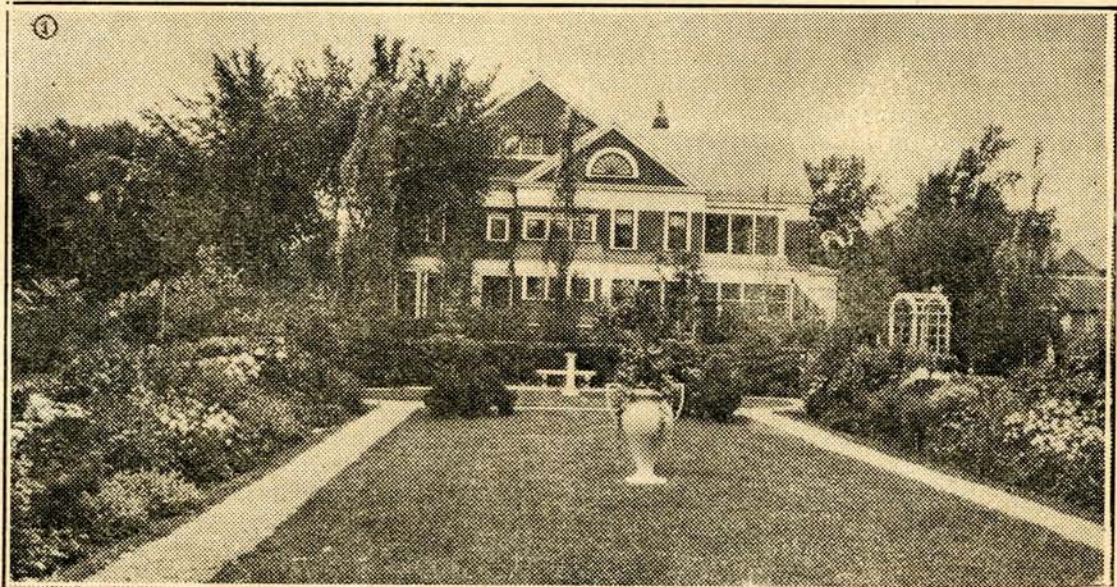


NORTH AND SOUTH DAKOTA HORTICULTURE

JUNE 1935



PRIZE WINNING HOME OF MRS. G. S. CARPENTER, SIOUX FALLS



THE TOWHEE

O. A. Stevens

Two distinct species of this bird occur in our region, the Red-eyed Towhee and the Arctic Towhee. Neither name is distinctive, for both have red eyes and the "Arctic" nests in western North and South Dakota while the other moves on farther north. They really belong to about the same latitude but our region has not enough woods to suit the eastern bird. In Minnesota it is said to have been formerly a common bird, but now is much less so, partly at least because of the clearing of the brush and timber. The western bird had not been recorded from Minnesota until last year when Mrs. C. E. Peterson of Madison furnished a definite record by trapping some of them. At Fargo I see only a specimen or two during migration, sometimes one form sometimes the other.

The names of both birds are those first given to them. The red-eyed is a widely distributed bird in the eastern states, nesting from southern Saskatchewan to Maine, Kansas and northern Georgia, wintering from southern Wisconsin to the Gulf Coast. It was among the first American birds to be described. Mark Catesby called it "the black sparrow with red eyes." Some sixty years later William Swainson, a British ornithologist, described what is known as the Spotted Towhee from Mexico. Then he found this still different bird in a collection from Canada and therefore called it "arctic."

"Ground robin" is another name, and is quite suggestive because the coloring of the bird is similar to that of the robin. It is a smaller bird than a robin, but one of the largest of the sparrow tribe. Unlike the robin, it is a most industrious scratcher. Some of the bird banders complain that the towhees wear out their bands in two or three years, due to the continual sliding on their legs as they scratch.

The name towhee, and also another of chewink, is taken from the call notes. I well remember when first reading about the birds, that I pronounced these with the accent on the first syllable. When I made their acquaintance I found that was entirely wrong. In both cases the first syllable is cut very short, one of those elusive sounds not readily described. "Towhee-ee-ee" he calls in a long drawn out trill; or "che-w-i-n-k," with a loud nasal twang.

The towhee has a pleasing song, not much like that of any of our other common birds and difficult to describe. One of my pleasant recollections is that of awakening early on a June morning along the Missouri River to a bird song which was new to me. I was not long in finding that it was the Arctic Towhee which is quite at home in the buffaloberry thickets along the river

Volume VIII.

June, 1935

Number VI.

Entered as second class matter at the Post Office at Sioux Falls, South Dakota, under the act of August 24, 1912. Original Office of entry Pierre, South Dakota.

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

Published monthly at Sioux Falls, South Dakota, by the North and South Dakota State Horticultural Societies. Address all communications to W. A. Simmons, Secretary, Horticultural Office, Court House, Sioux Falls, South Dakota.

SOUTH DAKOTA OFFICERS

F. X. Wallner, President.....Sioux Falls, S. D.
Geo. W. Gurney, Vice-President.....Yankton, S. D.
W. A. Simmons, Secretary and Editor..Sioux Falls, S. D.
H. N. Dybvig, Treasurer.....Colton, S. D.
Chas. McCaffree, Librarian.....Canova, S. D.

MEMBERS OF THE EXECUTIVE BOARD

J. B. Taylor, five years.....Ipswich, S. D.
E. A. Gates, four years.....Rapid City, S. D.
H. E. Beebe, three years.....Ipswich, S. D.
Prof. Purley L. Keene, two years.....Brookings, S. D.
R. W. Vance, one year.....Pierre, S. D.

NORTH DAKOTA OFFICERS

Charles Eastgate, President.....Dickinson, N. D.
Mrs. J. A. Strong, Vice-President.....Wahalla, N. D.
L. O. Peterson, Vice-President.....Hankinson, N. D.
Dr. A. F. Yeager, Secretary.....Fargo, N. D.
E. L. Shaw, Treasurer.....Fargo, N. D.

