

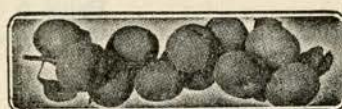
# NORTH AND SOUTH DAKOTA HORTICULTURE

APRIL, 1945



Mrs. Flora Sandoz Kicken, sitting  
beneath a 17-year-old pear tree.  
the last tree planted by her  
father, "Old Jules" Sandoz, on  
his sandhill home, north of Ells-  
worth, Nebr.





## THE YELLOW-BELLIED SAPSUCKER

By  
O. A. Stevens



O. A. Stevens

Frequently the downy woodpecker is referred to as a sapsucker, but most unjustly, for his character is above reproach. The real sapsucker lives up to the name and is by no means popular when he takes a fancy to one particular tree. "Yellow-bellied" is somewhat of a misnomer, for it is hardly more than a dirty yellow wash. The bird is slightly larger than a downy and seems a bit more white on the upper parts. The head and throat are fairly distinctive. The male has a red throat, the female does not. Both have a black breast mark and black line on the side of the neck. The red spot on the head is larger than that of the downy, coming clear down to the bill.

The Sapsucker has quite a wide range, nesting from Northern United States to Central Mackenzie and Southern Quebec. The western birds are divided into three races of which the northern one reaches Alaska, the southern one, Southern California. One other species with two races occurs in the Western States. The eastern birds winter from Iowa to Massachusetts southward, some reaching the West Indies and Panama. We see them chiefly as migrants though a few remain in North Dakota during the summer.

Dr. Chapman states, "As migrants, Sapsuckers are rather inconspicuous. They frequent living trees, where they are concealed by the foliage and their weak call note is not likely to attract attention." I would not agree with this. They arrive here the latter part of April before any leaves are on the trees. The call note I can only describe as a snarl. Perhaps it would not attract the average person's attention, but I usually locate the birds by it.

The work of the Sapsucker on trees is easily noticed. They make squarish holes about one-fourth inch wide, close together, often forming a band of several inches extent. The holes go only through the inner bark and the rich spring sap accumulates in them. The birds go from one place to another draining the holes. Some other birds take advantage of the opportunity. I have several times seen myrtle warblers following the sapsucker and feeding on the sap (or insects attracted to it?) Frequently the sapsucker would

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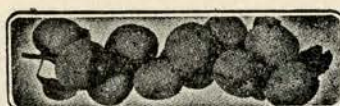
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chase them away. Others have reported hummingbirds visiting the holes. Many kinds of trees are affected—spruce, cedar, birch, walnut, apple, maple, basswood, cottonwood. Old basswood trees often show dark spots in the bark. Small spruces are sometimes killed though larger trees usually survive. Unfortunately, the birds seem to settle on one or a few trees and work them rather intensively. One red cedar of good size was thus

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## GARDEN NOTES

By  
W. E. H. Porter

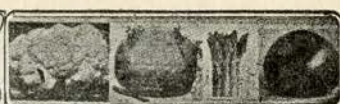
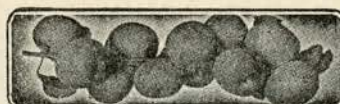


W. E. H. Porter

While our sojourn on this planet has been designated as a vale of tears and certainly during life's pilgrimage many dark shadows are encountered, April in North Dakota is illuminated by the star of assurance and hope. What a welcome sight are the amber festoons on male box-elder and bursting catkins on willow and poplar! Looking over winter notes, jotted down as John Bunyan in Pilgrim's Progress would term, in the "Slough of despond." Jan. 24th. Sunny, calm, 29 above, the week's thaw terminates on 27th with relapse to 5 above. Feb. 2nd. Bright and rising temperature, but in any case goosebone philosophy notwithstanding, we in North Dakota are sure of at least 6 more weeks of winter. On the Lenten rose the flower which has brightened window sill since Christmas week fades with a resultant 5 capsules containing some small round seeds which will be sown in pots. Bailey holds out success if seeds are sown as soon as ripe in rich soil tho I seem to have an idea that germination is slow. Catalogs are arriving and at this dreary season their perusal very much helps to make life worth living. As usual I find F. L. Skinner's hardy offerings the most appealing. Who would not like to have in the garden plot a chocolate berried thorn, or the largest flowered Mountain Ash from Turkestan? But during wartime one hesitates at the risk of loss from possible delay in transportation. On page 22, here is a bit of philosophy from Bryant's Thanatopsis: "To him, who in the love of nature holds communion with her visible forms, she speaks a various language. For his gayer hours she has a smile of gladness, and she glides into his darker musings with a calm and gentle sympathy that steals away his sadness." It is a pity that some of our nurserymen do not carry some of Skinner's wonderful introductions. Turning the pages of Wayside's beautiful book one longs for everything therein depicted, but like Moses and the promised land, very many are denied to us in N. D., tho I am tempted to dip farther into those flowering crabs which do so well here; and a place must be found where the driveway merges into the road for their dahlia sunflower Helianthus multiflorus which would make a pleasing effect and has goon drainage. Last year's plant survived our winter only to succumb to a summer

flood. Bailey lists it as ten petalled with a range from Quebec to Georgia. Those who enjoy their premises lit up with a harlequin troupe of gay annuals and for whom the best is none too good, should look over Wayside's offerings of Sutton's famous English seeds, most are in color, for gone are the days when we could import such, direct from England. Incidentally, Wayside's catalog was chosen as one of the items of twentieth century culture in 1940 along with a selection of literature, speeches, films, models of trains, ships, airplanes, etc., placed in the crypt of Civilization, a room of granite 3 ft. thick on all sides, 20x10x10 ft. dimensions at Oglethorpe, Atlanta, Georgia, to be opened 6,000 years hence. A copy of this book in your home is a mark of culture. In current issue of **Flower Grower** I read of the passing of Herbert Durand on Dec. 30th at the age of 86. Author of readable standard works on Field Botany it was his book of Common Ferns that inspired me to start an outdoor Fernery in N. D. Feb. 16th. 8 below zero at noon. While watering cattle froze lobe of right ear slightly. This raging Nor'wester has continued for 36 hours and shows no sign of abating. Most maples do so well under our prairie conditions that I wrote Wayside's as to the hardiness of their red cutleaf Acer patmatum, on receipt of their book and got the following reply: "We know Acer palmatum to be hardy in Massachusetts and all states bordering on the Great Lakes. We could not be certain about North Dakota. The chances are it would be hardy." This reads like a pretty good risk, especially where home surroundings already provide shelter. It is one of their highest priced shrubs, but the maxim "Never dare, never win" is true as ever, as is a reminder in the Good Book that "A thing of beauty is a joy forever" which balanced against an investment of a few dollars tips the scales. In a different category is the low, round symmetrical bush Weigela Bristol Ruby; this is one of Wayside's specials and worth considering. The price is within the reach of all and it blooms profusely in spring and again in summer. The red flowers look like azalea florets and Bailey gives the green light for hardiness. I wonder how many Weigela shrubs are to be found in North Dakota gardens? The Weigela is a member of the honeysuckle family and while on the subject of hardiness it would also be interesting to know whether any North or South Dakotan has tried out the hardy camelia Stewartia ovata that will grow as far north as Massachusetts? A writer in current issue of **Flower Grower** mentions a specimen in eastern New York that came thru a -30 temperature.





