Dr. N. E. Hansen

Volume..VI. Number XI.

NORTH AND SOUTH DAKOTA HORTICULTURE

NOVEMBER 1934

NATIVE YUCCA OF SOUTH DAKOTA

NORTH DAKOTA HORTICULTURE SOUTH DAKOTA

Nov. 1934

THE SHARP-TAILED GROUSE

O. A. Stevens

These birds were first described from the region of Hudson's Bay. Together with a number other of our northern birds, they were described in the "Natural History of Birds", by George Edwards, published about 1745. The Lewis and Clark Expedition found grouse on the plains of the Columbia River which were regarded as a distinct species. Considerably later, Robert Ridgway gave a different name to the birds found in north-central United States. Thus we have three geographical races of this grouse which differ only slightly in appearance. The first extends from Central Alaska across Canada through northern Manitoba to Quebec. The second ranges from British Columbia to northern California. The third is found from southern Alberta and Manitoba to eastern Colorado and originally as far east as Michigan and Illinois.

The Sharp-tail differs from the prairie chicken in its general grayer color and pointed tail. The feathers of much of the back bear round white spots and those of the breast each have a dark V-shaped mark. The belly is unmarked whereas the entire underparts of the prairie chicken are marked with wide brown bars.

The Sharp-tails are birds of the unsettled parts of the country. They have everywhere withdrawn as man appeared. In 1875 Major Coues found them common at Pembina and down the Missouri River nearly to Yankton. They were formerly common all over Minnesota, but now have disappeared from all but some of the northern parts of the State and are found chiefly in brush land, less commonly in the prairie country. They are said not to move southward in winter though they do leave the open country for the protection afforded by the woods and coulees. Major Coues states that during the summer he found them mostly in the underbrush along the streams in the region of the Red, Pembina and Souris Rivers. In cold weather he sometimes found them remaining through the day in large cottonwood trees along the Missouri River.

The nesting is not much diferent from that of the prairie chicken. The nests are variously placed, sometimes in brush, sometimes in weeds or grass tufts. The eggs average slightly smaller than those of the prairie chicken, quite dark olive-buff when fresh, becoming lighter with age. Commonly they are not spotted, but sometimes speckled with fine dots of brown. The female birds are not easily frightened from their nests. Major Coues relates that he once drove a four mule army ambulance over a nest, the bird finally flying out behind the mules.

Volume VI. November, 1934 Number XII.

Entered as second class matter at the Postoffice at Pierre, South Dakota, under the Act of August 24, 1912.

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

Published monthly at Pierre, South Dakota, by the North and South Dakota State Horticultural Societies.

TABLE OF CONTENTS Page

The grouse eat less grain than the prairie chicken and seem to show a preference for wheat rather than corn. Fruits of rose, dogwood and other shrubs are eaten in large quantities. Perhaps most characteristic is the extent to which buds, flowers and leaves are eaten (31 percent). Buds of poplar, willows, dwarf birch and other woody plants are eaten freely. Quantities of blossoms of the pasque flower have been found in the birds' crops, also heads of dandelion. Insects comprise a part (10 per cent) of the total food, and are eaten freely during the summer. Grasshoppers are a prominent part of the insect diet. Norman Criddle found in Manitoba that there was a close agreement between the numbers of grasshoppers present and the number of grouse.

The behavior of the birds in spring is much like that of the prairie chicken. Just at daybreak both sexes assemble at certain dancing grounds which may be used year after year. The males draw back their heads, expand their air sacs, spread their tails, droop their wings, ruffle their feathers all over the body and strut crazily about. At intervals their heads are lowered and the air sacs deflated with a hollow sound that carries well in the usually quiet morning air. The air sacs are not as large as

(Continued on page 132)

NORTH DAKOTA STATE HORTICULTURAL SOCIETY NEWS LETTER

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

The State Seed Department issues a very timely warning about the purchase of foundation potato seed stock. Certainly if one intends to start raising potatoes for sale as seed he should buy the very best possible foundation stock. It is next to impossible to build up a high grade stock of potatoes from one badly affected by disease. The State Seed Department has a list of potato growers who have almost disease-free seed which they will gladly furnish you without charge.

Evidently a great deal of worthwhile work has been done on the International Peace Garden in the Turtle Mountains during this last summer. However, it must be remembered that such work is largely preliminary, and that the main constructive program must occupy many years. Your secretary has designs on another trip to Dunseith next year to make a personal inspection of the changes the past two years have brought forth. Incidentally, this Turtle Mountain region seems to be becoming increasingly popular as a summer camp site. The church with which I am affiliated is participating in the construction of a summer camp for boys and girls on the shores of Lake Metigoshe.

A correspondent asks about the possibilities of raising hops in North Dakota. This is another one of the crops which looks like a bonanza when one is far away from it. It is not suited to the North Dakota climate, though the hop vine can be raised as an ornamental, especially in partially shaded locations.

If you wish to try something new in the yellow sweet corn line I suggest Spanish Gold. Its season is between Golden Gem and Sunshine. The variety originated in Connecticut and has much resistance to wilt, though this feature is not of importance in North Dakota.

Some time ago we received a letter which had everyone stumped for a while. A lady asked about Multebear, a berry which was known in Norway. One of our Home Demonstration Agents discovered its botanical name after which looking up information was easy. This berry is the one known in Alaska as Salmonberry. It resembles the raspberry somewhat but is not adapted to North Dakota culture.

Florida has never been able to compete with California in lemon growing. However, a new variety of lemon called Perrine produced as a cross between the lemon of Sicily with the Mexican lime by Dr. Swingle of the U. S. D. A. is reported to be giving promise for the successful establishment of the industry.

