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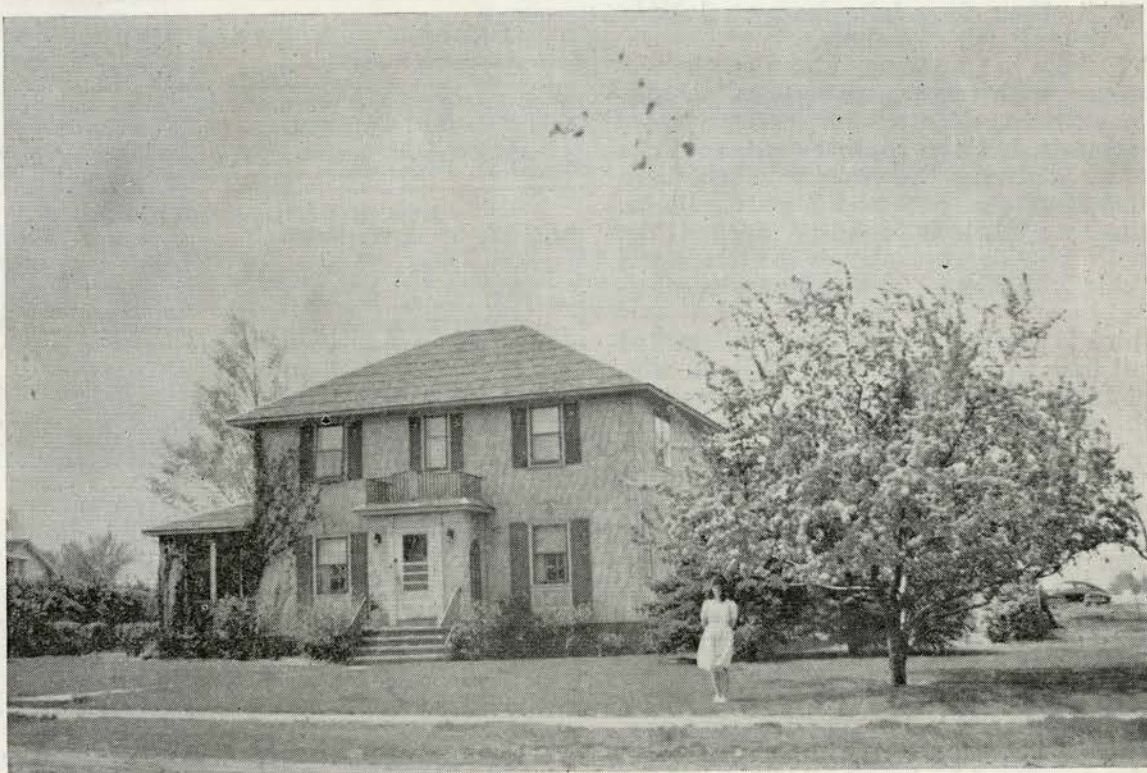
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Volume XXII

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# NORTH AND SOUTH DAKOTA HORTICULTURE

JANUARY, 1949



Miss Donna Mohn, Mobridge, standing before the resident of Dr. M. C. Mohn. When wishing to rest your eyes, you can note that she is standing before a beautiful 20-year old Hopa crab tree, Dr. Hansen's contribution to the glory of spring.



**THE WILLOW PTARMIGAN**

By  
O. A. Stevens

**O. A. Stevens**

When the winter winds howled I used to like to read a little book given me in high school days, "Gold Hunting in Alaska." It is the diary of Joseph Grinnell, who at the age of 21 accompanied a party for the birds he might find. The young man became the leading ornithologist of California, greatly respected by his co-workers. A large part of the time young Grinnell served as cook. He says of Thanksgiving dinner, "My toast was to the ptarmigan, 'the turkey of the Kowak'" Four days later he recorded the best hunt, 18 birds with 24 shots.

North Dakota has a tenuous claim on the willow ptarmigan, with two winter records. Minnesota has one record. Montana and eastern states have reported it, but the southern edge of its nesting range is given as Newfoundland, northern Ontario and Manitoba, central British Columbia. The species as a whole is found all around the Arctic, south to 60 degrees latitude in Europe and Siberia, "chiefly resident, but also irregularly migratory."

This bird is closely related to the ruffed grouse, but lives in the open. It is white in winter except for a brownish tail. The feet are well feathered, snow-shoe style. Grinnell reported that shot would hardly penetrate the feathers if the birds faced the hunter. On a quiet day at 51 below zero "they are very noisy and could be heard over a mile away." In winter they fed chiefly upon twigs of willow and alder, securing grit from a gravel bar of the river where the snow had blown away. In summer they ate berries and other vegetable material as well as insects.

Nests are placed in grass tufts, under a small bush or beside other objects. The eggs are usually 7 to 10. They are about an inch and three-quarters long, covered by brown markings. These markings are described as bright red when fresh, becoming darker with age, each nest having a distinctive pattern. One writer reported the male lay in hiding 50 or 100 feet from the nest, to dash out and attack the gulls when they came egg hunting.

An European author stated that the birds flew directly into a snow drift for the night and flew out again, leaving no tracks. E. W. Nelson found

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in Alaska where they had flown into an open place in a thicket, each bird making a mold in the snow and flying out again next morning.

Grinnell observed spring molt beginning in the males on April 4. By April 26 the neck and chest was "deep rich chestnut abruptly defined against the white of the rest of the body." This plumage was retained until June 14 when a summer plumage of barred feathers began to develop. The females skipped the showy mating plumage and acquired summer plumage in May.



## NEWSLANTS

By  
Harry Graves



H. A. Graves

At the present we are officered with royalty. Dr. C. I. Nelson is sharing office space with us for an indefinite period and we can't think of a more congenial office partner. While Dr. Nelson is head of the Department of Bacteriology at NDAC, I submit that he is well enough informed on ornamental trees, shrubs and flowers to occupy a chair in ornamental horticulture in any of our universities or colleges. He has been an invaluable

source of help to me through the years that I have been Extension Horticulturist. There are few things in the ornamental realm, that are hardy here, that have not bloomed in the spacious Nelson yard where he has been ably abetted by his charming wife. We consider ourselves lucky to have his council day by day.

Bulb fanciers will be interested to learn that The Bulb Society, organized in 1947, plans to publish a monthly bulletin in the near future. Mrs. R. P. Gawne of 11039 1/2 Orsego, North Hollywood, California, is secretary. There is also a new outfit known as the Bulb-of-the-Month club. Annual dues are \$1.00 and the club address is 127 Madison St., Chicago 3, Illinois. The address of the National Tulip Society, recently organized, is Room 1100, 37 West 43rd Street, New York 18, New York.

Our new librarian Dean Stallings called yesterday to convey a message he had received by letter from Hi Beebe. I don't see how a loyal citizen of the Northern Great Plains, who must have drunk not only a few barrels of this hard water but forsooth a tank car or two, can stay away from Ipswich so long.

Sioux is the name given to a new June bearing strawberry variety released recently by the United States Department of Agriculture. Sioux is the result of strawberry breeding work carried on by LeRoy Powers at the Cheyenne, Wyoming Horticultural Field Station. The variety has been under test for eight years.

Sioux is reported to be winter hardy on the Northern and Central Great Plains without protection, very vigorous, drouth tolerant and resistant to several diseases.

The individual plants send out many runners with long internodes and as a consequence the plants are well spaced.

Flesh color is light red and the skin is scarlet and very bright. Sioux also has more sugar than any other variety in the test and has a strong aroma similar to that found in many wild strawberries. Sioux has outyielded the variety Dunlap at North Platte, Nebraska, and the variety Blakemore at Manhattan, Kansas—sounds too good to be true. Mmmm—must plant some. The variety should be available from nurseries soon.

