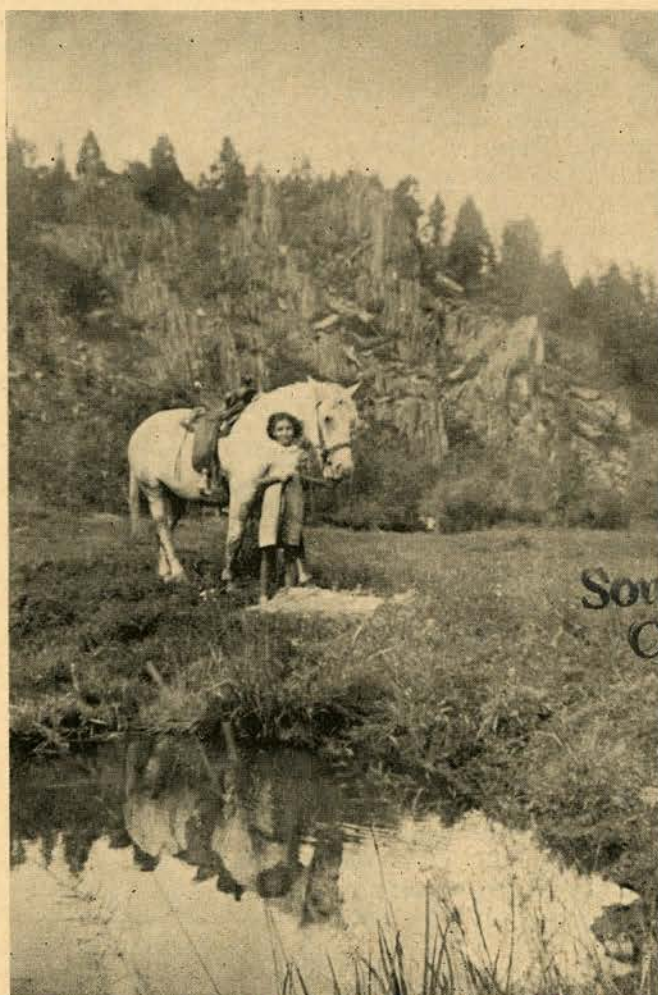
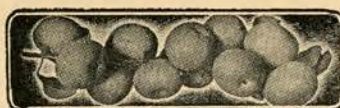

NORTH AND SOUTH DAKOTA HORTICULTURE

June, 1943



South Dakota State
College Library

Scene in the Black Hills, near Roubaix,
Miss Shirley Brown, Whitewood, S. D., and
her faithful steed.



SPRAGUE'S PIPIT

By
O. A. Stevens



O. A. Stevens

The bird was one of the best of Audubon's discoveries at Fort Union, and seldom has honor been more deserved than in the commemoration in this name, that of his talented assistant artist who has been but little noticed in later years. The party had arrived at Fort Union at seven o'clock in the evening of June 12. The first two or three days were occupied in getting settled in their quarters and seeing the boat off for its return trip. Monday, June 19, began with an early morning rain. The day was chilly so that they enjoyed fires. Both artists were drawing most of the day. In the afternoon, Harris and Bell went hunting and returned late with two new birds. One was the flicker later known as a hybrid between the eastern, yellow-shafted and the western, red-shafted flickers. Of the other bird, Audubon wrote in his journal, "a Lark, small and beautiful."

The term "beautiful" is misleading, for the ordinary observer would class it as a mere "sparrow." If he were somewhat familiar with different species of native sparrows, he might call it a vesper sparrow. The pipit is about the size and general coloring as the vesper, even to the white tail feathers. It is somewhat paler and slimmer, has a slender bill, and lacks the brown shoulder spot of the vesper. If seen on the ground, the pipit would likely be crouched low, walking like a horned lark.

So little known was this bird that Elliott Coues had written in his "Birds of the Northwest," "It is still extremely rare in collections; the type specimen *** has long remained unique and to the present day, I have seen but one other." He was able to add in November, 1873, "Since I penned the foregoing, at Fort Randall, last year, my wishes have been gratified in the most satisfactory manner." During that summer on his trip from Pembina to the Missouri River, he found the birds numerous, especially in the Mouse River region, but was not successful in finding any nests.

Sprague's pipit is a bird of the northern prairies, from southwestern Minnesota to eastern Montana, southern Manitoba and Saskatchewan. Along the edges of the Red River Valley, some unbroken grass areas are to be found just behind the lowest beaches of glacial Lake Agassiz. Over such an

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TABLE OF CONTENTS

Sprague's Pipit, O. A. Stevens.....	62
Newsletters, H. A. Graves.....	63
Manitoba News Letter, W. R. Leslie.....	64
Garden Notes, W. E. H. Porter.....	65
Ferns at Old Faithful, H. R. Woodward.....	66
Garden Club Gleanings, Mrs. G. M. Jorgensen.....	67
Fruit & Vegetable Notes, F. X. Wallner.....	68
Wild Flowers, Dr. L. C. Snyder.....	69
Book Reviews, Mrs. F. Briley.....	70
Sceney Island Park, H. J. Donaldson.....	70
Secretary's Corner, W. A. Simmons.....	71
Questions & Answers, S. A. McCrory.....	72

area at Park River, North Dakota, in June, 1935, I found the birds singing. The next day we flushed a bird from her nest. Along the eastern edge of the Valley, I have frequently heard their song, and Gale Monson used to hear them quite regularly near Sprague's Pipit

