

NORTH AND SOUTH DAKOTA HORTICULTURE

MAY, 1948



This photo, sent in by Mrs. H. Tschirley of Roscoe was labelled merely "Bouncing Betty in our garden." Whether this refers to the lady or the flowers, she did not say.

THE PALM WARBLER

By
O. A. Stevens



O. A. Stevens Early in May we are likely to see a few of these little birds, which are neither common nor conspicuous yet quite characteristic. We usually see them on the ground or in branches near the ground. They are nervous and quick in their movements and rather easily recognized by a sharp call note and a habit of jerking the tail up and down. The top of the head has a reddish-brown spot. The under parts are yellow with dark streaks and the white tips of the tail feathers are quite prominent.

Its occurrence in our region has, of course, nothing to do with palms. It was first described in 1778 by the French naturalist Buffon, from Santo Domingo. His description was based on a painting by DeShayes, who made many notes and drawings of the birds of the island. Wetmore reports it as a common winter visitant to the island. Howell records it as common all thru Florida in winter and one of the most abundant warblers, occurring in flocks of 50 or more.

Like most of the other warblers, it nests in the northern evergreen forests. Dr. Roberts describes two nests found in Cass Lake and St. Louis counties in northern Minnesota. These were found in spruce-tamarack bogs, the nests sunk in the top of the hummocks among small shrubby plants. One had many feathers in the lining and this has been considered by other writers as characteristic for this warbler. The eggs are white with many brownish or lavender markings around the larger end.

This warbler is recognized by its habits rather than its colors. Its song is said to be insignificant and I do not recall that I have heard it tho it is reported to sing freely during spring migration. Considering how closely they keep to the ground, I have been surprised that they are not often caught in my water traps.

The swing is definitely towards concentrated sprays and lighter equipment so that the material can be put on with proper timing and with less expense. It may take some time to work out the details but definitely this is the direction in which things are headed.—Dr. H. B. Tukey, in Wisconsin Horticulture.

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Our research expert says that in most varieties of apple and pear trees the major portion of the fruit is borne on short, wrinkled, crookedly branched shoots (my! what description) from the larger limbs, known as fruit spurs. The amateur pruner usually makes quick work of removing these ugly spurs in order to streamline the tree. No wonder we don't get any apples.—The Earthworm.

NEWSLANTS

By
Harry A. Graves

Commercial Potato Production in Nebraska



H. A. Graves Great Plains and his most recent plant introductions that are of interest to us here are the Sioux and Red Cloud tomatoes.

As of April 1st, Dr. Jos. H. Schultz has been Chairman of the Department of Horticulture at the North Dakota Agricultural College. Dr. Schultz' time will be divided between the School of Agriculture and the Agricultural Experiment Station. Joe, as he is better known to us here, is a native of North Dakota, coming from Richland County in the vicinity of Hankinson. He studied for three years at N. D. A. C. under Dr. A. F. Yeager and Dr. C. B. Waldron. He completed his work for a Bachelor's Degree at Michigan and also stayed on there under Dr. Yeager where he got his Master's Degree, later going to Washington State College at Pullman, where he secured his Ph.D. specializing in fruits. His recent work in the state of Washington has been at the Irrigation Experiment Station at Prosser, Washington, where he worked with both tree and small fruit research. His work at Michigan was largely with vegetable crops. Dr. and Mrs. Schultz have one daughter.

In a recent conversation with John Alm, who now lives in Fargo, but formerly lived at Page for many years, we discovered that John still thinks that Gem is the best everbearing variety of strawberries and Senator Dunlop is the best June bearing kind. John has been a source of much valuable information on the behavior of strawberry varieties since he has made sort of a hobby of growing strawberries for a considerable time. He had another interesting observation on the variety Brunes Marvel. This variety bears its berries on rather short stems and they are concealed almost completely by the leaves. Alm believes that this is an important factor where robins are a menace. In towns such as Fargo where we have

thousands of robins, raising strawberries is a hazard unless you cover most varieties with a covering of cheesecloth. In the case of Brune's Marvel he finds that the robins have difficulty in discovering the berries. Brune's Marvel is the variety that the North Dakota Horticultural Society distributed as a premium a few years back. This variety was quite well received by some of the folks who grew it.

In the areas of the state where the ground was covered with a heavy blanket of snow this year, we are beginning to get reports of serious damage, both by mice and rabbits. Rabbits taking advantage of the deep snow, were able to work on the lower and more tender branches of the larger fruit trees and in some of the orchards we have seen the damage has been severe. There has also been reports of mice working underneath the snow and girdling the trunks of the trees. It seems that steps should always be taken to protect ourselves against injury of this kind. Several sources of rabbit repellent are known at the present time. Several of the nursery companies sell a suitable repellent and the U. S. For-



Dr. Jos. H. Schultz

est Service has a repellent which they sell at cost plus shipping charges. Most of these repellents give quite satisfactory protection for at least a year.

There has been quite a severe killing of last year's wood on many of our fruit trees. H. L. Wodarz writes from Wyndmere that even on the hardier varieties he has found that last year's

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GARDEN NOTES

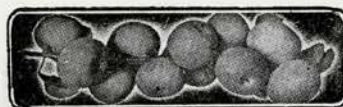
By
W. E. H. Porter



A smiling nature spreads her wand and all around is seen the vivid green of early spring, with early flowers released from a long bondage, and joyful chorus of bird song, heard from grove and prairie. There is little to remind us of all those weeks of purgatory. This is the time to plant and, above all in North Dakota, to plant trees, a thot that was uppermost recently when glancing thru Oscar H. Will & Co.'s catalog I happened to see Black Birch listed. Referring to Bailey, I note "Black Birch, *Betula nigra*, a riverside tree reaching a height of 100 ft. with flaking papery bark and 3-inch leaves, whitish below." I am intrigued. Being listed by Wills its hardiness is assured, but where to plant it? I have it, alongside a deep ditch of our newly constructed road, inside the fence. Assuming survival it will probably not reach maturity until the next generation are like me, three score and ten or more. After all posterity reaps the full reward of tree planting; what is that Hawaiian saying, "The tree grows, the coral spreads, man ceases," but those that plant trees do so for the sheer pleasure of it and what greater pleasure is there? In this case the satisfaction of introducing a tree of such magnificence. March 5th. In the mornings it is now the exception to find the kitchen freezing as has been the rule for all these weeks and by day those draft-excluding paper barricades can be removed from the window letting in a flood of light, and plants once more placed on the ledge to offset the glare of that dazzling white landscape, green is the only color to use. A maidenhair fern, the little holly clothed in its bright spring verdure and the unnamed ivy like *Oenothera*, whose graceful wiry sprays drape its container. Rex Pearce is to be congratulated on introducing this new and charming evening primrose. Unlike as England has enjoyed a winter of exceptional mildness and at Kew, on Feb. 12th, a daffodil was in blossom. Manchester Guardian has an interesting review of a book, "Ekimo Doctor," by Aage Gilberg, recounting his experiences in Thule on northwest coast of the vast island continent of Greenland, the last stronghold of ice age. Thule is as distant from Cape Farewell as England is from Sahara desert, the polar Eskimo are almost pure stock tho he did find an Eskimo negro and an Eskimo white hybrid, both respected. Money