So many letters have been received because of the mention of the use of red copper oxide as a seed treatment that I suggest that anyone interested secure Bulletin 643 of the New York Experiment Station, Geneva, devoted to the subject.

A blue grass lawn should not be covered in the fall with any sort of mulch. A spot where my youngsters piled up a small pile of leaves last fall has been entirely bare all summer.

The following is taken from the Scientific American for October: "When cut flowers are put in copper vases, they remain fresh from one to three days longer, according to John Ratsek, floriculturist at the New York State College of Agriculture. In one test, poinsettias lasted 16 days against 8 days in a tin container. This is due to the fact that some copper dissolves in water, says Chemistry and You, and hinders the growth of bacteria which cause flowers to wilt. Roses, snapdragons, stocks, delphiniums, primroses, carnations and other popular varieties of cut flowers keep longer".

Reports have been coming in from the Warba potatoes distributed as a premium last spring. While almost everyone complains of bad weather, Warba has in almost every case been a large yielder and is complimented because of its earliness. These two features are the things which recommended it to us.

The U. S. D. A. reports that if sweet corn is scalded before freezing it will come out of storage six months later approximately like corn only four hours from the field. This scalding process evidently overcomes the objectionable cobby taste which was sometimes present in the frozen corn we put up a few years ago. Personally, I feel that this method of preserving sweet corn will eventually become a very important one.

Plum, sandcherry or chokecherry seed which is to be planted in the spring is much better stored buried in the ground out-of-doors in the shade than in a root cellar. In the root cellar, seed is likely to germinate in midwinter and the seedlings die before spring.

A prospective student in horticulture who finds it necessary to take the first two years of college work in another institution asks what type of subjects should be studied. We recommended basic sciences such as chemistry and physics, various branches of botany and general cultural subjects such as English, history and economics. One always gets much more from a

(Continued on page 125)

PLANNING FOR WINTER BEAUTY

Purley L. Keene

The outdoor living rooms about the home grounds may be made attractive and beautiful in the winter time as well as at other times of the year. October brings a landscape of rich and glorious beauty and with it, to some people, a certain degree of sadness and loneliness as the time approaches to tuck our gardens in for their long winter sleep. First though let us enjoy the garden during the fall and early winter months. There is still some late bloom showing in the perennial flower borders and annual flower beds and plenty of fall color in foliage, fruit and bark. We can make careful note now of those plants which make our grounds more attractive during the fall and winter. We should go over our own yards and record such thoughts and ideas which we may gather in order to keep our gardens as beautiful as possible during the winter months.

In the parks and woods and in other folks' gardens we may see much glory of foliage that our own gardens lack. By making a note of these now, you will be able to secure these same plants from nurserymen for next spring's planting. As the foliage becomes thinner on trees and shrubs look over your plantings carefully—view the home grounds from all windows of the home and from different angles in the garden. Plan on making the entire place homelike, private and individual, and have the various views from the principal living room windows, as bright and attractive as possible throughout the entire year. This will enable us to secure comfort, beauty and pleasure from the garden and yard even in the bleakness of winter.

Evergreens, shrubs and trees with bright colored bark and ornamental fruits will help to keep the grounds colorful and attractive during the winter. If you lack any of these or if they are not properly distributed to give the proper effect, now is the time to make note of such additions and changes as may be desired. Although it may not be possible to make additional plantings now, one can at least plan the planting for next spring. With so many different plants giving colorful display there should be no reason why your grounds should look bare or colorless in winter. Carefully planned plantings will make your garden pleasant and attractive throughout the entire year. Window boxes that have been gay with flowers during the summer and early fall may be made just as cheery during the winter by planting them with little evergreens. These small specimens are being appreciated more and more. They are being used each year in greater quantities for porch and window boxes. Surely a window box of these interesting plants would be something new, attractive and well worthwhile.

One of the happiest uses which tubbed or potted small evergreens can be put to is the use as a living Christmas tree. Black Hills Spruce makes a very satisfactory tree for such purposes and when it has outgrown its tub it may be transplanted into an appropriate place in the yard. These Christmas trees may be used after the holiday seasons to decorate the porch or the entrance to the home until spring when they may be moved into the garden. When growing evergreen trees in tubs or large pots, porch or window boxes, it is necessary to give the tubs a little water from time to time during the winter in order to prevent the soil from becoming too dry.

Lists of plant material for fall and winter effects can be secured from most nurserymen and experiment stations. Among the evergreens which are hardy for South Dakota we have the Black Hills Spruce, which is perhaps the most satisfactory tree considering all factors. The Colorado Blue Spruce and Concolor or white fir are apparently just as hardy and slightly more ornamental. They are, however, higher priced. The Black Hills Pine and Douglas Fir have proven fairly hardy and may be used. Others which are not quite as hardy or desirable are the Norway Spruce, the Scotch Pine and Red Cedar. There are a number of dwarf evergreen trees such as the Dwarf Juniper, Trailing Juniper and Mountain Pine which may be used and are especially adapted to foundation planting. All of these plants remain green throughout the winter and add immensely to the beauty of the grounds with their varying shades of green against the white snow.