Continued on Page 63

NEWSLANTS

By
H. A. Graves



H. A. Graves

Whenever horticulturists, either professional or amateur, get together during the months ahead, the conversation will get around to the severe winter injury to plant material during the winter just past. Superintendent Leslie, in his newsletter of May 15, says it has been the most trying winter at Morden of the last twenty-two at least. Here on the North Dakota Agricultural Experiment Station plots, varieties that pulled through the winter of 1935-36, gave up the ghost this past winter season. Strawberries, covered and uncovered, died en masse on the Burlington Homestead project near Minot. The only plants we found surviving were a few along the edge of one field that had been covered by a low drift which accumulated during an early snowfall last fall before the ground froze. This might indicate that some of the damage was done by the early frosts that happened along before the plants had gone into hibernation. At the Mandan Great Plains Station, raspberries went out in large numbers although covered in keeping with best horticultural practices known to date. This winter has not been typical, however. For this season I personally don't think we should revise our recommended fruit list on the basis of performance of varieties during the winter of 1942-43. From Mr. Leslie's observations, a winter of such severity has not been experienced at Morden for twenty-two years—maybe a great deal longer than that. During that time some of our good varieties, that passed out last winter, could have been raised from a bud to old age. It will likely be another twenty years before we hit another killer such as this last one. For example, a well established Hopa on my mother's farm at Cavalier was killed dead as a door nail when we examined it this spring, but we surely won't want to take Hopa off the hardy list. To add insult to injury, it appears that Jack Frost has nipped some of our early lilacs. Some places in North Dakota there will not be any of the better lilacs blooming this year at all.

Mrs. Weinberger of Regent, North Dakota has enjoyed growing boysenberries. Apparently they can be grown as a successful novelty in some locations, although they cannot be recommended for general planting. I have eaten some delicious boysenberries grown at Lakewood, near Devils Lake.

Anyone wanting the best and latest information on soybeans should get Farmers Bulletin No. 1520 "Soybeans, Culture and Varieties." It is available from the Superintendent of Documents, Washington, D. C. for five (5c) cents.

Just at this point as I write, I have been privileged to have a call from four of our fine Canadian friends, C. W. Ure, Extension Horticulturist for Manitoba, Dr. Sam Edgecombe, horticulturist with the Manitoba Agricultural Experiment Station; and J. W. Scannell and W. A. Cummings of the Dominion Potato Inspection Service. They were visiting the station here in the interests of the potato breeding program upon which the province of Manitoba has embarked. Dr. Sam is carrying on potato breeding work at the Manitoba Station similar to the project being carried on at N. D. A. C.

We have the permission of Cecil Irwin of Ardoch to print the story of his success with strawberries. Cecil made his start with a few plants of Senator Dunlap in 1937. By 1940 he had a thrifty garden patch and that spring decided to set a 4/5-acre patch in the open field north of the farm grove. He set them 18 inches by 8 feet. By the spring of 1941 the rows were matted and four feet wide. That year he sold \$225.00 worth of berries. By the spring of 1942 the rows were nearly filled in solid. That year he picked four hundred 16-quart crates. He found a ready sale at a price well above the market.

Perry Bowser, garden specialist at Michigan State College, has published some interesting figures on the average one-third acre home garden in Michigan. The average annual labor on these one-third acre plots is 92 hours when the rows are 36 inches apart. Production averages 3132 pounds of vegetables, worth almost \$200.00. The average Michigan farm gardener grows about eighteen different garden crops.

Sprague's Pipit

Harwood, North Dakota only a few miles from Fargo in the Valley.

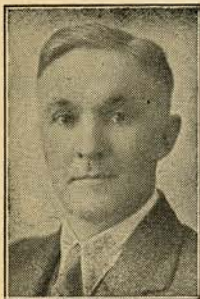
The nests are built on the ground, more or less roofed over with grass leaves and so are not easily seen. The eggs are about seven-eighths of an inch, long, dull white, somewhat specked at the larger end. It was Isaac Sprague, himself, who found the nest, five days after they had first found the bird. It was 30 years later before another nest was found by Dr. J. A. Allen in the Yellowstone River region. There were only a few early records of the bird in Minnesota until 1928 and 1929, when careful search in the Red River Valley showed that Sprague's

Continued on Page 66



MANITOBA NEWS LETTER

By
W. R. Leslie



W. R. Leslie

The gardener has a maximum interest in springtime. His plant cares have experienced about five months of dormancy. As they slumbered, frosts came and went. Drying and stressing winds tug ged and twisted at them. Snows fell and drifted, then melted and the waters froze into ice. The ice thawed and freshets of water rushed about many of the plants. The gardener, who is steward of his plants, has much occasion for concern this spring. The winter was long, cold and the most trying in 22 years, at least.

At the Morden station the April survey of the plantations was depressing in some departments. Greatest disappointment was in the fruit nursery. Plum and cherry stock froze back so heavily they were unfit for planting. Apples and pears were less hard hit but suffered considerably. This loss of condition in tree stock emphasizes the desirability of having young fruit whips dug in the autumn and heeled-in so as to be banked with soil well up the shoots. The stock injured this winter was ploughed and tramped back into the row. Such procedure saves labour and has succeeded well during recent years. However, a heavy winter, such as just passed, may be enormously costly to standing young nursery trees.

At Morden tender evergreens, as pines, junipers, arborvitae at first browned badly and some have died. Most native trees are in good condition. Farther to the northwest young Colorado spruce were injured sorely. Broadleaf evergreens, such as Rose Daphne and Dwarf Evonymus lost much, or all, foliage. Here these two esteemed lowly ornamental shrubs reveal some discomfort but not loss of life. Chinese pines, junipers and white sedars have mostly showed killing back in the tops. Pfitzer juniper shows injury in exposed locations. Austrian pine have some sunburned foliage. Western yellow pine, from Western British Columbia, browned somewhat, whereas the stock of Black Hills strains wintered well. The latter suffered some damage at Dropmore, Manitoba.

In vegetable seed production in the home garden cultural practices are important. These comments relate to approved methods.

