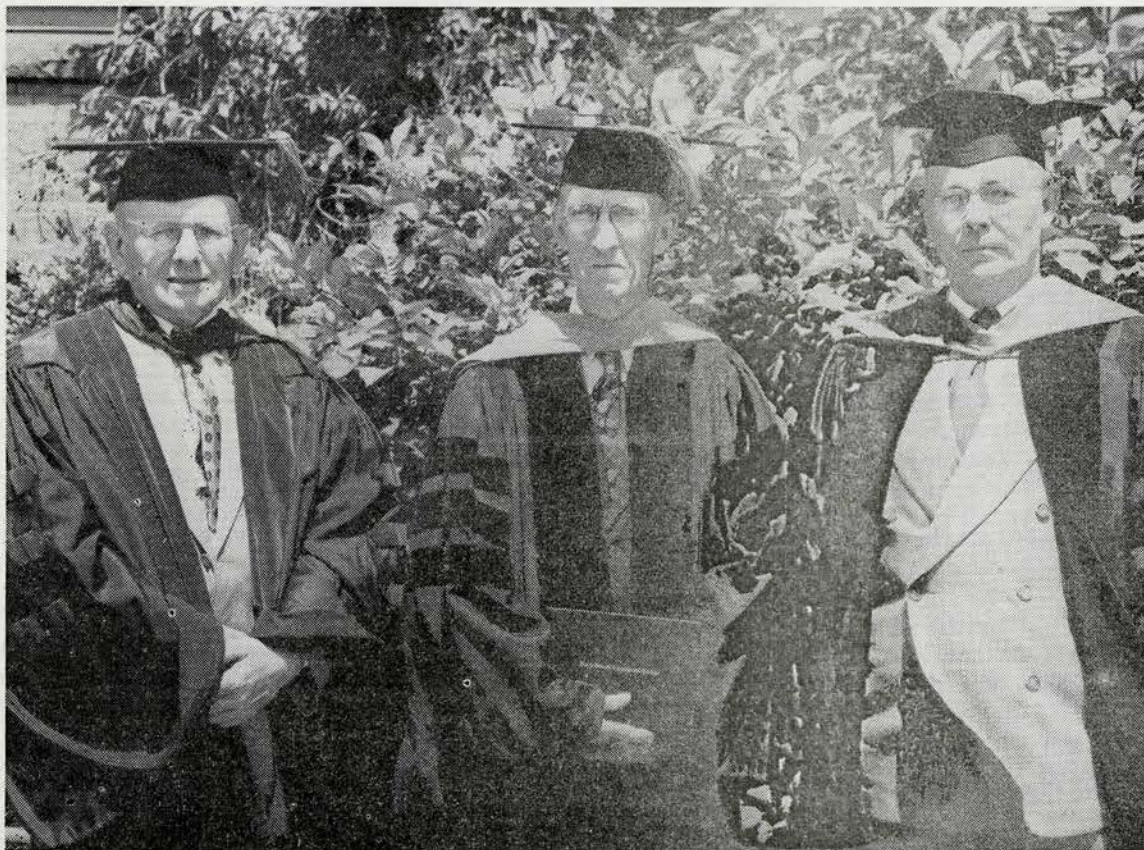


NORTH AND SOUTH DAKOTA HORTICULTURE

NOVEMBER, 1948



Left to right, Dr. H. L. Walster, Dean of the School of Agriculture, Dr. O. A. Stevens, Botanist, and Dr. J. H. Longwell, President of NDAC. Dr. Stevens had been awarded an honorary Doctor of Science degree.

—Photo by Jas. Baccus.

THE OVEN-BIRD

By
O. A. Stevens

**O. A. Stevens**

The oven-bird is closely related to the water-thrush and similar to it in appearance. The chief difference is that the oven-bird has a reddish-brown stripe on top of the head and this is bordered by black so it is fairly prominent. The side of the head is olive-brown like the bird's back, instead of yellowish, and the brown streaks of the under parts are wider than those of the water-thrush.

The oven-bird is very much a ground bird. It walks, one could almost say "creeps," along the ground, usually intent upon food material. When startled, it flies up to a low branch, and if one is careful, he may get a glimpse of the bird, sitting thrush-like on a limb. It is distinctly a bird of the woods where there is a good cover of bushes, but may appear in yards during migration.

The song is loud and characteristic. Many years ago John Burroughs called this the "teacher bird" and described its song as "teacher, teacher, teacher, teacher," each note louder than the preceding. Careful search may find the singer on a low branch of a tree. A few observers have described another song, a rapid, warbling type, delivered in the woods or in the air above the trees.

The name, oven-bird, is from the type of nest, which is on the ground, roofed over with a side entrance. I recall one in particular, located on a slope, the entrance on the lower side as if the birds had merely pushed up the dead leaves and made the nest beneath. The eggs are 5 or 6 in number, eight-tenths of an inch long, white with brown spots on the larger end.

Oven-birds are commonly imposed upon by cowbirds. I once found a nest in a patch of ostrich fern which had a single egg of the oven-bird and five of cowbird. It is unusual to find so many cowbird eggs in one nest. Dr. Harry R. Hahn made an intensive study of oven-birds in Michigan. He finally secured a photo of a cowbird removing an oven-bird's eggs from the nest. This was acclaimed one of the pictures of the year.

Food of the oven-bird is largely insects as with other warblers. "Small seeds" are mentioned somewhere in the reports and I have suspected that they liked seeds from the fact that I

Vol. XXI

November, 1948

No. 10

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

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

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

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nearly always catch them in seed baited traps instead of the water drip traps in which most warblers are caught. However, it could be accounted for by the fact the birds are usually on the ground and enter by accident as often do wrens and occasionally several kinds of warblers.

The first description of the oven-bird by George Edwards, about 1760, is believed to have
(Continued on Page 159)

NEWSLANTS

By
J. H. Schultz



To read "Newslands" as written by Mr. Harry A. Graves has always been interesting and refreshing to me. This month, however, we shall all have to forego that pleasure because in a weaker moment I agreed to writing it for him.

During August many of the horticulturists from the Northern Great Plains States attended a very interesting meeting at the U. S. D. A. Cheyenne Horticultural Field Station in Wyo-

ming. Having never been there before, I was rather surprised at the similarity between their horticultural problems and ours here in North Dakota. The growing season at Cheyenne is a few days shorter than at Fargo and both their winter and summer temperatures are a little more moderate than ours. However, the average annual rainfall is about five inches greater at Fargo so our disadvantage in winter temperatures is compensated, horticulturally at least, by greater rainfall. Chlorosis seems to be a rather widespread problem in that area while with us it is highly localized.

There is a surprising similarity in the varieties of fruits that are reliable producers at Cheyenne and here. The list of recommended apple and plum varieties is about the same in the two areas. Little wonder that the work at Cheyenne is watched with such interest here.

We owe much to the Cheyenne Station for their part in the development of really hardy Chrysanthemums. Previously, hardy "mums" were by no means hardy with us except for the Minnesota varieties.

Other ornamental breeding work which we saw included a large block of hardy rose hybrids. These are still in the early selection stage and will be well worth watching. Despite our heritage of many wild roses and even having the rose as a State Flower, we really don't have hardy varieties that compare favorably with modern roses grown in other areas.

Speaking of roses, I am surprised at the number of people who are growing hybrid teas and similarly tender kinds in North Dakota. Some go to great effort in covering them thoroly for winter while others dig them up and over-winter the bushes like a tender perennial flower. I wish I knew which is the better method because my wife

and I miss our rose garden and are threatening to try our hand here. Last year our newly set Dainty Bess bloomed heavily once a month from June through October. Even in one season we felt that this fragrant, delicate, single-flowered variety repaid its cost of a dollar and a half several times over.