Among the deciduous trees which have colored foliage in the fall the oaks and maples head the list. The hard maple and Tartarian Maple are fairly hardy in the eastern part of the state and give very beautiful shades of red in the fall of the year. The Ash and Elm give us shades of yellow. Some of the deciduous trees which have ornamental fruits or pods hanging on them during late fall and early winter are Catalpa, the Honey Locust, the Kentucky Coffee Tree, Mountain Ash, the native Basswood and the birches. Some of these trees have seeds which are highly relished by the birds and attract the birds to them during the winter months. This includes particularly the moun-

(Continued on page 128)

EXTRACTS FROM THE DIARY OF A TRAVELLING MAN

W. A. Simmons

Oct. 2nd: I was extremely sorry to miss a visit from our friends, the Truaxes, of Crosby, North Dakota. I was in town the day of their call but had gone down town and so missed them. They were flying south and did not wait for me, but I hope they will be able to call on their way home, and I am sure they will have some very interesting things to write about for our magazine.

Oct. 10th: November is the month in which we must take thought, also action, about giving winter protection to the plants in our garden that require it. In most gardens this work can not all be done at the same time, as the requirements differ in the case of different plants.

For instance, in the case of newly planted bulb beds such as tulips, hyacinth, and narcissus, we want to keep the ground unfrozen as long as possible so as to allow the utmost time for root formation, so these beds should be covered early and heavily. For such beds leaves can be used, while for perennial plants leaves which mat down and rot would probably smother the plant and do more harm than good. The statement is often made and is probably true that more gardens are smothered than frozen each winter.

Aside, however, from bulb beds and deeply planted tender lilies, the later the mulch is put on the better. A mulched bed makes a very tempting winter home for field mice, and unless the protecting material is put on after the ground is well frozen, we are apt to find that the only living things remaining in that comfortable bed are the mice.

Proper material for mulching is apt to be unusually hard to obtain this year because of the drouth. We have usually used wild hay but probably will be unable to get any this year, and if forced to use tame hay or straw we will have to use great care in not spreading it too deeply, as this material will mat down much more than wild hay.

In protecting tender roses probably the best plan is to mound up dirt in a cone form around the plant to a height of about a foot, then tie straw or dried garden stalks around the tops and cover the whole with a portable roof of some kind, a box or a cone made from heavy paper, to keep moisture from rotting the plant during the freezing and thawing that usually accompanies our changeable winter weather.

Fortunately we have many good roses like the rugosa hybrids that do not require such careful covering but practically all of our climbing roses must be taken off their trellis, carefully wrapped in burlap or straw and then covered with at least six inches of soil. In general it may be said that most perennials are safer under a light covering, and if the material is apt to mat down badly, such covering should be light enough to quickly dry out after being moistened by sleet, rain, or melting snow.

Unless newly planted most hardy shrubs need no protection other than the leaves that naturally gather around them. If newly planted, a rather heavy mulch of hay, straw, or strawy manure is advisable.

Speaking of hard wood leaves, of which we have few in the Dakotas, Mrs. E. W. Gould in an article in the **American Home** writes, "They are nature's own covering, but she drops them lightly about the plants one by one, never packing them, so when using them we would do well to imitate her proceeding."

Oct. 16th: One of the pleasant things about the Chinese Elm is its ability to hold its leaves long after the American Elm and the Ash trees are denuded of theirs and are standing gaunt and bare, strongly suggesting the coming of winter. Also one appreciates the petunia, the hollyhock, the Michaelmas Daisy, and the hardy chrysanthemums that are still giving color to the garden long after killing frost has laid most flowers low.

I saw a very pretty bed of double portulaca in bloom today, but think it must have been covered the night of the killing frost. The little blossoms in many colors looked like little rose buds, and this double form seems a big improvement over the old single sort. We will try to remember these at seed planting time next spring.

NORTH DAKOTA NEWS LETTER

(Continued from page 123)

special course after he has taken plenty of the sciences which under-lie it.

A correspondent asks whether there is a way to keep horse radish all winter, suggesting that grated horse radish put up with vinegar does not store so well. Horse radish roots may be kept in storage like beets and carrots and grated when wanted, and, of course, roots may be dug from the garden in the spring rather than in the fall.

A friend asks whether commercial fertilizer should be put on the lawn in the fall. I think I would prefer to wait until spring because the quickly available fertilizer may be washed out before spring comes. An application as soon as

(Continued on page 129)

South Dakota winter meeting will be held at Vermillion, January, 16-17.

REPORT OF THE ANNUAL CONVENTION OF SOUTH DAKOTA STATE HORTICULTURAL SOCIETY

Held at Dell Rapids, Jan. 17 and 18, 1934

By Max Pfaender, Pierre, S. D.

Each winter for many years the amateur and professional horticulturists have met in some town in South Dakota to discuss their problems and to exchange views on the culture of trees, fruits, shrubs and flowers and related subjects. As a rule the society is invited by some community where there is a good live garden club, and where the people are interested in the various branches of horticulture. This winter the society accepted the invitation from the Dell Rapids Garden Club, and all the visitors were royally entertained. It was one of the best attended and most worthwhile meetings that the writer has attended, the last ten or fifteen years. The program covered many subjects and it was thought that a brief report would be interesting to those who have become interested in gardening. The complete papers, as read, will appear thruout the year in the fine little magazine "Dakota Horticulture." Every horticulturist and garden lover should read this magazine and it is practically free, as it can be secured by joining the State Horticultural Society, with membership dues of one dollar, and this also entitles the member to a dollar's worth of new seeds and plants. These so-called premiums are mostly the newer things created by Professor Hansen at Brookings and Professor A. F. Yeager of Fargo, N. D. If interested, further details can be secured from the editor and secretary, Mr. R. W. Vance, of Pierre, S. D.