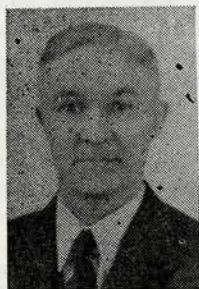
was non-existent and they could not read or write, but drew with some skill and humor; in absence of vegetables they get vitamin C from liver of walrus and seal, and lack of ventilation of 4 long months of winter night are conducive to tuberculosis and the 4 months of darkness are a strain on nervous systems. It also tells of a doctor who opened a practice in Connemara, a poverty stricken district in west of Ireland where the people are very primitive, tho with a certain amount of pride. He told them their houses were not fit for a pig to live in and that there was a pig living in most of them; they drove him out. It is said that children get their first wash for confirmation. The use of horse meat in England is expanding with the market absorbing good work horses and horses imported from Ireland. Before the war it was non-existent and surplus horses were shipped to France. March 12th. After a short spell of intense cold, down to -30, for two days, my kitchen did not really thaw out, a calm sunny day follows and by evening a small pool of water formed on the doorstep. Going to the barn accompanied as usual, by the cat and dog, I noticed an amusing incident; the dog monopolized the beaten path. After protesting in strong language unavailingly, the cat got up on his hind legs and boxed the dog, pushing him into the deep snow. March 14th. A calm sunny day of days almost spring-like with shade temp. at 38. One gets up in mornings content and happy, no ordeal of fighting your way thru a sub-zero blizzard to barn; it is true that we do not appreciate blessings of life until they have been taken away from us. Well, it seems that beautiful colored leaved geranium Mrs. Cox has not gone the way of the Dodo after all; an enterprising nursery, Pacific Gardens, Inglewood, Calif., now offers it for sale at the reasonable price of \$2 per small plant, tho still listed as very rare. March 19th. Our south wind holds with day temp. in 30's and 40's, not forgetting a very recent night drop to -32. Today soft clouds form and lazily drift across a sky deep blue overhead, fading to pale on horizon. My dwarf sage, which has held the fort all winter, still putting out flaming red blooms with house once more comfortably warm. one can indulge for hours in window shopping from all those catalogs. Oscar Will gives us a new tree cherry, Convoy from Canada, also a better red rhubarb, Valentine; the only hardy climbing rose is not listed, sold out, probably. Burgess, of Galesburg, a new early pink lilac and of all things Wayside's one, a gentian blue, a perennial culinary sage Dalmation from Whiltten, also of Michigan, and carefully screening for hardness from Saxton & Wilson, Oregon, appeals

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MANITOBA NEWS LETTER

By
W. R. Leslie



W. R. Leslie

One of the valuable periodicals coming to the Dominion Experimental Station, Morden, Manitoba, is "Arnoldia." It is a bulletin of popular information from Arnold Arboretum. The issue of June 27, 1947, was devoted to a guest article by Manitoba's renowned horticultural plant breeder, Dr. F. L. Skinner. The title is "Fifty Years of Gardening in Northern Manitoba." From the nine pages of print the following information is gleaned:

In the north *Ribes diacanthum* is considered more attractive than *R. alpinum*.

Populus tristis, although failing at Kew Gardens, succeeds in Manitoba and is highly resistant to leaf rust.

Larix Gmelini japonica from the Kurile Islands is better suited than *L. leptolepis*.

Listed as useful shrubs are *Daphne mezereum*, *D. cneorum*, *D. collina*, and the brooms, *Cytisus decumbens*, *C. nigricans*, *C. austriacus*, *C. elongatus*, *C. hirsutus*, *C. Leucanthus* var. *Schipkaensis*, and *C. purpurens*. Among the pleasing genistas are *Genista sylvestris*, *G. tinctoria*, *G. sagittalis*. Another member of the pea family, the tree *Maackia amurensis*, ripens its seed well in some seasons.

Dr. Skinner mentions the following as among the most unusual trees at Dropmore:

Acer saccharinum—35 feet high with bole 22 in. in circumference.

Larix decidua—to 50 feet, with circumference of 28 in. at 30 years of age.

Larix laricina—to 50 feet, withstanding drought years better than any of the poplars.

Larix sibirica—to 45 feet at 30 years old. Seedlings 11 years old with 25 feet height.

Picea pungens glauca—35 feet tall with trunk circumference of 34 inches.

Pinus combra—20 feet high and 17 inches around at 3 feet from ground.

Pinus cembra sibirica—24 feet.

Pinus flexilis—17 feet high with 11 inches bole circumference.

Populus tristis—10 years old, upward of 30 feet high and 32 inches in circumference.

Pyrus ussuriensis—25 ft. high, 34 inches around with branch spread of 25 feet at 26 years.

Sorbus amurensis—forms a clump attaining 24 feet height.

Sorbus aucuparia—from Scotland, 20 feet high.
Thuja occidentalis—25 feet high and circumference of 29 inches at 2 feet.

Tilia americana—30 feet high, 32 inches around trunk.

Tilia cordata—grown in clump form to height of 22 feet.

Ulmus japonica (Manchurian seed)—grown as a clump, reaches 20 feet.

A list of 37 species of coniferous trees and shrubs appears on page 39. Notable among them are *Abies sibirica*, *Picea engelmanni*, *Picea obovata*, *Pinus ponderosa*, *Pinus resinosa*, *Pinus strobus*, and *Pseudotsuga douglassii*.

"Though much progress has been made in gardening during the past fifty years, there is still much to do. Many of the trees and shrubs of Northeastern Asia with northern limits in Kamchatka, eastern Siberia, Sakhalin and northern Korea, have been introduced to cultivation from their southern or insular limits, and may prove much hardier when secured from colder and drier districts. *Syringa japonica*, introduced to cultivation from Sapporo in the north island of Japan by Professor Sargent, is the only broad-leaved tree or shrub from Japan that has proved fully hardy here. Possibly others from the same neighborhood would repay a thoro trial. While we have a small company of very enthusiastic plant workers in western Canada who are doing much to improve our fruits, vegetables and flowers by plant breeding, there is still much more to do than they can hope to accomplish. Personally, I would like to see some of the following plants introduced: a hardy weeping willow, a pyramidal poplar, a double-flowered *Malus baccata*, a large-flowered dogwoods, buckeyes with bright-colored flowers (the Ohio buckeye is quite hardy), and truly hardy viburnums with the fragrance and beauty of *Viburnum carlesii*."

Distinctive herbaceous perennials described include *Collianthemum angustifolium*, *Viola altaica*, *Iris kaempferi* from Manchuria, *Iris acutifolia*, *Ligularia speciosa*, *Chrysanthemum zawadski* (value for the hardiness of its Dropmore hybrids), *Muskari polyanthum*, *Tulipa ostrowskiana* (scarlet), *T. kolpskowskiana* (yellow), White Narcissus from the Swiss Alps, *Allium zebdanense*, *Ixiolirion montanum*, and acres of new hybrid lilies.