TABLE OF CONTENTS

Page

The Towhee, O. A. Stevens	62
N. D. News Letter, Dr. A. F. Yeager.....	63-64
Garden Club Notes, P. L. Keene.....	65
President's Corner, F. X. Wallner.....	66
South Dakota Notes, R. W. Vance.....	67
Secretary's Corner, W. A. Simmons.....	68
Unusual Plants, Mrs. G. Jorgenson.....	69
Thots on the Shelterbelt, J. P. Vikla.....	71
The Wild Rose as a Climbing Vine, Maude K.	
Backlund	66
Crown Grafting Fruits, Emil Pfaender.....	71

and coulees in the western part of the State. This bird is distinctly spotted with white on the shoulders and has more white in the wings and tail than the eastern bird. Several other forms of the "spotted" towhees as well as other species, occur in the western part of the United States and in Mexico.

As already suggested, the towhees spend a large part of their time on the ground in the thickets. They are rather shy, usually keeping out of sight. The nests are placed on or near the ground. The eggs are four or five in number, white or pinkish with many fine brown spots. They feed upon insects and weed seeds. They are mideastern migrants, appearing in our region the last of April or early in May and on the return, in late September or early October.



NORTH DAKOTA STATE HORTICULTURAL SOCIETY NEWS LETTER



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

It seems probable that our meeting this year will be held at Mandan, August 15-16, in connection with the Missouri Slope Gladiolus Society's annual show. The speaking program will be held the afternoon of the first day and the morning of the second; the banquet the evening of the fifteenth. The remainder of the second day will be given over to the inspection of the big Gladiolus Show and to trips to the Northern Great Plains Field Station, the North Dakota State Capitol, Nurseries nearby and other points of interest. Now is a good time to begin to lay your plans to be present.

Another meeting which will interest our people, providing you have more time and more funds, is the meeting and tour of the Great Plains Horticulturists which will take place June 25-28, inclusive; starting at Minneapolis, taking in the Minnesota Fruit Breeding Farm, Mushroom Caves, Commercial Fruit and Vegetable Plantations, the Minnesota Forestry Station at Cloquet, and many other interesting points. Our members are invited to take the trip if they are so minded.

From a very vigorous growth of the Mordena sand cherry hybrid, its reports for hardiness in Canada, and its superior cooking quality, we are hopeful that at last we may have a good running mate for Opata.

According to HORTICULTURE, the idea that pumpkins can be fed milk to make them grow larger is a fallacy.

MacLeod in March, 1934, POTATO JOURNAL says that wire worms multiply in hay or sod fields as the eggs are laid mostly during the period from May to the middle of June, and if land is kept free from cover during the period two years preceding potato planting the amount of wire worms will be greatly reduced. While the potatoes which have been damaged from wire worms may be all right for planting stock, they are certainly not pleasing to housewives.

One of Yosemite's big trees has fallen. It was called the "stable tree" because a burned out hole in its base was used as a stable years ago. It was 29½ feet in diameter and 269 feet high. It is estimated to be about 2,000 years old.

State forestry departments distributed over 88,000,000 young trees in 1932.

The author of Special Bulletin No. 228 of the Michigan Agricultural Experiment Station calls attention to the fact that there are two styles

of rock gardens—the formal style, which is regular and well ordered, and the informal style, which is made to appear natural. Neither style is a meaningless jumble of rocks. This bulletin is very complete and is 84 pages in length. One should write to East Lansing for it and should enclose something for the cost of publication.

In moving wild ferns from the woods it is advisable to take with this a good lump of the leaf mold in which they are growing.

An experiment of the Georgia Experiment Station resulted in the following conclusions as the best way to store asparagus. After cutting, wrap each bunch in a moisture-proof wrapper and store at a temperature of 32 to 34 degrees. Asparagus handled in this way was kept 34 hours with a loss of only 11 percent moisture.

Calcium cyanide is said to be a satisfactory fumigant for mushroom houses to kill the insects which are often troublesome there.

Late blight in potatoes, which is a serious disease in eastern United States, may be eliminated by plant breeders who are using blight-immune close relatives of the potatoes for breeding work.

Bulletin 588 of the New York Experiment Station, Ithaca, is entitled HISTORY, CULTURE AND VARIETIES OF SUMMER-FLOWERING PHLOXES. According to Mr. Pridham, its author, all the phlox species excepting Siberian are North American natives.

MARYLAND FRUIT GROWER suggests that with apple trees which bear every other year that nitrogen fertilizer be applied in the spring and fall of the year the light crop is produced and not be applied the year the heavy crop is expected. The idea of this is to prevent a too heavy setting in the heavy crop years and to stimulate as much set as possible in the lower crop years.

MARYLAND FRUIT GROWER also reports that while a small percentage of the apple varieties set fruit with their own pollen, even these never produce a full crop.

G. I. Gilbertson in South Dakota Bulletin 288 recommends the following treatment for the control of plum borers. Melt 4 pounds of paraffin in a double boiler. Add 1 pound paradichlorobenzene. Stir the mixture until the P.D.B. is dissolved. Apply to the trunks and larger limbs of the trees with a paint brush, coating the entire trunk and larger limbs. This will kill the borers under the bark.

Why does not an apple tree which is 8 years old bear? Unless it is one of the varieties which begins to bear early, one need hardly expect much of a crop from a tree of that age or less.



Apple trees normally do not begin to bear when they are very young. One simply must have patience. Even such a variety as Hibernial rarely produces much before it is ten years old or more.

A person has asked why his Nicollett cherry trees do not bear. It might possibly be a lack of pollination. If other varieties are not nearby which bloom at the same time fruit will not set. However, the trouble may be something else. We find the Nicollett often does not set a crop even though it blooms and there is opportunity for pollination. This is the reason we have dropped it from our recommended list, for it was too uncertain.

Mr. F. L. Skinner of Dropmore, Manitoba, is an amateur plant breeder whose productions have gained wide commendation from the British Empire. Some of his later material includes some new hybrid lilacs. We were fortunate to get three varieties of these a year ago. Most of you know that common lilacs may require 8 or 10 years, and a bush higher than one's head, before blooms will be produced. These new lilacs from Mr. Skinner which were transplanted into our plots as little plants 6 inches high last year are about 1 foot high now and 1 year of age, and practically every one of them shows blossom buds opening this year. We think this is something of a record breaker in this respect.