Our president, Mr. John Robertson, the fruit wizard of Hot Springs, S. D., unfortunately was unable to attend due to poor health, but Mr. F. X. Wallner, large vegetable grower of Sioux Falls, as vice president, had charge of the meeting, and everything went along famously. After opening of the meeting in the forenoon, the Mayor of Dell Rapids gave us a hearty welcome, which was followed by a very suitable and appropriate prayer by one of the local ministers.

The president's address, which had been sent in, was then read and in it Mr. Robertson stressed the matter of water conservation and recommended the construction of many small dams on private lands, by the owners. He showed how horiculture was directly related and dependent on proper water conservation. To this address, Mr. Wallner added some remarks advocating state parks and recreation centers.

The next number was a very interesting and instructive talk by Mr. J. B. Taylor on "Our Common Plants," and he stressed the value and importance of using largely native varieties of shrubs, trees, perennials and even native rock plants. Then followed the election of officers which resulted in the re-election of the full ticket, showing that there is complete harmony in our society. As usual, the committee was then appointed to revise the fruit list of recommended varieties for the several districts of the state, and this new and up-to-date list will be published later in the "Dakota Horticulture" which is a reliable guide for every fruit grower, especially beginners or amateurs. It is a resume, or compilation of the experiences of many fruit growers thruout the state. Then followed the appointment of a committee on obituaries, and one to audit the books of the treasurer.

Then followed a very fine paper on "Big Stone Lake" written by R. D. Jones, and read by Dr. J. W. Ross, both of Milbank, S. D., in which the author gave a very fine history and description of this wonderful lake, and spoke of the proposed project to raise the water level of the lake which has been steadily falling for a number of years. He also suggested that "Big Stone Lake" and vicinity should be designated as a state park, and I feel that any one who has been there would agree on that point.

Mr. Underwood of Willow Lakes then gave a very practical talk on tree planting for farms, and also suggested the idea of planting strips of trees of the proper varieties to serve as snow fences.

Dr. Brenckle, a physician from Northville, S. D., then gave a very interesting short talk on birds, after which all visitors from out of town were invited to partake of a bountiful luncheon, as guests of the Dell Rapids Commercial Club, after which most of the visiting horticulturists and many of the business men gave short talks. On leaving the Club House each visitor was presented with a copy of the beautiful calendar put out by the business men of Dell Rapids, on which there was a colored picture showing a landscape at the Dells of the Sioux River near the city. Several of the speakers had referred to this beautiful scenic spot, and urged that it be incorporated in the proposed State Park System.

After luncheon we are returned to the community Auditorium where the meetings were continued, and Mr. F. X. Wallner gave us much information about Professor Yeager's new varieties of vegetables, after he explained that, at the last minute, Professor Yeager wired that he was unable to be with us, which was a keen disappointment to all. Mr. J. B. Taylor of Ipswich also spoke very highly of Professor Yeager's work in breeding new varieties of vegetables and fruits, and especially recommended the Jumbo tomato, and the Bison tomato, both of which can be successfully grown in any part

of South Dakota, and in most parts of North Dakota. The Golden Bison is a beautiful golden yellow tomato, and will appeal to those individuals who can not eat red tomatoes with impunity. The new Buttercup squash is by far the best and meatiest squash in existence at this time. The two new gooseberries, "Pickswell" and "Abundance" are both of fine quality, have long stems, both pick easy and are very hardy and prolific. Professor George Miller, of the State College at Brookings, then gave an excellent paper on the "Difficulties in Germinating Seeds." Next was a very fine, practical and partly humorous paper by Hon. T. M. Bailey, Sioux Falls attorney, who, following in his father's foot-steps, the late C. O. Bailey, has developed a keen interest in horticulture, and has acquired a suburban tract, and has been busy the last few years developing it as a home. The subject of his paper was "The Suburban Home and Its Advantages." This was followed by Chas. McCaffree's talk on "Flower Shows and Garden Clubs," which was full of excellent ideas.

One of the best talks of the entire convention was given by Dr. J. J. Clark, physician of Sioux Falls, who spoke on "Conservation of Our Natural Resources." This was a high class oration, and the doctor surprised us all, who had not heard him before. Dr. Clark was well posted on the aims of the Isaac Walton League, and brot out many points which coincided with President Roosevelt's ideas, and his work done by the Civilian Conservation Corps, such as conservation of waters, game and fish, control of erosion and forest fires and reforestation.

Mrs. Pirsch of Sioux Falls then gave a very interesting report on the flower show conducted last summer by the Sioux Falls Peony Society.

This was followed by an excellent talk by Professor Purley Keene of Brookings State College, on "The Outdoor Living Room,' after which the High School Orchestra delighted us with several musical numbers. Dr. N. E. Hansen, our great plant wizard, then gave his report on his year's plant breeding work, and a very excellent paper on "The Relation of Horticulture to the Present Economic Situation" in which he forecast great changes in many social and economic conditions. He foresees people going back to the land, onto small farms and garden plots, and different types of communities, a new solution for labor problems and unemployment. The professor is a real philosopher, and many years ago I heard him make various forecasts on the general trend of our economic and social life, which have all come to pass with fair accuracy. He also mentioned a particular grass that he found in his traveles, crested wheat grass, which he claims is the best species to use in replacing our native species of prairie grasses.