Vegetable seed plants require generous spacing for full development. Radish spinach and lettuce

are planted 15 to 18 inches each way; peas and beans 3 and 5 inches between plants in the row respectively; tomatoes $3\frac{1}{2}$ feet between plants; cucumbers and melons 5 to 6 feet; and squash 8 feet apart. Onions are spaced 2 feet between rows and 6 inches in the row. Carrots, parsnips and beets 18 to 24 inches between plants.

Onions, carrots, beets, and turnips appear to benefit by planting the seed roots 2 to $2\frac{1}{2}$ inches deep. The seed stalk obtains some support by this comparatively low setting. Radish seed roots are adversely affected by deep planting and demand a soil surface position.

Root size has an important influence on seed production. Onions and carrots yield heavily from large seed bulbs and roots. Hence in growing these seed roots early, planting in mid-April for onions, and in early May for carrots is preferred. Beets, turnips, and parsnips give greatest seed yields from small seed roots. Accordingly parsnips are seeded in late May, turnips, carrots and beets in early June for seed stock roots.

Seed roots of onions, carrots, beets, turnips and parsnips are generally planted out early. It takes 5 months to produce ripe onion seed and a little less time for the other vegetables. The end of April is a good planting season.

Cabbage seed plants kept over from the previous year are planted early and deeply. Usually the head is partly covered after planting. Several shallow cross cuts are made in the top of the head to encourage flowering.

Many vegetable seed plants shatter when ripe. Harvesting while the pods are still somewhat green is desirable. Peas, beans, onions, carrots, parsnips and beets are in this category. Non-shattering kinds are radish, cabbage, turnip and fleshy fruited vegetables. These are allowed to ripen thoroughly.

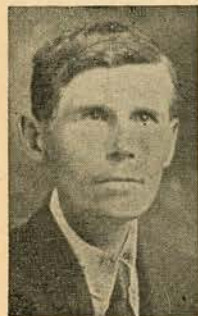
Seed of tomatoes and cucumbers is difficult to extract unless the fruits are mashed and permitted to ferment. Tomatoes are fermented in glass jars for 2 days, and cucumbers 4 days. The seed is then easily washed out with water.

The yield of seed to be expected from the different vegetables depends upon many factors, particularly that of the variety used. However in general it is estimated that 1 ounce of seed can be harvested from 3 to 4 radish plants 2 cabbage plants, 2 turnip plants, less than 1 beet plant, less than 1 carrot plant, 17 pounds ripe tomatoes, 3 to 5 onion plants, 1 to 2 cucumber plants, 2 watermelons, and 1 to 2 muskmelons.



GARDEN NOTES

By
W. E. H. Porter



W. E. H. Porter

Once more we rejoice that the perfect month of all the year spreads her gifts around us, summer warmth without later enervating heat; bird song still in full chorus and rainbow hues of floral beauty as yet, enhanced by spring's fresh green, beautifully expressed in the opening lines of an 18th century hymn:

"All the scenes of nature quicken,
By the genial spirit fanned,
And the painted beauties thicken
Colored by the Masters hand."

All of which seems a far cry from my random notes of very early spring. Mar. 25th. Lady Day—our 3rd day of spring thaw with a high of 54 in the shade yesterday and cloudless sky—little snow now remaining excepting big drifts which assume the aspect of white walls and mounds, coulees being out of hand running over full banks and, the summery call of crow is heard. Just received current issue of *HORTICULTURE*, a splendid issue. Regarding Mrs. Jorgensen's query "Why omission of tomato seed from English request" it is not a practical vegetable in that cool damp climate where even cucumbers are raised in a cold frame, but those English hot house tomatoes, raised under glass, are something to be remembered. When on a visit to that Island 20 years ago, the warmest July weather was much like our pleasantest, in May, perhaps a little closer and excepting for a few weeks in summer an overcoat was worn for bodily comfort. I was told, in early August, there would be no more hot weather for 11 months; the heat of an English summer never gets you down. In Feb. 12th issue of *MANCHESTER GUARDIAN*, I see daffodils are selling in London for 25 cents apiece. For the duration the British government has prohibited the running of flower trains from the Cornish Rivera and also banned the sending of flowers by parcel post which was being abused, causing postal officials to be needlessly overworked for a non-essential, but even in flowers a black market flourishes and a return ticket from London to Penzance is a profitable investment, in order to bring back 100 lbs. of flowers as personal luggage. Mar. 26th. A touch of squaw winter with all day freeze. Harmon Nursery list from Prospect, O., just arrived, 3 year old trees being their specialty; their biggest single order last year was 32,000 trees. They also list a tempting