A correspondent in Saskatchewan asked for information about Swedish Oxelberry. This is a new one on me. If any of our members are able to offer some suggestions, I will be glad to hear from you.

Elm trees are easily raised from seed, but the seed should be planted immediately after it ripens, which is usually the latter part of May or early in June. Where one can get hold of the seed, the raising of a few thousand elm trees in a vegetable garden is a rather simple matter.

Prospects this year are rather promising for a fruit crop at Fargo. There is a very heavy set of fruit buds and their opening has been delayed by cool weather so there should be a reasonable chance of escaping frost damage. We are especially anxious for good weather because there are several hundred of the trees in the apricot breeding block with a heavy set of blossom buds this year. A good crop this year would show quite definitely what might be expected of these seedlings so far as quality is concerned in combination with hardiness.

Two new bulletins are to be issued shortly in which our members may be interested. One is a new one on North Dakota fruit growing, which covers cultivated fruit in general; and the other is one on North Dakota wild fruits and their utilization. Copies may be had from the Publications Department of the College as soon as they are issued, and should your request be re-

ceived before the bulletins are out it will be filed and filled when the bulletin is published.

Several inquiries have been received about the desirability of using hot caps or plant forcers. We have found these difficult to use. In bright sunlight there is considerable danger of scalding the plants, and if there is a frost the amount of protection is not very great. If any of our members have tried these and have observations to report I will be very glad to get them, whether they are favorable or unfavorable.

Have you been eating asparagus for a month now, or are you still waiting for something to harvest in the garden? These perennial vegetables should certainly have a place in every garden, and that a rather prominent one. Asparagus is a rich source of Vitamin A.

If there is plenty of moisture and the plants are spaced plenty far apart, it is possible the addition of a little superphosphate to the soil around the tomato plants might tend to improve the size and earliness of the crop. Our Soils Department recommends 3 tablespoon-fulls of the material applied in an 8-inch circle around the plant.

It seems I have caused my good friend Simmons of South Dakota considerable trouble by mentioning the fact that our life members are entitled to premiums. Our Society and the South Dakota Society have had different policies in this respect. We have given our life members only the same premium and other service as other members their first year, but we continue to provide this same service every year for as long as they may live. On the other hand, the South Dakota Society has given ten premiums when the person took out a life membership, and then he was entitled to no more. For this reason, we have had to refuse a number of South Dakota life members a premium which our North Dakota life members are entitled to.

Several of my good Canadian friends have called my attention to an error in the March magazine. Dr. Shoemaker is not located at Saskatchewan, but at Edmonton as Head of the Horticultural Department of the University of Alberta. I am sure Alberta should be congratulated, and I offer my apologies for the error.

Michigan State College has found it is possible to propagate dahlias by use of leaf bud cuttings. These are made by planting a leaf with a small amount of the stem at its base, including its axillary bud, in sand or a sand peat mixture.

The Minnesota fruit breeding farm had 5,800 apple seedlings in bearing in 1933, from which to make a selection of superior varieties for propagation. New, hardy, early maturing varieties are in constant demand by northern planters.—American Fruit Grower.



GARDEN CLUB NOTES



Purley L. Keene

The following is a list of clubs interested in gardening activities in South Dakota:

Aberdeen Garden Club—
Mr. George Erickson,
Pres.

Belle Fourche Garden
Club—Mrs. O. J. Lang-
hoff, Pres.

Britton Garden Club—
Rev. Erwin, Pres.

Centerville Garden Club—
Mrs. Harry N. Over-
gaard, Pres.

Chancellor Garden Club—Mrs. T. Kuhlmeier,
Pres.

Clark County Garden Club—Mr. John Schneck,
Pres.

Dell Rapids Garden Club—Mrs. A. B. Gillett,
Pres.

Flandreau, Athena Literary Club—Miss Mary
Ann Mallory, Pres.

Lead Flower Club—Mrs. D. C. Yates, Pres.

Lennox Study Club—Mrs. Tena Hofmeister, Pres.

Rapid City Garden Club—Miss Genevieve Hart-
gering, Pres.

Rapid City Better Home and Garden Club—Mrs.
Wm. Kelner, Pres.

Spearfish Garden Club—Mrs. John Wolzmath,
Pres.

Sturgis Garden Club—Mrs. M. J. Kerper, Pres.

Watertown Community Club—Mrs. H. A. Wag-
ner, Pres.

Yankton Garden Club—Mrs. H. P. Jacobsen, Pres.

There are undoubtedly other clubs in the state which have and are interested in activities of Garden Clubs. We wish that you would report to Secretary Simmons the names and officers of any and all organizations not included in this list.

Activities of the clubs reporting have included Flower Shows and Yard and Garden Contests. Many have furnished seed for childrens gardens either through the school or some organization such as the Boy Scouts, Girl Scouts, and 4-H Clubs, Special classes or special shows have been held for the young gardeners products. Other clubs have taken an active part in the improvement of local parks, cemeteries, school grounds and recreational areas. They have aroused interest in highway beautification and conservation projects. Tours to interesting points in the vicinity and to attractive home grounds have been conducted by many clubs.

A local garden club can perform real service to any community and by following a constructive plan it can become a factor of considerable influence in various community projects. If we can be of help in organizing your local club we will be very glad of the opportunity.

Suggested Form for Constitution and By-Laws

The following outline may be found helpful in preparing a constitution and by-laws for a garden club. It may be modified to suit local requirements.

CONSTITUTION

Article I—Name

Section 1. This organization shall be known as.....

Article II—Object

Section 1. The object of this organization shall be to stimulate interest in gardening; to promote civic beautification; to aid in the protection of wild life.

Article III—Membership

Section 1. Any person actively interested in gardening shall be eligible to membership.

Article IV—Officers

Section 1. The officers shall consist of a president, a vice president, and a secretary-treasurer. These officers shall constitute the Executive Committee.

Section 2. The officers shall be elected at the annual meeting and shall hold office for one year or until their successors in office are duly elected and qualified.

Article V—Meetings

Section 1. The annual meeting shall be held each year at such time and place as the Executive Committee may decide.