The meeting then adjourned to look over the exhibits which had been placed, and included a fine collection of apples displayed by John Robertson, and a sample of Haralson apples displayed by E. A. Gates of Rapid City, a large assortment of vegetables shown by F. X. Wallner, which included some of the Buttercup squash, cut open and showing the big golden center, with small seed cavity. Another worthwhile display was a collection of many kinds of native and imported woods, each sample being a polished board 3x12 inches, and about three-quarters of an inch in thickness. Max Pfaender, Supt. of the Pierre C. C. C. Camp, showed his blue print plans of Farm Island Park, which aroused the interest of many of those present. At this time a number of the visitors were taken on a sight-seeing tour around the city, thru the parks and out to the beautiful dells near the city.

We then repaired to the church basement where the annual banquet was held. The food and toasts were both of the same excellent quality. A beautiful and talented little lady, Melba Peterson, added to our happiness by playing several cornet solos. She was accompanied at the piano by Clarence Olson. Later Mrs. Olson, Clarences mother, sang while he did his usual good work at the piano. The feature of the evening was a talk on some native flowers of our state illustrated with beautiful colored slides of the following flowers: Pasque flower, Canadian violet, lady's slipper, dog-tooth violet, marsh marigold, wake robin, jack-in-the-pulpit, Dutchman's breeches, sheep sorrel, bloodroot, Bessey's wild phlox, flase mallow, yucca, verbena, blue and purple beard's tongue or penstemon, pincushion cactus, opuntia, evening primrose, gumbo lily, mariposa lily, prairie star, death camis, loco-weed, Montana lily, bunch-berry, and fireweed. Next morning the program opened with a very excellent paper, by Mrs. Jorgenson, of the Dell Rapids Garden Club, on "The Romance of the Garden." This was followed by the report from the committee on state parks, and it was resolved that this committee work with the Isaac Walton League to prepare a suitable bill to be presented to the next legislature. Then Mr. Elsinger of Dell Rapids gave a very good practical talk on windbreaks, and stressed the value of clean cultivation. After this, Mr. J. B. Taylor read the report on the International Peace Garden prepared by Mr. Joe Parmely of Ipswich, S. D. Mr. Barr then gave a very good paper on "Our Native Prairie Flowers," and then Mr. E. A. Gates spoke on the Home Grounds Contest as conducted at Rapid City, S. D. This was followed by a paper on "Foreign Plant Explorations" by Mrs. Nesby of the Dell Rapids Garden Club. This was a very fine paper and full of information and interest.

A short recess was then taken for luncheon and the program was continued by a paper by Professor Hilleboe of Augustana College, on "The Care of the Home Grounds". Then followed a paper by Mrs. Pearson in which she gave a detailed account of the organization and activities of the Dell Rapids Garden Club. Next was a good paper by N. O. Monserud of Sioux Falls, who spoke on "The objectives in Home and School Landscape Architecture". Mrs. Mary Simpson of Dell Rapids then gave a good paper on "Perennials from Seed". This was followed by a talk by H. N. Dybvig, nurseryman of Colton, S. D., on "Landscaping Public Grounds", and emphasized the need of the services of professional landscape architects in the development of all public grounds. Without such plans, he said, much money may be wasted, as each new set of officials would have their own limited ideas of what to do and the final completed project would be far from perfect. Then there was another garden club talk, and this was followed by a paper on "Landscaping Artificial Lakes in South Dakota", by Max Pfaender, in which he emphasized the need of a plan for all state lake projects, and the importance of much tree planting around these lakes, and some suggestions as to the ownership of the land adjoining these lakes. Mrs. D. B. Getty of Sioux Falls then gave a wonderful talk on birds, and supplied us with some bird music by means of a phonograph. Then followed a very fine display of lantern slides by Miss Webster, landscape architect of Sioux Falls, showing many fine old gardens in Europe, and also some of the best examples of landscape architecture in this country.

The high school band furnished us with some very fine music on the afternoon of the second day. The performance of these young people was greatly enjoyed and such work is surely to be commended.

The reports of various committees were then heard and some other routine business matters taken up, and a vote of thanks was given to the city of Dell Rapids, and especially to the Garden Club, and the meeting then adjourned.

This society has no ax to grind, and its only purpose of existence is the exchange of information, the assembling of horticultural experiences and the dissemination of the same. From now on there will be more demand for information than ever before, on tree-growing, forestry, fruit culture, landscape gardening, vegetable and flower growing, bees, birds, nuts, pools and rock gardens. All those interested in any one of these phases of horticulture can learn a great deal from the experiences of others, and for their own good should join our State Horticultural Society.

Our next meeting will be held at Vermillion January 16 and 17. We have promise of having an exceptionally fine meeting. A program will appear in the December issue.

PLANNING FOR WINTER BEAUTY

(Continued from page 124)

tain Ash tree, the birches and Thornapples. Some of the deciduous trees such as the oaks and black walnuts attract squirrels which add to the attractiveness of our winter landscape.

Among the shrubs we have quite a number whose leaves turn various shades of red, yellow and coppery colors during the fall. They include such as the Sumac, the Burning Bush, Cotoneaster, Dogwood and Arrowwood. Some of the shrubs have ornamental berries which hand on during late fall and in some cases all through the winter. This list includes such as the Japanese Barberry, Cotoneaster, Burning Bush, Rose bushes, Snowberry, Coralberry, High Bush Cranberry, Wayfaring tree and Sheepberry or Blackhaw. Some of these plants are native and may be secured from the timber land. Shrubs which have colored bark add materialy to the winter beauty of our grounds. This includes particularly the Dogwood, some varieties of which have red and some yellow bark, the willows with their golden, yellow and gray colored barks, the Russian Olive, and Buffalo berry with their silvery gray bark, rose bushes with their red shoots, and the Viburmams, and the sumac. Not only is the sumac attractive throughout the entire summer by providing contrast of form in its leaf characteristics but it also retains a dense panicle of red berries throughout the entire winter.