Dr. Skinner's concluding paragraph is:

"While my work with plants has been done entirely with a view to securing forms suited for this region, it is interesting to note that some of my hybrids are beginning to find a place in widely separated gardens of the world. It is a great satisfaction to know that some of the new hy-

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GARDEN CLUB GLEANINGS

By
Mrs. G. M. Jorgensen



Mrs. Jorgensen

Since August 1st, 1947, the South Dakota Federation of Garden Clubs has gained three new member clubs, all actively valuable groups which are contributing their share to perpetuating the creed of gardening in our state. Have YOU, who are reading this, helped to bring some one into the organization? Our new clubs are Canton and Fair City, of Huron, and the latest addition is the Wednesday Garden Club of Sioux Falls, whom we are happy to welcome to our midst. This makes 21 member clubs.

Forty thousand units of Seeds of Peace were sent to Europe in March. We are sorry we cannot report 100% participation among our clubs up to April 1st, but the total sum contributed averages almost a unit and a half of seed packages for each of our some 500 members. Here is the record as reported to the above date: Sioux Falls, \$6.25; Fair City, \$12.50; Huron, \$9.15; DeSmet, \$2.00; Flandreau, \$3.00; Centerville, \$1.00; Vermillion, \$12.50; South Sioux Falls, \$5.00; Yankton, \$2.50, and Iroquois, -2.00. Our newest member, the Wednesday Club, promptly contributed \$2.00 and little Lyons gave \$5.00. Britton and Mobridge reported participation without stating the sum sent in. The Dell Rapids Garden Club, however, made a major project of participating in National Council's plea for Seeds of Peace, and sponsored a community-wide, house-to-house campaign with every member of the garden club taking an active part in it. The result was the sensational sum of \$265.90 was mailed to headquarters. This will purchase 532 units of seeds for Europe and is the finest example of cooperation of which we know.

While not yet a member of the Federation, we are happy to congratulate the Aberdeen Garden Club for their aid to starving Europe. Miss Florence Delaney, women's editor of the Aberdeen American News, is to be thanked for bringing Seeds of Peace to the attention of the club, and a nice sum was collected among the members according to Miss Minnie Kohlhoff, secretary of the club. The group has under consideration the matter of Federation membership, and has been seeking information on same thru Mrs. O. E. Martin, a member of the committee. We believe the South Dakota Federation of Garden Clubs offers its members so much for so little that they

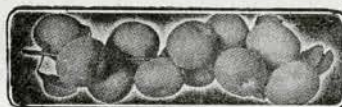
cannot afford to remain without its benefits, and we are eagerly anticipating future happy contacts with this club.

We now have four additional yearbooks, making a total of ten to enter in the contest, besides a fascinating club calendar from our old favorite, the Beach (N. D.) Garden Club. You program chairmen who fail to ask for old year books to study miss out on a wonderful fund of program themes and ideas. New books received are from Better Homes and Gardens with the prize winning cover made by Mrs. Elizabeth Haedt; the Lyons Garden Club with their fine prospectus for the coming year; South Sioux Falls with the beautiful gold designs by artists Mrs. Wm. Aegeter and Mrs. James Anderson; and the breathtakingly lovely book from the Green Fingers Garden Club. The Flandreau club really outdid themselves in this new booklet which is dedicated to the memory of Rev. Harry P. Eberhart. Rev. Eberhart had made all previous yearbooks with unusual cover designs which were a melange depicting various garden-related topics. You will just have to see these books to appreciate them, for we shall tell you no more before they are displayed at the convention.

The annual convention is the next big event for the garden clubs, and many have already named their delegates to send to Sioux Falls on August 10, 11 and 12. Have you? Sioux Falls will have an advantage over smaller towns in entertaining the state gardeners because of their combined three-club membership, and we are expecting this to be a real convention. Did you know that committees were appointed to work on plans for this annual gathering as early as December 11, 1947? Three committees, meeting place, membership and attendance, and banquet, were appointed, with Dr. Elmen, Mr. Schultz, and Mrs. Lacey as the respective chairmen, the helpers to be representatives from all three clubs on each committee. That is real cooperation.

Future events cast their shadows before them, so keep the State Fair in mind to follow the convention. Nothing less than \$3.00 and \$5.00 prizes for blue ribbons are offered in all amateur classes, and the garden club exhibit carries prizes of \$10, \$8 and \$7. That is worth working for!

Joy comes to a correspondent's heart when the column is limited only by the size of the space allotted to it, and not by lack of news. The past month has been exceptionally newsworthy, with every club in the Federation reporting on something. We like to hear from you even if you think you have no news to report, just to keep you Federation-conscious, and to extend that friendly touch. We wish we could detail all the fine program themes, poems, monthly activities



for club members, and projects about which you write, but remember we are always ready with suggestions for any specific need if you write to us.

Our very first report from the Rapid City Garden Club almost overwhelms us with the scope and ambitiousness of the summer's working schedule. Almost a half page of the Rapid City Daily Journal of April 5 is devoted to the work to be sponsored by the club, and to articles by its members. Several "firsts" are among the projects headlined in the news as the club is the first to sponsor a West River Junior Garden Contest in connection with the Freedom Gardens movement. Mr. Alva Barrows is head of the project and is offering \$30.00 in cash prizes for Junior gardens, in addition to ten prizes of \$1.00 each contributed by the club. The club is first to sponsor a city-wide movement for the planting of any one specie of plant, and will attempt to place Rapid City on the map as the Rose City of South Dakota. The phenomenal success of Leslie Kiel's rose plantings in Halley Park is at the basis of this movement, and the club is trying to prove that everyone in the city can duplicate this success with roses. They will stage a rose show in June and will sponsor South Dakota's first judging school for amateurs in connection with it. A hedge-planting project proposed by the club will beautify two blocks of the city's main east entrance street, and hide a strip of right-of-way along the Northwestern railway. Another undertaking which we heartily endorse is the regular publication of authentic garden information in the West River Farm and Garden section of the Journal. Committee members appointed to cooperate in contributing these garden articles are Mrs. Stein Bangs, Mrs. William Kellner, Leslie Kiel, Clarence Gray, Kirk Mears, Alfred Schamber and A. G. Snedrud, all noted gardening folks of the city and the club.

Our new Wednesday Garden Club brought Easter joy to the ladies of a convalescent home when each member presented the plants she had grown as a token of the season. New officers were elected with Miss Haidy Ford as president, Mrs. Edith Inman, vice president, and our inexhaustible Mrs. Severance as secretary-treasurer. This club made use of the splendid paper on Trees of the Bible written by Mrs. McFarland of the Green Fingers Club; and have given us a paper on Gardens of the Bible written by their own Mrs. C. M. Forman. Thank you. All these papers are wonderful additions to our files, and several programs on plants and gardens of the Bible times could be given with the material now at hand. We should also like Miss Ford's paper on medicinal plants, and the one on wild flowers by Miss Gardener.

Centerville Garden Club will soon need a secre-

tary just to keep a record of all their public charities and civic projects if the list Mrs. Donald McMurchie sent us continues to increase. In addition to Seeds of Peace the club contributed a total of \$23.00 divided among the following: Walter Reed Hospital, Fort Meade; Red Cross, Cancer, Abbott House, and the Children's Home. A memorial hedge for the veterans of World War II is the splendid project of this club. The hedge will be planted at the Beach, and dedication ceremonies will be conducted on Arbor Day. Every town and city should have more memorial plantings, and there is no more appropriate organization to sponsor them than the garden clubs.