## MANITOBA NEWS LETTER

By  
W. R. Leslie



**W. R. Leslie**

Although spring is considered to be a season of joy and optimism, it often finds gardeners in deep sadness. This untimely mood results from heavy losses of seedling plantlets to damping-off disease. Some provident gardeners avoid the disease by sterilizing the soil and the flats or seed-pans with steam. Others sterilize with chemicals. A more simple method is gaining widely in use. It is that of sowing the seed in shredded sphagnum moss. This native acid plant material is abundant in our northern pine woods. Leaflet No. 243 of the U. S. Department of Agriculture gives detailed instructions on using sphagnum moss for seed germination. The following comment is based on its substance.

Most of the acid moss is broken down on a wire screen so that few strands are more than a quarter inch long. Either living or dead sphagnum may be used as a seeding medium. In ordinary flats the moss may make up the whole filling. If the supply be limited, a layer an inch thick over soil, sand, or sand and peat is employed. Old wooden flats are rejected as their wood-rotting fungi may decompose the sphagnum.

The moss is moistened slightly and the flat filled level. The surface is firmed down to  $\frac{1}{2}$  inch below the rim. Then it is watered thoroughly and left a few minutes. An additional layer of sphagnum,  $\frac{1}{8}$  inch thick, is applied and lightly sprinkled. This loose layer is unfavorable to the growth of green algae.

Seeds are sown broadcast or in rows. If several kinds of seeds are sown they are divided by a thin line of dry sand. Wooden strips are unsuitable as they disturb the sphagnum. Usually the seed is not covered. A light covering may be given to seeds of larger size. The sown seed is given a very light sprinkling, preferably from an atomizer, and then covered with a pane of glass. The glass may rest on an inch-high wooden frame. Glass substitutes have advantage in obviating weight and when used over light-sensitive seeds. The flats are not exposed to strong sunlight when covered with close-fitting transparent covers.

When germination is complete the frames are removed. Water must be applied hereafter.

Sphagnum is porous and overwatering is not the problem it often is when soil is the medium for starting seeds. To induce more vigorous growth of seedlings the moss receives application of nutrient solution. A suggested solution is made of 1 teaspoonful each of saltpeter and of superphosphate stirred into  $\frac{4}{5}$  gallon of water. Sufficient of the solution is applied to saturate the moss. Seedlings are readily transplanted from the sphagnum.

### Hybrid Tomatoes

The hybrid tomato is listed among the interesting new vegetables for 1945. Like its hybrid corn counterpart, the results with the hybrid tomato thus far have been rather sensational. Higher yields, smoother fruits and disease resistance are important features distinguishing the hybrid from the standard sorts.

The Fordhook hybrid and the Pritchard x Earliana hybrid of the Dr. T. M. Currence, of the University of Minnesota, are two known to be available this year. Several American seed houses are offering seed of the first mentioned.

The two available hybrid tomatoes are not entirely suitable for Northern prairie gardens. Both are of the staking type and must be pruned to ripen a reasonable amount of fruit. No hybrid tomatoes of the early bush type are yet available. However, definite progress can be reported in this work at the Morden Station.

One of the obstacles in producing seed of hybrid tomatoes is the high cost involved. The tomato is a self-pollinated plant, hence the stamens must be removed (emasculated) and the stigma pollinated by hand. This is a very tedious job and hence costly. Some investigators have estimated the cost of producing hybrid tomato seed at \$77.76 per pound. On the other hand, corn is a cross-pollinated crop and by merely removing the tassel, or male part, of the one parent, pollination by the other parent variety becomes an automatic procedure. On a comparative basis, hybrid corn seed is thus cheaply produced.

A number of methods of reducing the cost of producing hybrid tomato seed have been suggested. Dr. C. M. Rick, University of California, believes that the use of the male sterile hereditary factor in the female parent of the cross makes emasculating unnecessary. In this way only half the time is required to make the cross. Dr. Currence prefers the use of a long styled stigma in the flowers of the female parent. The long style is a hereditary character and can be introduced into any desired strain of tomatoes. The long style, which reaches far beyond the staminal cone of the tomato flower, reduces the possi-

(Continued on Page 60)





## NEWSLANTS

By  
Harry A. Graves



H. A. Graves

John K. Andrews, 62, President of the Andrews Nursery at Faribault, Minn., died in late February. Mr. Andrews requested his body be cremated and the ashes scattered over the land at the Andrews Nursery. I had the privilege of meeting Mr. Andrews once—at a winter meeting of the Minnesota Horticultural Society in St. Paul. He impressed me as a very fine gentleman and a good nurseryman. The passing of John Andrews is

a distinct loss to Horticulture on the Northern Great Plains.

The Weekly Newsletter of the Dominion Experimental Station at Morden during the month of January had a series of most interesting travel notes by F. V. Hutton. Friend Hutton was up at Fort Simpson and Fort McPherson last summer and notes in the Newsletter dealt with his observations of the flora of the McKenzie River Basin. To those of us who will probably never get up thataway, articles of this nature are a cheap way to become acquainted with the plants of other climes.

Our 1945 premium list is shorter than usual. Fruit trees and bushes are scarce this year. Consequently, the usual array of fruit premiums is almost non-existent. It begins to appear that our policy in regard to premium lists needs an overhauling. Originally, it was designed as an outlet for new things released on trial. Now, in many instances, it has resolved into an exchange list. Maybe this is all right—what do the members think? Of course, newness is a relative thing and it is easily understandable that something quite old, like a Festiva Maxima peony, would be new to anyone who had not noticed it before. Perhaps the premium list is all right and it is the secretary that needs overhauling. Whatever the status of the premium list, memberships are coming in briskly. New life members include: Mrs. H. O. Sauer, Devils Lake, N. D., Mrs. Albert Dickinson, Velva, N. Dak., Mrs. Anna U. Lutness, Westby, Montana.

Bob Wearne, graduate of horticulture from Montana State College, has recently been appointed to the position at the Mandan Great Plains Field Station left vacant by the death of Tom Killand. Bob has been with the Soil Conservation Service at various North Dakota points since

his graduation, but should be more happy in his present surroundings since it will be right in the field for which he is trained. A visit to the Mandan Station recently found Bob and Wm. Baird busy in the greenhouse crossing various varieties of the genus *Prunus*.

It is anticipated that North Dakota will plant as many Victory Gardens in 1945 as were planted in 1944. With the way point values of certain commercially canned vegetables are soaring, it is possible a few new gardens may be planted this year. Some of our larger North Dakota cities report interest in garden plots greater now than in any previous year. Any sizeable increase in numbers of gardens will have to come in the villages and cities. Farm families practically all gardened diligently in 1945. While we have reason to believe that intentions to plant are very good, the harvest will still depend upon what happens between now and October 1. Some local prophets are forecasting 13 inches of rain in April. After being partially to completely drowned out for four seasons, we really get nervous when we hear such prognostications—even tho we don't believe in them.