Section 2. At least 10 days notice of each annual meeting shall be given at any regular meeting of the organization.

Section 3. Other meetings shall be arranged by the Executive Committee.

Article VI—Amendments

Section 1. This constitution may be amended at any annual meeting by a two-thirds vote of members voting, a quorum being present, provided that the proposed amendments have been submitted in writing and read at the previous meeting.

Section 2. By-laws may be adopted, amended, or repealed at any regular or annual meeting.

BY-LAWS

Article I—Duties of Officers

Section 1. The duties of the officers shall consist of those ordinarily performed by such officers.

(Continued on page 72)



PRESIDENT'S CORNER



F. X. Wallner

We have received another shipment of 2 dozen McDonald rhubarb roots. A few are for friends, but most of them will find a home on our own grounds. This variety we regard as being a triumph of the plant breeders art and a great advance over anything we have had, in this early home garden fruit and its lack of acid will make it palatable to many, that have never before cared for rhubarb. Unfortunately it is so new that but little is obtainable at present and the price is naturally high, but as soon as our nurserymen get stocks of it worked up, we advise our readers to change over to this variety, one that every member of the family will relish.

A news item in the COUNTRY GENTLEMAN describing the Bison tomato, has been the cause of many inquiries from all over the nation. Many wanted the seed, while others wanted more information regarding the variety. Answering these, has kept me busy all my spare evenings so I have had no time to answer the several 10-cent chain letters and this was not a disaster as I had no friends I wished to punish in that way, anyway.

The other evening, at a garden club meeting, I called for a vote as to which was more troublesome to the home gardener, weeds or insects. The result was about 3 to 1 in favor of weeds. Since then I have asked several large operators and all thought insects were the greater pests. I think it all depends on the ground one is working. If it is infested with creeping jenny, leafy spurge, quack grass, Canada thistle or similar perennial weeds, then I will agree that weeds are worse, otherwise I must consider insects the most dangerous pest. Our Secretary, W. A. Simmons is to appear on the program of our next Garden Club meeting to tell us about fruit trees and spraying. Some weeks ago he gave us a very good talk on hardy roses, and a short time ago he gave a talk on lilies, at the short course for garden clubs at Sioux City. Dr. N. E. Hansen also appeared, with one of his usual fine talks on that program, as did several other South Dakota people. It is always gratifying to be able to partially repay our good Iowa friends for the many good speakers they have, from time to time sent us.

A new insect pest has appeared this year in our garden, coming in even before the leaf beetle that takes the early radishes and the spinach. This insect is even smaller than thrips and works on the radish stem when only the

seed leaf is formed. The stem is pitted and riddled so that all turned yellow and died. Our onions are all up nicely except the Red Globe, which is a poor stand and must have been old seed. For years I have tested my onion seed to be sure of its germinating qualities, but this year I neglected to do it because I thought this seed house never sent out poor seed. This proves that seed testing is something one cannot afford to neglect.

I am still inclined to think that cool weather crops will be the best this year but I will forget these predictions when it registers 100 in the shade or over, for several days as it has not failed to do for several summers. Predicting the weather, for more than 24 hours, is about our least useful occupation.

THE WILD ROSE AS A CLIMBING VINE

Maude K. Backlund, Lisbon, N. Dak.

Nowhere in the several issues of your excellent little magazine which have come to my notice, have I seen any mention of the wild rose as a climbing vine.

Ten or twelve years ago we brought some roots of the ordinary wild rose from the woods near the river. As you know, the wood rose has more vine and a larger flower than the sturdy prairie variety. We planted a root by each of the four windows on the east side of our bungalow. Every year the tall young shoots were carefully tied against the wall, and the stubby old branches cut out. "Believe it or not", these roses climbed the entire wall, spread out against the clapboards, and eventually adventured over the eaves where one of them peeks in at a dormer window in the attic. Not only is the entire side of the house a beautiful sight in spring, but the vines with their red haws are very attractive in winter.

The birds are very fond of these bushes, and a yellow canary nested in one a summer or two ago. By standing on a chair at the bedroom window one could look down into the nest. We watched the nestlings until they took flight.

At the time we secured the roses a choke cherry root was dug up and transplanted to the home yard where it developed into a triple tree now higher than the roof, and bearing more fruit than we can use.

The June berry roots which we have brought from the woods from time to time died quickly, but by planting the ripe berries in an undisturbed spot, we had a row of little seedlings to transplant the following spring. June berries seem to be very slow of growth, although ours have a natural location only a few rods from the river.



SOUTH DAKOTA NOTES

R. W. Vance

N. Mayers of the Dominion Laboratory of Plant Pathology, Saanichon, B. C., tells us that rhizoctonia disease of potatoes caused by a fungus is capable of living in the soil for many years on dead organic matter. This makes it impossible to completely control the disease by seed treatment. Many plants are susceptible to the disease. Timothy, peas, beans, vetch, carrots, turnips, and other crucifera are highly susceptible. Therefore, these plants would not be good to use in a rotation. Wheat, oats, perennial rye grass, alfalfa, and clover are quite resistant.

Reed Canary Grass is reported to give high yields of hay and to furnish large amounts of feed as pasture on low wet lands upon which practically no other crop can be grown. We have reports of as high as five tons of hay per acre, have been cut from land seeded to this grass. The seed is rather high in price, prices ranging from ninety cents to one dollar per pound. From five to ten pounds of seed are sown per acre. If the land is prepared in the fall, the seed should be sown early the next spring. If the land is plowed in the spring, the first crop of weeds should be killed before the seed is sown.

In controlling willow blight, cut out all affected wood and burn it. Spray with bordeaux just after the catkins have come out.

The Minnesota Horticulturist list some proposed legislation. One part of this proposed legislation is as follows:

"Prohibits the buying, selling, offering or exposing for sale any species of lady slipper (Cypripedium sp.), any member of the orchid family trillium, lotus, gentian, arbutus, or any species of lilies when dug, cut, plucked, pulled or gathered in any manner whatsoever from any public land or from the land of any private owner without the written consent of such owner or other occupant of the land and then only upon the written permission of the Commissioner of Agriculture. Except that any persons may upon their own lands cultivate for sale and sell said flowers by registering the purpose to do the same with the Commissioner. Passed by Senate and House."