We will be watching Dr. Powers' work on early tomatoes with a great deal of interest. He is using the Red Currant tomato as a source of earliness and seems to be making real progress in combining that earliness with good size and shape. While great progress has been made in breeding early tomatoes for our conditions, there is a real need for earlier varieties of good size and quality. The gardener who has access to good greenhouse grown tomato plants for transplanting is in a favorable position, but how about our many farm and small-town gardeners who cannot buy good plants? Possibly the time will come when they can seed early varieties directly in the garden and harvest an adequate supply of tomatoes.

One of the highlights of the Cheyenne meetings was a talk by Dr. Frank Skinner about his recent trip to Europe. No keen horticulturist ever travels in Europe but what he sees many plants that may be valuable here but have never been tested adequately. Largely as a result of his talk the group is requesting that the U. S. D. A. take steps to import various plant materials. Nurserymen and others who know of valuable plants in foreign countries might well consider a specific request for importation thereof. If a specific kind of plant is wanted and a definite location and source can be given, the chances of obtaining it are reasonably good. The Department of Agriculture has representatives in most foreign countries and many valuable plants can be obtained at little cost. It is surprising, though, how many of these plants are already here if we look for them in the right places.

A recent trip to the Mandan and Dickinson Experiment Stations makes one wonder about the difficulties in growing trees and tree-fruits in Western North Dakota. At both stations there are excellent plantings of junipers, Black Hills and Colorado Blue Spruce, and Western Yellow Pine, both young and old. True, some of these fine trees do get a considerable amount of care but who would say that the results are not worth it? A short distance east of the Dickinson Station is a tree-covered hill. Mr. Graves tells me that these trees were planted by Dr. L. R. Waldron in 1909 or 1910. These are growing in sod and may not have had much care in recent years.

(Continued on Page 160)

GARDEN NOTES

By

W. E. H. Porter



September in North Dakota, this is one of our really pleasant months; warm, and even hot at times but without the burning fury of a blazing midsummer sun and in the garden we cash in on all the hours of continuous hoeing, which in midwinter will be regarded as time well spent; after all, nothing eliminates weeds, root and all, like the good old fashioned hoe. June 27th. A pair of bitterns are summer residents in the large slough, south of the yard and the clear sonk punk er lunk, like stake driving, is heard at dusk and well into the night. All in all this slough is a very haven for water birds. "Country Life" tells of a frog jumping contest in California, in which the winner *Heliotrope* jumped 11 ft. 5 inches, netting his owner \$200. The same issue tells of poisoning 7 beach donkeys at Bridlington from eating yew, which reminds one of the hawk-er who owned a train of pack donkeys that he'd turn out at nights in an adjoining field. One evening he decided to give them a treat in the lush grass of the local cemetery; the next morning they were all dead from eating yew. Last week the black-headed tern, locally known as mosquito hawk arrived, beautiful in its black and grey plumage and graceful swallow-like flight, and one notices a considerable diminution in mosquitoes; it winters south of U. S. A. In "Country Life" an interesting discussion is being conducted on how often an asparagus bed should be renewed, which seems to have exploded the idea of once every 20 years, one writer claiming good results from an 100-year-old bed. Another, resident of Staffordshire, mentioned one planted in 1857 and still doing well, and in Suffolk an owner says, "When we acquired our gardens 28 years ago, we laid down an asparagus bed, thinking the two old ones of 70 years might be worn out, but they continue to yield better than the new one. In current issue of "Boston Horticulture," a writer tells of planting a bed which did not come up so he built a driveway and layered it with 4 inches of gravel and 2 inches of asphalt, thru which the asparagus sprouts are now showing. June 29th, *Lychnis Walkeri* comes into flower, one of loveliest in the garden, a dark peony purple supporting stem and foliage like silver flannel, a hardy hy-

brid of Rex Pearce. July 4th, 84 in shade, a tempering N. W. wind makes it bearable, a far cry from 1903 with snow squalls; beautiful is a large block of blue and white geranium pratense which have taken over a piece of waste land to exclusion of most else. July 5th. 90 in shade at 1:00 p. m. Fatalities recorded for yesterday's celebration are 465; as the broadcast says, "Death never takes a holiday." Beautiful as a flowering shrub is *Acer tartaricum* (Amur maple) with its yellow-tinted foliage and racemes of pendulous red seeds. This species of maple is hardy as box-elder and a very spreading shrub tree. It should be planted more freely, fall tints are in red and gold. The newly planted *Acer rubrum* (swamp maple) has made a very vigorous start, by a ditch. Weir's cutleaf killed back considerably last winter due probably to sun scald; *Actea alba*, the bane berry, is well established in shade, flowers early and now carries many small berries on a central stem, like small bright red cherries, it is a member of the buttercup family. Two lilies are in bloom, viz| *Hansonii* and Fire King, the former are fragrant and carried in clusters on a whorled stem, yellow, 3 inches in diameter peppered with purple dots; the latter really magnificent, a vermillion scarlet with purple streaks and spots. There are 21 flowers and buds which expand to a 5-inch diameter described as so vivid that the name is completely appropriate. Also as a breath of California in North Dakota *Lilium Parryii*, with 3 fragrant yellow trumpets. July 9th. Cooler, heard a robin singing at dawn, must be a late hatch; cat killed but did not eat a fledgling swallow. Saxton & Wilson's hardy plants from Oregon now in bloom are *Huechera sanguinea*, also known as coral bells or alum root, coral red flowers of airy grace, bells clustered belfry-like on summit of a rather tall stem that dance in the wind. Farrer says "the family in all its species has the perfection of having been born for the border and for 100,000 years to have been sleeping beauty waiting for the florist to come along and work it to its own possibilities." Also the large double Mt. Shasta daisy, a summer chrysanthemum in bloom since early June and still going strong. The glorious white spires of *Galahad Delphinium* and pincushion flower *Scabiosa caucasica*, pale blue, 3 inch in diamant flowers with pink anthers very beautiful seen with pink must mallow which are pretty well everywhere. July 17th. Five days of rain has been a Godsend for garden and late crops and delphiniums which were in their prime lie prostrate. Yesterday a soaking drizzle whipped up by a cool nor-wester induced me to spend the time by the genial warmth of a kitchen fire.

MANITOBA NEWS LETTER

By
W. R. Leslie

Root Stocks, by C. R. Ure



W. R. Leslie

Two very important horticultural problems received special treatment at the Great Plains meetings in Cheyenne, Wyo., in August. These were chlorosis and rootstocks. Saturday morning papers were on fruit tree rootstocks. Dr. S. W. Edgecombe, head of the Horticultural Dept., Utah Agricultural College at Logan, discussed orchard root stocks in Utah. He pointed out how the kind of stock has a tremendous bearing on subsequent tree behavior. It can regulate tree size from small to large, determine productivity and longevity of tree, hardiness and, to some degree, disease and insect resistance. The cherry was taken as an example. Mahaleb generally is used more than Mazzard as stock for cherries yet recent developments indicate Mazzard may have been overlooked. Cherries worked onto Mazzard roots appear resistant to the "Western x Virus" of cherries, which is causing great concern throughout the Pacific Coast cherry producing areas. The same varieties on Mahaleb roots have died out, indicating a definite influence of the kind of stocks on disease resistance. Some Mahaleb strains give hardier and more productive budded trees than do others. Likewise there are indications that cherry varieties on Mazzard roots are larger than those of the same varieties on Mahaleb roots. Mahaleb seedlings generally are shallower rooted and tend to dwarf the top portion.