Among the vines which are attractive during the winter months are the Bittersweet with its scarlet berries, the Woodbine and Engleman's Ivy with their colored foliage in the fall and their bluish purple berries during the winter months, the Chinese Matrimony vine with its red fruit, and our native wild grape with its blue fruit which will hang on well into the winter, the Twining Honeysuckle with its trumpet shaped flowers and scarlet berries.

Should you be interested in securing a more complete list of trees, shrubs and vines which may be grown to improve the appearance of our home grounds during the winter months, it may be secured by writing to the Horticulture Department of State College, at Brookings.

South Dakota winter meeting will be held at Vermillion, January, 16-17.

GROWING POTATOES IN SOUTH DAKOTA

O. S. Jones, Nunda, S. D.

(Paper given at our Dell Rapids meeting, Jan. 1934.)

Soil, seed, preparation of the soil to plant and cultivation are the most important factors in securing a profitable crop of potatoes. Land which has been in small grain and sweet clover is ideal soil for potatoes. It is best not to plow this land until spring. Wait until the sweet clover is three or four inches high and turn it under about 6 inches deep. After plowing run over it with a culti-packer or heavy disc set almost straight to avoid turning any of the sweet clover plants up. Let this stand land about two weeks before planting. This will let the sweet clover wilt and decay. Four years ago I had a field of potatoes prepared in this way which yielded 200 bushels per acre, and were not planted until the first of June.

The soil should be a good rich loam free from alkali and well drained. My best yield of potatoes last year, 120 bushels per acre, were grown on land which had been in barley the year before. This land was plowed the first of August about 6 inches deep. There was a heavy crop of pigeon grass and stubble which was turned under and decayed and made the soil fine and fluffy, and it held the moisture well through the dry season. My other field which was just as good soil but which was not plowed until late in the fall only yielded 70 bushels per acre with the same kind of seed and cultivation.

Seed you plan to plant should be kept in a cool place where they will not start to sprout before planting time. The seed should be free from soap and dry rot which do more damage to the crop and quality of the potatoes than anything else. When cutting the seed potatoes for a good yield, care should be taken not to cut them too small. A potato the size and twice the size of a hen's egg should be split only once lengthwise. Cutting this way splits the bud end which if left whole causes too many small, weak sprouts to come up and makes a lot of small potatoes. If you go through a field of potatoes about the time they are coming into bloom, pull up a good thrifty hill and you will find a large piece of potato which has helped furnish strength and moisture. Especially in a dry season is a large piece necessary to produce good potatoes. Next pull up a weak spindly plant and there is no piece of seed there to give it a start. A small piece soon decays and there is nothing left to give the plant a start.

Scab and dry rot can best be controlled by giving a hot formaldehyde treatment. Our State College will give you a bulletin on this treatment.

I always disc and drag the ground just before planting. I plant my potatoes with a two row planter about 4 inches deep and 7 inches apart in the row. I set the disc covers so they will hill them up quite a lot. In about a week I harrow this down to kill the weeds, and harrow at least once more just when they are coming through the ground.

The first cultivation starts when the plants are about four inches high. I cultivate quite deep and throw enough soil among the plants to cover the weeds which have started. It won't hurt the plant if you cover part of the leaves. In fact, I covered all the plant with about one inch of soil and in a few days they would all be through the ground and the weeds will be whipped completely. After the first cultivation, I generally use the disc hillers in second and third cultivation, throwing some soil among the vines each time.

It is very profitable to use the common two horse weeder after each cultivation until the vines are 12 to 15 inches high. Always go through them lengthwise the same way they are planted and cultivated.

NORTH DAKOTA NEWS LETTER

(Continued from page 125)

the grass starts to grow will be much more effective.

Very often people forget that plants require something more than warmth and a good soil for their growth. Plenty of light and many hours of it are essential as well. It is this shortage of daylight hours in winter which prevents the winter growing of vegetables from being profitable in greenhouses here. Fall crops and spring crops are well enough, but little growth in plants takes place between November 1 and March 1.

The remainder of this month's news letter will be made up of interesting items left over during the past year, due to the fact that your secretary had the misfortune to break an elbow during the past few days. (No doubt the pheasants are rejoicing).

In the English Gardeners' Chronicle, the suggestion is made that if weather conditions are bad so bees do not fly, fruit may be pollinated by hand with the aid of a rabbit's tail fixed to the end of a bamboo cane.

Fritz Bahr in the Florists' Exchange recommends covering Canterburybells with dry straw in the winter. He says the leaves and especially the center of the plant must be kept dry if they

(Continued on page 132)

HOW ARE WE TO SAVE THE TREES AND SHRUBS?

H. S. Hilleboe, Sioux Falls

(Paper given at Winter Meeting, January, 1934)

The topic assigned to me for this afternoon's talk is a very complex and difficult one to handle. I am not an horticulturist nor an experimentalist on a large scale and therfore my observations may be of little or no real value to members of this society. Whatever experiments I have tried in South Dakota have been made on a corner lot 99x130 feet on which there are a dwelling house, garage, vegetable garden, flower garden, and various kinds of trees and ornamental shrubs. One the east side of this lot is a row of American elms and on the south side a row of hackberries as street trees.