This was written at 1:30 a. m. September 30 (but could be written any night. I am about to become a member of the Stray Tomcat-hating Fraternity of Birdmen, Stevens, Libby, et alia.

Our slumbers for the past few nights have been disturbed by some of the wildest extemporaneous feline operas my seasoned ears have ever turned in. These nocturnal uproars call to mind a summer several years ago when ours and the neighboring farm mustered 17 cats—of which none were ever in poor voice on a clear moonlight night.

At their weirdest, they were pikers compared to these 7th Avenue Tomcats who without ever tuning up can uncork wails that must fairly make bird-lover Audubon turn in his grave.

I could always forgive those farm cats many of their sins, because there was daily evidence of the ceaseless war they waged on harmful rodents of many species. On the other hand, I can't see much excuse for city cats, nohow. As a competitor to Hamlin's Pied Piper they are a washout. It is only in competition with alarm clocks (which I also detest) and low flying night planes (that I don't really love) that they compare very favorably as disturbers of sound sleep.

Were it not for the fact that I have mislaid somewhere my air rifle (500 shots, lever action), I would saunter forth some of these here nights armed with said air rifle and flashlight and do a little "North Dakota coon hunting." This, of course, would be complicated by our local gendarmies who do a conscientious job of enforcing the anti-airgpn ordinance.

## Are We Using Too Much DDT?

In a scientific magazine not long ago we noticed a statement that animals not apparently affected by DDT themselves stored up so much of it in their flesh that the meat would have to be condemned as unfit for human food. An entomologist friend also told me that a lot of the milk produced at the present time contains so much DDT that it will kill flies. If this be true, it is time we began seriously thinking about this situation. By the way, the increase in apple leaf-roller is thought to be the result of using DDT in place of arsenic.



**GARDEN NOTES**

By  
W. E. H. Porter



W. E. H. Porter

This is the time to renew assurances of friendship (a sort of comaraderie among gardeners the world over) especially to those of our own Dakota membership who have to strive so hard to keep the wilderness from encroaching, to say nothing of an arctic winter for next few weeks, an ever present hardship on a prairie farm. Oct. 2nd. Wind nor west, sky cloudless, our first ice making frost which wrote finis to all tender vegetation, including rhubarb. Radio tells of arctic warming up, a rise of 5 per cent during last 50 years, whereas southern California is cooler. Oct. 7th. A 24-hour steady rain follows 4 days of screaming wind supplying a much needed soaking to the hard parched earth. Purple flowers of *Colchicum* (fall crocus) push thru the soft earth and as *Scilla siberica* is first flowering bulb in spring, we have a sort of prologue and epilogue of floral beauty in North Dakota. Oct. 11th. Still, cloudless, temp. 61, juncos arrive for their short autumn visit. "Manchester Guardian" says that fairy ring fungi are excellent in soup. Most gorgeous in autumn dress is true hedge barberry, var. *puriflora*, every leaf orange with red shading and hung with numerous turkey red drupes, also white Christmas rose buds appear. Many of these choice garden subjects given shelter and a little shade are long lived and fully hardy in North Dakota. "Countryman" tells of a dealer in horse meat who, contracting to deliver 600 tons per week, pays up to \$200 for a pony and \$600 for a draft horse. Same writer, staying in Sussex Weald in late May, reports nightingales singing continuously night and day. Oct. 17th. Overnight temp. 8, Ontario reports 6 inches of snow. Oct. 19th. On its way south a crow blackbird visited me this evening; a rather graceful bird, it was quite tame feeding almost on doorstep and after a long running hop, alighted on a near by boxelder. Oct. 24th. Indian summer is here with temp. of 72, coaxing into bloom a precocious yellow spring flower of *Draba sibirica*. Rex Pearce is a sort of department store, with attractive bargain counter where garden enthusiasts stop for world wide treasures and its descriptions and illustrations in catalog and folders are almost like a personal visit. My latest purchase is a dwarf anemone *blanda atrocoerulea*, known as Grecian

windflower like blue daisies, tho reputedly hardy, I am carrying mine indoors over winter, on arrival the tubers were like small brown angular pebbles and as hard, which after a few hours soaking swelled to twice their size when a small white sprout was visible. A gem for rock gardens; of this species Farrar says: "It decks all the islands and coasts of eastern Mediterranean in a sheet of color with 1st breath of spring and quickly dying down as soon as it has finished taking the winds of March with beauty, and fortunately sowing itself freely. Just received October issue of *Horticulture* telling of the passing of Rev. E. L. Jackson. How sad. We were so fortunate in having such an authority on iris on our writing staff. I almost felt that we were personally acquainted. Oct. 29th. Radio tells of unprecedented, heavy fog over eastern quarter of continent. Cause seems to be a large mass of warm air overlying a colder mass and forming a sort of lid. A warm all night rain induced me to give house plants a last airing and leaf-washing. This weather stimulates precocity, with lilacs and sweetbriar rose buds bursting and perennials green as in April. Some green leaves still remain on sugar apple, cotoneaster and thorns, all of which does little to relieve the bleakness of other trees but what could be more beautiful than the deep blue of this October sky. "Countryman" has given an interesting review on the book, "Thomas Hardy at Home," by his life-long friend Clive Holland. There's an anecdote that as a boy, in company of another boy, he climbed a tree outside Dorchester prison to see a woman hung. When nearing 70 he was asked the question "If you had the choice of being born, would you have been?" The answer was "No, surely not." The two books that started him on the road to fame were "Under the Greenwood Tree" and "Far From the Madding Crowd." Nov. 2nd. Rained continuously all day long; I did not go to the polls 4½ miles distant. An interview with the captain of an arctic supply ship, tied up at Quebec, tells among other things that there are no fish in Hudson Bay, the water is too cold, tho trout are found in rivers emptying into the Bay. "Flower Grower" reports the passing of J. Horace McFarland at the age of 89, one of its regular and best contributors. He had lately admitted a slowing up of garden activities owing to arthritis and Anno Domini. Rats and ground squirrels are potential carriers of bubonic plague, one or two cases are reported from Alberta. This terrible scourge was introduced by rats in 1906 from a ship docked at San Francisco. It is estimated that in 10 years it will reach Winnipeg. Prairie conditions are

(Continued on Page 12)





## MANITOBA NEWS LETTER

By  
W. R. Leslie



W. R. Leslie

Windbreak plantings on the Northern Great Plains area have received much study in the North-central United States and in Prairie Canada. There is general agreement on the trees that are suited for planting. The most important phase is that of planting distances.

Ernest J. George (Superintendent, U. S. D. A. Field Station, Mandan, North Dakota, was for many years silviculturist. In mid-August he devoted a morning to visitors from Manitoba, and supplied copy of his 1948 Circular No. 770, U. S. D. A., "Spacing Distances for Windbreak Trees on the Northern Great Plains."

At Mandan climate is more trying on trees than at Morden. Annual precipitation is nearly 5 inches less, evaporation greater, wind movement stronger and extremes of temperatures wider. Range of temperature for the period 1915-1944 was from -46 degrees F. to 115 degrees. Rainfall varied from 21.43 to 6.43 inches. Evaporation from a free-water surface during the growing season April to September for years 1918-1944 averaged 33.8 inches.