Speaking of gardens reminds me that more people should try hybrid sweet corn. There are some dandy varieties in circulation. Take, for example, Earligold, Seneca 60, North Star, Min-hybrid 202, and also 203, Kingscrot M-13, and Golden Cross Bantam are some good ones. And speaking of the best green snap bean variety, Ole Grottodden says Tendergreen has all of the standard green podded varieties beat for quality.

(Continued from Page 50)

attacked in my area a few years ago but it has not shown ill effects. There seems no remedy except killing the bird which is probably justified in special cases.

Five or six is the usual number of eggs. They are white, like those of all other woodpeckers, about one inch long. One writer from Maine mentioned dead birch trees as the usual nest location. Another from Quebec refers to elm, poplar and butternut. Dr. Roberts notes that they seem to prefer living in trees.

The birds do not feed exclusively upon sap, and of course actual quantities of it eaten are hard to estimate. Apparently they continue using it through the summer and several observers report the bark between the holes stripped off, leaving bare patches. Some berries, ants and a good many other insects are eaten, but not wood boring insects which are the regular fare of the downy and hairy woodpeckers.



**GARDEN CLUB GLEANINGS**

By  
Mrs. Geo. M. Jorgensen



Mrs. Jorgensen

**National Garden Week**

The week of April 15-22, 1945 has been listed as "National Garden Week." All of the State Garden Clubs should get back of this movement and start the week Sunday, April 15th, by asking all ministers to preach on the spiritual side of gardening, tree planting, etc. On Wednesday, April 18th to ask all local papers to give us an editorial on the subject. During the week April 15-22 ask all service clubs.

all patriotic and civic organizations, all parent-teacher groups, all women's clubs and every organization interested in building a more beautiful America to include something on National Garden Week and the importance of tree planting in their programs. One day of this week will be set aside as Arbor Day. When every Garden Club member should plan on planting a tree. What better way could we all build a living and lasting memorial in memory of our war dead.

ELTON SHANK,

Brookings, S. D.

Vice President.

Garden Clubs, alert! Look to your February National Council Bulletin for inspiring messages of accomplishment and for suggestions which will give national Garden Week and Arbor Day special emphasis in your group. By the time you read this you can still plan a rousing program on tree planting based on your bulletin stories and on Nature Magazine for April, 1942.

From the treasurer of the National Council comes this concise report: "I have corrected my records for South Dakota as follows: 13 clubs, 342 members, \$17.10 paid as dues, and will be happy to make similar adjustments as often as your expanding membership requires." Let's make her adjust them frequently. Interest is evident from several sources, with Huron and Hartford making inquiries on forming clubs; and Mrs. C. W. Shay of Wessington Springs joining in a full membership because their town has no organized group. Here is what one lady confided to the assembled multitude at a Texas convention: "I was teetering on the verge of starting a bridge club, but garden clubs seem to be so much more stylish now that I decided to start one of those. And we do have such wonderful meetings!"

Work projects and outside influences come first in evaluating a club's place in the commun-

ity. Flandreau's Green Fingers are stressing conservation this year; while Vermillion is conducting a definite program of public education in horticulture. They began the year's work by sponsoring a lecture in the Court House on gardening, in cooperation with the County Agent. This was held on February 21, and was so successful that Dr. Carl Christol, president of the club, has announced another speaker will be there in April. This will be Mr. Frank I. Rockwell, Extension Forester, from Brookings, who will help residents with their tree problems. The club has voted to use their influence in having trees along the parkings trimmed to improve the looks of the streets. Direct authority in civic affairs is wielded by the club, for one member is also a member of the civic council of the city. Mrs. E. T. Michels was recently elected representative to this post. We have read of the airplane being used to spray large acreages, but it remained for the Vermillion club to relate future uses for it in a talk, "The Airplane—a New Garden Tool," by Mr. Harold Sletwold. Being in the business of sending flowers by mail, and being a member of the Florists' Telegraph Delivery Service, Mr. Sletwold has naturally become air-minded. Secretary Miss Margaret Sletwold says, "He let his imagination run wild concerning new pests and new flowers which can be introduced by world airplane travel. He also discussed transportation of fresh fruits and vegetables within our country." Accompanying this fine report was the new year book for the club, but a description of it must wait until after the contest.

From incoming reports we find that most clubs begin their new year between October and March, the Flandreau club being one to begin in March. They began with a new set of officers except that Mrs. F. J. Cherney will continue as their corresponding secretary. The new officers are Mrs. Guy Chamberlain, president; Mrs. Jay Bennett, vice president; and Mrs. M. C. Hammil, secretary-treasurer. They, too, are working on their new year books, which should be good, judging from the enthusiasm and eagerness which this club displays for their work. If everyone who grows plants could be exposed to the bubbling vivacity of Mrs. Neptune when she talks about her flowers, there would be a convert for every contact. The Green Fingers used a clever new setting for the year-end quiz we have been recommending, by turning it into a telephone monologue. During the telephone conversation Mrs. Bennett highlighted the lessons of the past year, and then conducted a true-false quiz among the members so that all the most important points were brought up for review.





That attendance contest between the golden-rayed Calendulas and the purple Petunias of the Better Homes and Gardens Club at Rapid City is running stem and stem, with the Calendulas catching just a bit more sunshine to add to their gold. The score was 42 to 40 in their favor at the last count. During the program on the life work of Dr. N. E. Hanson, the fact was brought out that only one other horticulturist in the United States has ever received the award from the Horticultural Society of Manitoba. Facts for the talk by Mrs. Allan Geist were taken from the book about Dr. Hansen by Mrs. H. J. Taylor, and made a very interesting program. We do not have access to Mrs. Taylor's book, but if she is the same lady as the author of that delightful pamphlet, *Just Roses*, we shall recommend it sight unseen to every Dakotan.

That Beach (North Dakota) club is in again, and since we have at present no arrangement whereby other than South Dakota clubs may enter the year book contest, we can rave over theirs to our heart's content. The Beach year book has everything; and the club has reason for being because it is an important factor in community betterment with seven aims, as follows:

1. To develop the home grounds.
2. To encourage the beautification of our city.
3. To increase the knowledge and love of gardening among our members.
4. To conserve the wild plants of our area.
5. To learn the official flower and the official bird of each state east of the Mississippi River.
6. To hold at least two flower shows.
7. To do something nice for the hospital each month.

Their high lights of the year are: a plant sale, a garden breakfast, a patriotic picnic, a flower show, a garden tour, and another flower show.