W. C. Broadfoot, Dominion Laboratory of Plant Pathology, Edmonton, Alta, gives the following information pertaining to Snow-Mould Turf Injury:

"Many different theories as to the cause of winter injury of turf have been advanced, such as: use of non-hardy varieties of grass; unfavourable soil conditions, for instance, lack of proper drainage or of soil nutrients; suffocation due to formation of an ice sheet on the turf;

rupturing of the individual plant cells by the formation of ice crystals within; misuse of various chemicals and fertilizers, especially late in the season; and parasitic attack of fungi or moulds. Thus in each case one or several factors may operate to cause winter injury. Hence, control must depend on a knowledge of the cause.

During the last four years, the Dominion Laboratory of Plant Pathology at Edmonton, Alberta, has found that the most important cause of winter turf injury is a fungous parasite, called snow-mould. The first symptoms appear as soon as the snow melts in the spring. The fungus may be seen growing into and through the snow or ice over the turf. Soon dead areas of turf of various sizes and shapes appear. The mould attacks the plants, killing the leaves, stems, roots and crowns of the grass.

Control of snow-mould has been attempted in different ways with varying degrees of success. Adequate surface drainage may reduce the disease, but seldom controls it. Obviously the use of resistant varieties of grass would be the ideal control, but such varieties are not available. Early brushing of the turf and removal of snow is sometimes helpful, but it is not sufficient. Therefore, the only alternative is the careful use of chemical fungicides for killing the parasite.

The most promising method found by the Edmonton Laboratory is a preventive treatment which can be applied the previous fall, and which will serve to protect the turf throughout the late fall, winter, and early spring. This treatment is of corrosive sublimate for every 1,000 square feet of turf surface in an eight-quart bucket about three-quarters full of dry sharp sand. This then can be thoroughly mixed with a larger quantity of finely screened sand or compost to facilitate even distribution over the turf. Since mercury is corrosive to metals and very poisonous, necessary precautions should be exercised."

We have been growing fir trees in South Dakota for a number of years, and they have proved that they are hardy and there is no question as to their being a beautiful tree. This tree will, no doubt, be recognized as one of our finest trees.

Package bees shipped from the South will not carry disease when shipped in screen cages without comb, and being fed sugar syrup from a feed can. Bees shipped on comb sometimes called a nucleus may carry disease. There is no advantage in shipping bees on comb, and the person ordering bees should insist that they not be shipped on combs.

All empty hives containing combs should be closed and better still remove the combs, and if (Continued on page 72)

SECRETARY'S CORNER**W. A. Simmons**

Hope for deliverance from grasshopper plagues is contained in the announcement from Iowa City of the discovery there by Dr. E. H. Slifer, University staff Zoologist, of a parasite, fatal to this insect, but harmless to all others and to mankind. The discovery was made while examining the malpighian tubes, which correspond to kidneys in humans. Since the fall of 1933, research has been continued by Dr. R. L. King and Dr. A. B. Taylor. Experiments proved that the parasite increased at the rate of two million every fortnight, weakening the reproductive organs of the grasshoppers and killing them, in about two weeks. Thus far, the only way by which the grasshoppers make contact with the parasite is by eating food containing it. Experiments, to date have been confined to the laboratory, but will soon be made in the field.

"Mowing grass too low and too often is a practice that is doing a great deal of injury to lawns. This is the last word in the care of lawns and is based on long continued experiments by the Kansas State College. Three inches is the best height to set the lawnmower for mowing a blue grass lawn, according to the newest theory. Cutting the grass any shorter reduces its vigor. The Kansas authorities go so far as to say that mowing need only be done when the grass gets so tall that it is ready to fall over. All of these revolutionary statements are made from the viewpoint of maintaining a dense turf. From the standpoint of neatness, lawns may be cut a little closer, if desired. In fact, very few concerns are making lawn mowers that will cut as high as 3 inches. Nevertheless, in the light of experimental data it is likely that the tendency will be in this direction. One should not be hasty in mowing a new lawn. Let the grass grow as long as possible and mow it only when it will no longer stand up straight. New grass that is allowed to fall over has a tendency to smother out the tender young plants, resulting in a more open sod. During hot weather established lawns need not be mown except at intervals and then the work should be delayed until a cloudy day unless the lawn is being watered regularly."—**HORTICULTURE.**

The hardy English Walnut seems at last to have arrived. Wisconsin Horticulture tells of the trip to Poland of Rev. P. C. Crath of Toronto, Canada and of his bringing back nuts from trees growing high up in the Carpathian mountains, where temperatures of 40 degrees below zero are frequently (enjoyed?). These nuts are being sold at prices ranging from 3 for a quarter to 50 cents each, according to quality. No doubt nurserymen will propagate these, as rapid-

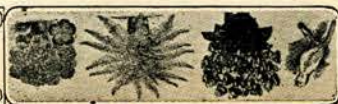
ly as possible, by grafting the young shoots onto black walnut seedlings so that in a few years, trees can be had by all. Was pleased to hear that 50 of these nuts have been planted in the nursery of Mr. Lawrence Elsinger, of Dell Rapids and shall watch their progress with much interest.

This year we are having a real spring and all plant life is coming along in a leisurely manner, as though there was no hurry and an abundance of time was at their disposal. This is quite different from last year when we were beaten out of one of our most enjoyable seasons, having only winter, summer and fall. Quite different too, is the moisture condition; as I write, May 15th, we have had 12.24 inches of precipitation, whereas last year, at this time we had but 2.27 inches. Our friends the birds seem to be enjoying the season to the utmost. We suspect the brown thrashers, that nest on our place, stole a march on the other birds, by taking a course of singing lessons, while in the south this winter, for never have I heard them sing so entrancingly. The robins seem to appreciate the moisture that has drawn the earth worms close to the surface and within their power. Speaking of birds, as I seldom do, having so many abler writers that cover the subject, here are a few lines from one of John Burroughs' books that is so good I am going to pass it along to you.