Reports from Mrs. Carolyn Nelson indicate that the Vermillion Garden Club has been greatly privileged in being hosts to an array of distinguished guests from Sioux City, Iowa. These included Mrs. J. L. Schott, state bird chairman of the Iowa Federation of Garden Clubs; Miss Zell Lee, president of the Sioux City Bird Club, and officers and members of the Sioux City Gladiola Society. Any bird study program has a fascinating appeal to most people, so it must have been a rare treat to have Mrs. Schott and Miss Lee present illustrative slides with accompanying records of bird songs. "Hybridizing Hemerocallis and Gladioli" and "Four Blessings of a Garden" by Mrs. E. A. Emery and Mrs. Dwight Davis were other talks given by the Sioux City guests. "Mr. and Mrs. Emery have worked over a long period of years with hybridization and she told of the care and detail which this thrilling work entails." Perhaps other clubs in the state can prevail upon Dr. Charles Lawrence Baker of Vermillion to present his paper on "Geological Influences of Soil on Horticulture" which he gave before the club. The magnificent amaryllis belonging to Mrs. Edith Abell continues to amaze members of the club with its red-orange splendor and huge size, in addition to its frequent blooming seasons. In October there were three beautiful blooms, and in March it repeated the performance, each blossom measuring wide and high on a stalk 23 inches in length. "Can any of you amaryllis growers surpass this remarkable record?"

The Better Homes and Gardens Club is the busiest club in the Federation as far as money making schemes are concerned, for scarcely a month goes past in which a sale is not scheduled or being planned. These sales range from a rummage sale which yielded \$29.75, to a seed and plant sale. A food and candy sale netted \$22.00. When the club decided on the pansy for a club flower they asked a professional nurseryman to talk on its culture; and the winning cover in their year book contest displays the pansy in full color.

JOHN ROBERTSON—A Biography (Part V)

By
H. R. Woodward



H. R. Woodward

This is the final chapter on the life of John Robertson. In writing this paper we have in mind the accumulation of material and data concerning a subject which might sometime be of some value as reference material. We have tried to get at it at a time as near the beginning of a project as possible such as the Robertson Memorial Park and the Robertson Memorial Award.

Many questions arise about the ultimate goal of the Society's intentions toward the Memorial Park. In years to come it will be a historic spot. There is no provision made for maintenance and no one has been named as a trustee to see to its upkeep. The writer has assumed this responsibility so far. In reality it is a State Park, yet it is not a park for recreation. Perhaps in years to come it can be handled by the State as a historic monument. In Montana, for example, the traveling public see many of these historic markers along the highways, which are maintained by the State. South Dakota has many of these sites and more of them should be established and preserved. In any place such as this, the upkeep is always one of the problems and in thinking of this upkeep the administration has constantly had in mind the planting of those types of trees and shrubs and grasses which needed the least care and were adaptable to the natural habitat of the area. It is hoped that the spot will never become an unattractive wilderness, but that enough time may be given each year to keep the grass cut in the small part of the area near the monument itself and a few trees and shrubs may be planted each year so that in time it may become completely forested. The main portion of the Park may become a natural wilderness and habitat for various forms native wildlife and flora.

Perhaps fifty years hence, much of the original information would have been lost and many inquire especially about the Park would prevail. It is the hope of those who have an immediate interest in the area, that it will become more and more beautiful as time goes on, and that it may become in time a real dry-land arboretum with the growth of many types of trees and shrubs. May it be characteristic and typical of the rugged individuality of the man in whose honor it has been established and whose body lies buried in the

Park. May it truly become a State Horticultural Park in every sense of the word.

With this in mind, Mrs. Woodward and myself wrote up this Park in 1942 in an 88-page booklet called "The Robertson Memorial Park" by Woodward and Woodward, and placed a copy in the Hot Springs Public Library. This book contains a biography of John Robertson, a history of the Park, a view of the monument, a copy of his citation by the State College of Agriculture and Mechanic Arts, the geology and geography, the flora including the native indigenous plants and exotic types, the fauna including mammals, amphibians, reptiles, insects and birds and plans for the future.

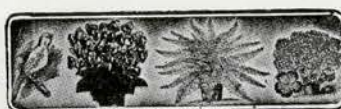
We of South Dakota can be justly proud of John Robertson and his work and accomplishments. We are all glad that he chose to settle in our state and that he spent the greater part of his lifetime here. He has helped us appreciate fully, the beauty of our hills and valleys and to enjoy the bird, plant and animal life about us. It is not an overstatement to say that John Robertson enriched the life of our State.

Robertson's interest in nature and in professional fruit growing naturally took him beyond the confines of Fall River County and his influence extended to all parts of the State and to neighboring States as well. As a people we owe much to him for sharing with us his love of nature and for helping us to see how much nature has to offer. He painted the path clearly.

The passing of Mr. Robertson left a deep void in the lives of his many friends. His generosity was unbounded and he enjoyed doing things for others. He was a most honest man in matters of finance and in all his dealings with men. Teachers always knew they could depend upon him to see that their monthly pay check was ready for them when they had completed their month's work. In fact, he took their checks to them. He paid his taxes promptly. He paid good wages to those who worked for him and he was always prompt in paying them. He insisted, however, in "good work for good pay." He did not care for careless apple pickers who let their ladders fall and knock off fruit and bruise it. He insisted on the little gentle twist that caused the apple stem to break from the twig without injuring the prospects for next year's crop. He picked and marketed his fruit in true honest fashion. One was likely to find better fruit at the bottom of the box than at the top. He gave good measure.

In settling up his estate I learned that he owed no bills, except those which naturally are incurred during his last days at the hospital. I learned that many people owed him.

(Continued on Page 77)



BOOK REVIEWS

By
Mrs. Morris Harter



Mrs. M. Harter

The African Violet, America's favorite house plant, by Helen Van Pelt Wilson, with drawings by Leonie Hagerty. Published by M. Barrows & Co., Inc., 114 E. 32nd St., New York 16, N. Y. Price \$2.50.