Dealing with apricots, Dr. Edgecombe felt that varieties worked on apricot root stocks gave greater satisfaction than on peach roots. Another point stressed was the enormous possibilities of selecting individual trees whose seedlings make fine root stocks. A case of one large grower was cited who used seedlings from one tree only for all his apricot work.

Next on the program was Dr. H. L. Lantz, head, Pomology subsection, Iowa State College, Ames, Iowa, who related how "Hardy stocks stand the shocks." Experience throughout Iowa in recent test winters demonstrates clearly the advisability of using hardy stocks for roots and framework of the tree. The trees come into production earlier, and losses from crotch injury, and sunscald are less than when the trees are on

their own stems. In Iowa, Hibernial and Virginia crab are employed as the stem piece. The side branches selected to become the main scaffold branches of the tree are budded to the desired variety in June and July. Hibernial is proving superior to Virginia crab in many respects. It's compatible with more varieties than is Virginia. Tree size is smaller on Hibernial and consequently is more manageable. Production is good. Some trees of Norwell on Hibernial stem have yielded 70 bushels of fruit per tree.

Another Iowa variety, Secor, worked on a *Malus baccata* seedling is about half the size of the same variety on Virginia crab. However, the yield of fruit is four times as great on the *Malus baccata* stem.

Mr. C. R. Ure of Morden presented a paper at Cheyenne on the "Results of Plum Root Stock Studies at the Experimental Station, Morden." Two aspects of the problem received attention, (a) the kind or type of root stock, and (b) contributing factors or methods which favor an increased catch of scions or buds whatever stock is used.

Six types of stock have been studied. In group one, the native plum species, the American plum (*Prunus americana*) is regarded as superior to the Canada plum (*Prunus nigra*). The latter has not given as uniformly good stands of plants as the former. It seems more difficult to propagate, is less vigorous and possesses a shorter budding period, particularly during dry spells. *Prunus americana* is satisfactory in these respects but is objected to on its tendency to sucker. A more recently introduced species, *P. salicina* (*P. triflora*) suggests possibilities as stock. While tested in a limited way only, the seedlings are hardy, mature their wood early in the fall, and have shown little, if any, tendency to sucker.

The second group comprise seedlings of such plums as Assiniboine, Cree, Cheney, Pembina, Wastesa and Zekonta. They offer some of the best material for plum root stocks. Seedlings of Cree, Wastesa and Zekanta have been the most satisfactory. They are hardy, vigorous, remarkably uniform, easily propagated, a little thicker in the bark than Assiniboine, which facilitates budding, and the bark tightens less quickly. There is evidence that seedlings of some varieties, Cree and Pembina to mention two, are more congenial to buds growing on them. Results of the Morden tests bear out the point made in other papers at the Cheyenne meetings that seedlings of certain individual plants or varieties are particularly suited for root stock purposes and raises the question of breeding to develop strains for stocks,

GARDEN CLUB GLEANINGS

By
Mrs. G. M. Jorgensen



Mrs. Jorgensen

Dues are due now. Send them to W. A. Simmons, Sioux Falls, with a list of the officers of your club.

Aberdeen Garden Club—Mrs. Clayton Dietz, president. The September meeting of this club was a resume of lovely gardens visited during the summer by Mrs. J. L. Huebl and Mrs. M. S. Rasdall; a display of flowers and dish gardens; and a discussion of garden problems.

Britton—Home Garden Club, Mrs. E. M. Drissen, president. Seeing their summer flowers again in November will be the pleasant experience of the members when they view the colored movies of local gardens taken by Mrs. Drissen, SDFGC conservation chairman. Mrs. A. C. Bonham has had her biggest thrill from roses this year and plans to plant at least twenty more this fall and next spring. The large-flowered floribundas are the best choice for that territory.

Brookings Garden Club—R. A. Cave, president.

Canton Garden Club—Mrs. Al Scholten, president.

Centerville Garden Club—Mrs. B. H. Sayre, president. In a brief note, Mrs. Donald McMurchie, the secretary-treasurer, reports that these officers, together with Mrs. Bertha Hornbeck as vice president have held office almost a year.

Chancellor Garden Club—Mrs. F. A. Reck, president.

Dell Rapids Garden Club—Mrs. W. H. Crisp, president. Due to Mrs. Crisp's energetic drive for new members and funds, the club has gained new workers and has attained a sound financial status. Eleven projects of civic and world service have been successfully carried out the past year. These include the Tulip Tea, the Peony show, the mid-summer flower show, planting, care and maintenance of nine city park flower beds and of two trees in the park, used stamp and greeting card collection, surplus plant collection for the 100F Home, Seeds of Peace, Freedom Gardens, flowers for the hospital, Flower Shut-In Day, and Girl Scout gardening encouragement.

DeSmet—The Friendly Garden Club, Mrs. Larry Pittman, president. In addition to Mrs. Pittman the club has elected new officers as follows: Mrs. Ed Brinkley, vice president; Mrs. Fred Carmon, secretary; Mrs. Glen Van Tassell, treas-

urer; Mrs. Emma Miller, librarian, and Mrs. Maud Waters, historian. The club has had an increase of two members, making a total of twenty-one on the roll.

Flandreau—The Green Fingers Garden Club, Mrs. Jay Bennett, president. Flowers in a gorgeous array of colors and styles decorated mantle, tables and shelves of the Methodist church basement when the club met there for a Guest Day program in September. Husbands were guests as well as several out-of-town visitors to see the showing of kodachrome vacation scenes of the West. The club took part in the seed testing project in cooperation with State College.

Highmore—Sunshine Garden Club—Mrs. J. T. Sarvis, president.

Hurley—The Green Thumb Garden Club—Mrs. Lee Thompson, president. Of their new organization Mrs. Thompson says, "I know that I have already been repaid a thousand fold for the work (or fun would be better) of organizing our club. I am amazed at the interest so many people have shown since the flower show, and the respect with which they now speak of our garden club and show." Their green and lavender and gold year book emphasizes the practical side of gardening as well befits these new members of the green thumb world.

Huron—Fair City Garden Club, Mrs. Oscar McFarling, president. Most popular speakers at Huron are Mr. and Mrs. Arthur V. Burger, if we are to judge by the number of times they give of their knowledge and experience for the garden club members. The October meeting featured a talk on chrysanthemums augmented by colored slides of mums furnished by the Lehman Gardens of Faribault, Minn. Mr. Burger also spoke on fall planting of peonies, tulips and other bulbs, and gave to the club 15 beautiful door prizes. These were bouquets made from the profusion of cut flowers, unusual arrangements and colors, brought by the Burgers, and which created much interest. Most unusual of the displays was a basket of fall blooming iris.

Huron Garden Club—Mrs. Sherman Johnson, president. Congratulations to this small club of 24 members for all the honors they have earned this fall. Their beautiful hand-painted yearbook won first prize in the state contest; and first place was awarded the products of their gardening efforts when they displayed them at the State Fair. Chairman of the Fair exhibit was Mrs. R. W. Wilkinson, who reported a total of 18 ribbons won. Mrs. C. W. R. Eckberg was the artist who painted the yearbook covers with Mrs. L. J. Avery, chairman, and Mrs. Milton Cochrane composing the rest of the committee. The Septem-

ber meeting of the club featured Mrs. M. J. Montgomery as speaker on Organic Gardening.

Iroquois Garden Club—Mrs. Howard Hoevet, president.

