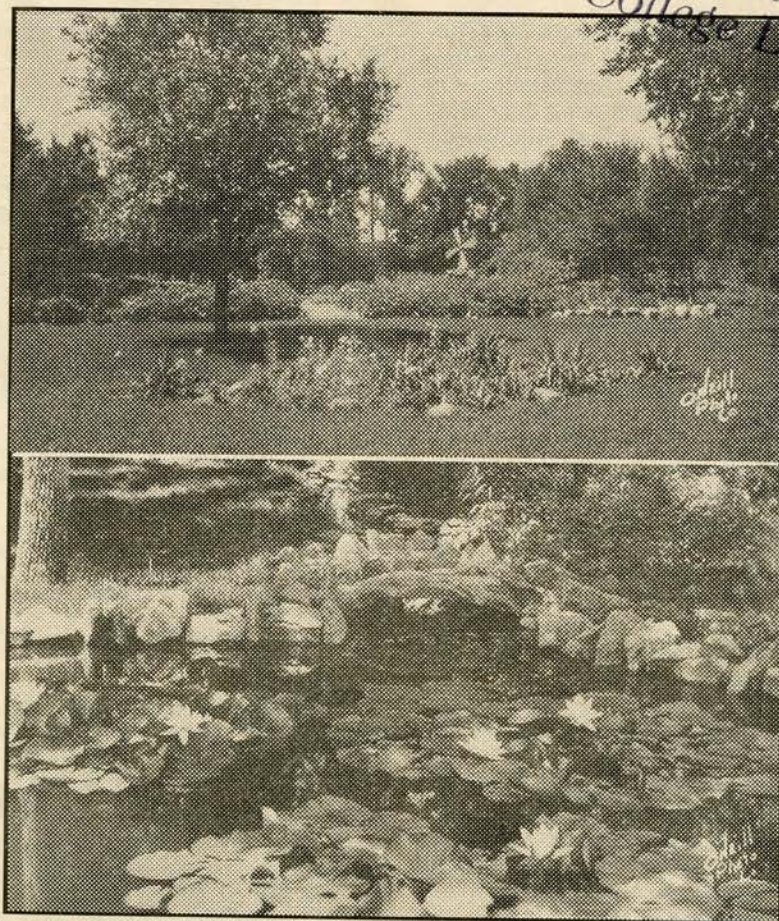


NORTH AND SOUTH DAKOTA HORTICULTURE

JULY, 1938

South Dakota State
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Scene in the garden of Mr. E. F. Hoffelt, Esteline, S. D.—Courtesy of the Argus-Leader.

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FRANKLIN'S GULL

by
O. A. Stevens



O. A. Stevens

This is a species which had eluded the early naturalists, probably because it inhabits the interior of North America and only rarely strays to either the east or west coast. It was named in 1832 by the English naturalist, Richardson, in honor of Sir John Franklin, the noted polar explorer. In recent years another technical specific name has come into use, one given the year before by a German writer, applying a vernacular name used by Hernandez, an early Spanish author. Fortunately, the bird will continue to be called Franklin's Gull.

I well remember my first sight of gulls, probably this species, and of thinking it very strange that "sea gulls" should be seen in the interior. On May 15, last, as we drove through western Minnesota, there were from two or three to a dozen of them in every little pool. Handsome gray birds, the size of a common pigeon, but with black heads, and wing tips, they waded about silently in the shallow water. At other times flocks of them gather in the newly plowed fields to hunt grubs and worms turned up by the farmer, or on the denuded fields to feed on the all too abundant grasshoppers.

Mr. A. C. Bent says that "a breeding colony of Franklin's Gulls is one of the most spectacular, most interesting, and most beautiful sight in the realm of North American ornithology." He describes graphically such a colony, estimated to contain at least 30,000 birds, which he saw in southwestern Saskatchewan in 1905. Dr. Thomas S. Roberts describes a still larger colony at Heron Lake in Minnesota in 1916. The nests are built upon bunches of dead bulrush stems a few inches above the water of a shallow lake overgrown with rushes. Three eggs are most commonly laid. The eggs are about two inches long, somewhat pointed at one end or rounded at both, buffy or greenish and variously marked with brown.

The gulls are not very constant to a particular nesting place and the recent dry seasons have dried up many of the lakes where they formerly nested. During 1937 hundreds of them spent the summer at the Lower Souris Refuge in northern North Dakota but did not nest there according to Mr. C. J. Henry, refuge manager. At the Sand Lake Refuge in northeastern South Dakota, Dr. Philip Dumont reports that the gulls returned that year and had at least 6,000 nests. Re-establishment of their nesting places should help materially in the control of destructive insects in the

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neighborhood.

Nesting is soon over and the gulls gather in large flocks, dividing their time between a suitable lake and the fields or prairies. Sometimes they spend the night on the water, resting together in great rafts. Dr. Roberts has described large migrating flocks in early October, rising from their roosting places and portions of the flock flying at times in rapidly revolving circles.

Some of the birds remain for winter along the coast of the Gulf of Mexico, but most of them are to be found along the west coast of South America from Peru to Chili. Some get as far as the Straits of Magellan and the earliest are reported at Valparaiso in September while many are yet in Canada.