Mr. George's circular gives a valuable review of work done in spacing distances in shelterbelt planting tests in the Northern States, Prairie Canada and in Russia. Some of the facts revealed follow. Close-planting, such as 4x4 feet, encouraged quick height attainment, the early meeting of branches of neighboring trees and hence a canopy of leaves in about 3 years of growth which are sufficient to discourage invasion of grasses and weeds. Of course, as long as weeds and herbage are present cultivation should continue. In some tests a wide distance, up to 24 feet, between the rows was used to permit large farm implements to perform tillage, and secondly, to provide less competition for soil moisture. Such wide-spaced rows branch considerably more than those in the close-spaced ones. Soon the branch spread narrows down the room left for implements. Unless narrower cultivators are obtained and kept at work robber weeds establish.

"For outside rows the growth should be dense from the ground up. All writers agree that the trees should be spaced close together in these rows. Side branching is not so important in in-

terior rows, but complete closure of the crowns at an early date to give 100 per cent shade is highly essential. It makes little difference whether this is obtained by spacing the trees close together or wide apart, provided the length of time for them to develop crown closure is approximately equal and a high percentage of the trees are kept in vigorous growing condition."

Observations on green ash shelter planting showed that there is suppression of growth among the weaker trees in inner rows, particularly in wide belts. Greater growth and higher survivals were found in weedy plantings than in soddy ones. The percentage of winter injury or killing back was highest in the soddy plantings and lowest in the clean ones.

After 5 years of growth, where weeds grew in the absence of cultivation, distances of 10 feet or more between rows saw trees less thrifty than where rows were closer together. Mr. George states, "Weed or sod growth in widely spaced plantings apparently uses more moisture than the additional trees in closely spaced ones. Close planting tends to check weeds and possibly, as suggested by Ross (Indian Head, Saskatchewan, 'Tree-Planting on the Prairies'), the total leaf area is no greater."

After 20 years the 4x8 plantings exceeded in height those planted 4x4 feet. Lack of shallow cultivation resulted in retarded growth. Green ash showed greater growth and higher survival when arranged in mixed plantings than when set as a pure stand. Deciduous trees associated in mixed plantings were poplar, Chinese elm, American elm, boxelder, Russian olive, chokecherry, and caragana.

The spacing distances, according to George, should be based on growth habits of the species involved. For a dense outer belt the three reliables have been Siberian pea-tree (Caragana), Dahaurian buckthorn, and chokecherry. Buffalo-berry tends to become rather open with advancing age.

Suggested plantings of shelterbelts for southern Manitoba are: For the outer snowtrap hedge on north and west sides, Caragana, Chokecherry, Dahaurian buckthorn, native plum, late lilac, Amur lilac, saskatoon, or hawthorn, set from 1 to 2 feet apart.

For the main belt, outer row, similar to snowtrap; second row in 6 to 8 feet green ash set 4 feet apart; third row, distant 6 to 8 feet, American elm or Siberian elm (Manchurian strain) 4 feet apart; fourth row, distant 6 to 8 feet, green ash, Manchurian crabapple, Siberian crabapple, Russian olive (hardy strain), or Siberian larch 4

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## GARDEN CLUB GLEANINGS

By  
Juanita Jorgensen



Mrs. Jorgensen

### Federated Garden Clubs of South Dakota

- Aberdeen Garden Club—Mrs. Clayton Dietz, Groton, president.
- Britton, Home Garden Club—Mrs. E. M. Drissen, president.
- Brookings Garden Club—R. A. Cave, president.
- Canton Garden Club—Mrs. Al. Scholten, president.
- Centerville Garden Club—Mrs. B. H. Sayre, president.
- Chancellor Garden Club—Mrs. H. C. Winterboer, president.
- Crooks, Rural Garden Circle—Miss Inga Tide-  
mann, Renner, president.
- Dell Rapids Garden Club—Mrs. L. G. Elsinger,  
president.
- DeSmet, Friendly Garden Club—Mrs. Larry Pitt-  
man, president.
- Flandreau, Green Fingers Garden Club—Mrs. Jay  
Bennett, president.
- Highmore, Sunshine Garden Club—Mrs. J. T.  
Sarvis, president.
- Hurley, Green Thumb Garden Club—Mrs. Lee  
Thompson, president.
- Huron, Fair City Garden Club—Mrs. Dewey Gas-  
coigne, president.
- Huron, Huron Garden Club—Mrs. A. B. Sanborn,  
president.
- Iroquois Garden Club—Mrs. Thos. Keating, presi-  
dent.
- Lyons Garden Club—Mrs. Roy Thompson, Colton,  
president.
- Mobridge Garden Club—Mrs. T. Lowry, presi-  
dent.
- Rapid City, Better Homes and Gardens Club—  
Mrs. E. C. Smith, president.
- Rapid City, Rapid City Garden Club—F. V. Re-  
hurek, president.
- Sioux Falls, South Sioux Garden Club—Mrs. Mar-  
tin Johnson, president.
- Sioux Falls Garden Club—F. X. Wallner, presi-  
dent.
- Sioux Falls, Wednesday Garden Club—Miss  
Haidy Ford, president.
- Vermillion Garden Club—Mrs. C. J. Gunderson.
- Yankton Garden Club—O. A. Grosshuesch,  
president.

This is a new year and some new names ap-  
pear in the presidents' column above. We espe-  
cially want to call attention to the name of Mrs.

H. C. Winterboer of Chancellor, because she is  
serving her third term as president of the club;  
but Mrs. F. A. Rock has been getting credit for it  
all the time! It is to prevent just such misinfor-  
mation from being broadcast that we ask for reg-  
ular news and club reports each month. Though  
it is impossible to mention every name and pro-  
gram each month, we want to know about them  
so we can select those for which we have the  
space.

At Britton the Home Garden Club made one  
change in their officer personnel when they elect-  
ed an assistant secretary. This is Mrs. H. Carl-  
son who will substitute for Mrs. Damgaard when  
the weather and roads make it impractical for her  
to attend. Huron Garden Club elected a new slate  
of officers and then created a vice president's of-  
fice so they could retain Mrs. Sherman Johnson  
in a key position there. Mrs. Johnson has been  
president since the club was organized. Mrs. C.  
W. R. Eckberg and Mrs. C. W. Habicht are the  
new secretary and treasurer, respectively. In ad-  
dition to President Grosshuesch of the Yankton  
Garden Club we have two other new officers, vice  
president John Dunlavey and secretary Miss Em-  
ma Rolfs, who is also our new reporter from the  
club.

Some particularly fine program reports have  
come in this month, with a few of the early  
Christmas parties thrown in for good measure.  
Most of the latter will be too late to catch the  
January copy, however. We were glad to hear  
that the slides of flower arrangements made pos-  
sible through the courtesy of the Coca Cola com-  
pany are available again, as they were disconti-  
nued during the war. Rapid City Garden Club  
had two of these slides in sound and color, and  
we advise all clubs to take advantage of this pro-  
gram if possible. Another instance where pic-  
tures speak louder than words is in the demon-  
stration and talk on landscaping given by Leon-  
ard A. Yager of Brookings. Lyons Garden Club  
says he added many new features to his talk for  
them. Since a constant procession of blossoms  
from spring until fall is the dream of every gar-  
dener, the colored slides of flowers shown at the  
Huron Garden Club by Mrs. A. K. Gardner should  
have been a delight to everyone. She showed  
everything from the first scilla of spring to the  
fall blooming mums. One sure way of getting  
the whole story is to have "Mr. and Mrs." alter-  
nate in the telling of it, as did the Ed Besslers  
of the Sioux Falls Garden Club. They tell of a  
vacation tour throughout the west and Canada.  
A wonderful way to get each member to contrib-  
ute to the discussion is used at Chancellor where  
each member is asked to bring an article to read



as part of the program. At Centerville a similar type of program is called a sealed program, and the various items were brought by Mrs. Don McMurchie in charge of the topic. We like Centerville's roll call on Plant Scientists. Indoor Gardens included a demonstration on making a bubble vase composition by Mrs. L. Schirbur of the Mobridge group. Another program and speaker which we here highly recommend was that given by Mr. Loring Simpson, Luverne, Minnesota, assisted by his wife and two young daughters, at Dell Rapids. Title of the topic was Plants That Sing with Color, and Mr. Simpson not only told about them, but brought samples of approximately a hundred different plants. He gave away slips and plants as prizes to everyone, as well as lovely floral calendars and blotters for souvenirs. Eighteen varieties of begonias alone will give you some idea of the extent of the collection he had on display. We are sorry to report that Mr. Simpson has been in the hospital for many weeks since that time with a broken pelvis—just at the busiest season in his greenhouse, too. Mr. Simpson was formerly of Sioux Falls and is well known to the gardening public there.