Lyons Garden Club—Mrs. L. N. Brakke, president. Election of officers for 1949 resulted in Mrs. Roy Thompson being chosen president, with Mrs. Henry Olson as vice president, and Mrs. Oliver Swanson as secretary-treasurer. Mrs. Brakke, who organized the club two years ago, will continue her influence on the group and on the community through her position as program chairman. She says, "I have lots of ideas to carry out."

Mobridge Garden Club—Mrs. Ted Lowry, president.

Rapid City—Better Homes and Garden Club, Mrs. E. C. Smith, president.

Rapid City Garden Club—F. V. Rehurek, president.

Sioux Falls Garden Club—F. X. Wallner, president. This club will "beautify the way we go" with 100 tulips which are to be planted in front of the YWCA where they meet. The suggestion came from Mr. Simmons, and was promptly acted upon by the group. After the most recent of her "Mr. and Mrs." programs, Mrs. J. L. Severance, program chairman for the past three years, says, "If that is a sample I don't want to miss any of them." The "Mr. and Mrs." in this case were the Swartouts, with an evening of soil building studies and seasonal suggestions, as well as member participation with the reading of interesting clippings connected with horticulture. The exhibition table was piled high with flowers and vegetables for this meeting, according to Mr. Simmons.

Sioux Falls—South Sioux Garden Club, Mrs. James Anderson, president. We hasten to correct the membership list of this active club to its full quota of 41 as reported by Mrs. Martin Johnson this month. September's program of Putting the Garden to Bed, and Care of Raspberry Bushes, by Margaret Berry, was enlivened when the members all played garden bingo. Prizes were all products of the members' gardens and included flowers, melons, shrubs and perennials, vegetables and fruits, and even jellies and jams, which were won in the midst of much fun. Mrs. Johnson also reports on her huge castor bean plants which towered up to jack-and-the-beanstalk proportions of 12 feet high with leaves so large that the birds took baths in them. The big seed heads look like Christmas trees when used for indoor decorations.

Sioux Falls—Wednesday Garden Club, Miss Haidy Ford, president.

Most successful gathering of the above three clubs was the Inter-Club Birthday Party engineered by Mrs. Severance on October 14th. In her introduction she says,

"We're members of three clubs

Who like to work and play;

We did our work for the convention

So thought we would play today."

In spite of their enthusiasm for the fun, we know it was not all "play" for the ladies, because they prepared so much food for the pot luck supper that they almost had to put it up for auction; they planned the games, and prepared their parts of the program. Twelve tables were decorated for the twelve months of the year, with the Winter tables being done by Mrs. Anderson, Mrs. Freed and Mrs. Johnson of South Sioux; Fall tables by Mrs. Brager and Mrs. Cozine of the Wednesday Club, and the six Spring and Summer tables being decorated by Mrs. Knock, Mrs. Crandall and Mrs. Severance of the Sioux Falls club. The April table must have been especially lovely—a white cross in a low vase, with tube roses to represent the lilies of Easter; and the June table was still sporting real roses picked from Sioux Falls gardens of Mrs. Brager, Mrs. Crandall and Mrs. Severance on October 14. For the program Mrs. Severance wrote rhyming introductions to present the presidents of each of the three clubs. These in turn told the where, when, why and by whom history of their organization, and also presented some entertainment feature for the group by their members.

Speaking for the Sioux Falls Club, Mr. Wallner mentioned the long service of himself and Secretary Simmons because "they couldn't get rid of them"; and Judge Medin entertained with a humorous reading which emulated the spiel of the old time patent medicine huckster.

Mrs. Rysdon organized the Wednesday club some years ago, and have been forced to limit their membership to sixteen because they meet in the homes of members. Their share of the entertainment was made of instrumental and vocal musical numbers.

Mrs. Chris Pedersen gave the history of the South Sioux club which she organized, and then the group repeated their successful plant bingo game, and Mrs. Johnson gave a humorous reading.

To anyone who is as enraptured with gardening and its associated affairs as Mrs. Severance, it is second nature to espouse its joys to others, so Mr. Thompson of KISD was also enlisted for a "Meet the Ladies" part of this party. Community singing and some "belt loosening" stunts especially for the men were also included to make this party one long to be remembered.

ACID-LOVING PLANTS

By
H. R. Woodward



H. R. Woodward

One of my first experiences with plants that really love acid soil conditions was in Yellowstone Park. That particular area, too, has such a wide variety of geological conditions that one may find the exact opposite soil types when he least expects them. With some 3,000 active steam jets, fumeroles and geysers in areas of acid-bearing rocks and many more places where there is evidence of extinct geyser activity there is plenty of acid soil for certain types of plants.

Throughout the fir, pine and spruce forests, the forest floor is carpeted with dwarf huckleberry, *vaccinium scoparium*. This is particularly noted in the West Thumb region at the southwest point of Yellowstone Lake where the very atmosphere is saturated with the odors of hydrogen-sulphide. Spruce, fir and some kinds of pine are most at home here, too, and grow to considerable size. They are all short or shallow-rooted and for this reason we must conclude that they are surface feeders. This is true of all acid-loving plants. Some of these trees are so shallow-rooted that it doesn't take a very strong wind to up-root them. For this reason the park visitor might be astounded at the great amount of fallen timber. Another reason for this, too, is the fact that the National Park Service plans to leave everything as nearly as possible like nature left it. This policy if fully carried out would make all our National Parks places of original wildernesses.

Among other beautiful flowering types one might expect in an acid soil area are polemonium in all its species; valerian, phlox, the Rocky Mountain columbine, *aquilegia caerulea*, Colorado's State flower and the Yellowstone Park flower, Rocky Mountain fringed gentian, *gentiana elegans*.

One doesn't travel far in the acid soil area where there is plenty of moisture without seeing *mertensia*, often called bluebells which are easily recognized by their bell-shaped blue flowers. They belong to the forget-me-not family. Very frequently one will run across that beautiful wild iris known throughout the West as iris missouien-sis, and even more often one will see the *aconitum columbianum* or monkshood. Many different types of lilies are found here too.

In discussing acid-loving plants it is well to say that in many of our sections, limestone soils are common and of course are alkaline. Perhaps this type of soil is most common. Corn, clover, wheat and oats have to have this type of soil and acid is poisonous to them. That is why some soils have to be limed for the production of the crop desired.

In the central sections of the Black Hills are two prominent areas where there are no pine trees growing. These places are known as the 'Reynolds' Prairie' and 'Gillette Prairie,' both of them located northwest of Hill City below the outcropping of the famous limestone ridge. It is known that most of North America has an underlying limestone bed which is more or less continuous and identical except that it is named differently in different sections. It varies in thickness sometimes reaching a maximum of 1,600 feet. In the West it is known as the Madison formation. Where it outcrops in the Black Hills it is known by this name. On the eastern rim it is known as the Pahasapa limestone. In Iowa it is the Keokuk limestone and so on. It is this great bed that serves as a cap-rock for the oil reservoirs at Salt Creek, Wyoming and Tea Pot Dome. It is this bed which the hot water percolates in Yellowstone to build Mammoth terraces. It is this bed in which palisades have been formed along the Cedar River in Iowa.

These so-called "prairies" in the higher Black Hills undoubtedly are due to chemical conditions in the soil and the soil in these areas is not suitable for the growth of those plants that are found growing all around them.