display of dwarf Polyantha roses that bloom on new wood all summer long. Mar. 29th. Flock of Juncos have arrived; also heard a robin in the grove. As a result of last autumn's unseasonably early freeze-up, chinese elm still carry much of last year's foliage and sap of Skinner's orange bark, rare Amur cherry *Prunus Macki*, well on its way up, a hardy pretty shrub that took hold readily when planted in 1941; in the evening, heard grouse drumming. Mar. 30th, Fair, overcast, damp fog, 40 above; heard my first duck from somewhere in the slough. Mar. 31st, High wind, cloudy, contrary to time honored adage March retires in a boisterous freezing mood and yesterday's catspaw on slough changes to ice. Apr. 1st. Still and sunny, ground thawed out enough in the afternoon to plant asparagus. Apr. 3rd. Yesterday was cloudy with a hat lifting, door banging south wind and pump still frozen at 3 P. M.; by sundown 34 above. Today hazy with diffused sunshine, some breeze in lighter vein, 52 above, meadow larks carolling, first really spring day. In the afternoon sowed hardy perennial and vegetable seeds for midsummer use. Apr. 7th. Yesterday our first rain, an April shower in evening, temperature 58; heard mourning dove at sunrise and killdeer later. Pleased to note that at last I have a winter hardy verbenas; it is of course *bonariensis*, its location sheltered, where snow stays early and late, was protected with a slight covering of leaves; fragrance, all summer bloom and climbing tendency recommend it highly. Winter now being just a disagreeable memory, my winter garden commences to bloom with *Erodium cicutarium* and *Nierembergia coerulea*, the former a bright pink and latter chalcies of violet blue. That Madagascar *Kalanchoe* has been blooming since midwinter with flowers that seem to be immortal, the first still as fresh as last. April 8th. Heard, then saw first geese, flying V shaped northward, all Canadas apparently. Many pintail ducks in surrounding sloughs. For the first time since November, no ice in stock tank. A garden contains enigmas and disappointments, in my bed of sempervivums are plants as fresh as if wintered in a greenhouse and others adjacent, as black as Queen Ann, but why? April 10th. A beautiful display of northern lights at 10 P. M.; a shooting in undulating arches from horizon to zenith to the deafening accompaniment of a frog chorus. Apr. 20th. Altho days are generally mild and by mid afternoon shallow water becomes tepid in sloughs, where high-ride pintail drakes, poetically known as water pheasants, under cover of darkness winter makes savage attacks with ponds iced over

Garden Notes

Continued on page 68



FERNS AT OLD FAITHFUL

By
H. R. Woodward



H. R. Woodward

Having spent a great deal of time in the Rockies and particularly in Yellowstone Park, it is hard for me to refrain from writing occasionally about some of the plant and animal life in that region. One of the most interesting plants I have ever seen there is the rare type of fern called the Moonwort. It is a dwarf species that has persisted through that vast expanse of time which dates back to a time when ferns and fernlike flora dominated the earth.

There are several places in the Upper Geyser Basin where the Moonwort fern *botrychium coulteri*, grows rather abundantly. I have noted the fern growing about Iron Creek near Emerald Pool and within the spray but not too close to the Lone Star Geyser. I have also seen it growing near warm spring areas on the Observation Point trail at Old Faithful, especially where there is some shade and not too much sunlight. I have also noted this fern in many other places about the Geyser basin as far down the Firehole valley as the mouth of Sentinel Creek.

The Moonwort belongs to the lowest order of ferns, and is often called the grape fern because the clusters of yellow spore-cases are arranged in such a manner that they are not unlike clusters of unripe grapes. The ferns of the Carboniferous Era or the "coal age" were much like and closely related to the present Moonwort, except in size. Ferns of this type were abundant and a large part of the fossils of the coal regions are fossils or imprints of fossil leaves or the delicate fronds of this type of fern.

The leaf of the Moonwort consists of two lobes, one the so-called sterile lobe, being devoted entirely to photosynthesis or starch-making and the other fulfilling the vegetative function, having for its exclusive duty, the production of spores. The fertile lobe grows from the inner face of the sterile lobe. Like the true mosses, ferns depend upon mist or spray to carry the spores. The tiny spores are carried about by the wind which scatters the fine spray upon which they ride.

The Moonwort gets its name from its unusual moon-shaped leaves. In our species the moon shape is not noticeable as in species found in other parts of the earth. One species which abounds farther east and in Europe is called *lunaria*, from the Latin word,

Luna, meaning moon.

One of the strange things about the Moonwort is its compass position. The radiation of light causes a movement of its leaves, which will make possible the determination of the four points of the compass. As the leaves try to avoid getting too much sunlight. The movement of the leaves gives the plant a varying amount of light. In the morning the plant will get little light, it will get most at noon, and little again towards evening. This means the supply of light in the course of the day is met by the leaves of the plant changing their positions, thus making the plant available as a natural compass. In Europe the Moonwort has given rise to much superstition and it is thought to have some medicinal qualities. Until recently its peculiarities have been entirely overlooked and much experimentation can be done. Our species of this plant has been named after John M. Coulter, botanist at the University of Chicago for some thirty years, and the first to catalogue the plants of the Rocky Mountain region. Dr. Coulter was a botanist with the Hayden Survey party which spent the greater part of the years 1871 and 1872 in Yellowstone Park, the year after the park was first explored. Young Coulter, then a boy of but 16 years of age, was the only botanist in the party and the experiences he gained there at that time, no doubt led up to his achieving great fame later as a plant taxonomist.

While on the subject of rare ferns it might not be out of order to mention something about the little Southern Maidenhair fern growing along the soft limestone walls of Cascade Creek in Fall River County, South Dakota. This little fern, *adiantum modestum*, was first reported by Dr. C. E. Bessey of the University of Nebraska, who made periodic plant observations in the Black Hills for a great many years. It seems much less frequent in occurrence now than at the time of his first visit to Cascade Valley. This fern is doubtless of Southern origin and is probably several hundreds of miles north of its normal range. It is found nowhere else in the Black Hills and probably came into this region in spore form. It is as important for us to preserve this fern in its natural habitat as it is for the government to preserve the rare moonwort in Yellowstone National Park.

Sprague's Pipit

pipit was a fairly common bird.

The chief distinction of the bird is the manner of its song. High in the air it weaves to and fro, giving a succession of notes which I had written, "Tseu tseu, tseu, tseu, tseu." The first note is the

Continued on page 68



GARDEN CLUB GLEANINGS

By
Mrs. G. M. Jorgensen



J. E. Jorgensen

That war-like picture of General Custer and his men on the cover of our April magazine seems at first glance, highly incongruous on a horticulture publication but it fits in perfectly with the plea for wild flower preservation began on this page last month.