There is more than a fancied resemblance between plants and humans. Trees and shrubs are living things. They have their life circles of beginning, growth, maturity, old age, death and decay. They must have food, drink and air and a place in the sun. There is a silent but bitter competition among them to make a living. They are affected by favorable or unfavorable surroundings and the various chances to get along in the world. They can within certain limits adjust and adapt themselves to their surroundings in varying degrees according to their inherited characteristics. They are subject to diseases much as humans, but they have no plant doctors to help them. A human physician to help his fellowmen must know the nature of the patient's disease, the remedy for it, if any, and also the vital resistance of his patient, and last but not least the limit of recovery determined by nature and the doctor's art.

Let us apply some of these facts to guide us in our efforts to save trees and shrubs under the present adverse conditions. The drink for plants is water, for their life blood—sap—and for a solvent of their foods. The plant food taken from fertile ground MUST be dissolved in water before it can be used by the plant. The heat of the sun's rays couses the moisture to leave the surface of the ground. Grasses and weeds also take a great deal of moisture from the upper surface of the ground and dissipate it in the air. To reduce this loss of moisture clean cultivation and frequent stirring of the ground is used to produce a dust blanket that will in some measure retain the moisture in the ground. Mulch is also used around trees and shrubs for the same purpose of retaining the moisture near the plants.

Years ago there was quite a discussion as to the cause for the vast treeless plains of the Dakotas and other states. Some held that the annual prairie fires set by the Indians to secure better grazing for buffalo and other game were the cause, and the proof for this opinion was that wherever the fire did not run along the water courses there would be trees and shrubs because the seedlings had not been destroyed by fire. Others held that alkali or other salts in the ground prevented the growth of trees and shrubs on the prairies. Still others held that a dry spell each year and a periodic return of very dry years prevented the growth of trees on the prairies. This last reason has become the generally accepted theory.

As the prairies became cultivated more and more of the rain water went into the ground and tended to raise the water level and supply moisture for an increasing amount of vegetation. Under these conditions, and with the aid of the effort of man the area for the growth of trees was materially enlarged. But during the past dry years the water level has gradually and constantly been going down.

To overcome this difficulty in my peony garden daily stirring of the ground to secure a dust blanket was tried with satisfactory results up to a certain point. When it was found that this was not sufficient but that watering was necessary a posthole auger was secured and holes about two feet deep were sunk into the ground some distance away from the plants that needed moisture. These water holes were filled every evening and this procedure gave better results than ordinary artificial surface watering. During the summer of 1932 it was found that the street trees also were suffering from drought. The same method was used with them. Two holes some three feet deep on either side of the tree about four feet away was filled with water and straw or grass was put over the holes to prevent evaporation. As a result of this the trees and shrubs seemed to be in good condition in the fall of 1932 and came through the winter all right. Last spring some roses were planted. None but extra hardy varieties such as Agnes, Amelie Graveraux, Belle Poitevine, Sir Thomas Lipton and the hybrid rugosa baby ramblers—red and pink Grootendorst—were tried. Very fine and strong plants were secured and cared for in the best way that I knew. By the middle of July I had some promising rosebushes.

As an experiment I had also secured ten two-year plants of Rosa Hugonis. They were slow in getting started and did not make much of a showing. Toward the last of July I left home and was away till the second week in September. When I returned the Hybrid Rugosa planted in the spring were dead. The Rosa Hugonis plants were all green and doing well. The trees and shrubs were watered frequently till winter set in. I hope they will come out well in the spring, but I cannot be sure of it. It is pretty difficult

to tell just how much water is necessary to carry them through a winter after a dry season like the summer of 1933. With a liberal supply of water from a garden hose one can, undoubtedly, give trees and bushes enough water to supply them with the needed sap for their existence. But if the water level in the ground has sunk so low that the root system of a tree or shrub cannot find its food dissolved in the soil water it will die from starvation in spite of the water poured into a saucer shapped hollow in the ground just around the trunk of the tree. As a last resort to save a valuable tree from starving to death a man dug a trench around it this fall and filled the trench with mulch and coarse fertilizers without covering these fertilizers with dirt. Then he poured a liberal amount of water into this trench so that the tree could get food from the dissolved food elements in the fertilizers. Next spring will show whether he has been successful in his efforts. The idea seems good and the experiment worth trying by others in an effort to save valuable trees in our State.

DELL RAPIDS NOTES

Edna Shreve

The first regular meeting of the Dell Rapids Garden Club for the new year was held Wednesday evening, October 17th, at the home of Mrs. Alice Shreve. Mrs. Shreve is the oldest member of the garden club, being nearly 77 years old, but retains her lifelong interest in gardening activities, and still does more actual labor among her flowers than many women half her age. She was among the first ladies in Dell Rapids to grow the choice varieties of flowers.

Election of officers for the ensuing year occupied the main portion of the evening, with several officers being retained. Due to the efficient leadership of Mrs. A. B. Gillette during the past year, she was unanimously re-elected President for the coming season; with Mrs. C. A. Williams Vice-president; Miss Edna Shreve, Secretary, and Mrs. Geo. M. Jorgensen, Treasurer.

While garden clubs in general usually discontinue meetings during the winter months, the interest of the members here is so keen that it was decided to continue regular meetings each month, with the exception of December.

It was also decided to send a representative to the winter meeting of the State Horticultural Society at Vermillion.

Three new members were admitted to the garden club, and the possibility of limiting the membership was discussed.

The next meeting of the club will be held the third Wednesday in November at the home of the President, Mrs. A. B. Gillette, and will take the form of a seven o'clock dinner. An entertaining program has been arranged.