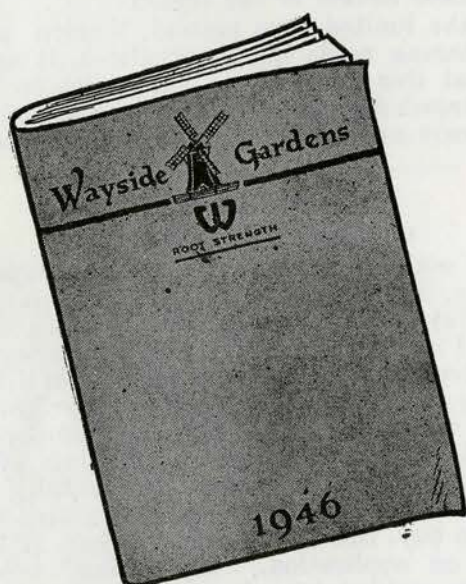
We all know by now that a book by Helen Van Pelt Wilson makes enjoyable reading and is packed with ideas. The author has given us a "first" book again and this time she writes the complete story of saintpaulia culture and classification. There are so many conflicting ideas about raising African violets that it is with relief we find everything we need to know in one volume. Would you like to know where to place your plants, how to water and what kind of soil to use, or do you have a problem starting leaves in water or soil? She gives you all that information, then goes on to tell how to cross varieties and grow plants from seed. A chapter on Companions, Corsages and arrange-

ments has some good ideas to extend your enjoyment of African violets. She suggests impatiens, wax begonias and gloxinias as companion house plants, with information on their culture. The greenhouse program is fully discussed and includes a monthly calendar of chores. A chapter on Pest and Diseases covers that phase thoroly, and the more advanced hobbyist and growers will find clubs, societies and shows of interest. In the chapter, "Packing and sources of supply" the author passes along some fine ideas for plants or leaves to be shipped. There is also a list of places where one may obtain plants, including a place in Iowa and one in Minnesota. The last chapter on "Classification of Varieties" has a listing of 175, with detailed description of 68 varieties. As if all that were not enough she has added an excellent glossary and a complete index. The book is illustrated thruout with line drawings by Leonie Hagerty to supplement the text wherever needed.

Commercial Fertilizers, by Gilbert H. Collings, professor of soils, Clemson Agricultural College, Clemson College, S. C. Publshed by the Blakiston Company, 1012 Walnut St., Philadelphia, Pa. Price, \$4.50.

(Continued on Page 80)

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Wayside Gardens

Mentor, Ohio



THE STROLLS OF A SCIENTIST

By

Dr. G. F. Will, Bismarck



DR. G. F. WILL

I was asked recently how I managed to spare time for all the observations on prairie country which have gone into the various papers that I have prepared for "Horticulture." The answer is, that beyond the normal time used by everyone for recreation, very little has been required. For nearly thirty years past I have made a practice every Sunday and holiday of taking a long hike, varying from seven to fifteen miles, depending on the time available. Winter and summer I have never missed more than two or three of these opportunities per year.

Many years ago I determined that the area north and west of Bismarck offered the greatest possible variation geologically and biologically and I have usually confined myself to that area. It contains some thirty to forty square miles and it is never necessary to follow exactly the same route as that taken on previous occasions. Nevertheless I have become very familiar with every portion of the area and know just about when and where in the changing months, to look for any particular development.

One of the blessings given to us of the North is the panoramic progression of the year which enables us to live in four different lands all within the same twelve months and without changing our residence. The temperature, precipitation and hours and direction of the sunlight all have a very profound effect on all living things, both animals and plants, as well as on the landscape about us. Thus on every weekly hike I get a little different picture in the year's progression, and at times a week or two may transport me from the Arctic to the sub-tropical zone or the opposite.

And in the area I have chosen, climate does not offer the only variation. Sometimes I traverse the ice covered surface of the Missouri, and walk through the winter woods in the lower stretches of the river bottom-lands. Later after the great spectacle of the break-up on the river, all the woods are filled with water and I must confine myself to the bluffs and hills of the valley rim. Later as the moisture disappears I can again investigate the leafy, and fragrant summer woods. The highland is shaped by an earlier glaciation through which the streams from the later glacier cut their way to the Missouri river.

The great glacial deposits of the earlier period have been washed over, washed out or cut through by those swift streams, and the geology of the section is as varied and interesting as its biological condition. At the top of my favorite symmetrically pointed hill, the elevation is some five hundred feet above the surface of the Missouri. Winding down from the higher hills and cutting through the level plateau of the bluffs close to their edge are many deeply cut coulees, in which grow a varied collection of trees, shrubs and perennials varying with the direction toward which the coulee slopes and the steepness of its sides. Oftentimes the bottom of these draws forms a stream bed along which water flows much of the year—a rushing torrent in spring, and after a heavy summer storm, at other times a gentle trickle, and in late summer, showing water only in occasional holes.

The vegetation not only changes with the seasons but it changes also with the altitude and the degree of slope which, of course, regulates the amount of water which may run off or soak in. Somewhere in the area may be found nearly every type of plant from the Cactus and Yucca of the Desert to the Baneberry, wild Anise and Carrion flower of the eastern woodlands.

Of birds and beasts, there is, also, a similar variety. The cottontail rabbit and white tail deer are prominent in the timber with numerous little rodents. On the open hills are the jackrabbit, several types of ground squirrel, an occasional chipmunk, coyotes and foxes rarely, and the several harmless snakes of the region.

Like the limited area around Walden pond, where Thoreau made his observations, it seems to me that this little bit of North Dakota may furnish knowledge, pleasure and amusement for all my years and those of generations to come.

GARDEN NOTES

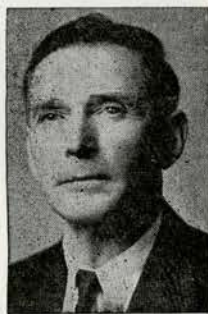
(Continued from Page 68)

especially with a new rose red knotweed from the Himalayas, *Polygonum affinis* and also a pink balloon *Platycodon*. Among Rex Pearce's 3,000 offerings I note with pleasure that he carries the choice silver leaved Primrose Heron's bill *Erodium chrysanthemum*, any shade of yellow in geranium family is unique. Havalook Gardens at Fowlerville, Mich., offer a house geranium whose flowers are yellowish green. Incidentally for those who desire the rarest and best plants that money can buy, this is the place to shop, all lists are free on application. "My Garden" tells of Mongolians making tea of peony seeds and a broth of the roots. Herbalists say that every part of this medieval plant has some healing virtue.



FRUIT AND VEGETABLE NOTES

By
F. X. Wallner



F. X. Wallner The first boat load of onions ever to come from Australia was unloaded at San Francisco and shipped east by car, most of them going to Chicago and sold at \$13.50 per bag. Ninety per cent of the onions were over 2 inches in size, and 65% were over 3 inches, really a nice lot of Victorian Brown, perhaps a long keeper like our Australian Brown, but they seldom are that large, grown here. The Twin Cities received five carloads of them. A letter from Alfred R. Schamber, of Rapid City, April 1st, states that he got in some early garden the latter part of March, so he beat us by over a week, as our first seeding was Monday, April 5th. He informed me that seven committees worked to make the state convention there a success, last summer. Four large American elm trees on South Minnesota have been cut down to give way for a building. I set these back in 1911 and have watched their growth; they were healthy elms from the Whiting Nursery at Yankton. A few are still growing south of the Trucker's Inn. April 8th. Today the big power shovel dug the basement for son Bob's house in a few hours, and it's the first on our 40-acre garden on Center avenue; I rather dread to see the garden spot taken gradually. I also got a letter from Richland, Wash., asking how the tropical fish survived the long trip home. I started out with 6 tiny ones, and 2 full grown ones in a half pint whiskey bottle, set beside me on the train window sill, with a tiny hole in top for air. The first night out the bottle crashed to the floor a few times but did not break, but may have given the fish quite a jolt. The second day I noticed the male swing from top to bottom constantly, and soon was dead. I left the others in the bottle in the hotel room the next day at Aberdeen while I took a bus trip to Waubay to visit Father Stenzil. I had told the landlady the bottle contained pure water with 6 tiny fish, hardly to be seen, and one full grown one, but only about 1/2 inch long, that might bring forth baby fish during the day. I tried to impress on her that they would be baby fish, not eggs, and as the male fish had died, there was no danger of their being gobbled up at once; that she should look in during the day, even to call a vet. or the house doctor if she thot it necessary. On my re-