Custer gave us our first description, a picture of the incomparable beauty of this land which is now South Dakota, as it was in its virgin state, which was included in his report to Congress in 1874. It is surprising to most people to learn that naturalists, botanists and geologists, were included in the personnel of such purely military expeditions as that of Custer when he was sent to explore the Black Hills; but the following quotation from his message is proof. "Every step of our march that day was amid flowers of the most exquisite colors and perfume. So luxuriant in growth were they that men plucked them without dismounting from the saddle. It was a strange sight to glance back at the advancing columns of cavalry and behold the men with beautiful bouquets in their hands, while the headgear of the horses was decorated with wreaths of flowers fit to crown a queen of May. Deeming it a most fitting appellation, I named this Floral Valley. General Forsyth, at one of our halting places, plucked 17 beautiful flowers, belonging to different varieties, and within a space of 20 feet square. The same evening, while seated at the mess table, one of the officers called attention to the carpet of flowers strewn under our feet, and it was suggested that it be determined how many different flowers could be plucked without leaving our seat at the dinner table. Seven beautiful varieties were thus gathered. Professor Donaldson, the botanist of the expedition, estimated the number of flowers in bloom in Floral Valley at 50, while an equal number of varieties had bloomed, or were yet to bloom."

There were none there to foresee the time that areas such as that would be wiped out of existence by civilizations destructive march; there were no horticulture societies or garden clubs to work for the preservation of Nature's beauty spots, and so the sites of much of our wild beauty has vanished from the face of the earth.

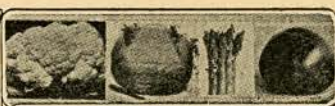
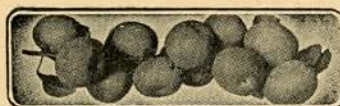
But there are still restricted areas in every

state of the nation and in every section of South Dakota where patches of wild flowers, trees and shrubs from Nature's own plantings are growing. These will soon disappear with just as much loss to following generations as the loss of Custer's floral mecca in the Black Hills has been to us, unless something is done about it. These little, local spots may seem unimportant and worthless because the folks near them are used to them and may not realize that to others, their particular patch of nature may be a rare find.

Witness the magnificent *Penstemon grandiflora* growing on the Cactus Hills near Sioux Falls. Most people sneer at them and at the lovely rose cushion cactus, as weeds because they grow with such careless abandon in rocky, gravelly waste land. But take a look at the full color plate of this penstemon as illustrated in a famous catalogue of the east. Note the price you must pay per plant (\$1.50 for three) to buy them, and their beauty may take on a new meaning. Perhaps you may even rush out and dig a plant or two, take them home and put them in nice rich loam in your choicest garden spot—and what happens? They blossom once, and the next spring you find a tiny seedling coming up in the middle of your gravel path—if you are lucky enough to have such a place for them, for otherwise you may not be able to raise them.

In the westerly part of the state we have no less than a dozen varieties of penstemon that are equally valuable additions to our wild flora, some of them being rarely beautiful specimens for our rock gardens. Pity the indifference of a community which owns a patch of the true *Penstemon angustifolius* that they do not make an effort to save.

National sentiment may be aroused over famous areas of natural beauty, forests and natural phenomena, and taken care of by such organizations as the National Wild Flower Preservation Society and the Emergency Conservation Committee, but it is up to the horticulture societies and the little local gardening groups to see to it that local spots are preserved. There is special strength in a home organization, for interest is often more easily aroused over local problems. The Wild Flower Preservation Society is continually urging garden clubs to establish wild flower or general wildlife preserves and Nature trails cultivate native plants; develop appreciation of nature and conservation; and help those wishing to know and grow wild flowers, and this is work for every small club in the state to do. Experienced conservationists believe that in 25 more years all but the most highly inaccessible wild flowers will have disappeared from natural plantings unless all wild flower minded persons concentrate on propagation, preservation, and promotion of them.



FRUIT AND VEGETABLE NOTES

By
F. X. Wallner



F. X. Wallner

At the Iowa Vegetable Growers's meeting, last November, two growers had onion seed for sale and I bot some seed from both. Later one of these men sent me prices on two lots of cheaper onion seed, so I also bot this, but one lot mixed with grass seed was certainly a headache. I spent three long evenings trying to pick out what he called pigeon grass, tho it really was barnyard grass perhaps also called million dollar grass, dark brown seed, same size as the onion seed, and I had about 2 or 3 ounces of seed picked over in the three evenings and it still contained the grass seed, so I gave up trying to clean the rest of it. Now I am sowing the seed thick for sets. There will be 3 or 4 rows of it 800 ft. long and it will be a big job to weed those rows. What puzzled me is how they gathered this seed to have so much grass seed in it. There is a group of old time gardeners that will not set out tomato, pepper, egg plant and sweet potato plans before June 1st, regardless of the favorable weather during May. But for the past few years, tomato plants have been offered for sale at the stores the latter part of April and all of May, even tho it is cold, with a frost most every night. We do not like to have our nice plants go out so early as many of them cannot be replaced. One wholesale house sent out 40 flats of choice plants before the 15th, most of which will probably be lost thru frost. While I am not convinced that cool weather is the cause of poor yields when set too early, they do get a set back that is not overcome for some time and flats set after the 1st of June do not waste so many plants, which will be scarce later. A Victory gardener bot a bushel of seed potatoes to plant in his garden but when he went out to the plot allotted to him he decided not to plant them, as the ground was perfectly level, while the instructions were to plant in hills. There are 13 more pear grafts, put on one tree and 19 on the other. Two of the grafts put on last year have blooms on them and some are more than two feet long, but there still are no blooms on the original tree, eight of ten years old.