PEONIES FOR FOLIAGE

P. L. Battery

It is doubtful if nurserymen generally appreciate the value of the peony plant for its foliage effect in the landscape. In the spring, before the new shoots are entirely leaved out, when the gardener's eye is alert to the unfolding color effects in all plant life, including shrubs and trees, there are few plants available which provide more interesting color effects than groupings of different varieties of peonies. The colors of the new stems range from light gray green to blood-red, and in masses the effect of the peonies is exceptionally pleasing. Peonies properly related to groups of shrubs and trees that have good spring foliage values are a distinctive supplement to the latter.

As the plants leave out, the rich green foliage of the peony groups is a great asset to any garden. After the blooming season, when the top six or eight inches of the flower stems have been removed, peonies are a useful foil for later-blooming perennials, such as phloxes, lilies, annuals such as zinnias and marigolds and other plants commonly used for late summer color effects. The colors of these plants are much enhanced by the rich green of the peony foliage. In connection with the interplanting of peonies and phloxes, the peony foliage serves to hide the lower foilage of the latter, which is so commonly disfigured by rust.

Foliage Form Varies

The range of greens among the varieties of peonies is not sufficiently appreciated any more than are the form characteristics of the foliage. This is particularly true of some of the Japanese varieties, many of which have light green leaves, distinctly veined with darker shades. Some varieties have crinkled foliage, giving an unusual effect.

Then, of course, there are the species peonies, such as tenuifolia, commonly called the fern-leaf peony, which is not only beautiful in flower, but makes an unusual foliage subject for the garden. Anomola is another species with fine lacinated light green foliage which carries well throughout the season.

It is in the fall, however, that the peony has its maximum value in foliage effect. There is no other perennial of similar usefulness, where it is combined with suitable background material in shrubs and trees, for fall garden effect. There are numerous varieties of named peonies that color up attractively in the fall. The following list gives varieties excellent for landscape purposes because of their habit of growth, strength

of stem and fine flowers, as well as for the beauty of their foliage.

Among the doubles, the foliage of Mme. Gaudichau is ox blood red in both spring and fall. Mons. Martin Cahuzac, Mrs. John M. Lewis, Felix Crousse and Cherry Hill color up in the fall to various shades of bronzy red. Therese, Gismonda, Madelon and Alsace Lorraine carry lighter bronzy shades.

Kelway's Betty has light green foliage, which in the fall shows bronze coloring prominently at the edge of the leaf in a distinctive effect. Incidentally, Kelway's Betty is one of the earliest to bloom among the chinensis peonies.

Some of the best for foliage effect among the Japanese varieties are Soshi, Fuyajo, Torpilleur, Gold Mine and Ohanagassa. These all carry an interesting range of bronzy red foliage in the fall. Ohirama and Kukeni-jishi have summer foliage of interesting light green, carried late, adding contrast to the varieties which color up well. Amano-sode is an unusually dark rich green, veined with a lighter shade of green, carrying its color late. Iroka has foliage of a fine even shade of light green, somewhat crinkled and heavily veined, carrying its color well in to the fall.

Among the single varieties which are useful, with foliage carrying dark and bronzy red shades in the fall, are La Nuit, Toreador, Vesuve, Vera and Etienne Dessert.

Few other perennials available for garden use in any measure approach the peony as a general utility plant, entirely beyond its province as the source of the most glorious blooms in June gardens.—American Nurseryman.

NORTH DAKOTA NEWS LETTER

(Continued from page 129)

are to winter in the best possible condition.

Progress is being made at the Michigan Experiment Station in the breeding of varieties of corn resistant to the corn borer.

The Minnesota Fruit Growers' Association is now publishing a fruit growing magazine. J. D. Winter, 2194 Hendon Avenue, St. Paul, is the editor.

The Minnesota Fruit Grower states that the Viking raspberry has not proved to be as hardy as Latham in Minnesota.

Special Bulletin No. 79 of the University of Minnesota is entitled "Modern Bush Fruit Growing". It deals primarily with raspberries, blackberries, currants and gooseberries. It may be had from the University Farm, St. Paul, Minnesota.

South Dakota winter meeting will be held at Vermillion, January, 16-17.

According to the English Gardening Illustrated, "All pruning of roses in the autumn is a mistake." They should not be cut back until spring. However, we must remember this refers to roses grown without cover. It may be necessary to cut back in the autumn where covering is done, to make the covering easier.

THE SHARP-TAILED GROUSE

(Continued from page 122)

those of the prairie chicken and no feather tufts are present on the neck. Hamilton M. Laing observed the birds dancing in pairs, each pair keeping in a certain part of the dancing hill. Ernest Thompson Seton suggested that the dance reminded one very much of the Cree Indian dance and that the Indian dance might have originated from their observing the grouse.

The Sharp-tail is a bird which would disappear entirely if no large areas of unoccupied land remained. In Kansas in 1890, Colonel N. S. Goss wrote of this bird: "A common resident in the western portion of the State. Formerly met with occasionally in the eastern portion, but being a bird of the wild prairies and open woodlands it is gradually retreating westward as the settlements advance and will soon be a rare bird, to be looked for only in the sand hills and unsettled portions of the State."

At the present date they are considered entirely gone from Kansas and Iowa. There are still a few in Northern Minnesota and Northwestern Wisconsin. It should not be difficult to retain a few in North Dakota, but it will be only in certain sections of the State. The present is an opportune time to give them consideration on account of the effort to retire marginal land. The sand hills of Richland and McHenry counties are naturally suited to the grouse and are useful for little else. Attempted cultivation of certain portions results in crop failure, destroys the grass and allows the soil to drift. Some areas of 3,000 acres or more should be set aside for the grouse and other native life. It is essential that these be kept free from hay making, grazing or any other disturbance.