"To what widely different use birds put their power of flight. To the great mass of them it is simply a means of locomotion, of getting from one point to another. A small minority put their wing-power to more ideal uses, as the lark when he flaps his wings at heaven's gate, and the ruffed grouse when he drums; even the woodcock has some other use for his wings than to get from one point to another. Listen to his flight song in the April twilight up against the sky.

"Our small hawks use their power of flight mainly to catch their prey, as does the swallow skimming the air all day on tireless wing, but some of the other hawks, such as our red-tailed hawk, climb their great spirals apparently with other motives than those which relate to their daily fare. The crow has little other use for his wings than to gad about like a busy politician from place to place."

Our summer meeting at Hot Springs seems to be creating a great deal of interest among our members and many are planning to attend. We will have room for several additional passengers, in the cars that are going from here and any one in this vicinity planning to make the trip, is asked to write the Secretary, and transportation in one of the cars going from here, will be arranged for.



UNUSUAL PLANTS

Mrs. Geo. M. Jorgenson

The plants which I wish to discuss are not unusual from the horticultural point of view, but only in the sense that they are not commonly seen in local gardens. The unusual plants, botanically speaking, are those curious, interesting, and sometimes atrocious plants from the dense, humid jungles, and other far-flung corners of the world. Such of these are the fragile orchid, the giant Rafflesia, of Sumatra, which weighs 15 pounds, the strange Holy Ghost flower, and the carnivorous Venus' Flytrap and Pitcher Plant of our own wooded swamps. Reading of these strange and wonderful growing things and of the daring plant hunters who discovered them is a fascinating pastime when outdoor gardening activities are more or less suspended; but in January and February, the genuine garden fan begins to think of the best flowers and other plants he can raise on his own little plot. Too many gardeners are content to get along, season after season with only a few of the old reliable varieties. We may read about new flowers, but are too prone to follow the line of least resistance and raise only the plants we have known for years. The increased interest in Horticulture in America during the last decade has given us a host of good plants which were almost unknown, a few years ago. It is worth while, each year, to try a new shrub, vine, bulb, perennial and annual, from among the hundreds of new products of the flower-propagators' art. For most gardeners, a visit to the local nursery will disclose many an unknown plant, but a trip to a well-planted estate or a specialist in any line will stattle us with the vastness of our ignorance. From the galaxy of bulbs for spring, how often does one see anything more than tulips? Even hyacinths and narcissus are so little grown in South Dakota as to cause exclamations of wonder when seen in early spring. We can choose from a dozen spring flowering bulbs of known hardness and beauty for enchanting bits of color weeks before the iris transforms our dooryards from the drabness of winter. Unusual and intriguing are the drooping, checkered blooms of the guinea hen flower, Fritillaria Meleagris and the distinguished beauty of the Crown Imperialis. Winter Aconite, Crocus, Dutch Iris and the tulip species are other enchanting small bulbs of spring. Unless the garden is very tiny, a new shrub should be tried each year.

There is no end of small shrubs that are suitable and delightful yard and garden subjects. Let me mention here just a few that have given particular satisfaction in my garden, and a few others which I shall try at the earliest opportunity. The lovely Buddleia, or butterfly bush

is an old, old shrub, yet sprays of it at the flower show last year caused no end of questions and exclamations. The variety shown was the very rich, dark purple Ile de France, whose top dies down over winter, but whose growth is so rapid it must be classed as a shrub. A new variety has a hardy top, but with pale lavender flowers. Of the many cotoneasters, the yard can usually accommodate only the smallest forms. Their greatest attraction lies in the beautifully glossy, green foliage which arrives before other shrubs begin to bud. Cotoneaster acutifolia or raised as a large shrub. The flowers are inconspicuous, followed by dark berries which are liked by the birds, but the leaves turn scarlet in the fall, and remain on far into the winter. Cotoneaster horizontalis, with red berries is the most decorative of the rock garden members of the family. It is described as being evergreen, but has not been so in my garden during the two years I have had it, although the foliage is extremely tenacious. Possession of the garland flower Daphne Cneorum has given me unalloyed pleasure the past three years. This is a small shrub about a foot high with neat habit of growth, and some bloom appears at intervals all summer. Somewhat similar in habit of growth are the Helianthemum or sun roses, which form dense mats of pleasing foliage, but the dainty single flowers are of short duration, during the day. The Oregon holly-grape, Mahonia aquifolium, is another small shrub for the rock garden with glossy, spiny-edged leaves like holly. It has a good yellow blossom late in spring. Though really a tree, the Ailanthus, or the tree of heaven, may be cut down and raised as a shrub, as it sometimes top dies, over winter here. Its decorative leaves are like those of the walnut, and showy orange-red flowers open in July when there is a scarcity of bloom from shrubs. Why not try the Rhus Cotinus with its smoky purple mantle, the red leaved Japanese maple, Beauty Bush, Japanese Azalea, Deutzia, or a Tamaris, which is worth while growing for the fern-like foliage alone, without the addition of the graceful sprays of tiny pink flowers which shower the bush in early summer. The flowering crab, and the ever-blooming Philadelphus Virginal, so vast-ly improved from the old mock orange, are almost unknown in some communities, and all are lovely. Of the many available and easily grown summer flowering bulbs only two or three are commonly grown. These bulbs are really inexpensive, because after your initial outlay, the bulbs increase readily and a new supply will be found each fall when they are dug for storage.