Anyone having surplus wild flowers to transplant is asked to plant them at Falls park. The Biology classes of both high schools, two Garden clubs and the Historical Society have selected sites and made plantings there. There are many more spots

that can be planted by other horticulturally minded groups. A vegetable grower in California allowed the public to pick his 400 acre pea patch for their own use rather than to have a \$3. per bushel picking and marketing cost while the selling price was less than \$2.50 per bushel. California lettuce crop for 1942 sold for 42 million dollars, tomatoes 20 million dollars, cantaloupe 13 million, asparagus 11 million, carrots and celery 10 million each; about 600,000 acres of land grew this bumper crop of vegetables in that state. The quick frozen vegetable pack will be increased 100 million lbs. over 1942. The quick frozen pea crop is expected to be 94 million pounds for 1943, the lima bean frozen pack will be about 48 million lbs. Twelve million pounds of seeds were sent to the allied nations in 1942, 447 million pounds of foodstuffs were allowed the allied nations the past January, less than the average monthly deliveries in 1942.

Sprague's Pipit

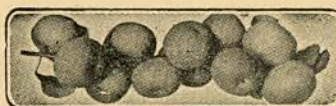
most prominent, the others decreasing in volume. Dr. W. J. Breckenridge of Minnesota expressed it "Ching, ring, ring, ring, ring, ring," descending about one octave. He estimated the average height of the singing birds to be about 300 feet. They are difficult to locate and look much like a butterfly fluttering in the air. One day in 1843, Sprague had estimated that he watched one in the air for an hour. The next day Audubon and Bell, with watch in hand, followed one for 36 minutes. From such a height, the bird suddenly descends to the ground.

Little is known of the food habits of this species. Two stomachs of birds collected during the winter, contained mostly weed seeds. Others contained various insects. Audubon had called it a lark and compared its behavior to that of the European skylark. However, it is not closely related to the skylark, but is placed in a family with the wagtails, and this is more closely related to that of the kinglets.

Garden Notes

and ground frozen at sunup. Yesterday I set out my passion flower, a fitting deed for Holy Week; it has been a nuisance all winter, persistently clutching at any fabric within reach; it seems to be hardy for last night's ice making frost did not affect it. Apr. 21st. For the last week my grove has resembled an English rookery with migratory crows, fortunately most are enpassant. Today with shade temperature at 79, summer's soft kissing airs are here again and responding prairie knolls are spangled with downy nest of sky-facing anemones, our

Continued on Page 71



WILD FLOWERS OF SOUTH DAKOTA

By
L. C. Snyder



Dr. L. C. Snyder

All of our wild flowers belong either to the class called Monocotyledons or the class known as the Dicotyledons. The Monocotyledons are characterized by having but one seed leaf or cotyledon. In addition to this characteristic, the flower parts are arranged in 3's or multiples of 3, i.e. three sepals, 3 petals, 6 stamens and 3 carpels (parts of pistil). The leaves are parallel veined and a cross section of the stem reveals scattered vascular bundles. It is to this class that the lily family belongs.

All members of the lily family have 3 sepals, 3 petals, 6 stamens and 3-carpelled ovary. The sepals may be green or highly colored like the petals. The ovary is superior, that is borne above attachment of the other flower parts. Some authors divide the lily family up into smaller families such as the onion, lily-of-the-valley, yucca, mariposa lily, smilax, bunch flower, and lily families. In this treatment all of these lily and lily-like plants will be treated as members of the large lily family.

Thus treated the lily family contains our common Lilies, Onions, Star of Bethlehem, Leopard Lilies, Dogtooth Violets, Solomon's Seal, Bellworts, Twisted Stalks, Yuccas, Mariposa Lilies, Trilliums, Smilax, and Death Camases. In South Dakota many of the lilies and lily-like plants are found growing wild.

1. *True lilies*. Two species of lily are found wild in the state. The Western Red Lily, *Lilium philadelphicum*, is quite abundant in the Black Hills. This lily resembles *Lilium umbellatum* and is so-called by many authors. The habitat is a dry, open woods which would suggest a partly shaded well drained soil as the best site to grow this most beautiful lily. The flowers are a deep reddish orange about 4 inches across and borne solitary or occasionally in clusters of 2-4 at the top of the stem. The leaves are borne in whorls of 3 to 8 at a node.

The Wild Yellow Lily, *Lilium canadense*, is found sparingly in wet meadows of the eastern part of the state. The flowers are yellow to orange red and speckled with reddish brown dots. Several nodding flowers are borne on long flower stalks near the summit of the plant. In order to successfully grow this species it is necessary to furnish a moist site, preferably near the pool.

2. *Mariposa lilies*. The Mariposa lily differs from the true lily in at least two respects. The sepals are narrow and green and the pistil lacks a style. Two species of *Calochortus* are native in the state, *C. nuttallii* and *C. gunnisonii*. The former is abundant on dry hill-sides of the western part while the latter is confined to the higher parts of the Black Hills. The petals in both of these species are broad and waxy white with purple and yellow stripes and dots near the base. The mariposa lily is one of our most beautiful wild flowers and one of the most difficult to grow. It demands a sweet soil rich in limestone.

3. *Wild onions*. Eight species of *Allium* have been reported in the state. These bulbous plants are characterized by their onion odor and their small, lily-like flowers borne in umbels at the top of the stem. The wild leek and garlic also belong to this group. The flowers are white, pink or rose-colored and bloom from early spring to autumn in the different species. Many of the wild onions make delightful rock garden subjects.

4. *Star of Bethlehem or Sand Lily*. This attractive little flower, *Leucocrinum montanum*, is one of our first flowers to bloom in the spring. It is restricted to the hills and plains of the western part of the state and grows best on sandy soil. The plant consists of a cluster of grasslike leaves and several waxy white flowers that come right out of the ground. The roots are fleshy and clustered much like roots of the dahlia. This plant also makes a nice rock garden subject.

