One dozen Tiger Lily bulbs.

Fourth Prize—One dozen Alice Tiplady Gladiolus bulbs.

The contest ends May 1st, when the bulbs will be sent out to winners. A life membership counts the same as ten annual memberships and those wishing to change from annual to life membership, will have their own life membership counted in the contest.

May the best boosters win.

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 opposite page, and the dollar paid for the year's membership includes fifty cents, for the year's subscription to the magazine.

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. These from State College, Brookings, South Dakota, all developed by Dr. N. E. Hansen.

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| No. 1. Pyrus Ussuriensis (Manchurian Pear) Seedlings, size three to four feet. | No. 20. Hardy New Grapes. |
| No. 2. Two Pyrus Ussuriensis, 18-24 inch trees. | No. 21. New Hardy Roses. |
| No. 3. Ming Pear, one year old trees. | No. 22. Perennial Sweet Peas, 2 tubers. |
| No. 4. Three Russian Sand Pear, one year seedlings. | No. 23. Gladiolus, 16 bulbs. |
| No. 5. Redflesh Crabapple, for jelly, one year trees. | No. 24. Two Indigobush, native shrub. |
| No. 6. Chinook Apple, wild crab hybrid. | |
| No. 7. Wakpala Apple, long keeping apple. | |
| No. 8. Wecota Apple, wild crab hybrid. | |
| No. 9. Wetonka Apple, wild crab hybrid. | |
| No. 10. Anoka Apple, very early bearing. | |
| No. 11. Ivan Crab, large fruited crab. | |
| No. 12. Olga Crab, large fruited crab. | |
| No. 13. Sugar Crabapple, very fine for sauce. | |
| No. 14. Teton Plums, fine native seedling. | |
| No. 15. Winnipeg Plum, Manitoba hybrid, very hardy. | |
| No. 16. Ojibwa Plum, Manitoba hybrid, very hardy. | |
| No. 17. Pembina, one of our best plums. | |
| No. 18. Sanoba Hybrid Sandcherry, large fruit. | |
| No. 19. Five Hansen Select Sandcherries. | |

Additional Premiums Not Developed by Dr. N. E. Hansen

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| No. 25. Peony, Red, one root. |
| No. 26. Peony, Pink, one root. |
| No. 27. Peony, White, one root. |
| No. 28. Helenium Elegans, Red, one bulb. |
| No. 29. Iris, three varieties. |
| No. 30. Babys Breath, two roots. |
| No. 31. Delphinium, Gold Medal, two roots. |
| No. 32. Sweet William, Everbearing, two roots. |
| No. 33. Rose, Crimson Baby Rambler, one plant. |
| No. 34. Rose, Excelsa-Climber, one plant. |
| No. 35. Spruce, Black Hills, 6-12 inches, well rooted. |
| No. 36. Caragana, 6-12 inches, 10 plants. |
| No. 36. New Bottle Onion Sets, five pounds. |
| No. 38. Any other variety of onion sets, eight pounds. |
| No. 39. Buckthorn, 6-12 inches, 10 plants. |
| No. 40. Spirea Van Houttei, 18 inches, one plant. |
| No. 41. Englemans Ivy, well rooted, one plant. |

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.

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

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