In small gardens it is very hard to have a balance of soil conditions which will meet the requirements of the individual plants row on row. For this reason I have heard many people remark that they simply cannot raise a certain vegetable and often say, "I cannot raise this or that vegetable while my neighbors across the street or over the fence seem to have very good luck and I can't understand it." Very often plants will do well in a garden for two or three years and then all of a sudden the gardener will suffer severe disappointments. In all probability the soil became too alkaline for one reason or another. There are many sources of natural liming which will overcome acidity. Water from city mains is very often highly charged with lime. Your tea kettle or your hot water pipes will tell you this and constant application of this water has been known to reduce acidity and earthworms are known to bring lime.

When transplanting any sort of wild plant it
(Continued on Page 157)



CITATION

By
Dr. H. L. Walster

Orin Alva Stevens, born on the Kansas prairies, graduated from the Kansas State Agricultural College in 1907, has made the prairies of North Dakota the scene of his scientific endeavors and accomplishments ever since he joined the staff of the Department of Botany of the North Dakota Agricultural College in 1909. For nearly a quarter of a century he served the State as Official Seed Analyst in the office of the State Seed Commissioners, giving up that arduous duty in 1933.

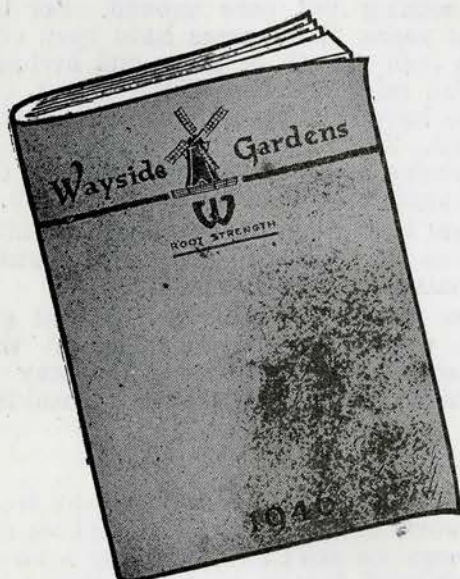
Plant Scientist, a plant lover who has been as greatly interested in the humble weeds with their inconspicuous bloom as in the resplendence of the many-hued flowers of our prairies. A devoted student of the environment of plants he has long stood among us as a true apostle of conservation. His devotion to Nature has made him an authority on the many species of bees and wasps—to the thousands of his readers and friends throughout the state he is known as the bird man at the A. C.

Professor Stevens is a member of the Ameri-

can Association for Advancement of Science of the Botanical Society of America; of the Wilson Ornithological Club; of the Society of Plant Taxonomists; of the Inland Bird Banding Society and because of his long years of service as a seed analyst he is an honorary member of the Association of Seed Analysts. Many men belong to scientific societies; a distinguished few are active workers and contributors of papers to the journals of such societies. Professor Stevens has to his credit a long list of popular and scientific articles in three distinct sciences: Botany, Entomology, and Ornithology—as the cap sheaf to this record he is soon to add his comprehensive Flora of North Dakota. Mr. President, I give you our beloved colleague, a true natural philosopher, to receive the degree of Doctor of Science.

It is perhaps 400 years since the common potato from the American continent was first introduced to cultivation in Europe, and less than 230 years since it was brought from Ireland to be grown by the colonists in New Hampshire, and yet it is now one of the leading food crops of the world. Almost a half billion bushels are grown in North America and the total for the world is over 8 billion bushels.—F. J. Stevenson.

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Wayside Gardens

Mentor, Ohio

NATURE'S CONSERVATION METHODS

By
 Dr. G. F. Will



Dr. G. F. Will

These are days when Soil Conservation is assuming its rightfully important place in future planning for agriculture. Has it ever occurred to you that nature herself has given us many lessons in conserving the soil which we have mostly been too blind to observe until the agricultural scientists recently have brought them to our attention. In wandering over the unplowed hills and draws of the Missouri breaks, many of the methods of conservation are readily discerned, as they have been provided by nature herself.

The Great Plains has always been a land of extremes. Moist years have succeeded years of extreme drouth. Depressions full of water have succeeded sand blows. A lush vegetation has followed years when the hills and slopes were dry and barren. The buffalo grass, the gramma grass and many of our other herbaceous plants have been endowed with the ability to lock into their shrivelled underground roots the spark of vitality which will burst forth when the rains come again.

We can all remember the thousands of acres of apparently perfectly barren prairie which came with the great drouth in the thirties. Perhaps, too, it will be remembered how the drouth tolerant Russian thistles and pepper grass invaded and took over the prairie pastures for several years, and how some of the so-called experts announced that the prairie could not be clothed again with the nutritious grasses for fifty years. That was only some twelve years ago, yet today the very hill tops are clothed with a good growth of luxuriant grass and sedge.

Does it not seem that the growth of Russian thistle and pepper grass was one of nature's own soil conservation practices. These maligned growths prevented, to a large extent, the worst evils of wind erosion. In addition they shaded the soil beneath, gave some protection to the apparently dead plant roots and kept their dormant seeds from being swept off in the dry and dusty gales which prevailed, and kept for them in their shade some of the moisture to start the new seedling growth when the rains came again.

Check dams are another valuable instrument in soil conservation. Gullying in the draws and coulees was a natural result when the rains came

again. But for this too, nature had a remedy. If you have ever traced a steep draw up into the hills you must have noticed the basins gouged out in its course. You have perhaps noticed also that the outlets have been blocked by an accumulation of wind drifted thistles and broken branches of the dead shrubs which the wind and the drouth had cast down in the draws. In a year or two these obstructions start a deposit of soil behind them which grows from year to year and soon refills the gouged-out hollows.

Contour plowing is another useful element in soil conservation. Here too, nature has tried to show us the way, but her lessons have been largely disregarded. Have you ever noticed how the slopes of the hills, even the steepest, are marked at various elevations with the old trails made by the buffalo and other game animals in seeking, as they always did, the most gentle gradients down the many slopes, trails which even today are followed by cattle and horses in pasture land. Every slope is terraced by a succession of these trails and each trail, worn level and hollowed somewhat, serves as a holding dam for the moisture as it runs down the slopes. The water catches in these terraces and spills over gradually and gently to water slowly the slope below. These trails are muddy long after the rest of the slopes have dried off.

Another element always advocated is a mulch both to hold moisture and to build new humus in the soil. Have you walked over our prairies lately where a dozen years ago there appeared apparently nothing but bare ground. For the past several years, these areas have been covered with a lush growth of grass and herbage. With the Fall rains and the Winter snows, the dried grasses have been beaten down and matted on the ground. This mat of grass holds the moisture from undue evaporation and gradually decays to add another layer of humus to the soil.

The rodent burrows of various kinds are filled with water as the rains fall and a considerable amount of natural sub-irrigation results.

Doubtless nature has other methods of soil conservation which do not occur to me at this time. At any rate she has shown the way to those who take the time and trouble to read her lessons.

According to a certain philosopher the troubles of our world are due to the fact that we are spending money we can't afford, to buy a lot of stuff we don't need, just so we can impress a lot of people we don't like anyway.—Maryland News Letter.

KEEPING UP WITH NATIONAL

By
Mrs. G. R. McArthur
Publicity Chairman SDCGC

Now is the time to begin to think about the new year's programs. Mrs. Harry S. Gordon, New Hartford, N. Y., National Program Chairman, suggests the following topics which may well be incorporated into a well-rounded year's program: New Plant Material; New Designs in Flower Arrangements; Wild Flower Slides; Herb Gardens; Civic Achievement; Judging Schools; Bird Sanctuary and Conservation. Thought should be given to summer programs and winter programs. Lighter programs may include garden tours and flower arranging, winter months serious consideration of horticulture and conservation.