A garden's love of sharing is reflected in every garden club I know. The Chancellor Garden Club fills Christmas boxes for all the elderly ladies and for all shut-ins in their town. Scarcely was the ink dry on their constitution before our new Rural Garden Circle of the Crooks community adopted a project "To bring cheer to the veterans in the new Royal C. Johnson Hospital in Sioux Falls." This is the first club of which we have heard who has made a special project of the new hospital, and is right in line with the National Council policy.

The smaller the club the more we marvel at the things they tackle and accomplish. In this connection we have in mind the complete and beautiful, fully hand-made year book from the Rural Garden Circle. Because you, too, will marvel when you see it on display at the convention next fall we want you to know the committee responsible for it—Mrs. Ed. Johnson, Mrs. Melvin Helberg and Mrs. Ernest Ramstad. The Highmore Sunshine Garden Club's year book was among the first to reach our desk for the 1949 season and its 24 pages replete with programs and projects make it a real hand book of their work. Two new names appear in the official family with Mrs. Sarvis, Mrs. H. H. Hartshorn as vice president and Mrs. Gordon Gadd as treasurer; while Mrs. Vern Tompkins continues to play an impressive part in putting this group on the garden club map. Mrs. Tompkins is secretary, program chairman, plant sale chairman, Tulip

Tea committee member and hostess for the Christmas party. The club roster lists 34 members, a gain of almost one-third over last year. Not listed among their projects but nonetheless one of the steps in their aim for community beautification-consciousness is the Christmas lighting contest which they are again sponsoring. The contest includes business places, and indoor and outdoor home decoration. At a recent meeting Mrs. Jake Zilverberg brought to her hearers a vision of beauty in the Low Countries when she illustrated her talk on Flowers I Saw in Holland with pictures and pressed specimens of wild flowers which she had picked on her trip.

From Mrs. A. C. Bonham, Britton: "Perhaps many of the Garden Clubs carry on this project each year and if they do they know what a thrill it is to view their gardens in the midst of winter. If they have a camera enthusiast as we have, it makes things easier. Our club buys the colored films during the summer and each member is asked to call Mrs. Drissen (she's our camera enthusiast) whenever they see some unusual plant or shrub in bloom. She visits the garden and places a placard with the name of the owner printed in large letters by the plant or shrub so when the film is run we know just which garden we are in. Last year we had a Cardinal bird here during the winter, and since he visited most gardens where food was available, pictures were taken of him with snow as a background. This year several squirrels have entered the picture. The Britton Garden Club shows these garden films at their Christmas party as part of their entertainment.

Christmas parties have been reported from South Sioux, Hurley, (with several exciting ideas from both), Lyons, Centerville, Flandreau and Dell Rapids. Quite a number of the clubs have entered the Barton-Cotton Company's money-making project, making ours the 36th state to sponsor the sale of the stationery offered by them. The club can make \$17.00 on one 50-box order. The address is Barton-Cotton Co., 1517 Guildford Ave., Baltimore 2, Md.

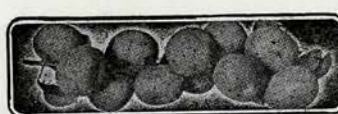
Left over from November—

Be sure to pass the September-October issue of your National Gardener on to the program chairman of your club. It lists many slides and lectures available to you from National Council, and gives much information to you from department chairmen. We think our own Federation should have a slid chairman with slides of South Dakota gardens and flowers available to all clubs.

Do you know the pocket-size English magazine called "My Garden"? It treats of gardening

(Continued on Page 16)





## TEACHING CONSERVATION

By  
H. R. Woodward



**H. R. Woodward**

I am thoroughly convinced as a schoolman that sooner or later the teaching of conservation is going to have to become a part of the elementary school curriculum. It is as necessary, it seems to me, as the teaching of South Dakota history. Perhaps it could be combined with that subject and we could thereby link the past with the present and future in a course provided for the upper grades that will give a fuller appreciation of

those values which will help to make South Dakota a great place in which to make our home.

I was thinking something about this one day when our local forest ranger, Mr. Bruce Centerwall, left on my desk a copy of "Teaching Conservation" by Walter P. Beard, Assistant Director of Vocational Education, U. S. Office of Education, Washington. It is published by the American Forestry Association, Washington.

Aside from my interest in the subject matter, I was interested in the author, since he had formerly lived and worked at our State College in Brookings. In 1936 he was honored with membership in the "Beadle Club" for his outstanding contribution to education in South Dakota over a decade previous.

This brief 144-page book is the best book I have seen on this subject. Its primary purpose seems to be indicated in the foreword where Mr. Beard says his book "is intended to provide teachers with basic understandings for effective teaching of conservation." It is intended to inform and perhaps inspire teachers in this all-important job.

Conservation practices it seems to me must be taught. They seem to be fundamental and involve a great many fields, one of which I discussed in a previous issue using as a theme, the defense of our country in time of war.

During the summer of 1938 it was my privilege to speak at the observance of John Muir anniversary in Yellowstone National Park. It was the 100th anniversary of Muir's birth in Scotland. In looking up material about his life I remember his youthful love of the outdoors and how limited wildlife had become by that time in Scotland. When his father announced one day that they were moving to America, he related some of the things he had learned from the old sailors, one

of which was that a squirrel could jump from tree to tree and travel from New England to Wisconsin without touching the ground. I remember the stories he told about the passenger pigeon upon the family arrival in Wisconsin. He told how these birds in flight darkened the sky like clouds, and that when they stopped to rest, sleep and build their nests their weight would break down the branches of the trees. His story went on to tell how the settlers would go out at night with torches and long poles and knock the birds from their roosts, and the next morning the people would go out with sacks and gather the dead and wounded.

Of course, we would not wish to return to such an abundance of birds. It would be detrimental to agriculture, but it would be nice to have had some of these passenger pigeons saved for the present generation.

In European countries game belongs to the man who owns the land. To hunt one must be a guest of the owner of an estate or purchase hunting and fishing privileges at a price beyond the reach of a working man. Here in America fish and game belongs to the state and it may be hunted, killed or possessed as the people direct. I am sure these former ideas are contrary to our system of living and government, yet since our country has been settled by Europeans it is not to be unexpected that some of these ideas will persist in America for long periods of time. Some of the stories told and printed regarding the buffalo slaughter in this country by foreign "sportsmen" bear out this fact.

Since hunting became exclusive in England for the estate owners and their guests, it is not surprising that many of the middle class either had to devise some substitute sport or come to America where game was abundant. As a result clay pigeons were introduced in England about 1860 and by 1870 the sport of trap shooting was introduced into this country.

In America everyone who wishes to fish or hunt should be able to do so. The putting of fishing and hunting on equal basis for all is the more satisfactory way and democratic way of handling all our wildlife resources, yet it has brought serious problems as a result of increasing numbers of hunters and fishermen.