After a club has had several years of practical lessons from an amateur standpoint, they enjoy looking at the many facets of Nature from a scientific or from an aesthetic angle, and such a topic is a feature of each of their programs. The program committee members are the real heroes of this club because of their many hours of research work for material related to the assigned topic; for listing sources of roll calls through a dozen magazines, including our own *Dakota Horticulture*; for looking up statements of work to be done each month; for analyzing and defining Latin plant names for each month; for publishing the list of official birds and flowers to be learned during the year; and because of the mechanics of making the booklets, hand painting each cover, typing twenty-six pages, and supplying a photograph of their club flower, the Yucca, for every

book. Hats off to the program committee of Ida Thompson, Alice Edkins, Mabel Koshney, and Grace Houck!

Each month's program contains a topic of nature lore, a practical round table discussion with an outline of many subdivisions, a word study, a roll call, an exhibit, and a related game. October has as its nature lore, "The Man Who Gave Us Arbor Day," with a general discussion of trees outlined to include:

1. Our North Dakota Trees
2. Odd Trees
  - a. The Joshua Tree
  - b. Giant Trees of the World
  - c. The Strawberry Tree
  - d. The Elephant Tree.
3. Winter Characteristics of Trees.
4. Charles Lathrop Pack
5. Romance of Trees in Verse.

What I just cannot understand is how they can find time in one meeting to cover the possibilities of information presented in such a comprehensive outline. There is a program on the South Dakota Bad Lands; its flora of spring, mid-summer, fall and night-bloomers; ten yellow wild flowers; rabbit-brush; its fauna, as rodents and other animals, and toads, frogs and reptiles; and a final study of brands. Here is a program for June:

Nature Lore—The Fungi and the War.

Flowers:

1. New varieties for my garden
2. New varieties of perennials for my garden.
3. Buried treasures (bulbs)
4. The last flowers in my garden.

The International Peace Garden

1. Give the inscription at the Peace Garden

Word Study—1. *Nymphaea marliocsa*, hardy water lily; 2. *Papaver orientalis*, oriental poppy.

Game—Exhibit, flower arrangements

Random Notes—Watch for insects and spray. Mulch perennials to keep the soil from baking.

These are random samples, because each month seems better than the other. Other unusual topics are *The Crisis in Rubber*, *Wax from Wilderness*, *Moon Phases*, *New Trees for Our Forests*, and *Practical Gastronomy*. All Nature Lore topics are to be found in *Nature Magazine* as far back as September, 1937.

Leaving the Groton, S. D., Independent for an editorial position on a North Dakota newspaper, L. E. Falk says in his farewell message:

"Really there are no strangers in the world—there are only friends we have never met."





## SOME EXPERIMENTS IN TREE AND SHRUB TRANSPLANTING

By  
H. R. Woodward



H. R. Woodward

In 1933 the administrative officers of Wind Cave National Park undertook a rather extensive program of rebuilding of administrative area about the park which included the landscaping of the area with native trees and shrubs. This program was in keeping with the present policies of the National Park Service in maintaining insofar as possible the propagation of only native flora and fauna in each of the recreational areas and National Parks. It was also aided by the various programs of work which at that time were being established by the Federal Government, such as providing the necessary labor through works projects. The new buildings were placed in a rather barren environment because of necessity in that they were surrounding the natural entrance to the cavern. Few trees or shrubs were growing there and the new plans for landscaping involved the movement of new trees from other places in the park where they grew naturally. I shall discuss only these types of flora, the trees and shrubs which were thus included in the beautification project. None of these were brought more than a few miles at most.

Rainfall has much to do with the natural type of native vegetation and the average rainfall is about 18.67 inches per year over a period of 35 years for this area. The year of greatest rainfall was 1915 when about 32.01 inches fell and the year of least was 1931, when about 13.08 was recorded at near-by weather stations. During the 10-year period, 1921-30 the average precipitation was 20.98 inches. Other factors have an influence, such as type of soil, topography and humidity. In other words, the run-off and evaporation might be so great that we could not compare this locality with other localities where an almost equal rainfall would be recorded.

According to Supt. Harry Liek of Wind Cave National Park, all the transplanting work was carried on during the years from 1933 to 1941 and the most successful season found for transplantings was in the winter, during the months of December, January and February. Most of the deciduous trees were balled and wrapped in burlap as were a number of the evergreens. The larger

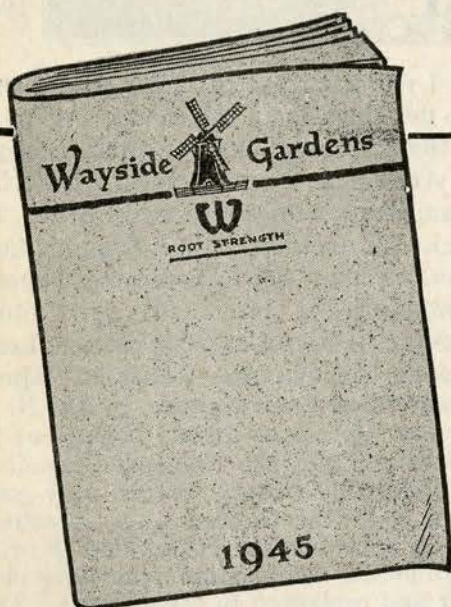
species were moved with a sizable ball of earth and occasionally wrapped for convenience in handling. Some of the larger trees contained masses of frozen earth attached to the roots and this was raised with the trees and slid into the trucks. None of the trees and shrubs had ever been moved before and they were taken up where they had originally grown; some of them for 30 to 50 years. One of the first foremen with the C. W. A. project had previously been employed by a tree surgery company in various eastern states and had experience in the handling and moving of trees. Later on this work was all done by Camp Wind Cave, a Civilian Conservation Corps unit, under the direction of army and civilian personnel, and supervised by the Park Service.

All the transplanted trees and shrubs appear in a satisfactory condition at the present time and the growth continues to be normal. During the few years of sustained drought, artificial watering was considered necessary. This practice has not been followed during the past three summers on a very large scale however. There have been many replants where the trees died during the first year or two. It would probably be of interest for me to give a summary of the kind, number and size transplanted and also their survival ratio.

Kind (Botanical Name)	Size	Planted	Survival
<b>Evergreen</b>			
Juniperus Scopulorum -----	3-15 ft.	716	50%
Pinus Ponderosa -----	3-15 ft.	1,260	50%
Juniperus Com. montana ----	1- 3 ft.	204	50%
<b>Deciduous</b>			
Betula papyrifera -----	3-16 ft.	93	75%
Ulmus americana -----	4-18 ft.	196	75%
Populus balsamifera -----	4-18 ft.	5	75%
Populus tremuloides -----	4-18 ft.	28	75%
Acer negundo -----	3-12 ft.	142	25%
<b>Shrubs</b>			
Prunus americana -----	1- 4 ft.	1,263	90%
Prunus melanocarpa -----	1- 4 ft.	1,274	90%
Ribes cereum -----	1- 4 ft.	589	90%
Ribes saximontanum -----	1- 4 ft.	241	90%
Rosa sayi -----	1- 4 ft.	665	95%
Rhus trilobata -----	1- 2½ ft.	189	90%
Symphoricarpus racemosus --	1- 3 ft.	167	90%
Cornus stolonifera -----	1- 3 ft.	138	90%
Vitis riparia -----	1- 3 ft.	8	85%
		<b>7,178*</b>	

\*This number includes the original transplantings and the replants.