turn, late that night, the landlady met me to inform me that the fish had died before she could call in help and how sorry she was, and the young small mite of mother may have died of heart-break, rather than the other ordeal. I change! the water and tried to save the 6 tiny specks. Two of these were floating on top the next morning as I left for Sioux Falls. By the time I arrived home I had one live fish that I put in a small bowl, and it grew well and waxed strong for about five weeks. Then one day I filled the bowl too full and it flopped out and I found it on the table, a little dried up speck. So ends a fish story more truthful than the ones Oscar Ellefson told on his return from the west, and it was fun explaining to the people on the train that were watching me and my bottle. (Editor's note: I would suggest to Mr. Wallner that he buy his whiskey in larger bottles, so the fish would have more room to play around in, on future trips.) The evergreen planting southwest of the Yankton bridge in Lincoln county have interested many people during the past years and I had hoped other plantings would be made along the high ridge to the east of Minnesota avenue. It would have been a touch of the Black Hills, from my window. Last month I owned it for a short time but let the building spot go too quick, but we still have the good bottom soil on the north, where most of our potatoes and gardens will be located. There are more arbor vitae, or the flat-leaved cedar here on this hilltop than I have seen anywhere else in the state. This is the white cedar that grows to large size in Oregon and was formerly used almost exclusively for telegraph poles.

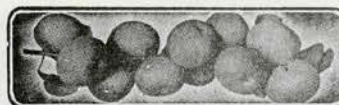
MANITOBA NEWS LETTER

(Continued from Page 69)

brids raised here have been sufficiently outstanding to warrant their being planted elsewhere, even in gardens where an extremely low temperature is not the all important factor in the selection of varieties."

Dr. Donald Wyman, of the Arnold Arboretum, mentions in a foot-note that Dr. Skinner's experiences and observations in plant growing relate to a location where winter temperatures may go to -50° F.

The Experimental Station staff at Morden rejoices in the many triumphs wrought at Dropmore. A goodly proportion of our prized ornamental trees, shrubs, vines and flowers were originated in the gardens of the proprietor of the Manitoba Hardy Plant Nursery, Dropmore, Manitoba. All prairie horticulturists have benefited from this most adventurous breeder of hardy ornamental plants, Frank L. Skinner.



BEEKEEPING NOTES

By
A. G. Pastian

Our Industrious Little Honey Bee

Although one of the oldest branches of agriculture, bee keeping is today given very little attention by the great majority of agricultural people, beekeeping has been practiced since the earliest of times. Even in the Bible we read of lands "overflowing with milk and honey." Thus we know that since the dawn of history man has been enjoying the sweets which only the honey bee can produce. Certainly we of today should be able to produce and enjoy more of this gift of nature than our ancestors did.

That we do not is largely the result of mistaken ideas in regard to the honey bee. Many people think of the bee only as something that carries a painful and dangerous sting, forgetting that the sting is very seldom used and then only as a means of protecting its home and its stores. There are no charms to prevent bee-stings but if the habits of the bees are known and understood and the bees are properly handled the stings will be very few. When the bee-keeper becomes used to handling them the fear of stings will soon pass away and after being stung a few times a bee-sting is no worse than a fly bite. However, one must know what to expect under given conditions in order to get along well. One who knows and understands his bees seldom has any trouble because of stings. But although bees have been kept for honey production throughout the ages, it is only during recent years that modern beekeeping has been developed. Even today bees are not domesticated. Their habits of feeding, breeding as well as their ways of comb-building is practically the same as when man first cared for them. However, modern equipment has made it unnecessary to kill the bees to obtain the honey which they stored. Modern invention makes it possible to take the honey from the hive without disturbing the bees or disturbing the comb. In extracted honey production, the honey is taken from the combs by centrifugal force, and the frame containing the comb replaced in the hive to be refilled by the bees.

Before the days of the moveable frame hive the honey extractor and comb were cut from the hive and the honey put on the market as chunk comb honey or else the combs were broken and strained. Hence the name "strained honey."

Honey is a sweet watery fluid known as "nectar" secreted in the flowers of plants. Carried to the hive in the honey sac of the bee and placed in the comb the surplus moisture evaporated by

fanning and then sealed with wax as ripe honey. The quantity of nectar produced in the blossoms differ as well as quality in different plants, soils and atmospheric conditions, which accounts for the large variety in color and flavor of honey on the market today.

Bees wax is not gathered directly but secreted by wax glands, as is milk by the dairy cow.

Pollen is gathered and carried to the hive in pollen baskets which are located on the leg of the worker bee, and stored in the combs, this is called bee bread and is fed to the baby bees by the mother bees.

NURSE *a.g.p.*

NEWSLANTS

(Continued from Page 68)

growth has been killed back all the way. Just yesterday Dr. Schultz and I visited a rather extensive fruit planting of trees that have been set for one year in part of the orchard and two years in the other portion. There has been very severe killing in this particular orchard due, in part, apparently, to the fact that the soil is very rich and all weeds were kept down, during last year. Many leaves were still hanging on the fruit trees indicating that they were still in a very active growing condition when frost struck. This all goes to prove that you can be too good to fruit trees and it would be much better to let the weeds grow up from, let us say, August 1st and on, than to keep the planting black cultivated. This particular orchardist will have to do something about this or lose a great many more trees this year. Dr. Schultz suggested the use of a cover crop, such as barley, planted in late summer, which would grow up about the trees and harden them off in the fall.

Many of our evergreens, especially the spruce and *Pinus ponderosa*, were badly burned this past winter. Some of them look to be almost dead. There is considerable difference of opinion as to how much these severely injured trees will recover. There is also some difference of opinion as to just what caused this injury. Reflecting on previous years when injury of this kind was quite common, we recall a winter of deep white snow with some very low temperatures. Apparently the reflected sun rays off the clean white snow has something to do with it. Also trees exposed to the prevailing winds seem to be injured more seriously than less exposed neighbors. The U. S. Weather Bureau at Hector Airport here in Fargo has estimated the average wind velocity for the past winter months as 25 per cent higher than normal. Wind, no doubt, had a prominent finger in this injury, as well as the reflected rays of the sun.

IRIS NOTES

By
Rev. Ellis L. Jackson



E. L. Jackson

The month of March is swiftly drawing to a close and for about a week now we have had glorious days. I have been working a little on the lawn although it's still a little wet to rake well. I have the back part pretty well cleaned up while the front part on the north is still pretty wet but will get it in good shape the next two weeks. By that time it will be time for the spring cleanup on Iris, cleaning away all dead leaves and getting the patch clean and ready for work. I noticed that the dwarfs are already greening up a little and look very healthy under their natural covering of leaves. The new catalogs are beginning to come and I already have my order in for new things for the patch. Among the whites I am adding two Sharkskin and also Snow Carnival. This fills this class with only one exception in the first 100. I don't have and probably won't have for several years Alba Superba, as it's altogether out of my price class.