5. *Camas*. Four species of camas are reported but only two are at all common, White Camas, *Zygadenus elegans*, and Death Camas, *Zygadenus gramineus*. The former is found in meadows of the eastern part and also in the Black Hills while the latter is found commonly on the plains west of the Missouri river. The White Camas is tall and bears an elongated cluster of greenish white flowers. Death Camas is much smaller with a compact cluster of whitish flowers. Both species are poisonous and the latter causes serious livestock losses each spring. Occasionally a human death is reported from this plant.

6. *Yucca or Soapweed*. Only one species of *Yucca*, *Yucca glauca*, is found in the state. This species is widespread along the Missouri River and westward. Mr. H. R. Woodward gave a rather complete account of this interesting plant in the December issue.

7. *Other members of the lily family*. Space does not permit of a complete discussion of all the species in this family. A number of these are to be found

Wild Flowers of South Dakota

Continued on Page 71



BOOK REVIEW

By
Mrs. F. Briley



Mrs. F. Briley

The Cottage Garden Herb Industry, a publication of the Herb Society Of America, a reprint from the HERBALIST, for February, 1943. Horticultural Hall, Boston, Mass. Price 15 cents.

This is a delightful and very useful little pamphlet with paragraphs on the growing of herbs, also the harvesting, drying, preparation and merchandising of herbs in establishing a Cottage Herb Industry.

Bulletin 3

1942 findings from a Group of Commercial Growers of sage including Fertilizer Tests on sage, Tarragon, Basil, Savory & Thyme. Herb Society of America, 300 Mass. Ave., Boston, Mass. Price 25 cents.

Comparisons are made of 1941, 1942 experiments and results of seasons, also weather, wintering, varieties grown, cultivation, harvesting, insects and drying. The experiences of growers of herbs is very valuable to the amateur, and are worthy of study. Anyone wishing to grow the above herbs this year will certainly want to read Bulletin 3 first and profit by the recordings of others. A plan of a home made stripper for sage looks very practical, and the text and illustrations give one a good idea of how to grow herbs on a large scale, instead of just for fun, as most of us do. By "us" I mean Victory Gardeners in town.

Just Roses, by Mrs. H. J. Taylor, reprinted from BIOS, Vol. XII No. 3., Oct, 1941, Mount Vernon, Ia.

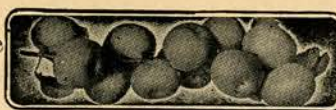
This is a very lovely pamphlet on roses that was sent to me several months ago by Lawrence Fox, of Pierre, S. D. The author goes back in literature and history with early man, when three centuries B. C. a Greek philosopher speaks of rose culture. She tells in an interesting way, the history of many named varieties, and gives lots of good information on some hybridizers. The history of attar of roses makes excellent reading, and she writes fully of our Dr. Hansen's work with roses, including his thornless rose project, his red wild rose, and other interesting hybrids. As a hobby there can be no sweeter subject than roses, and whether they are your hobby or not, you'll want to have this lovely paper by Mrs. Taylor—Just Roses.

SCENEY ISLAND PARK

By
H. J. Donaldson, President of the
Sioux Falls Garden Club

Last winter, members of the Sioux Falls Garden club, voiced thru the ARGUS-LEADER, the idea of creating a public park, that area adjacent to the Sioux river falls, long known as Sceney Island. Fanned by public bitterness toward commercial interests who have spoiled part of the natural beauty of the falls, the idea spread like prairie fire on a dry, windy day in August. The city put a crew of men to work, trimming trees, raking and burning weeds and trash and graveling roads leading into the site. The Park Dept. provided and had planted eight 6 ft. pinetrees, as well as arbor-vitae, junipers and several varieties of deciduous trees. The Biology class of the Washington high school and of the Cathedral high school, each took over a section of the park to land scape and care for. The S. D. Historical Society purchased 100 red cedar seedlings and these were set out in various parts of the park. The South Sioux Garden club furnished 100 hackberry seedlings, which were scattered over the park and the Boy Scouts and the Girl Scouts took part in some of the plantings. The Sioux Falls Garden club took it upon themselves to encourage and oversee most of the planting as well as furnishing 100 silver cedar seedlings which were planted with the idea of hiding some of the man-made bridges and commercial buildings in the future. When Dr. N. E. Hansen dug up his experimental rose garden in Sioux Falls, the Garden club secured a small truck load of rose bushes, thanks to Mr. F. X. Wallner, and these were planted around the falls. Small honey suckle bushes were set out among the false indigo, wild choke cherry and wild plum found growing there. Weeping willow and diamond willow cuttings were also planted. Specimens of the pasque flower were dug up and transplanted there and wild columbine and six other varieties of wild flower seeds were planted among the wild geranium and monkscap found growing under the trees in various parts of the park. If the falls are left alone they will always be a monument to the ruggedness of nature. The idea of the movement is to preserve and multiply the trees, shrubs and flowers which create a scenic background for the cascade of water. The purpose of the Garden club is to create a wildflower sanctuary and this can be accomplished if the visiting public will treat these

Continued on Page 71



SECRETARY'S CORNER

By
W. A. Simmons



W. A. Simmons

Bird lovers should read "The Lord's Tiny Poultry," by William Byron Mowery, in the May number of THE READER'S DIGEST. The author gives a fascinating account of rearing abandoned baby birds, giving explicit directions for their care and food, much as our own bird lady, Mrs. D. B. Getty has long practiced it. He tells of an English sparrow learning a tuneful little song and, from its relationship to some of the best singers in the feathered world, concludes that the sparrow can sing if it wants to. This bird has long given me much pleasure by its cheerful little chirp, on sunny mornings in the winter time when there are so few cheerful things about the place and they well earn the food we give them in that season by their long hours of faithful work in the garden, in summer, taking care of the many insects that would otherwise destroy the vegetables grown there. Some people who profess to love other birds seem to have a grudge against the English sparrow and I could never understand why. They do absolutely no damage to anything in the garden, but quite on the contrary, much good and they remain with us in the winter, when other birds like millionaires, hie themselves to the southern play grounds.