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**FRUIT AND VEGETABLE NOTES**

By  
F. X. Wallner



F. X. Wallner

March 11th. Today Oscar S. Ellefson of McKennan Park and I made a trip to the Palisades near Garretson, with Mr. C. W. Heinson, the new owner. There will be lots of activity there this spring, according to the plans of Mr. Heinson. Oscar and I looked at each other when he pointed to a rock at the edge of the river that he intends to move to new place, the weight must be 20 tons or more. He pointed out where the new drive and the several buildings will be. He has hauled out several tons of rock from Sioux Falls, as if there was not plenty of rock already there, and has done considerable planting, the past year. I planted 3 umbellatum lilies near a stone so big I doubt if he will move it, and we marked the site of the Blarney stone. Chimney rock and the balancing rock are still standing. Thirty years ago I made the trip often with the children, we tried to push this over, as we thought it would surely tumble over before long; today Oscar predicted it would not stand many more years. King and Queen rocks, that all the children climbed, to the top, will be the attraction for all venturesome folks, but none of us attempted to climb either one today. On the north end near the entrance, are flat cobble stones similar to the ones used in the old paving of Phillips avenue; Oscar estimated that the blocks were put down before Adam's time, though he probably never did any paving, so did not use them. On the north end of this "Dakota Paradise" are several caves, along the river, that will be explored on a later date. The ice jam was moving out, another interesting sight. I dared either of them to cross the river on the ice jam, but neither of them would follow. The South Dakota Federation of Garden Club's seal pictures the balancing rock, Dakota Paradise, Pasque, or state flower and other designs, and was designed by Mr. Heinson. Each flat of cabbage seedlings, when transplanted, makes about 10 flats, so the 100 flats will crowd our frames so there will be little room for tomatoes and other plants. Our sage seedlings are up nicely and will make large plants by May 1st; everyone should have one or more. Peppers and eggplants looking fine, these early transplanted plants will bear early. Circulars and bulletins about gardens and fruit have arrived this week but I have little time to read

them all but I will list some here, for others that may want to get them from the County Agent or direct from the Extension Service, State College, Brookings: Attractive Farm Homes, Improving the S. D. Landscape with Trees and Shrubs, by Frank I. Rockwell, circular 412. Tomato Leaf Spot Diseases, circular 408. Increasing Vegetable Yields, bulletin 374. Insecticides for Victory Gardens, circular 40. Growing Raspberries, Leaflet 91. Growing Strawberries, leaflet 90. Questions and Answers on Fruit Culture, by Dr. N. E. Hansen, circular 35, a worthwhile booklet of 71 questions answered, and the National Council of Garden Clubs monthly bulletin is also very good and I will use it at the Garden club meetings. Early blight is very bad in Texas and Florida Bliss Triumph potato fields, many fields have been plowed under and replanted to other crops. This is something new for the growers of these two states to contend with. March 16. Today a letter arrives from a Garden club member of Yankton with the answer to the splice in the telephone line around the world. He claims it will take 62,832 miles of wire, while one of our members thought it would be only a few inches more, if raised one foot higher, another thought it would be a few feet more, so I am still waiting for the correct answer. Clippings come by mail from far distant places about onions and garlic. Herodotus, the Greek father of history, wrote about them in 400 B. C., and there was an inscription on the Great Pyramid of Egypt, recording that 1600 talents, 11½ million dollars, had been spent for onions, radishes and garlic consumed by the builders, 5500 years before this early date. The other clipping is up to date and tells of doctors making a miracle medicine, that asphyxiates germs, also people. Chemicals extracted from garlic kill germs even penicillin cannot kill. Garlic's culinary defenders have long maintained that besides adding zest to their meals, the pungent vegetable brot to them added health and happiness. But the anti-garlic crusaders of America hope the entire supply of the reeking vegetables can be diverted to biochemical use in the future. Throughout the ages the superstitious have believed that a cluster of garlic cloves hung over the door worked a magic spell that would ward off vampires. But the big point is that garlic chemical value is in combatting germs penicillin cannot touch. What science has now discovered only goes to prove what a lot of people have suspected all the time, that garlic's penetrating, potent and persistent flavor and odor ought to influence germs just as surely as it does people, but it a different way.





## IRIS GLEANINGS

By

Rev. E. L. Jackson, Mobridge



E. L. Jackson

No matter how long the winter there is always the joy of looking forward to the new experiences of the year just ahead. There is also time to think about things that we ordinarily neglect because they are so close to us. This is especially true of our native Iris and I wanted to think with you this winter month about Iris Missouriensis, our native Iris of the Black Hills which is common over most of the upland meadows of the western half of the United States. Our church has a Summer Assembly out in the Hills and I have had the privilege of spending several summers out there and so feel that altho I have seen Missouriensis only in my own garden yet I feel I know it in its native habitat. The last year we were in the Hills was a dry year in the Hills and I came to the conclusion that year that there was only moderate bloom and yet on some of the upland formations there were many seed pods and indications of normal growth and bloom.

May I allude first of all to the flowers that we saw near the patches of Missouriensis in late July and August. Most beautiful of all to me was the bloom of the Monardas. I like it I suppose because as a boy in the lake and hill section of the Genesee Valley in western N. Y. this was such a familiar sight and one learned to know and love it. It was then as I went to the pasture that I learned to know its lovely aroma when the flowers are crushed in one's hand. There, as here, they grow rank in the pasture meadow but also seemed to like the company of trees especially the oaks in upland pastures. The color while unusual among flowers and hard to blend with anything else, alone is very beautiful. Often I have found clumps that covered a space six feet across and its perfume filled the summer air. In the flats of the canyons it's a very familiar companion to iris clumps. Nearby the clumps of Iris Missouriensis one also finds the delicate harebell which often is found near the base of the Ponderosa Pines and all along the canyon wall. Then too the fleabane with its asterlike blooms seems to want about the same growing conditions. It too does well in the bottom of the canyons and nestles in rock crevices. Its color too is best in solitude and it seems to like to grow alone. It does not clash at all with the harebells.

Next may I comment on the soil requirements as to the soil of Missouriensis. I feel that it does well all over our western mountain terrain and one finds it at home in the upland meadows where its feet are wet early in the season and yet where it gets a good baking out in July and August. It can stand richness too, for I have noticed large clumps and patches close up to the ponderosa pines where it grows in almost pure leaf mould. In fact, it seems to be the companion of trees and probably they add much to its happiness and behavior. I think in Calif. and in Colo. there are entire upland meadows carpeted in spring with its bloom, but more usual in my experience it has been close to groves of trees. Here in Rapid Canyon I have often found it happily nourished by "cow chips" in the soil it likes best, if not the disintegrated soil that has washed down from the higher levels and formed by the slow action of air on the rocks of the hills. One night I found a large clump in a very dry situation that had all of the previous year's seed pods on yet. They were very dark, almost black in color and still carried seeds within. The fine green growth of this year's pods contrasted with the almost black of the previous ones and they formed a pleasing contrast. This year's seed pods were about 12 to 14 inches above ground and were still green August 1st. One thing I like about Missouriensis is the absence of disease and the clumps always look so clean and fresh even when out of bloom and never ragged. Alongside of the clumps with their seed pods one would be liable to find the taller purple cone flower in its first bloom.