In the Plicatas which I like so much I have filled the class of those listed by Schreiner adding Firecracker. Funny thing about this class, either people like them very much and go a little "batty" about them or else they have no use for them at all. I think some of our finest Iris are in this class. In the light blues I have completed the class with Bandmaster. They too are a great class with only four listed in the first 100.

I am adding some of the newer light pinks this year. Daybreak, Harriet, Thoreau, Spindrift and Tea Rose. I am glad to make this class better as I was weak here. The others and especially the newest ones are still very high. In the purples I am adding this year Bright Melody and Lord Dongon. I do not have Master Charles.

Then I am adding quite a few to the yellow classes and reds. In the reds I am adding Display, Edward Lapham, Garden Glory or Mrs. Whiting's Ranger and Bredward, making 13 I have in the reds. In the yellow blends I am adding California Peach, giving me five in this class.

In the yellow selfs I have a strong class, lacking only four out of a class of 14. I have always been strong in this class for I think they hold the key to color harmony in the Iris garden. Among the creams I have the entire class of four—Caroline Burr, Golden Fleece, Golden Treasure and Snowqualmie which I am replacing after los-

ing it in moving. This has such wonderful substance that I rank it among the best of this class.

Perhaps you would like me to come down to earth and tell you what should be done in the average Iris planting. I think two things early in the spring as soon as they start.

First, clean cultivation between rows. Cleaning out all old dead leaves and removing the leaves that have drifted in over winter. On some soils you will find some clumps are heaving out of the ground and the remedy for these is to put your foot on it and press back solidly into the earth. Be sure to clean out all old decayed matter and you will avoid disease in your patch.

How often to divide. Once every four or five years I think in average soil. This last fall I took out one central row in my patch so visitors could get in to see the Iris a little better. My rows are only about 30 inches in width and this is not enuf for Missouri river soil or even for Plymouth county, Iowa, as they grow so fast here. The only work we have done so far was to grub out an old lilac hedge and as soon as the new plants come we will set in a hedge of honeysuckle to complete the hedge on the south. This will provide a wonderful background for the Iris and will also serve as a good windbreak. I try to keep it trimmed to 6 ft. but it means keeping everlastingly at it. I shall have to make room, too, somewhere for the new plantings of this year. There will not be so many of them. So far I have 17 all first 100 on order. I think it pays to get your order in early for then you get the choice of Rhizomes and every one knows Iris are in increasing demand.

Had word this spring of the formation of a midwest group to push Iris in this district and they are publishing a monthly bulletin. They are also doing this within the framework of the National Society which is all to the good.

JOHN ROBERTSON

(Continued from Page 72)

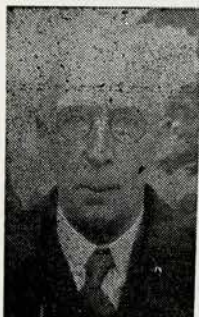
To those who knew Mr. Robertson, who admired his sincerity, his wholesome idealism and thorough understanding, who fell under the influence of his single-heartedness and love for the out-of-doors, feel that he created his own monument, one which will never be destroyed—his contribution to his fellowmen. For this South Dakota will ever be grateful.

"May there never come an end to the good he has done."

Tom Dewey's stand is that states hadn't ought to tax incomes. My stand is that anybody that can locate my income is entitled to a cut.—Fox-tail in Prairie Farmer.

SECRETARY'S CORNER

By
W. A. Simmons



W. A. Simmons

Lay in a good breakfast, advises Miss Mildred Haberly, Extension Nutritionist for the University of Idaho. "The food that we eat early in the day is used for work and play during the daylight hours," Miss Haberly explains. "The food we eat late in the day has a very good chance of being absorbed slowly enough into the body to be turned into fat. For those of us who do our work during the day, breakfast and lunch are the most important meals and the ones that are least likely to cause us gain in weight." We are told by an eastern experiment station that where DDT is used to control codling moth, it is not necessary to use a calyx spray or petal fall spray. This should lessen the danger of killing the bees while they are pollinating the blossoms. Was greatly surprised at the resignation of our friend Frank I. Rockwell. He is well known in the state thru his work as Extension Forester at State College and Frank has outlined a good program for South Dakota in building up our forests and recreational areas. This has been sorely needed. He has contributed much to our society and has written much for the magazine, as well as published many bulletins on forestry and horticulture. We believe, however, that the Fish, Game and Park Commission has made a very wise choice of a successor in Capt. Harry R. Woodward, Jr. Harry is no newcomer to South Dakota, as he is a native and was born at Hot Springs. His grandfather, Tom Woodward, settled on a Turner county farm 65 years ago and is still living at Hurley. The new Acting State Forester is a graduate with honors in forestry from the Utah State Agricultural College and knows his forestry well. As a boy he spent several summers in Yellowstone where his father was a ranger and learned the forest before he ever went to forestry school. For the past two years he has been Asst. State Forester and has done good work. He has a good military record in World War II and was an artillery battery commander with rank of captain in the Solomon Islands and New Guinea campaigns and was decorated with a major decoration for valor, a soldier's medal, when McArthur's troops invaded Morotai Island in the Netherlands East Indies. He is interested in his work and will put the in-

terests of South Dakota above any personal interests. April 30th. It is raining away merrily today. At noon our local weather station reported that the rainfall of the month was only .18 of an inch below average, and the steady drizzle since then seems to indicate that it is bound to catch up. Things in the garden are coming up nicely and a rabbit that I have so far failed to incite our gun-toting neighbors to assassinate was busy defoliating the cabbage plants till I spiced them with DDT powder. Mud on the bosom of the lady robins show that masonry work on the nests is progressing, and the males are hopping over the gardens listening intently for indications of the presence of worms. Here is an interesting release of the Michigan station anent tomato pollination:

"Fruit set of tomatoes can be speeded by as much as two weeks by use of a hormone spray on the flower clusters. According to S. H. Wittwer of the Dept. of Horticulture at Michigan State college, the growth regulator has given promising results in Michigan field trials.

Untreated plants require a night temperature range of 59 to 68 degrees F. for good fruit set. In many localities, therefore, it is well into mid-summer before the fruit is set and the 45 to 50 days of growth needed for maturity leave a dangerously short harvest period before the first frost. Dr. Wittwer reports that use of the hormone will not only lengthen the growing season but will increase the size of the tomatoes by one to three ounces per fruit. This is an advantage for the early varieties which are normally small.

Hand labor is required for treatment since the spray should be confined to the flower clusters. Any hand sprayer which has a narrow spread may be used, and a grower can cover three or four acres of tomatoes in one day. The chemical, para-chlorophenoxyacetic acid, will be available under the trade name of Sure-set and should be used according to the manufacturer's instructions. The chemical stock for ten gallons of spray, which should be enough for one acre, will probably cost about \$5.00.

Use of the hormone will tend to extend the market period and help to eliminate southern competition, the specialist explains. And this, he adds, should please the housewife who pays a lower price for local produce. Dr. Wittwer suggests, however, that little benefit from hormone treatment will be derived by growers in areas where warm night temperatures prevail."