Man is the greatest enemy of wild birds and animals. Wildlife undisturbed succeeds even when many natural enemies are present, but let man come in and selfishly take a large toll or destroy the food supply and the disappearance of fish and game is certain. To give wild life a chance and assure a perpetual supply, it is necessary to

(Continued on Page 16)



## BOOK REVIEWS

By  
Mrs. L. N. Brakke -



Taylor's Encyclopedia of Gardening, by Norman Taylor, printed by The Riverside Press, Cambridge, Mass. Price \$5.00.

The author, Norman Taylor, was awarded the gold medal of the Massachusetts Horticultural Society, one of the most coveted horticultural awards in America, for his book, The Garden Dictionary.

Now, under a revised book, he gives us a complete book on every conceivable garden question.

The completion of this book represents years of work and the cooperation of many individuals and institutions.

The author gives state flower, tree, zones, climates and a list of all vegetables, fruit, flowers, trees and shrubs that can be grown in each state. Also the climate, frost dates and rain fall, and types of soil and length of growing season.

This book is a library in itself, gives both common and Latin names for each plant, so no other reference is needed.

This is a sizable volume of 1,225 pages, and if one was required to limit one's horticultural library to one book, this could well be the one.

## MANITOBA NEWS LETTER

(Continued from Page 5)

feet in the row; fifth or inner row, at distance of 12 to 20 feet, native white spruce, Colorado spruce or Black Hills spruce, spaced 4 to 6 feet apart.

In damp places Sharpleaf (Green) willow may form the outer rows, or the snowtrap row. Boxelder (Manitoba Maple) is a rapid grower and hardy, but a rather weedy tree that is often insect-infested. There are better trees for Manitoba shelterbelts.

In dry areas it may be wise to allot more distance between the rows so that trees do not suffer severely from drought. In all cases the trees deserve a cultivated strip, one rod wide, kept fallow on each side of the shelterbelt plantings. Close competition from grass and weeds is to be avoided in perpetuity.

## Send for Our New AUTUMN CATALOG



Rare hybrid Auratum Lilies, Royal Dutch Hybrid Amaryllis, Giant Breeder Tulips, fragrant Hyacinths, Pink Daffodils or lovely crocus or snowdrops—all are yours in the world's choicest bulb offerings, at Wayside.

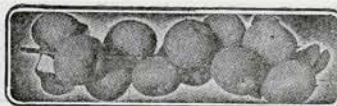
All these items, including new roses, peonies, flowering shrubs and many others (most of them illustrated in color) are presented in the most beautiful autumn catalog ever published in America. To be sure of your copy, it is necessary that you include 50c with your request, coins or stamps, to cover postage and handling costs.



**Wayside Gardens**

Mentor, Ohio





## IN DEFENSE OF THE COTTONWOOD

By  
Dr. G. F. Will



Dr. G. F. Will

Of all the symbols for the Great Plains of the west, the Cottonwood tree would seem to be the best chosen. It is found over the whole Plains area from the lower Mississippi northward to the great river of the Canadian west and from the forest areas along the Great Lakes to the slopes of the Rocky Mountains.

The Cottonwood thrives on the rich alluvial soil of all the rivers of the west where it attains a height of a hundred feet or more and a diameter of six or seven feet. It survives on the banks of the muddy gumbo cumbered streams, beset half the year by drought and the other half by flash floods, which are typical of the high plains, one day a rushing torrent and the next a dust dry land. In such conditions the Cottonwood demonstrates its kinship with the country. It can survive under the hardest conditions but its weird, twisted shapes and gnarled and knotted branches and its heavily ridged and knobby bark show the bitterness of the struggle for survival.

The Cottonwood seems to typify the genuine pioneer qualities. No spot is too favorable for its ambitious growth and none too harsh to keep it from surviving through a perpetual struggle against cold and heat, drought and flood, blizzard and tornado.

It has been the fashion to decry the Cottonwood, to look down upon it almost as a weed. But what other plant has made as great a contribution to human life on the Plains? For primitive man it has furnished lodge poles for the tepees, logs for the earth lodge, fuel for the fireplace and food for the ponies. Under its shade the lodge circles were often pitched, the early fur posts also depended upon it for logs and stockade posts and without it the pioneering steamboats could never have ascended the great rivers.

A lone Cottonwood or two along many a wild, western stream has shaded the simple buildings of many an old time ranch, furnished logs for the buildings and poles for the corrals. In the eastern section of the Plains, hundreds of groves of huge old Cottonwoods dotted the Plains and sheltered the Pioneer homes through the hardest years and these gigantic descendants of the little Cottonwood seedlings from the banks of the Mis-

souri which were set out on the early tree claims are now being converted into fuel and lumber.

How much life have these island groves of trees here on the vast bare expanse of the midland prairie sheltered and protected through the years? Man and beast, domestic and wild, have resorted to them for shade from the midsummer sun or protection from the icy blasts of winter's blizzards.

Many a sod shack has been built in the shelter of some coulee bank with a few cottonwood trees shading and comforting the lonely homesteaders in a new and strange land, who had built it.

The Cottonwood in its tough and rugged high plains version completes the picture of the old time cattle ranch and has often served as an adjunct to frontier law and upheld the right by holding up the wrongdoers with their toes swinging free of the ground.

The Cottonwood is tough, strong, steadfast, quick to seize opportunity, rugged to survive disaster. Its thick, shiny leaves are proof against the hottest sun and the flattened leaf stems give it the ability to move the leaves and turn them edgewise to the sun at its worst. The thick bark is protection against rubbing and tearing of the buffalo's horns and insulates the live wood beneath from the prairie fires with which it must dwell in constant companionship. The heavy roots penetrate the toughest soils, working deep into the earth in all directions, whence they draw forth all the moisture available. And one who has split or tried to split a cottonwood log knows why the tree resists all the buffeting and beating of winter blizzards and summer storms, as well.

This stalwart tree of the pioneers is also prepared to reproduce herself under all the varied difficulties of her habitat. The cotton seeds are wafted far and wide with every breeze and sprout within hours after landing on any damp or muddy spot on sand-bar, river bank or beach. In addition there is a provision by which natural cuttings on the ends of branches are ripened up and dropped into the streams to catch and start new individuals by a second method.

Altogether I offer the Cottonwood as the most universal and typical representative of the vast Great Plains with its stream cut canyons and washouts where no other tree appears and where, with its bright and glittering crown of stirring leaves, green in summer and gold in autumn, it cheers the heart of the wayfarer and exalts his soul.

**Courtship:** Period during which the girl decides whether or not she can do better.—Wisconsin Horticulture.



## BLIZZARD BELT GARDEN NOTES

### Let's' Humanize

By Mrs. A. C. Bonham, Britton,  
Conservation Chairman

Now that the hunting season is closed and the victors are resting on their laurels I hope something can be done about this hunter. I do not mean the sportsman who abides by the rules and takes his needs, but the trigger-happy character in sportsman's clothes that kills everything in sight. These disguised sportsmen are not all ignorant by any means but do lack all the qualities of being humane.

Think of the number of arrests for lawlessness. There were fines, yes, but they cannot replace the waste of beauty, life and good which was taken. I am sure the hunters that slaughtered deer by the dozens and left them dying or dead—shot for what they called sport—must have an uneasy conscience. All those hunters, too, who need airplanes for their so-called pleasure, not giving the deer a chance—what kind of sportsmanship is that? If these hunters are not educated to become true sportsmen it will not be long before the beauties and natural resources of South Dakota will be of the past. Before next year let us hope the hunters I have mentioned and all other trigger-happy characters will become humanized.