I have not found Missouriensis confines itself to the upland meadows as it seems quite at home in the canyon bottoms. Even when the brooks are dry it still is green and pleasant to find. I think too, it accommodates itself to changing environment. I have grown it at Bismarck and at Mitchell and here at Mobridge it is just getting a start. I like it in the border and two years ago it was near a large clump of Old Fashioned Blue Campanula (Campanula Rapunculoides). These were next to a garage in a narrow bed and had the water from the eaves dripping on them and often washing the roots bare and yet here Missouriensis made itself at home and gave me my finest bloom. I have grown it from seed in sandy loam and also in quite heavy clay and it has grown and done well in both locations after it was once well established. Then too it seems to do well in ordinary rich garden soil if it has good sharp drainage. I have not grown it in the Rock Garden where it would naturally be more at home

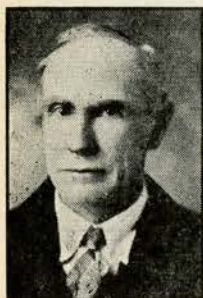
(Continued on Page 64)



**MORE ABOUT ROSE BUGS**

By

A. L. Truax, Crosby, N. D.



A. L. Truax

nothing better. It consists of one cubic inch of fish oil soap, dissolved in a gallon of hot water, to which are added, after the water has cooled, 1½ teaspoonfuls of nicotine sulphate such as Black Leaf 40, and one heaping teaspoonful of arsenate of lead. Apply this as a spray as soon as the leaves begin to unfold and continue at intervals of two or three days until the rose buds begin to open. Supplement this treatment at frequent intervals by hand picking the beetles and dropping them into a shallow pan of kerosene, held underneath them, as otherwise they will drop to the ground when approached. This treatment I found quite effective in 1943, but less so in 1944 when incessant rains kept washing off the poison. Constant vigilance is necessary, and spraying must be done early and often, and especially after every rain. However, the above is only a deterrent and is not offered as a 100% remedy, for no such has yet been discovered. The circular referred to above, stated that preliminary experiments indicated that many of the beetles could be captured in traps baited with geraniol, an aromatic substance, but Dr. Munro now advises me that while many of the curculios were thus captured, enough remained to damage the cultivated roses, and he could not recommend it is an effectual remedy. Hopes are entertained that the new insecticide DDT may prove effective against the curculio. This is a contact poison which retains its effectiveness for a long time after application, thus being superior to either nicotine sulphate or pyrethrum, both of which are more or less volatile in their effects. Thru the kindness of Dr. Munro I have been supplied with a small quantity of DDT, which I shall apply experimentally and will report results in a later article. It should be remembered, however, that DDT cannot be obtained in any quantity until after the war is over.

From the special circular "Insect Pests of Trees and Gardens," written by Dr. J. A. Munro and issued by the N. D. A. C., Fargo, in Feb., 1939, I learn that the scientific name of the curculio or snout beetle that infests roses in North Dakota so destructively is *Rhyncites bicolor*. In the April, 1944 issue of this magazine I suggested a remedy, which may be repeated here, as the rose season is approaching, and I have found

(Continued from Page 52)

bility of self-pollination. Any seed that is self-pollinated can be eliminated when the seedlings are grown since they are easily recognized at an early stage by special plant characters. Both methods for reducing the work involved in crossing have considerable merit.

The future of the hybrid tomato appears promising. It will be interesting to watch in the field and also to mark its popularity with the home gardener.

A visit was made September 7 to the nursery of W. J. Boughten at Valley River, in central Manitoba. The picturesque estate is watered by the rather rapid flowing Valley river, eleven miles northwest of Dauphin. The stream curves in a wide arc down the side and around the east end of the orchard area. Large trees clothe the banks. Flanking down the elms, oaks, ash, box-elder, willows and poplars are hundreds of choke-cherry trees. These were laden with a boundiful crops of juicy cherries. Thus, Mr. Boughten settled on a silt loam farm that has been producing much native fruits for a very long time.

Mr. Boughten has been an adventurer in pioneer prairie fruit growing. From the wildwoods many native Canada plums have been adopted. The Olson has been the most impressive of these pure wildings as tested at Morden Station. His seedling named Dandy is thriving far over the Western prairies. It is superior to any of the selections he dug up out of the woods in and around the Riding Mountains.

Mr. Boughten is delighted with his sand cherry hybrid seedling planted in 1936 and recently named Convoy. The bush is a very vigorous grower. In habit it is distinctly upright, having a narrow head. At a distance it is suggestive of an inverted cone. The fruit resembles Compass in size but is scarlet and ripens about two weeks earlier.

Of the Morden Station named standard apples Manan has been doing best for him. It bears each year at Valley River. Some varieties that suffer severely from fire blight in southern Manitoba, such as Battleford apple, Transcendent and Calros crabs, are profitable.

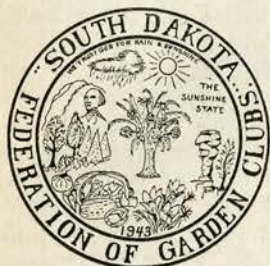
A strain of Golden Currant, or Missouri Flowering Currant, bears fruits from nine-sixteenths to thirteen-sixteenths inches in diameter. Early Sunrise raspberries have been doing very well. Catalpa, from Manchuria, was carrying long seed pods. Adams elderberry was ripening some fruit clusters. Mr. Boughten has developed a diversified orchard that would do credit to territory a couple of hundred miles south of his latitude.





## BLIZZARD BELT GARDEN NOTES

By  
Mrs. G. M. Jorgenson



### Handy Helper

Labor shortage and creeping old age gets one to thinking these days; and getting ahead of the weeds in 1944 was really something to think about. If I can get up in the morning and work while the dew is still on, and other conditions favorable to longevity, I find that I can keep our garden clean with the aid of my Barker weeder and mulcher. I now use two sizes, the 6½-inch and the 10-inch, the first when I am weak, and the latter when Mrs. Taylor feeds me plenty of vitamins, such as tasty pies and cakes, and the dishes beneficial to high blood pressure.

This style of cultivator is made by other firms and cheaper in price, but the ones I have are made more substantial and better balanced. I believe that I was about the first user of this type in the state and still use the original 6½-inch one, and it is still in good condition. A little filing on the blade occasionally and putting it under cover every night has preserved it as it will a lawn mower or other garden tools one so often sees strewn around all over the place. I had intended to have made the Biblical quotation on how rust corrupted, but Mrs. Taylor is not handy, so will let each of you look it up. The best thing about this cultivator is that one can get right next to the small vegetable plants, and without disturbing the roots and covering the tiny plants, thus saving the back-breaking stooping required in hand weeding.