May 18th. This morning, one of our life members, Mr. J. Earl Gardner, was seen near our place armed with his trusty air rifle, and said he was out to rid the neighborhood of the rabbit menace. He said he had already sent 6 to the rabbit's happy garden robbing paradise and we urged him to keep up the good work and hope the ones that have been biting off our lilies will be numbered among his bag. Since my last pessimistic farm report, things have brightened perceptibly. Neighbors, in order to stave off an undesirable shoddy building program, bot a half block, within a block of our house and have given us a full quarter block for a garden. It was plowed during the dry spell, the sod skimmed off thinly and some of it turned under. It was left so terrifically rough that we haven't attempted the impossible task of smoothing off all of it, only the portion where the rows are, and we will mulch the part between the rows and let it think it over for another year. Sunday afternoon my gardening partner Mr. Nash and I planted 100 lbs. of red-

headed Bliss Triumph potatoes. All Mr. Nash did was to wield the spade, open up a hole and close it again after I had done all the work of dropping a spud, therein. Late in the afternoon my daughter came over and accused Mr. Nash of trying to kill her dad. He straightened up, getting a few of the kinks out of his back and replied that he had been thinking all afternoon that her dad had been trying to kill him. After soloing in the work of setting 117 sauer Kraut plants and a half peck of onion sets and a bunch of onion plants in the garden I can understand what the late Mr. Cowles meant when he used to talk about the "kneezy" jobs in the garden. Planting rows 120 ft. long is no joke, when one has to do so much smoothing of the ground in order to give the small seeds any chance of growing. With the cold late spring with its frequent frosts and scanty rainfall, the disappointing yield predicted for winter wheat and the floods in the corn belt, it looks as tho the prospect of feeding the world is poor. Some of our Victory gardeners have set three sets of tomato plants in their garden, the first two sets being frozen and the 3rd. set looking none too happy. We have set none in our garden as yet and will not do so till June 1st., at least. I remember the admonition of the late Thos. Hobart, not to set out tomato plants till the lowest night temperature is 60. The tomato is no arctic vegetable and one accomplishes nothing by setting them out till cold weather is definitely past.

Garden Notes

prairie crocus and in the garden, clusters of rock cress break out with white and carmine fragrance and so the curtain slowly rises on the pageant of the year.

Sceney Island Park

wild plantings with the same consideration they do the formal plantings, cultivated in other parks. If anyone reading this article, cares to gather a few wild flower seeds, when they mature, and send them to the Secretary, W. A. Simmons, Sioux Falls, Courthouse, the Sioux Falls Garden club will take it as a favor to themselves and will see that the seeds are planted and looked after around the falls.

Wild Flowers of South Dakota

in the forests of the Black Hills and the eastern border of the state. These include the true and false solomons seal, the wild lily of the valley, twisted stalk, bellwort, trillium or wakerobin, and dogtooth violet. Any of the above make interesting subjects for the woods garden or for a shady bed on the north side of the house.



QUESTIONS AND ANSWERS

by
S. A. McCrory



S. A. McCrory

Q. How may vine crops such as cucumbers and squash be protected from insects?

A. Cucumbers and melons are attacked by striped and spotted cucumber beetles and aphids or plant lice. Squash may be attacked by the same insects as the cucumber but its greatest enemy is the squash bug. The striped cucumber beetle feeds on the foliage as an adult and attacks the root during the worm stage. It is likely to cause greater injury to the plant by feeding than the spotted beetle and is responsible for infecting the cucumber with a disease known as wilt. It is therefore the number one cucumber insect to control. Plant lice generally appear about the time the plants start to vine. They attack the under surface of the leaves and suck the sap from the plant.

The best control for the beetles is a rotenone dust. Since this material is very scarce and its use on cucumbers is prohibited this year something else must be used. Calcium arsenate used as a dust will help but seldom controls the insect. With the insecticides now available it appears that a nicotine dust is the most practical material to use. Nicotine sulfate or "Black Leaf 40" is a liquid but may be prepared for dusting purposes by mixing 1 pound of hydrated lime with 1 ounce of nicotine sulfate. It is prepared by sprinkling the nicotine sulfate on the lime in a container that can be closed tightly for mixing. This dust should be applied soon after mixing. Covering the plants with paper to prevent the escape of nicotine will increase the effectiveness. Such a treatment should control all three cucumber insects.

The squash bug is one of the most difficult insects to control. For small plantings, hand-picking appears to be the most practical means of control. Small boards and chips placed near the plants will serve as a place for the bug to collect at night. This makes hand-picking easier. The under side of the leaves should also be examined and all egg clusters destroyed. As soon as the plants cover the ground a dust of Pyrocid applied every third day will help control the insects.

Q. What is the reason for cottonwood trees being killed last winter?

A. Much injury to the cottonwood is reported from many parts of the state. While this tree is

considered one of our winter-hardy trees it has all the appearances of a tree injured by winter conditions. Last summer they were severely attacked by rust that in many cases resulted in premature defoliation. It is my opinion that the disease or severe winter would have done little damage had they not followed in succession. It would be interesting to know if the trees showing dead branches this spring were also attacked by rust last summer.

Q. Is it true that by permitting weeds to grow in the borders of a garden that insects will do less damage to the vegetables?

A. I think not. Weeds in or near the garden should be destroyed. While they may furnish the insect some feed they also afford protection for some. Frequent cultivation of the ground and cutting the weeds will disturb the insects and in some cases will drive them away.

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