An onion is a food that builds you up physically and drags you down socially.—S. D. Agriculturist.



PASSING COMMENT

By

Carolyn G. Nelson, Vermillion



From dry San Francisco we traveled north into the drippy, wet, heavy fog which characterized a Pacific Northwest winter. We were in Seattle almost two weeks before we were able to see the Cascade and Olympic ranges. But the dampness made the grass greener, proving Washing-

ton's popular nickname, "the Evergreen State." The fat robins were everywhere on the lawns enjoying the moisture and I greeted each one, wondering if they were our South Dakota robins spending the winter with me on the West Coast.

The western half of the state of Washington is verdant with cedar and Douglas fir, with marsh grasses and tall ferns. Even the beaches are green rather than sand-colored, for the kelp is plentiful, and pebbles and driftwood take on a salt-emerald sheen. Of course, the sea and the inlets are often green. The native "Washingtonians" excuse the rain and heavy fogs as it keeps the terrain continuously green and the big trees growing.

We visited the large arboretum which adjoins the campus of the beautiful University of Washington. A long range program of beautification and development has been drawn up and many of the Seattle Garden Clubs have taken over small sections as their individual project. A great azalea garden has been planned on the crest of the hills of the Arboretum and contributions of rare and unusual varieties have been received from garden clubs, horticulture societies and individuals all over the world. Eventually the plan calls for the greatest azalea garden in the world and search continues for varied specimens of this spectacular and beautiful blossom.

The view from Queen Anne's Hill was also spectacular. From here we saw a breath-taking panorama of Puget Sound, the harbor, Lake Washington, the city of Seattle, and the snow capped mountain ranges to the east and west.

The homes on Queen Anne's Hill are perched on high, rocky areas with each front yard a rock garden of varying degree of detail. These rockeries serve a triple purpose—they beautify the house-site and the city of Seattle; they hold back the soil from the sidewalks and streets, and they save the householder the chore of pushing the lawn-mower up and down the steep slopes of his

front lawn. The average Seattleite is as proud of his lot as of the house that stands on it.

We went by boat to Victoria, British Columbia, Canada, watching the lights of Seattle slowly fade into the darkness. In Victoria we walked through the beautiful gardens of the Empress hotel. The rose gardens were being prepared for spring. The lawns were a brilliant green surrounded by the shining beautiful hedges of the broad-leaf English laurel, the narrow-leaf Portuguese laurel; trimmed and shaped holly and cedar trees. In Victoria the temperature varies only thirty degrees throughout the year—from a low of thirty degrees to a high of seventy degrees. The climate of Victoria is similar to England, with much less fog, so many English-Canadians spend their holidays in the quiet of this quaint city on Vancouver Island.

Here, as in Seattle, we saw the weird-looking, snake-like green aucuria or "Monkey" tree, which they say is so named because it is the only tree a monkey cannot climb. The Scotch broom was growing everywhere on the rocky slopes. We noticed the white, tiny balls of the snowberry or wax berry bushes. These bushes were barren of leaves but we saw bouquet arrangements using branches of the white, cotton snowberries with the shiny green leaves of the laurel. The snowberry bushes grow in the open woods. They are an important honey plant as they start blooming the last half of June and continue well into July, producing a second flow of honey. We saw the polypodiaceae or Western Sword fern, which is popularly called the Pacific Christmas fern. This fern is used for decoration and is shipped East in great quantities for use in wreaths and sprays.

In British Columbia are found many types of taxaceae, coniferae and pinaceae trees. There is the Douglas fir which grows in the moist, coastal plains and mountains. These firs produce the best woods which have many uses. The Sitka or Tidel and spruce is used for interior wood decoration in homes and for boat-building. The white fir or balsam is characterized by the notch on the tip of each leaf or flat needle. (A botanist informed me that the individual needles of all fir trees are called leaves). This wood is used in box-making, cooperage, and for wood pulp. The western hemlock, with the rounded tip of each individual leaf, is used in building, for railroad ties and in the processes of dyeing and tanning. The Pacific Yew has a shiny, pointed leaf, which is green on both sides. This tree has no cones. The wood is used for bows, paddles and wood-carving. The gigantic size cedar reaches an enormous height and size; but they are scrubby at high elevations.

BOOK REVIEWS

(Continued from Page 73)

Wartime conditions forced many fertilizers off the market and changed some of the familiar kinds, thereby necessitating a revision of previous editions of this text book for agricultural colleges. Farmers and fertilizer manufacturers will find plenty of uses for the book too for it covers a wide field of information on fertilizers. After discussing the origin and development of the use of commercial fertilizers Collings goes on to devote whole chapters to sodium nitrate, ammonium sulfate, ammonium nitrate, synthetic nitrogenous fertilizers, organic nitrogenous fertilizers, mineral phosphates, bone phosphates and basic slag, superphosphates and potash fertilizers. The use and sources or method of manufacturing are given for each subject. The chapter on ammonium nitrate is a new addition because it has come on the market in large tonnages in the past few years with prospects of becoming a leader in its field. Then there are three chapters about fertilizers carrying, secondary essential elements rarer essential elements and those carrying elements not accepted as essential for plant growth. One may also learn how to adjust soil reaction and fertilizer practice to crop requirements, and how to purchase and use fertilizers. In the chapter "Application of fertilizers" we note with interest some information about fertilizing fish ponds to increase yield and size of fish. Further dissemination of such knowledge might be of value to farmers who have built combination stock and fish ponds in this area in the past few years. Several color plates and numerous photos and tables help to make a comprehensive text.

Book Review by Dr. L. A. Yager



Dr. L. A. Yager

Hormones and Horticulture, by Dr. Geo. S. Avery, Jr., director Brooklyn Botanic Garden; Dr. Elizabeth B. Johnson, Connecticut College; with the collaboration of Ruth M. Addoms, professor of Botany, Duke University and Dr. Betty F. Thomson, professor of Botany, Conn. College. Published by McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York. Price, \$4.50.

Hormones and Horticulture

This book describes the field of plant hormones as it applies to horticulture. Hormones are plant growth regulators—some inhibit, some speed up, and still others slow down growth processes. The book discusses what plant hormones are, how they act, how they may be used, and the various kinds available.

This book assembles information within the one volume that heretofore was contained in many scattered references. Plant hormones are discussed in relation to their uses in propagating plants from cuttings and seeds, inhibition of sprouting of potato tubers and other root crops in storage, fruit thinning, delaying blossoming of certain plants, preventing fruit dropping, selective weed killing and other phenomena. In addition, it describes other new fields in which hormones may be used.

The extensive bibliography at the end of each chapter is invaluable in making more extensive studies in particular fields of hormone use.

A chapter is devoted to the use of colchicine and related materials in the production of new varieties and forms of plants. While colchicine is not a hormone, it could not be omitted from the text as it has a profound effect on the cell bodies of plant materials that is sometimes confused with hormone action. The various methods of colchicine treatment are discussed in detail in the text.

This is an invaluable reference book for the research horticulturist, plant propagator, fruit grower, and to men in other horticultural fields. The layman reader would be excited by the unlimited possibilities in the applications of hormones to plants.

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