### Keeping Up With National

By Mrs. G. R. McArthur,  
State Publicity Chairman

You will be interested in the latest news from the "National Gardener," the bulletin of the National Council of State Garden Clubs, Inc., representing forty-one State Federations. The Nov.-Dec. issue gave interesting accounts and reports of the great success of the "Seeds of Peace" project. Mrs. Helen S. Hull, president of the National Council, writes Pastor Heyne, of Bremen, Germany tells us, "That for a long time children were without fresh vegetables because no seeds were obtainable in the market. By the donation of the National Council of State Garden Clubs many needy children were helped. We heard many a gardener talk about this phenomenon—the growing seeds, a symbol of growing friendship between us and America—and all join in kind wishes that peace and friendship may develop as do these seeds." There are also several pictures in the magazine of children, men and women working in their gardens and harvesting the crops from the seeds, with captions saying—"the highly welcome seeds arrived in May and June, all were of excellent germination, these American seeds were of superior quality and

grew well in the German soil." "You can imagine what cheer and joy it was to see children relishing the luxuries of these fresh vegetables all summer." Thru the miracle of the seed, we rekindled hope and in the midst of a turbulent world, we renewed faith in Peace on earth, good will toward men.

Our 20th anniversary gift to the nation—the Redwood grove—At the Lexington, Ky., meeting of the National Council last spring the board voted that our 20th anniversary gift to the nation will be "40 acres of magnificent giant redwood trees situated in Humboldt county, California." It is especially appropriate to make this gift because this grove will be the terminus of the Blue Star highway, our memorial to our armed services. This Blue Star drive now stretches in an unbroken line from the Atlantic ocean to the blue Pacific and the Redwood Grove will be a dramatic ending on the Pacific coast. The National Council of State Garden Clubs is now a large and powerful organization. It is growing rapidly and it is fitting that it now takes its place on the list of public spirited organizations who have helped to preserve these trees. This gift will have a special appeal to conservationists because it is a pure stand of redwood. The purchase of this grove can be accomplished with the help of all State Federations, all club donations, individual donations and life memberships; it is suggested that all state presidents make it their main project.

Mrs. Vance Hood, R. F. D. No. 2, Boonton, N. J., is national chairman of the Blue Star Memorial highway. Twenty-three states have already received certificates of awards for their participation. South Dakota has not yet become active in this national project—however, it would make a splendid topic for program discussion at any meeting. Mr. A. G. Snedrud, Rapid City, is the state chairman for Blue Star highway in South Dakota. Write to him for information.

Do you know that Garden Radio programs may be obtained from the National Radio chairman, Mrs. William J. Walters, 180 College Ave., New Brunswick, N. J.?

Do you know that the following books are recommended by the National Gardener and may be purchased from National Council Books, Inc., Box 4298, Philadelphia 44, Pa.

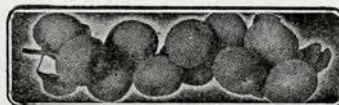
"Quick Freezing and Family Food Gardening," by Gordon Morrison.

"How to Run a Meeting," by Edward J. Hegarty.

"Flower Arrangement in the Americas," by Cora Maude Oneal.

"Begonias for American Homes and Gardens," by Helen K. Krauss.

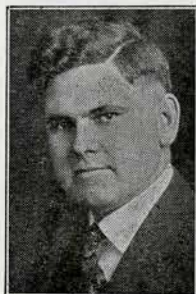




## NEW HAMPSHIRE AGRICULTURE

By  
Dr. A. F. Yeager

### Lime in Orchards



Dr. A. F. Yeager

One of the practices for which the Soil Conservation Service has been making payments has been that of lime application to soil. With the great amount of sulphur being applied for the past few years for the control of apple scab and for that matter, brown rot on peaches, the pH of the soil cannot help but be greatly affected. Undoubtedly it is getting dangerously low, and even though this does not often affect the apple trees directly, it does seriously interfere with the growth of mulch between the trees. For this reason, it might be well for you to look into the possibility of making lime applications to your orchards. My understanding is that lime will cost you about \$2.90 a ton. If the magnesium type of lime is used it will also tend to overcome scorch which has been a serious factor the past few years.

### If Your Popcorn Don't Pop

In order for popcorn to pop well, it is not only necessary that you have a good variety and that it be well matured, but also that the moisture content is just right. Getting the amount of moisture just right is not easy. Often corn from the field is too wet. If you take it into the kitchen and leave it a few days in a modern heated house, it is quite likely to become too dry. Even two or three days may dry it out so much that it will not pop well. Fortunately, a method has been devised which will insure the right moisture content. Here it is: Put the dry shelled popcorn in a tight container such as a tight jar or can and along with it insert an open jar or bottle containing a saturated salt solution, that is, a solution that contains all the salt that it can possibly take up. The safest thing to do in getting this is to keep adding salt to the water until some settles in the bottle and stays there. If you will seal up your popcorn with such an open container inside it and leave it alone for a month or six weeks, the proper amount of moisture will be absorbed by the corn and it will pop in first-class shape. We use this method in preparing our popcorn in breeding experiments so as to have all the ears in the right condition for testing.

### Some New Apples Worth Watching

Ed Rasmussen brought in some apples from Ira White's orchard this fall which attracted con-

siderable attention among the members of the Horticultural staff. The apple looks as though it might be a cross between Delicious and Rome Beauty. The quality is very good. We think Ira's tree should be propagated for a wider test.

In the University orchards this year, the Franklin variety of apple bore for the first time. The crop was light so that none of them are being kept for long storage trial this year. However, a part of the box which was setting out in the Horticultural barn has been entirely consumed. The fruit looks like a high colored Delicious, with considerably better finish than Delicious gets at Durham. The taste of the apple reminds one very much of the old-fashioned Fameuse or snow apple. So long as they lasted, these apples were preferred by anyone who had sampled them.

An apple which is fruiting at Durham for the second time this year is Idared. During the 1947 season the Idared apples were very large, coarse and sour. This year they looked very much better, in fact, they resemble a large Jonathan. The quality and color are good.

## GARDEN NOTES

(Continued from Page 4)

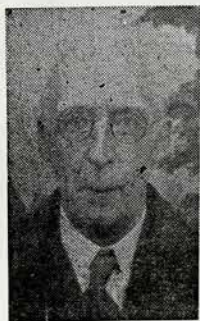
suitable for its dissemination. When the British people were asked what color they wanted their nationalized trains painted the choice was chocolate and cream for the coaches and green for locomotives which is that of Great Western railway, whose terminus is Paddington, London. Its main line crack train, Flying Dutchman, London to Penzance, had the only broad gauge track in England, smooth and swift running, as I can verify, but long since discontinued owing to cost of maintenance. It was on this line that Queen Victoria got her first train ride. Australia is suffering from the worst drought of the century with already the loss of 4 million sheep and a thousand cattle are perishing daily. One region has had no rain for 3 years. Dr. Bailey contributes to current issue of "Mass. Horticulture." Altho over 90, he has lately returned from a plant collecting expedition and is still an active gardener, about which he writes in his usual charming manner; he places amateur gardeners in 3 categories one of which are those "who love any plant that grows, is interested in the distinction between species, and studies them from emotional satisfaction." This is most of us, including myself.

Follow Through on Insects—Planting a garden is not enough, warns the National Garden Institute. Insect control, weeding, and thinning must follow if a garden is to pay off.