The Desert Botanical Garden of Arizona which was one of the tours of the National Council meeting held in Tucson October 10-14, is sponsored by the Arizona Cactus and Native Flora Society. It was established in 1939. At the Tucson meeting the Arizona Federation dedicated a plaque to the memory of the garden's founder, Mrs. Gertrude Divine Webster. "The National Gardener" carries an interesting picture of the Garden's administration building and its director, W. Taylor Marshall, an authority on desert flora.

Of interest to all will be the news of the richest garden center in the U. S., that of "The Valley Garden Center of Phoenix, Ariz. It is made up of 27 clubs with a membership of 800 women in the city and throughout the Salt River Valley. In 1945 they purchased a location and clubhouse. Sold it at a profit and purchased another location. Mrs. G. G. Williams is known as the "Building President," working with her committees on the construction of a new clubhouse. The structure is of western style costing a minimum of \$25,000.

Five full days of interesting sessions and activities were scheduled, with trips to San Xavier Mission, Old Tucson, private gardens, a 125-mile tour to the Desert Botanical Gardens with a picnic luncheon and a stopover at Phoenix; a buffet supper at En Canto Park, Phoenix, and special entertainment by the Tucson members. The convention was tinged thru-out with the colorful atmosphere of the old west with talks on "The Wonders of the Grand Canyon," "Flowers of Arizona" and "Flower Arrangements." Tops in the social events were the "Mexican Formal Banquet," the "Chuck Wagon Dinner" and the "Flower Luncheon." A post convention tour to the

Grand Canyon ended the five-day meeting and giving the delegates an opportunity to combine the important national meeting with a visit to the great southwest. National chairmen reported on specific subjects of their committees and the organizational study committee reported on its findings in proposed changes in the by-laws.

Attention should be called to the new magazine, "The National Gardener," which is a medium of bringing the Council into closer relationship with the 5,300 garden clubs. The magazine is edited by Betty Blossom, of New York, and will carry National reports and news as well as outstanding articles. Only one copy will be sent to each state president. However, any member may become a Volunteer Member and receive the Fall-Yearbook issue, Holiday Season in the Northwest; Mid-Winter in the South (Southern gardens and pilgrimages); Spring Flower Show issue, and the Great Mid-west (plans for the fall convention 1949 at Omaha, Neb.). The Volunteer Member subscription for these issues is \$1. Send to The National Gardener, Headquarters Office, 500 Fifth Ave., New York 18, N. Y., Room 2108.

Believe it or not, the name of the new editor of the "National Gardener" was born with is "Betty Blossom." Over a year ago she changed it when she married J. W. Johnson, horticulture editor of the New York Herald Tribune. But in the gardening world she is still known as Betty Blossom. A graduate of Smith College in botany and horticulture. She is the daughter of a landscape architect, the late Harold Hill Blossom. Her experience includes teaching botany and horticulture at Connecticut College for Women; four years as assistant in the library of the Massachusetts Horticulture Society; director of the Garden Center of Greater Cleveland and editor of their monthly bulletin. She has also written extensive articles on garden subjects and is now our editor.

Young fruit trees can be protected from winter sun scald and rabbits by wrapping an old stocking around the tree. Start from the ground and wind around up to the branches, and tie a string around the top and bottom to keep the wind from blowing it off. This is done in the fall when the weather gets cold and should be left on until late spring. Repeat this for three or four years or until the bark has become tough. I personally have started fruit trees on three new places using this method in each case, and have never lost a tree.—Mrs. Brager, Sioux Falls.



BEEKEEPING NOTES

By
A. G. Pastian

The experienced horticulturist states that we can grow trees, shrubs, fruits and berries in most sections of South Dakota. As we travel about we find many farmers and city dwellers, grow fruit and berries. With reasonable care good yields are obtained. Many of the berries are finding their way into lockers for quick freeze or home canning. With freight rates and handling charges on the increase, markups on merchandise on the grocer's shelf are common. As we study the annual horticulture report, we notice the increased interest in garden clubs and home canning while in other publications we read reports about reviving wider interest in county and state fairs and 4-H clubs. Young Citizens' Leagues, Future Farmers of America, Girl Scouts, Boy Scouts and a number of other organizations taking an active interest in soil conservation. Soil conservation means soil cover of trees, legumes, grass and a systematic rotation of crops and on the level farming, to slow up runoff.

Speaking of legumes and grasses. The 1948 United States Dept. of Agriculture Year Book has devoted over 700 pages to grass and legumes. As I understand it, the 1949 Year Book is to be on trees, also I read reports from livestock men doing some research work on legumes as ensilage, which is good news for bee and honey industries.

Beekeepers' friends, the fish, game, parks departments, forestry service and a number of Sportsmen's clubs are becoming more gress, legumes, tree and shrub conscious. These programs result in a more consistent nectar and pollen supply for bees as well as food and cover for game and silt free streams.

The honey bee renders an important service. She is nature's number 1 match maker as well as nature's sweet shop operator.

Perhaps a report about local weather will be of interest to the readers. On October 9, we had our first light frost. How general it was we do not know as yet.

As I have not been afield much since September 24, cool weather confined the bees to the hive most of the day the past three weeks. As of September 24, some sweet clover and alfalfa still in bloom, a few dandelions, aster, sow thistle, Canadian thistle and other wild flowers still in bloom and some of the beautiful, but not so well known Anise Hyssop, is still showing its purple and blue.

Trees, shrubs and legumes made an excellent showing this season. No freeze back last spring

and no early frost. Many trees and shrubs shed their leaves (in part) before Jack Frost came along to nip them.

Trees and shrubs yielded seed in abundance with exception of plums and cherries. Buffalo berry, Russian olive seem to spring up from seed carried by birds, etc. The Silverleafed Poplar by shallow root shoots. Tatarian Honeysuckle and the Russian olive are shrub and tree extensively planted by fish, game and parks department. Both yield nectar and pollen.

As I glance over reports about predators in the field and scavengers in the streams, the writer becomes skeptic as I by chance find twenty or more birds perish in snow drifts than one killed by hunters. A sea of mud and gravel winds its way along the roadside ditch in spring and into our lakes and streams, which is rough on fish.

Beekeepers sometimes take time out to go fishing. In 1923 I was employed as apiarist helper in Colorado and went on a vacation and fishing trip in Wyoming. Went fishing with a stranger and at the end of the day I was informed that I had illegal size trout in my possession. "I went fishing with the game warden." Was I pinched? No! But I am spreading the gospel! the game warden preached. The warden was of the opinion that game fish can not live and propagate in mud laden lakes, ponds and streams as the writer observed some of the changes in Bon Homme, Hutchinson, Davison and Gregory counties 1899 to 1919 and later. As dense or tall grass, wild cucumber, wild grape and other cover disappeared, via cutting, plowing and over-grassing, Bob White and other birds disappeared; the one plentiful and commonly seen in bygone years was the pliver and other shore birds.

While the game fish took downward trend, and ponds along creeks filled with top soil and ponds are no more.

At this writing I have no report on 1948 honey yields in other parts of South Dakota. While here in northeastern South Dakota, an average of 150 pounds per hive with a few colonies up to 200 pounds per hive.

We still have the three types of beekeepers. (1) practice killing bees in fall and replacing them with packages in spring. Others winter outdoors or in caves. While others take their colonies south for the winter. While this is late in the season to prepare bees for cellar or outdoor wintering without loss. Bees can be wintered in cave or in protected places outdoors, without requeening in August heavy losses may result, as bees with old queen do not winter as well as colonies headed by a young queen.