NEWSLANTS

by
Harry A. Graves



H. A. Graves

Bloodroots, *Sanguinaria Canadensis*, were especially showy in early May woods this spring. I did not check on specific plants as to how long an individual flower will remain out, but plants I visited May 1 were still blooming profusely May 15. I recall picking them as a boy, but they were not very satisfactory as a cut flower, largely because of their deciduous petals. Also, it was almost impossible to pick them without having hands badly stained by the yellowish-red

juice of the stems.

While this flower is usually found in woodlands, it is not a true shade-loving plant, since its growth is largely made before the trees leaf out. Bloodroots can be transplanted best after the leaves have ripened in August, but they may be removed when the plants are in flower.

Last fall, during a series of meetings devoted to garden equipment and storage problems, the possibility of planting a few vegetables in the fall was discussed. Several gardeners were interviewed who had successfully raised various crops by this fall planting method. A few demonstration gardens of this type were planted in North-eastern North Dakota counties the first week in November. It was our hope to plant these crops late enough to prevent their germination. From all appearances, we were successful in this part of our plan, but we could not have had a much more unfavorable spring for such a demonstration.

High temperatures in March caused most of the seeds to germinate and plants to emerge. Temperatures as low as 14 degrees above zero followed with the expected results. Spinach, lettuce and onions came back for more punishment, however, and survived two more freezes in April. All these setbacks made these fall plantings little earlier than spring planting, but with any sort of decent weather it appears that there may be a place in farm garden activity for a small fall planting.

Dr. C. I. Nelson, of Fargo, has an interesting new seedling lilac. Raised from seed of unknown parentage, the lilac bloomed the second season from seed. The cluster is large, the flowers a purplish-rose, if words can describe some of the flower colors, and the individual florets are very large. The plant suckers freely, and while this character is undesirable in some plants, I cannot see where it can be a very undesirable feature in

an ornamental as attractive as this seedling.

After reading last month's issue of North and South Dakota Horticulture, I gather that the *Kochia* is in complete disgrace. As Mr. Wallner suggests, the plant is still for sale in most seed displays at corner groceries. Last summer I visited a beautiful well-kept city home, beautiful except for the fact that a planting of *Kochia* had become quite unmanageable in one corner of the grounds. It was fully as thick as Mr. Simmons describes in his "Corner" in the June issue.

JUNE OBSERVATIONS—A few Pasque flowers still in bloom June 12—Mrs. A. R. Palmer, of Oakdale, Dunn County, finds her Lady Slipper plants do much better after the soil about the roots has been acidified with about one-half gallon of vinegar—J. H. Brown, of Beach, sends in bloom from a crabapple tree for identification. Individual florets are up to 3½ inches in diameter. Mr. Brown states this tree has borne fruit for several years.

Wild flowers of the species *Penstemon* (common name, Beard-tongue) deserve more attention in North Dakota flower gardens. At least 4 species are native to North Dakota—*Spirea vanhouttei* and *Snowballs* especially fine in Fargo this year.

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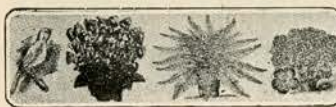
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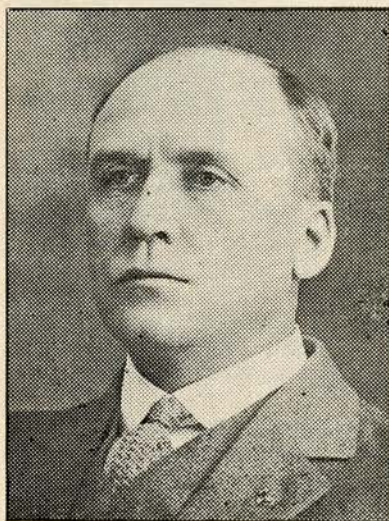
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NATURE DEPARTMENT

by
H. L. Hopkins

Some Footprints of Nature Along The Big Sioux



H. L. Hopkins

Mother nature has left many rather interesting footprints along the mammoth valley of the Big Sioux River. Some of them seem open to ready interpretation while others are moot problems. Perhaps a few words about the main valley will be first in order.

Its extreme upper reaches extend well into southern Roberts county, nearly across the state. It drains an area to the north and

west of Summit and all about Ortley, equal to several civil townships. From a few miles south of Ortley it fans out in tiny feeders heading in springy, almost muskeg-like and hummicky bottoms, potholes and depressions.

If the basins of Pickerel, Enemy Swim, Wau-bay, Rush, Blue Dog, Prairie and Long Lakes, in the eastern central and southeastern portions of Day County, were filled to overflowing, their natural outlet would be to the Big Sioux, by way of Long Lake. It drains a large area in western Grant county, a considerable area in south central Day county and a large area in northeastern and east central Clark county. It drains all of Codington county, except a small area in the northeastern corner, which goes to the Minnesota, about one half of Deuel, practically all of Hamlin and about one quarter of Kingsbury.