## SECRETARY'S CORNER

By  
W. A. Simmons



W. A. Simmons

In an interesting article entitled "The Elusive African Violet" in Mass. Horticulture, Mrs. F. H. Jarrett tells of their enemy, the mealy bug, and gives the old and inadequate remedy of "indecent" alcohol on a fuzzy pipe cleaner, or what have you. for the purpose, but warns that like Gen. McArthur, they will return. Then she mentions a way to smite them up to the third and fourth generation by dipping the entire top of the plant in a solution of vapotone, using two teaspoons to one gallon of water. She says to wear gloves and wash the hands after using. It sounds good, all but the last part, so I think I will try it along toward spring, when washing one's hands won't be such a hardship. We have become the world's largest consumers of coffee. Before the war our 14 lbs. per capita consumption was exceeded by Sweden and Denmark with 17 and 16½ respectively, but since then our consumption has risen to 20 lbs. per capita, which would allow over 2 cups per day for every man, woman and child in the nation. England uses 8 lbs. of tea and only three-quarters of a pound of coffee. Canada uses about 3¼ lbs. of each. Scientists in the Dept. of Agriculture are now attempting to change the shape of the sugar beet. At present it is parsnip shaped and clings to the soil with a tenacity suggestive of a nail in a board, making digging difficult. They have found that a globe shaped root will part with the soil with a minimum of fuss. This is a common shape with the red garden beets and to secure this shape in sugar beets the two have been crossed, resulting in securing white, globe shaped beets. The first seedlings were deficient in sugar, but these are being crossed back with sugar beets of high sugar contents, and they hope soon to have an easy digging globe shaped sugar beet of high sugar content. Am in receipt of an interesting letter from our friend Claude A. Barr, of Smithwick, S. D., who has done so much to advertise and popularize the wild flowers of the state, excerpts of which follow: "In the west we don't knock rain or snow, and sometimes not hail if it has moisture with it. Some of Fall River Co. had just all the rain it could use this year, but I was in a dry narrow belt, with quite a little rain, indeed, much of it in July, but no run-off, so that I am now enjoying water trouble

in the dams. That is, enough water in some of the dams for the present, some dry, some too strong of alkali, but no certainty of enough to last till spring, unless we get 11 inches of snow and a January thaw, as of course has happened but usually don't. At that it was a pretty good season. Sold some mulberries, plums, cherries, grapes and 30 bushels of apples. We are still enjoying Golden Delicious and Jewell's Winter, and by the way, this little success has got me apple-wild again. I'm ordering Red River crab, Minnesota 978 (similar to Wealthy), Fireside (a super Delicious and hardy) and Prairie Spy (for discriminating people), in a small way, from Andrews, Faribault. But I'm not planting them in gumbo, digging a hole 6' wide by 30" deep and filling with the best black sandy loam available at Smithwick. Have found from experience that this gives a young tree a wonderful start, and also serves to demonstrate my well established opinion of gumbo as an orchard soil. If these apples are what they are 'cracked up' to be they'll be well worth the trouble. Of course, it is still to be proved that these varieties won't crack up in my dry climate. While I am at it I may as well complete my apple report. High producing kinds were Transparent, Red June (grafted), Early McIntosh (cions fro New York), Anoka, Wealthy, Florence crab, Golden Delicious (graft), Jewell's Winter. Some Whitneys and Dolgo; the main Dolgo tree was in too dry a spot. I was astonished to have the supply of moisture hold out to mature the late ones. Golden Delicious and Jewell's Winter went through a 19 degree freeze without injury, possibly some softening up, but both are keeping well and are fine. I once had Golden Delicious ruined by 16 degrees. This time a neighbor, in a valley location had his Jewell's Winters blackened (the same night as my 19), in 14 degrees.

Early McIntosh is a wonderful producer and a very fine eating and cooking apple, much more to my taste in every way than the regular McIntosh, only it isn't early, here, ripening just as Anoka is finishing. So it doesn't corner any early apple market. But it sells well.

Incidentally, my old regular McIntosh never did anything, half a dozen apples or so being the limit of its ability in my environment. It decayed and broke down during the dry years. A root sprout bore 7 apples this year. I am replacing it with one of the new ones.

Hibernal is another failure and it hasn't stood up even as well as the Wealthys, which are bad enough. Two of my five Wealthys are gone, the others not in good shape. (My valley neighbor,

(Continued on Page 15)

94702



## FRUIT AND VEGETABLE NOTES

By  
F. X. Wallner



F. X. Wallner

Thursday, Dec. 2nd, was my big day at the 5 million dollar stock show, altho I had been there one whole day before the ribbons were placed. I think the main attraction for the thousands packed in the amphitheater was to see the three sheep dogs put on 4 acts. The trainer, a sheep man from Des Moines, was in the big arena with the three dogs when a truck unloaded six sheep from the stock yards. Only the youngest and smallest dog worked here as he slowly drove the sheep thru an opening in the fence. He repeated this in another part of the arena, but took the lead sheep by the neck, lifting him off his front feet and led him quickly into the opening, all the other sheep following. The three dogs worked together to get the sheep into a small pen, in the center of the big show ring. Then, as a final act, the three dogs drove them across to where the truck was, and drove them on up into the truck. A Scotch band led the parade of prize winning Herefords, Shorthorns and Polled Shorthorns, and Clides, Belgians and Percheron horses. Eight carloads of white faces, 15 to the corload, were judged at one time. Many different classes of riding horses and driving horses were judged during the afternoon. There is plenty of excitement and interest when there are 10 to 20 horses being driven about the big arena and it is a big job for the judges to pick the best. The many horses jumping the hurdles held the spotlight for some time before the winners could be selected. How the judges could pick the winning six in a driving contest, and leave the seventh, a nice young lady and her very nice horse out, brot boos and protests from the big crowd. The rich man from Houston, Tex., that bought the champion steer at \$10.75 a pound, or \$12,900, also the 1290 lb. Hereford reserve champion for \$4 per lb., or \$5,160, also the carload of Herefords at 77 cents per lb. of 1,100 each for the 15 head, or about \$18,605, or a total of \$36,665 for the 17 head, has some pretty expensive beef on his hands. The first two were record high prices while the carlot was not. The steaks will be served in the new Shamrock hotel in Houston next St. Patrick day. Over 2 million dollars will change hands for the stock soon. The reserve champion

was owned by 50 4-H boys and 6 girls from Fort Stockton, Texas. They will buy a truck and trailer to carry animals to future shows. The judges admit it is a heartbreaking task to weed out the 411 of the 811, before the final judging, as there is only place for 400 in the 4-H class. The surprising thing is to find so many exhibitions in stock and grain, to winners of blue ribbons; two or even three times. Take the lady from Erickson, B. C., Canada that won 1st in red spring wheat in the name of A. Kelsey. A Kelsey was proclaimed wheat king of the nation. That was in 1946-47. Mrs. Amy Kelsey was second and again this year, losing again to S. J. Alsop, Alberta, Cana. last year's top winner. This year weight was 66.9, almost 70 lbs. to the bushel. The top oats was 48.6, in 1932 the heaviest ever, was 51.6. I was around the grain exhibits for some time, and told others that I was sure that wheat sample and others were picked by hand. Then the next day the papers told of this Canadian housewife winning top prizes for years on a six acre fruit farm, using a dinner plate, a strong light and magnifying glass until she had her 15 pounds. New grain introduced, Canada has 12, Arkansas 10, Iowa 8, Minnesota 6, Kansas 6, South Dakota 3, and other states 2 to 4 varieties. Hay honors have gone to Indiana 8 times, Michigan 6, Wisconsin 2, Kansas 2 and Iowa once. Father and son of Indiana won top honors in ear corn, a Purdue hybrid that has won top honors for Indiana grains the past several years and has won the prizes oftener than all other states combined. Clay county won two ribbons on shelled corn, and Corson Co. won the ribbons on sorghum. The two boys and girl from North Dakota 4-H that beat 26 other state teams in livestock judging, were heroes of the show. Top oat honors and soy beans also went to Canadian growers. I fear this will be too long for my page so will close saving a few words of the first day of the show, when the first stop was at Swift's, where they kill 600 hogs an hour, many colored men work in the killing and trimming department; 13,500 people work here. At the close of this day the band played "God Bless America" and the thousands joined in, suddenly the music stopped, but the 4-H club and others finished, really a touching moment in that big amphitheater.