One of my greatest horticultural thrills was experienced when my first St. James lily bloomed. On a June day, a stout, red, snub-nosed stalk forced its way through the black dirt where I had failed to mark the planting of a bulb. With amazing rapidity the bare stem expanded into a flower of dark and shining velvet. This lily is technically *Sprekelia Formosissima*, and belongs to the *Amaryllis* family, but the flower has narrower, more graceful, and slightly reflexed petals. Planted in May, it will bloom in a month, after which the leaves appear, and growth of the new bulbs begin. A hardy member of the *Amaryllis* family is *Lycoris Squamigera*, formerly known as Halli, which grows three feet high. Unlike the St. James lily, the leaves arrive first, die down, and in August the flower stalk shoots forth with a cluster of large pink lilies. Bloom from the exotic *Tigridia* will give you the thrill of a life time. The swordlike foliage and stout, slender stem look very ordinary until one morning when you least expect it, an enormous three petaled cup with barbaric dots is upturned to greet you. The flower is startling in color and size, but so delicate and fairy-like that it disappears in a day, but has a succession of other blooms to take its place. Three of the garden club members in Dell Rapids boasted of this rare treasure last summer. No better known are the *Montbretias*, a miniature cousin of the Glads, but with more brilliant colors, and ideal for fall gardens. *Tuberoses* are sometimes raised as house plants, but lend a wonderful fragrance to the outdoor planting. The Mexican single is earlier than the double. I have yet to try the exciting new *Ornithogalum* from South Africa whose dense spikes of very fragrant yellow or white blooms last over a month as cut flowers. Much larger than the foregoing interesting summer bulbs are the Summer Hyacinth and Peruvian Daffodil. Both of these have white flowers, are three to four feet high with wide decorative leaves. The former, *Hyacinth Candicans*, sends up a succession of spikes, each with a score or more of pendant, pure white bells. The Daffod or *Ismene*, has a cluster of very large oddly shaped flowers with gracefully recurved petals. The new bulb may well be an unknown lily. There are five hundred plants called lilies, of which about seventy are distinct and horticulturally well-known species. About a dozen of the most robust, and easily grown of these are being persistently crossed and recrossed into new and glorious hybrids. The brilliant midget *Tenuifolium* now has a companion in pink equally easy to raise and graceful. The class of *Davuricum* of which the so common candle-stick lily, *Elegans* is a variety, may be had in shades from the clear yellow Alice Wilson, through reds to dark brown with the same iron-clad hardness as

the parent. The tall Henryi lily with its golden yellow reflects bloom, is as hardy as the Tiger. *Testaceum*, the delicate Nankeen lily, *Cernuum*, and the green throated *Philippinense* are to be on trial for me next year. After a few years of study and work with the common flowers it is inevitable that a fancier will become interested in specialized branches of his hobby. He may have years spent in pleasant anticipation, many a glorious thrill and also not a few failures if he makes a serious attempt to grow all the species of one genus of one flower. *Pentstemuns*, *Campanulas*, *Dianthus*, *Phlox*, and others are very large groups of plants each containing dozens, and sometimes hundreds of specific varieties with variations in size and growing habit without end. I have six very different *Campanulas* growing in my garden from the tiny swaying blue bells of the wild *rotundifolia* to the three foot *pyramidalis*. *Campanula carpatica* in either blue or white is never out of bloom from June to September. It is a low grower forming dense mats of heart shaped leaves from which rises a continuous procession of large upright bells. *Campanula muralis* and *garganica* are of the same type, the crowded little flowers are spread all around the plant, quite hiding the leaves. *Campanula persicifolia* and *pyramidalis* are tall with showy large blue or white blooms over a shorter period of time. The *penstemon* family is usually represented here by *penstemon grandiflora* with wonderfully large bluish bells on a straight tall stalk. The rare white form of this variety is beautiful.

Penstemon barbatus torreyi is a slender graceful Miss with brilliant scarlet trumpet-shaped flowers with hairy throats, whence the common name of beard's tongue. It is not so large as *grandiflora*, but taller and with scores of the bright pointed bells hanging from early summer until hard freezing. It is very fine and satisfactory. *Penstemon ambiguous* is of similar type with pink and white buds and flowers, while *Penstemon alpinus* and *Penstemon augustifolius* are blue varieties, one dark, the other sky blue. For some reason, neither the *Veronicas* nor *Platycodons* are so well known as their merit deserves. The latter always causes exclamations of delight at their odd balloons and large open starred flowers. The *Veronicas* are difficult to obtain true to name, though they are widely different; all very hardy and predominate in blues. *Veronica saxatilis* may be had in blue, rose, and white. *Phlox* offer a wide field of choice from the many dainty *subulatas* through *phlox divaricata* and the early and late *phlox* commonly grown. These may be had now to begin blooming in early July and nothing makes a finer show than the nodding heads of this brilliant flower.

(Continued on page 72)

THOTS ON THE SHELTERBELT

John P. Vikla, Lonsdale, Minn.

I believe the 100 mile Shelterbelt is a good experiment. The first benefit is getting more money in circulation among people that need it very much. I think the belts of timber should be 1/2 mile apart and the entire belt should be 1000 miles wide. There should be a provision made for the use or consumption of the timber by the abutting owners when the timber grows up. For example, 10 years before cutting down or thinning of the trees, a farmer could plant another belt along side of it. Timber planted merely for shelter does not serve its full purpose. It should serve as building timber, fuel, fence posts, etc. Timber cannot attract rain as some people think, it can only conserve moisture by preventing winds from blowing the snow away into ravines. Such extensive timber belt would, to a great extent, control river floods. Our entire country should be properly afforested in the course of time. That would be the best way of reducing crop acreage. It rather seems to me that a 100 foot timber belt is too narrow to protect itself against storm ravages. Talk about the cost? Raise the revenue through adequate taxation of the excessively high incomes and tax the excessive wealth. No man needs a billion dollars worth of wealth. It was exploited from the public and should revert to the public.

CROWN GRAFTING FRUITS

Emil Pfander, Mandan, N. D.

The "Crown-Grafting" method of increasing choice varieties of plums or plum-cherry hybrids, should appeal to the average planter on account of the little time and expense involved. With a little persistence and practise, one will soon become adept in growing a few of your own, and be agreeably surprised by results obtained if instructions are followed carefully. As this method is seldom used by commercial propagators or growers, it will have no bearing on large scale production and is looked upon more as a "Hobby" or as a starting point for the amateur horticulturist. Many of the other fruits being harder to graft, efforts should be confined to the plums and plum-cherry hybrids. Almost every farmer has an orchard of some kind and herein will always be found a few seedlings from last year's pits or root sprouts from some bearing tree. Also at times, tame young trees have been broken off at the union by high winds and a year later, a strong young wild plum tree will have taken its place. These young sprouts or seedlings can be grafted, tops allowed to grow a year, and tree removed to a permanent location,