The one thing to always remember is to rake off all rubbish and stones after plowing and harrowing the garden plot, and then one can go up and down the long rows even faster than one can run the lawn mower, and without this push and pull-back motion method of the old wheel hoes.

Ipswich, S. D.

—J. B. Taylor.

### Chrysanthemum Crazy

I'm cracy about the hardy Minnesota 'mums developed by Prof. L. E. Longley of the University Farms, St. Paul.

From August 5, when the first plant began blooming, until late October they were great mounds of blossoms in my garden; this in spite of the fact that they were covered with frost every night for nearly a week, the thermometer dipping to 28 degrees on one occasion. Many

chrysanthemums will not open after being subjected to several nights of low temperature, but all of these had some blossoms uninjured by the cold. The fully opened blossoms of Butterball did not seem affected at all, and continued to form a heap of yellow gold that attracted the eye of every passer-by until a hard freeze in November.

Their very names breathe colors and styles that brighten the autumn borders, and give glimpses of the gold and white, the nasturtium-bronze, and heart of a redwood tree. There is Butterball and Snowball, Purple Star and Harmony, Waterlily, Glacier, Chippewa, and Boreas, with stems up to ten inches long, and blossoms full three inches across. Of all the group Purple Star opened first, on August 5, followed immediately by a constant profusion of cerise-purple, azaleamum-styled blossoms about 2½ inches wide.

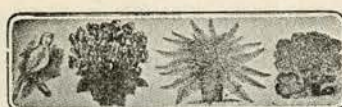
Second to bloom was Boreas, earliest, shaggiest, and most prolific of the whites. The florets have large yellow centers after being open a few days, but are lovely in bouquets. Of the whites, Snowball is the most beautiful, but less generous with bloom. It has the longest individual stems with often only one blossom at the top, but is fully double showing no yellow center.

There is little choice between the two yellows, Butterball and Duluth; but Harmony's yellow and burnt-orange and pale bronzy-reddish blossoms are in a class by themselves. No two seem exactly alike, and the plant is as steady and generous with bloom as a well nourished azaleamum. Duluth is an extra good bright yellow, fully double, but with an air of calm because the petals are wider than in most of the others. Butterball may be compared in color to the old Golden Glow in front of which it was planted, but it has a slight edge in brightness and depth over the latter.

Chippewa and Purple Star are in the same general color class, though the latter fades more than the first. To make up for that it is at least ten days earlier, and makes plants twice as fast. Both have a brilliance that is startling and irresistible and both are extremely floriferous, with florets growing many to a stem so that you can not pick a bouquet without taking many unopened buds. Chippewa opened August 25.

Redwood's brilliancy has a brown-red tone. It is red wood, and shows little variation between old and new blossoms. It too, is so loaded with flowers that you see only a mass of bright brown-red when you look at the bush. If these chrysanthemums will produce half as well in ordinary years as they did during 1944's plentiful moisture I shall never be without them again.





## SECRETARY'S CORNER

By

W. A. Simmons



**W. A. Simmons**

• Mrs. J. E. Reynolds, Oldham, S. D., writes: "I do not agree with Mr. Beebe regarding Burning Bush. In this locality it is one of the worst weeds we have. It has ruined the lawns in town and has extended into the country for miles, from a few planted in a flower garden several years ago. It seeds even if kept mowed with a lawn mower and is tough fibered." Under date of March 14, Mrs. Robt. Dailey, Sr., of Flandreau, writes as follows: "The March *Horticulture* came just in the nick of time so I could take it to our rural club with me, as I did last year. This year I told the members I would be happy to send in their subscriptions with mine, instead of giving them the address, after telling them how much they got for their dollar. So I was lucky enough to get four new members to my delight. Three of these are farm women, all are owners of farms; would that all farms were farmed by their owners. I felt I owed you a debt of gratitude for your suggestion of using the starter solution when setting plants. Our tomatoes were earlier and more abundant, almost every tomato ripened before the blight got the best of the vines. Even the Jubilee tomato plants that I started myself late ripened. The earlier tomatoes ripen the less acid and better for juice are they. This year I shall add herbs to my juice. These granulated herbs I have been using this winter come from the "Tooles of Garry nee Due", Baraboo, Wis. I have enjoyed experimenting with the various herbs in their "Samplex" box. A visit to Santa Barbara, Calif., last summer to see our Marine fighter pilot son and family, before he went overseas, brot unexpected joy in visits to two unusual gardens there. First we went to see the gorgeous dahlias, prize winners from all over the world and seedlings developed in the garden of Mr. Chas. F. Pape, who grows exhibition dahlias for seed, \$30 a thousand seeds, wholesale. Immense shaggy 12 to 15 inch blooms on three foot stems, from purest white, shell pink, lemon yellow, salmon, apricot to deep lavenders, purples, scarlet, crimson, maroon and bi-colors. Their beauty beggars description. As it was not yet time to save seed. Mr. Pape generously cut a dozen of these beauties for me. As this was done in the hot afternoon sun, we dunked the lot in a bath tub of cool

water and had trouble getting all 12 in the tub. The following day all were fresh and lasted several days. Mr. Pape told me he is working on a dahlia strain that will open after being cut in the bud. Most varieties have to be cut after being fully open. The second beauty spot was a collection of tuberous begonias in the garden of Mr. St. Clair Morton. This was located under the spreading branches of a live oak tree where the sun shone a brief while in the morning then filtered thru the branches, the rest of the day. In the warm afternoons water was gently sprayed on the top of the tree so that it slowly dripped on the glistening blooms below, creating tropical jungle conditions. The plants hung from the branches in huge baskets, many plants having hundreds of drooping pale pink and apricot blooms, while on the ground were huge pots of camelia-type blooms of richest red, rose, orange and yellow. Many of these blooms were more than 6 inches across. We could not decide which was more beautiful, the delicate trailing basket Lloydii or the larger, more highly colored camelia and frilled blooms. I should also mention Francheschi Park once the home grounds of a wealthy Italian vintner who imported trees and shrubs from many foreign lands. The caretaker told me there are over 3,000 varieties of acacias growing on this earth. One question I asked of many gardeners out there was why or how they were able to obtain so much more bloom than we, here, of every type of plant seemed to produce less foliage and masses of bloom. I could only guess that it was due to fertilizers, the soil was poor, and expert care. There are, or were before the war, 5,000 gardeners in Santa Barbara." Mrs. J. B. Kelleher, of Hillsboro, N. D., writes as follows: "We had about 30 crabapples last year, from a tree planted 3 years ago, that were good eating out of hand. But the pear tree, sent as a premium, was rather dead. The guard stick started to sprout for a while. Two Tait Dropmore had several clusters of blossoms but did not set any fruit, do they need a pollinizer? Most of my fruit trees are rather young but one should have enough to do for the family. We had enough strawberries to have some to freeze for winter. Here is a way to cook kale soup the way mother did. Kale is rather strong, used alone, so we always had it as a one dish meal. It tastes best cooked with fresh sausage, as much kale as necessary for the size of family, potatoes, and thickened with steel cut oats. The amount of water depends on how one wants it, soup or main meal. I like it either way. Mother had a lot of meals cooked in that way. She would start the meal