IRIS GLEANINGS

By
Rev. E. L. Jackson

**E. L. Jackson**

This summer has been almost ideal for new plantings of iris and I have just finished up the work of cleaning up the patch and getting rid of the weeds and old bloom stalks and the patch once more is presentable. With the exception of one small shipment by new iris for this year's iris plantings are all in the ground and unlike late summers there has been lots of good growing weather. My long row and a third of Minnie Colquitt looks grand and is showing evidence of typical Sass hardness as it has taken hold in good shape. I can hardly wait for another year's blooming for I know just how it will look with a Buffer of Crinkled white for a contrast. One penalty of a good growing year is that weeds also grow and for a while I was afraid they would get away from me. I do not try to work in the patch in the early morning this summer for there have been such heavy dews that one cannot start till late. Along toward the last I waited till evening and then kept at it as long as I could see. New plantings I put in a good three feet apart and that will make it easier to keep the garden clean with just the wheel hoe between the rows. My wheel hoe is an old Planet Junior and it's a necessary tool for general gardening as well as iris if one wants good results. West Coast shipments from the Yakima Valley have been very fine this year and the rhizomes are large and have fine roots to start off with. In the white class I added this year Mrs. Whittings, Priscilla replaced Snowqualmie which to me is one of the finest of the creams. Added Snow Carnival and Sharkskin. Snow Carnival is Graves and Sharkskin is Gedder Douglas. All four happen to have been introduced in 1942. I like whites so much in the garden. I have a strong class of Plicatas and have always liked this class of iris. I suppose one reason is that I have had so many Sass iris in my garden and they were pioneers in the plicate class. In the light blues I added several new ones this year that look good to me. Blue Zenith, Band Master, Azure skies, Gloriole and Great Lakes which I seem to have had trouble in getting to feel at home with me. The blues are a glorious class in iris for its iris color, as some one has well said. In the violets I added Nightfall of David Hill's. Just a short time ago I said to myself I guess I will steer clear of the light pinks

(too expensive) but I notice I have followed the craze and now I have the following: Spindrift, Harriet Thoreau, Remembrance, Pink Reflection, Melanu is Hill's, and Daybreak and majenica.

The red class is also a strong class and here, too, some of the older ones are still tops such as E. B. Williamson, Radiant, Spokane, Cheerio and the Red Douglas. To these thru the years I have added Wakarusa, Copper Rose, Louvois, Red Gleam, Ranger, Garden Glory, another of Mrs. Whiting's, Display and Redward.

I still like the yellows and have Moonlight Madonna, Golden Fleece, Misty Gold, Fair Elaine, Ming Yellow, Golden Majesty, Golden Spike, Spun Gold, Berkeley Gold and Ola Kala. This topped the symposium this year and I think it deserved the high honor given it.

I think I promised a word about Mums and it has to be a good word in spite of the losses from the last hard winter. In spite of my good resolutions, I started it over again and have a good planting. Of the 1948 models I have the following and all of them have the "new look":

Golden Hours, Golden Sunset, Illuminator, Inspiration, Meditation, Prelude, Tribute, Wybchwood. These are all new Kraf use introductions and show it by the quality of their growth. Of course one can't say too much about them till they have bloomed. But they are so thrifty in spite of much pinching back. One of my ladies who loves Mums and has a nice collection said to me, "How do you get them to grow so fast?" and I know she would have thot me a little off if she had known what I wanted to say. It was this, "By loving them."

ACID LOVING PLANTS

(Continued from Page 152)

is well to bear in mind that it is best to transplant a plant to a place where you can duplicate the plant's original environment as far as possible. It is best to get these plants while they are in their dormant state and bring as much undisturbed soil with the plant roots as possible. In spite of the fact that roots are often unsuitable for transplanting, this practice may make the change in environment successful. Most wild plants however are tolerant of a wide variety of climatic conditions.

If one is interested in growing plants he should know what plants are suitable to various types of soils. He should know what kinds of soils he has in his garden or flower bed. These of course can be determined by himself with a little practice and proper materials for experimentation. If he cannot do this, his State College will be glad to cooperate at a minimum of cost.

BOOK REVIEWS

By
By Mrs. L. N. Brakke



Plant Magic, by James P. Hawthorth. Published by Binfords & Mort, 108 N. W. 9th Ave., Portland 9, Oregon. Price \$3.

Plant experimentation has been a hobby of growing interest to the author for 25 years and he writes from a wealth of experience, gained thru years of travel, adventure and work, in many lands. Most of us, all unconsciously, have for the past few years come to benefit by the patient and laboriously conducted experiments of scientists, working in this new field, turning out improved varieties of flowers, fruits and vegetables. There are today 266,000 recognized species of plants, of which 135,000 are flowering plants. Growth of plant and animal life depends entirely on the process of cell division and the author tells the fascinating story of how nature creates new plants, trees and flowers, and how man is learning and applying her secrets, opening an entirely new horticulture. The book covers hybrids and their "throwbacks," root grafting, technique and dosage of radiation, chemical treatments and embryo culture. The book is clearly written and illustrated and would be a "must" for the hobbyist who is interested in becoming a producer of new plants.

Western Flower Arrangement, by Carl Starcker. Published by Binfords & Mort, 102 N. W. 9th St., Portland 9, Oregon. Price \$2.50.

The author has visited many cities of the Northwest as a lecturer and demonstrator of flower arrangement. He has given many illustrations of simple table decorations which are made from many of our home-grown flowers, vegetables, grasses, trees and stones, listing them up for four seasons. I think his suggestion of studying our homes and growing the flowers that harmonize with our household setting, is a very good idea as many garden flowers are not suitable for cutting. He also gives valuable information on how and when to cut our flowers, and how to preserve their freshness. Also information on buying flowers for home decoration. He lists containers and accessories which are simple, having good lines and are inexpensive. He also says we should be original and learn to look about us with the "seeing eye," and we will be surprised at the variety of material we will find to add to our

flower arrangements. That it is a lot of fun to experiment with new and unusual material. This book is designed for the home arranger and gives the steps in putting your arrangement together. It is not what you have, but what you do with it, that counts, to get design, scale, balance, harmony, focus, rhythm and unity. All of these qualities are needed to have a good arrangement. I think this book should be in the home of every flower lover, or at least in your club library.

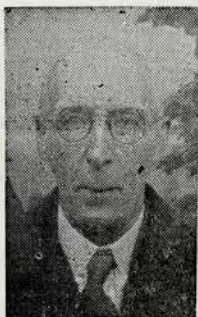
The Christmas Rose, by Arthur and Mildred E. Luedy. Published by A. E. Luedy, Hathaway Road, Bedford, Ohio. Price \$2.

The authors have written some of their experiences in growing the Christmas rose, botanical name *Helleborus niger*, meaning food of death. The Christmas rose is a herbaceous perennial, first found in rocky places in southern Europe and western Asia, with other common names, such as Winter rose, Snow rose and Christ erb. The flower's chaste perfection and season of bloom earned for it its name of Christmas rose, and more than one legend connects it with the birth of the Christ child. It is not a true rose but belongs to the buttercup family. Pure white on opening, age and repeated freezing and thawing will turn them to rosy shades. The flowers measure from 2 and 3-4 to 3 and 3-4 inches across, first cup shape and then gradually flattening out. The flowers remain showy for a month or more, beginning to open the last of November and continuing to bloom until late spring. The authors say fall is the best time to transplant the Christmas rose, in deep, rich soil in a sheltered spot, partial shade, either east or north exposure. The Christmas rose is undaunted by heavy snows, flowers may be cut even tho frozen hard, and allowed to thaw gradually in a cool place. It makes an excellent commercial cut flower for the Thanksgiving and Christmas table as they make lovely arrangements with our traditional "greens" and figurines. The cut flowers will last for two weeks or longer. The root of the plant contains powerful poison constituents, but the authors, in growing and handling thousands of plants, over the past 25 years have never experienced the slightest ill effect. A flower modeled by the Master hand, so simple in its color and its form, so shy and modest. It could scarce demand a higher part in which it might perform until His hand, with one decisive stroke, made it to flower mid the winter's gloom. With snow He wrapped it in an ermine cloak, and now at Christmas there's a rose in bloom.