If a high headed tree is wanted, trim off all new shoots of the scion except the top one, as soon as these shoots are an inch long. By fall this same shoot will have made a tree from two to six feet in height, depending upon size of root used and after care. If you want tree to "head" or "branch" out, say two feet above the ground, pinch off an inch of the tender top or tip end, when shoot has reached this height. This will force lateral buds at this point and below, to start growth thus forming branches. Any shoots or growths appearing on the stub or underneath the scion, should be cut off from time to time thus forcing all possible growth into the section or grafted twig, and after the first summer, these persistent wild shoots, will generally vanish.

at the discretion of the planter. Crown-graft these young sprouts or seedlings of plum or sand cherry in early spring when buds are starting to burst, and before leaves are fully formed. Select from the "Head" of the parent tree, or whatever variety you wish to propagate, a few scions or twigs (the one year's growth) and cut up into four inch lengths with sharp shears. Now select your seedling or sprout which can be from one to four years old, and cut off the whole works about two inches above the ground, being careful not to split the remaining stub, nor damage the cambium layer or outer bark. With your knife, cut down an inch or so carefully through center of stub. Now take one of the scions, and on butt or heavy end, cut away the wood on each side about an inch in length to form a wedge. Holding scion in left hand, stub is now pried apart with knife tip with right hand and scion inserted to a depth of about an inch. Extreme care should be taken that bark of scion and bark of stub match evenly on one side, for here is where the "union" actually takes place. Now with a small brush, quickly daub all fresh cut surfaces of both stub and scion with liquid paraffin or beeswax to exclude all air and the operation is complete. To permit still better growing conditions, mound soil up an inch or more over the top of the stub, taking soil away again after growth has started in the scion. Do not touch scions once they have been grafted, as bark, or cambium layers of scion and stub may get out of line and fail to grow. Where stubs are large enough to permit, a scion can be inserted on each side, thus doubling your chances of success. As soon as new growth of scion reaches six or eight inches, tie to a stake to prevent high winds from breaking it off.

The American Tree Association reports that all tree-planting records in the United States were broken last year with the setting out of 163,000,000 trees on national and state forest lands.—Kablegram.





UNUSUAL PLANTS

(Continued from page 70)

Among the earlier phlox I have six varieties, *Phlox divaricata* being about a foot tall. The gold of perennial alyssum surrounded by masses of this lavender blue phlox which blooms simultaneously is a sight of breath-taking loveliness.

Why not try the *Polemonium*, with its flowers of a never-to-be-forgotten shade of blue; *Vesper Iris*, which blooms only in the evening; gorgeous Japanese *Iris*; some or all of the lovely Plantain lilies with their handsome foliage and flowers; of the Christmas Rose. The latter *Helleborus niger*, will astonish you by bursting into bloom during a warm spell anytime after December. If you want some new plants of rock bound hardiness, try the new varieties of Day Lilies which have been altered in so many ways that we now have day lilies which bloom at night.

If you are disappointed because of the depressing promptness with which the foliage dies from your *Mertensia Virginica* and Dutchman's britches, you can extend their season far into the summer. *Dicentra eximia* and *Dicentra Dregana* both are everblooming with fine fern-leaved foliage about ten inches high. The former has racemes of rose hearts similar to the common bleeding heart, while the latter has flowers of creamy white, tipped with pink. If you have a shady nook, try *Mertensia ciliata* with its dainty pink and blue chiming bells. I found this two foot high *Mertensia* blooming the fifteenth of July in the Shoshone Canyon in Wyoming. It is very similar to the early *Virginica* variety but larger and later.

Three other interesting plants which cause much favorable comment all bloom a great length of time. The poppy mallow, *Callirhoe* is a trailer with foliage like a delphinium, saucer shaped, rosy purple flowers and everblooming. Evening primrose, with its clear sulphur-yellow flowers and long red ribbed green leaves is fine.

It does not belong to the much neglected *Primulas* as the name implies but is *Oenothera Missourienses*. Last, but not least, is a wonderful plant called *Azaleamum* which is a cross between an azalea and a chrysanthemum, combining the hardiness of the latter and early blooming of the former. It forms a low growing bush about two feet each way with a brilliant blaze of pink flowers completely through all the heavy frosts of fall.

Obtaining plants of the *Talinum*, so little known as to have no common name, and of the Montana state flower, *Lewisia rediviva* is a delight I have yet to experience. The former is a perennial somewhat similar to moss roses; while the latter flower resembles a water lily of the most enchanting shade of pink. It should do well here for it grows naturally on a rocky wind-

swept slope and is inured to temperatures far lower than we experience in South Dakota.

My article is too long now to discuss annuals, but there are dozens of new ones more beautiful and just as easy of culture as the ones we have been growing for years. The outstanding feature of the plants I have mentioned, aside from their beauty, is their hardiness and ease with which they may be grown. With very ordinary care and attention, literally hundreds of new varieties may be made to feel at home in our gardens. Once you acquire the desire to collect and possess the many interesting plants you never recover. You are always on the alert, looking for more and better plants than the ones you now own.

SOUTH DAKOTA NOTES

(Continued from page 67)

the combs are old and dirty cut the combs out and burn them and then bake the frames until they are a light brown color, or boil them in water to which a small amount of lye has been added. The South Dakota law provides that anyone who leaves exposed diseased combs where other bees may have access to them is subject to prosecution.

Deciduous hedges may be trimmed several weeks before growth starts in the spring, but probably the best time to trim, provided they are trimmed each year, is to trim them about the latter part of June after spring growth is practically completed. This gives the wounds a chance to heal and the hedge time to adjust itself before winter. Growth is a little slower in the evergreen hedges and they should be trimmed a little later. A hedge that is wider at the bottom than at the top will have more leaves near the ground than a hedge that has straight sides or sides that slope in toward the base of the plant.

GARDEN CLUB NOTES

(Continued from page 65)

Section 2. The president shall appoint all necessary committees.

Article II—Dues

Section 1. The membership fee, if any, shall be determined by the officers and shall be approved by vote of the members present at any regular meeting.

Article III—Meetings

Section 1. Meetings of the Executive Committee shall be called by the president, who shall preside at such meetings.

Article IV—Quorum

Section 1. members shall constitute a quorum for the transaction of business at any meeting.