(Continued on Page 64)





## REDWOODS AND NATION'S GARDENS

Garden News Syndicate

California's 6,000 year old Redwood trees have stood unmolested by insect pests and fungus diseases, yet no one has yet determined why they should be immune to the ordinary ills and hazards of plant life. When these trees are cut for timber and for the making of insulation from their bark, quantities of short, fluffy fibres and particles of the thick outer bark pile up. Until recently this material was regarded as a waste product, quite without value. Its disposal was a problem. Being heavier than water it could not be dumped in the sea. Finally, a Santa Cruz California, firm had a large quantity spread over a vacant field as a means solely of disposing of the material. Plant life promptly thrived, was green and luxuriant, much in contrast to the dwarfed, sickly-looking plant life in an immediately adjoining field.

Investigation soon disclosed that instead of the material being valueless, it formed an excellent protective mulch, soil conditioner and insulator, and was a splendid means of conserving moisture in the soil. A number of nationally prominent horticulturists tried the material in the growing of a wide variety of plants and data was soon compiled so that recommendations could be made for its use by the millions of Victory gardeners, as well as by seedsmen and florists so that better crops would result.

The redwood fibre soil conditioner is weed-free, light in weight and easy to handle. Like the redwood bark from which it comes it will not provide a breeding place for insect pests or fungus spores. In its slow decomposition, it adds organic matter to the soil which makes it an ideal conditioner for heavy type soils, as well as for fine soils that have a tendency to pack. Used as a mulch it assists in the maintenance of even temperature, preserving moisture and friability in the root zone so that the rootlets are well aerated. If desired, it may be raked off the surface between crops and used over and over again, or it may be spaded in to add humus to the soil. When used as a surface mulch it is, to all practical purposes, non-absorbent and, therefore, it permits water to filter into the soil. In hot, dry summers it is a perfect insulating medium, preventing excessive heat from cracking and baking the soil, thus reducing the frequency and the back-breaking work of cultivation. For conditioning heavy soils a one inch layer should be spread over the surface, while sandy soils will require a surface application of two inches.

In seed beds, 1/3 redwood to 2/3 leaf mold or whatever medium may be preferred, will assure high germination and definitely inhibit the growth of moss or algae, especially if a very light covering of the fibre is dusted through a fine screen after the seed is sown. Seedlings may subsequently be transplanted into soil made up as suggested above, but the surface should then be covered with a 1½ inch layer of the redwood fibre so that both cultivation and frequency of watering may be reduced.

For use with potted plants, it is recommended that a small quantity of the redwood fibre be placed in the bottom of each pot, that the pot soil be composed of the same proportions as suggested for seed beds, and that the surface be lightly dusted. When the plant is growing, a layer of fibre varying from ½ inch to 1 inch deep should be sifted on the surface, depending on the size of the pot.

The application of redwood fibre in the growing of plants in the garden, whether they be delicate flowers, vegetables, new lawns or conifers, will prove a boon to commercial growers and to the legion of loyal Victory gardeners who wish to achieve ideal conditions and maximum crops.

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**GROW** sistance to Dakota conditions.

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**BOOK REVIEWS**

By  
Mrs. Morris Harter



Mrs. M. Harter

Elementary Garden Graphs and Teacher's Manual for use with Elementary Garden Graphs, by Paul R. Young, published by Educational Publishing Corp., Darien, Conn.

For the basic training necessary to give youngsters the proper start in gardening one will find the Elementary Garden Graphs very efficient. There are eight lessons covering everything from planting seeds indoors to harvesting and exhibiting the products. The author, who is supervisor of school gardening in Cleveland, Ohio, has prepared the booklet in such a simple, interesting manner it may be used in grades four to eleven, altho it was written primarily for grades five and six, as it is in these grades that elementary garden study and practice is most effective, educationally and recreationally. The teacher's manual endeavors to solve the problems of organizing junior gardening activities and providing basic instructions. It gives the teacher suggestions for material and equipment, and procedure, besides explaining objective of each lesson.

Advanced Garden Graphs and Teacher's Manual for use with advanced Garden Graphs. By Paul R. Young, published by Educational Publishing Corp., Darien, Conn.

Children who have received their basic gardening from Elementary Garden Graphs, should use these lessons which were written primarily as text material for gardening, to be taught as part of General Science. The book discusses such things as Plants in the service of man, Improving soils for gardening, Fertilizers and their use, and the use of plant materials in the home yards; besides other equally interesting subjects. We believe the Elementary and Advanced Garden Graphs will be of material assistance in organizing gardening projects among school children, thereby improving them mentally and physically.

They were skating at the rink and Liza fell down, flopped and came upright in front of Rastus with remarkable agility.

"Did you notice how quick Ah recover'd mah equili-bium, Rastus?"

"Golly, yaas—almos' 'befo' Ah noticed it was uncovered."—Alamo Lines.

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but have grown it in rich black soil on the south side of the house where every seed has germinated and it has bloomed either the second or third year from seed.

To many this Iris will seem small and insignificant and yet to those who have known it in its native habitat it brings back the fresh clean air of the hills and one can close one's eyes and in memory see again the beauty of the hill country and rock and canyon and valleys watered by melting snow. We here in South Dakota should know and love these flowers that are native to our own section and grow them for their real worth. (I have not tried it in limestone soil but feel it would adapt itself and be at home there too). I have exchanged seeds with Paul Cook at Bluffton, Indiana, and it has made itself at home but not always happily on the open prairies. Some year I hope I may be in either Boulder or Rapid City or California when it's in bloom in their open woodland meadows but until then it will be for me a flower of memory. I like to dream of coming out on some upland stretch and seeing thousands of blooms nodding in the breeze.

For me, too, it's a flower of memory for Darwin Andrews of Boulder did much to make it familiar and to him we owe a pure white variation. One day I hope to tread with Him those celestial meadows and know again the friendship of a great lover of flowers and hear again his voice as he talks of mountain plants and flowers. I hope they have "the flower of immortality" there for I know he would miss it if it were absent. Florintana of old grew on the graves of the adventuring Moors. Modern plant hunters would ask for nothing better than a clump or two of *Missouriensis* nestling down in the shade of a tall Ponderosa Pine.

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about a. m., then at 11, in went the one vegetable and about 20 minutes later, the potatoes. We seldom had more than one vegetable at a time and it saves dishes these times; no nutrients are wasted." March 20. With the male robins back, impatiently waiting for their wives to pack up the family assets and join them, everything looks very spring-like, tho we old timers know the weather man can get very tough with us, still. Also we know the robins are not noted for brain development and the males being especial duner-heads, we are not prepared to accept their judgment on the weather.