There is something feminine about a tree. It does a strip tease in the fall, goes about with bare limbs all winter, gets a new outfit in the spring and lives off the saps all summer.—E. M. Hunt in Minnesota Horticulture.



## TERRARIUMS

By Mrs. Albert Duncan,  
Green Fingers Garden Club, Flandreau

Dry air is one of the greatest obstacles to the successful culture of house plants. Growing them in terrariums enables us to overcome this handicap and permits the cultivation of a variety of plants which would be certain to die quickly if exposed to the air of the average living room. The small fish bowl type are easily made, and do not require as many plants as the ones made in aquariums. Select a bowl with as wide an opening as possible, which gives you more room to place the plants. After you have selected your bowl the soil is quite important, especially the sand for drainage. For these I used equal parts of black soil from under the trees, sand, peat moss, and rich loam from a decayed straw pile. A few pieces of charcoal added keeps the soil from becoming sour. I removed the stones from the sand but did not sift it, then mixed all the ingredients very thoroly, and used a large spoon to assure the proper amount of the mixture.

At the Anderson Nursery in Sioux Falls I selected as many small plants as I could find. There is a large variety of plants that can be used such as all varieties of cactus, hen and chickens, sedums, philodendron, artillery plants, flowering strawberry plants, ferns, rubber plants, mosses and desert plants. Very small cuttings of foliage plants add a touch of color to so much green.

After preparing the soil and selecting the plants and bowl put them all on your table to assemble them. Raise the soil as high on one side as possible and gradually slope it down low on the other side; then moisten it, do not make it soggy and wet. The soil will settle a lot after it is moistened, but it will stay in place better and you can place your plants where you want them more easily. Use a knife or small stick to make the holes for the roots, using your tallest plants at the back and gradually sloping them down to very short ones in the front of your bowl. It is best to use the smallest sized plants in all varieties as they become large very quickly and look overcrowded. Overgrown plants should be replaced with smaller ones.

Be sure your glass is sparkling clean before you begin to use it. A nice idea is to sprinkle or dip each plant in water before planting it in the bowl. This will remove all dust and various kinds of plant pests. When all the plants are placed satisfactorily wipe the glass with a clean damp cloth and polish with kleenex. Later when watering the plants use a medicine dropper so you can

shoot the water right to the roots of the plants where you want it and not soil the bowl. The bowls are hard to clean without disturbing the plants when they become larger.

Plants in terrariums are protected from dust: temperature changes are gradual; and plants are not exposed to drafts or the fumes of gasses from our stoves and furnaces. All these are helpful factors when growing plants in the abnormal conditions of the living room. If desired, you can keep a glass over the top. If tightly covered the terrarium holds the moisture and does not need watering very often, but the lid will have to be removed once in a while to provide ventilation. One objection to keeping the bowl covered is that moisture collects on the glass and you can not see the plants so nicely. Terrariums are nice to use, and give you more room for your plants. If you want to bring in slips from the garden, place small bottles of water in the sand in which to root the cuttings. When rooted, the plants can be removed from the bottles and planted directly in the dirt, and the bottles discarded. A "bottle garden" is another type of terrarium, but it is harder to place the plants in such crowded quarters.

## SECRETARY'S CORNER

(Continued from Page 13)

however, has absolutely no criticism of the Wealthy as to hardness in his location). One of the Hibernals, planted in 1916, was so far gone some years ago that I nurtured a root sprout, and this year grew my best Golden Delicious. The Second Hiberna (1916) had some Sasha Sweet grafts on it. They bear some, but are not worth while. This tree is now taken out. The Hibernals have never borne but very little. The third tree, planted later, has some red June wood on it, just coming into bearing. It has always had much dead wood and is so poor now that the right kind of wind would break it down.

My Agawam grapes continue to be favorites. Golden Muscat also holds out astonishingly, and produces well. It ripens well ahead of frost. My Fredonia died. Must get me another for it has a wonderful quality. Beta continues to be main crop. Prof. Hansen's Edapa and Azita are very desirable grapes but uncertain as to crop, not bearing heavily and not often setting fruit bunches."

Modern families ain't so small. They just seem that way because there ain't never enough of the younguns home at once for a family to look big.—Foxtail in Prairie Farmer.





## TEACHING CONSERVATION

(Continued from Page 8)

have laws for the protection of birds, mammals, fish. Even laws fail to do what we desire, if people do not know about them nor appreciate their value. To be a conservationist, one must know not only the things to be protected but also the laws that give them protection.

In California the State Fish and Game Commission has issued a "teacher's bulletin" which is placed in the hands of every teacher in the state. At the end of the bulletin they say: "For further information relative to game and fish in California, laws relative thereto, or the work of the department address Bureau of Education and Research, Museum of Vertebrate Zoology, Berkeley, California.

Personally one might think this is the answer—"Education and Research." Certainly it seems that more education along this line is needed by farmers, hunters and especially the little boys and girls who want the thrill of these things in the future. South Dakota it seems to me has this opportunity right at the very moment. We want our grandsons to have something to shoot in this country other than clay pigeons and it can be done by careful management and full cooperation of all interests. The leasing of large areas for goose and duck hunting and the building of hunting lodges on these areas may have a slight flavor of Eighteenth Century Europe.

I am sure that one of the things that should be taught along this line is a knowledge of our game laws, type of game enforcement, penalties, seasons open and closed, bag limits, size limits, methods, non-sale, pollution, game refuges, game-farming, Federal Migratory Bird acts, and protection. I was surprised to learn that no one in my biology classes in high school knew that the bald eagle was a protected bird. True he might have some bad habits, but he is our American emblem and we should further realize he is nearing a point of extinction.

Conservation education in the schools is going to be necessary. Financial help is going to be needed also in order to promote and set up the Conservation program. Textbooks on an elementary school level will have to be edited and published. They perhaps should be produced by state schools of agriculture and forestry where authorities on wildlife management are serving on their faculties. For the first time I noticed this winter in the college catalogue of a State Teachers' College in another state a course listed as follows:

"37 Conservation of Natural Resources, three credit hours. A study of Natural Resources as

factors in national development, with emphasis on conservation, including reclamation of arid and swamp lands, reduction of erosion, improvement of forestry, elimination of waste in mining, improvement of waterways, prevention of floods, development of water power and the preservation of wildlife."

This is a beginning and a start in the right direction when teachers are being made Conservation minded. What is needed is a more or less organized campaign to carry the messages of Conservation to the people and to legislative bodies so that we can not only help our rangers and game wardens who are given the responsibility to protect our wildlife resources but to actually put a stop to waste before it is too late.

## GARDEN CLUB GLEANINGS

(Continued from Page 7)

from the gay side, and its practical articles are interspersed with whimsy and personal anecdotes. Even the advertisements are replete with legends and history. The August issue contains an article on rabbit-proof plants. Wonder if our South Dakota rabbits have the same tastes as the English ones?

The National Tulip Society is the latest organization to be formed to specialize in a single species of flower. I will be away on vacation during the next month.

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