Too much taste makes waist.—Wisconsin Horticulture.

SECRETARY'S CORNER

By
W. A. Simmons



W. A. Simmons

Here is a new idea from New Hampshire. While the originator of the idea is not disclosed, our friend Dr. Yeager is strongly suspect. Their letter to members, after noting the dates of their meeting, (Jan. 11, 12 and 13) reads as follows: "The Executive Com. has made arrangements with the First National stores to put on a banquet for a box of apples. The apples are to be stored and then placed on display during the annual meet-

ing." And they are particular about the apples, too. "We would like to have the apples as near alike as possible, McIntosh preferred. Select apples 2 1/2 to 2 3/4 inches in diameter." They are to be packed in a new clean apple box, faced nicely and with the purple liner. This may be accepted by the N. H. growers, but if I had such apples, I think I would keep them, and go out and eat at a hot dog stand. From a U. S. Dept. of Agriculture release we learn:

"The air over every acre of the world's surface contains approximately 35,000 tons (not pounds) of nitrogen. This statement about the wealth in the air will surprise many farmers in the United States—and will in other countries, too, for it appears in informational material prepared by fertilizer specialists of the U. S. Dept. of Agriculture for circulation by the Food and Agriculture Organization. Every farmer has this vast free supply on which he can draw. At current rates for nitrogen fertilizers this reserve nitrogen over every acre would be worth approximately \$8,000,000 (millions, not thousands).

The difficulty in capitalizing on this wealth lies in getting it down to earth and into the earth where it will nourish crops. The only practical way for an individual farmer to draw directly on this reserve supply of nitrogen is to plant legumes and so go into partnership with the nitrogen fixing bacteria that grow in association with legumes and thus make immediate use of this nitrogen reserve in the air. This is not a rapid way of collecting, but is a way that farm scientists and practical farmers agree in recommending.

"The fertilizer specialists also point out that the air, the land and the waters of the earth are the sources of the three principal fertilizing elements that farmers must have to keep their crops

growing. And each of these subdivisions is a principal source of one of the three elements.

"The atmosphere (air) is the principal source of nitrogen.

"The lithosphere (land) supplies practically all the phosphorus.

"The hydrosphere (water) is an important source of potassium.

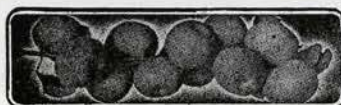
"From the land, also, the fertilizer industry gets considerable quantities of both nitrogen and potassium."

Mr. H. L. Palmer, Pittsfield, Me., writes as follows: "Korean cherry is no good here, it freezes out and disappears. Big strides in improving Nankings. Just back from 25-day trip around experiment stations. Ottawa, Canada, has Nankings almost as large as sour cherries. Dir. Donald Wyman of Arnold Arboretum, has budded peaches on Nanking cherries and they bear in two seasons and he says this is the best stock for dwarf peaches. I am working at Ottawa and Morden having peaches budded on plum cherries. The late M. A. Blake said peaches so budded stand 40 below. Best bet is Melvin from Wilson's Nursery, Marshalltown, Iowa Bohemia mountain origin."

At the institute of Forest Genetics, Placerville, Calif., the eastern white pine and the western white pine were hybridized in 1940 and the U. S. Dept. regards the resulting seedlings as being highly promising as a stock for forest planting. They report: "At 4 1/2 years of age the young pines are twice as tall and three times as heavy as either parent tree at the same age." They believe good saw logs will be produced in 40 or 60 years, instead of the 80 to 100 years for either of their parents. Also the Himalayan white pine of India has been crossed with each of the above varieties and the offspring shows the same hybrid vigor. As usual we are glad to save our readers money on their magazine, (of any kind) subscriptions. If you will send us a card, with the name of the magazine wanted, we will quote the price we are able to get them for you, which will amount to a substantial saving, in most cases.

(Continued from Page 146)

been from a bird which came aboard a ship when near Haiti. The bird has a wide distribution. It nests from southwestern Mackenzie and central Quebec to Arkansas and North Carolina. It winters to some extent in Florida but chiefly through the West Indies and Mexico to Columbia. Mention may be made of a different, more wren-like bird, which is widely known in Argentina as ovenbird. It builds mud nests on posts, buildings, trees or cliffs.



FRUIT AND VEGETABLE NOTES

By
F. X. Wallner



F. X. Wallner from Minnesota to Phillips Ave., so they are making it almost impossible to plant it to vegetables with up-to-date tractor machinery. Oct. 15th. Today we picked bushels of tomatoes and peppers, that had not been touched by frost. It has been a fall always wished for, where we escaped the September frosts, and able to pick tender vegetables this late. Last night the three Garden clubs of Sioux Falls met at the Y for a program and dinner that all enjoyed. The table decorations of Fall, Winter, Spring and Summer were even better than our horticultural bouquets, this summer. We got well acquainted with each other and the cooperation of all committees and members was just fine. I am thankful to you all, that is why I have been able to get things done, all pitch in and work; I will always remember your fine cooperation. Oct. 16. A 73-year-old potato picker earned \$73 this week and did not have in full time. There are still a few rows left to dig, and all the carrots and parsnips to still get out. A lady came in with about a bushel of nice tomatoes that she picked and cost her 75 cents; she said at 20 cents the 40 lbs. would cost her \$8, and this is the last picking and there were many bushels left to freeze. She had picked her own here several times, and we thot it strange that others were not as thrifty and also pick some before the freeze tonight. The first of the week one of our potato pickers fell off the trailer and the heavy load came near crushing him; I do hope the insurance takes care of him. Oct. 24th. Only two heavy frosts up to date and lots of vegetables at the stand with only sacks and canvas for covering. The first light frost last week touched potatoes left in the row overnight but did not hurt the tomatoes much, this will be a reprieve to many. We still have carrots and parsnips to dig and hope the weather holds a few days longer. The basket I carried on my

arm, plainly marked tomatoes, as I walked into a filled hall, to a town meeting, really had no tomatoes or eggs in it but it may have kept the speakers in line, as everyone supposed it contained fruit. We have had excellent weather this fall and I suppose most people think we should have everything in, but besides all the roots, still to bring in there are two big rooms full of onions to top. I may not get away for my annual vacation the first week of November, and the Chicago trip may take longer because I am supposed to stop over at Sioux City, with a daughter and at Moberly, Mo., to see the Shevlins that made a short visit here this summer. The Golden Jubilee tomato was one of the best again this year. It has many outstanding qualities. The only objection, it is bright yellow or orange, instead of red, and we may be very short of our Pink, as we saved very little seed of this grand pink variety.

NEWSLANTS

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The yellow pines, spruces, and junipers look fine while the scattered deciduous trees are having a difficult time.

During our visit we spent some time looking over the fruit plantings. Whatever the reason may be, many of the apple and plum varieties growing there have certainly outlived the same varieties growing in our plots here.

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