Its total drainage area is greater than the area of some Atlantic coast states. For the greater part of its length it has room enough to nicely accommodate the normal waters of either the Missouri or Mississippi rivers where their valleys parallel its own. It is a mighty trough. It is five miles wide at one point in Hamlin county.

The gross tonnage of earthy materials removed from its main channel by the erosive work of water is very great. The pitch, or incline, of its vast drainage area towards the parent channel, also represents immense removal. It does not appear to the writer possible that this stupendous

removal work of excavation was all accomplished during the run off of the Keewatin and subsequent waters. That it has served as the drainage system of the eastern central portion of the large Coteau des Prairies plateau, almost since the latter's inception, seems axiomatic. Now for the footprints.

Punished Woman's Lake

Here is a nice little braintwister. The writer has been puzzling over it for many years. In treating this problem I will not touch upon the romantic Indian legend having to do with the origin of the peculiar name of this pretty lake, or lakes, as there are really two basins. That is a gripping story in itself. This story will deal only with its topographic and geologic signs. This beautiful water is in extreme northeastern Codington county. That its pre-Keewatin outlet was into the Minnesota river system is almost self-evident, but by quite a different route from its present one into the same system. It is my theory that it was by way of an old preglacial stream of considerable magnitude and erosion that apparently headed in the vicinity of Summit, crossed through western Grant county. Its depression is now represented by the deeply eroded Antelope valley. It passed into the Punished Woman's lake basin and on to the south, slightly east of where the little city of South Shore now stands, through a deeply cut valley, a little to the east of Punished Woman's Mound and south to the lake basins near Troy, in Grant county, and northwestern Deuel county. These lakes preglacially discharged by way of the south fork of the Yellow Banks river, to the Minnesota, without much doubt.

When the Keewatin ice melted back to the north over the southern rim of the lake basin it apparently lingered long enough to deposit sufficient morainic materials to permanently shut off the old southern outlet. As the ice front slowly receded over the lake basin accumulating waters found a forced outlet from the southwestern extremity of the basin to the head waters of Mud Creek and thence to the Big Sioux. This channel is very deeply cut and was the outlet of the basin for a long period after Keewatin. During this period the lake was materially deeper than at present.

The present outlet is a self-evident case of erosive larceny, where one drainage system steals from another. It occurs frequently. The north fork of the Yellow Banks river, comparatively recently, has gradually eaten its way, by water erosion, from the east, through the hills at the eastern edge of the Coteau des Prairies, and literally stolen the water shed of Punished Woman's basin, returning its flowage to its ancient first love, the Minnesota river.

(Continued on page 81)



PRESIDENT'S CORNER

by
F. X. Wallner



F. X. Wallner
Sioux Falls, S. D.

The 8th annual summer meeting and tour of the Society came to a close at Yankton, Sunday evening, June 12th, after a most pleasant two-day summer vacation, much enjoyed, I am sure, by all. The two days were of June's most perfect offerings and the weather bureau man considerably postponed, till after we were all well north, a very heavy rain he sent to the locale of our tour that night. We arrived at Vermillion shortly before noon and had an opportunity to view the fine flower show before enjoying a fine dinner at the excellent hotel.

The meeting opened at 2 P. M. in a room adjoining the flower show in the Methodist church parlors, and consisted of short informal talks by those present. A committee consisting of George W. Gurney, J. DePagter, H. N. Dybvig and H. E. Beebe was appointed to arrange for the dedication of the Geo. H. Whiting Memorial drive along the old highway coming into Yankton from the east, where the beautiful row of Ponderosa pines were set out by Mr. Whiting many years ago and have now grown to splendid trees. At 4:30 the meeting came to a close and most of the members went to view the many wonders contained in the museum maintained under the intelligent care of Dr. Over, and to other places of interest about the city. The banquet was held in a home a few blocks from the church and a very fine meal was served, but unfortunately the writer, who served as toastmaster, was given but 20 minutes time for the after dinner talks, so but few could be called on and probably many a good story went untold. The meeting was then resumed at the church where Miss Notebloom gave a very interesting illustrated lecture on Hawaii, which she had recently visited. Sunday morning, those of us that went to Elk Point for early service, reached the river and got on the ferry first and were the first to cross over to the Nebraska side to the Ponca State Park. There we seated ourselves on the park benches overlooking the river, while the others were making the crossing, which consumed much time as the water in the river was low and the ferryman dared take but three cars to a trip. Five trips were required to bring all the party over and it was after 10:30 before the tour could be resumed. Dr. Over headed the caravan and set a fast and furious pace; some got on the wrong road and many remarked how glad they were when they again saw the sign

"Horticultural Society" on the back of a car they were following. It was a beautiful drive along the bluffs and river, but dusty at times, as the roads were unsurfaced. Two stops were made on the way; first at the Memorial to the six children massacred by the Indians in 1868 and next at the large Catholic church at St. Helena, Neb., erected 42 years ago. I was present when the corner stone was put in place. There was a large frame church there before that. The last stop before crossing the bridge at Yankton was at the 320 acre Nebraska nursery of the House of Gurney. Arrived at Yankton, by special invitation, we went at once to the home of WNAX in the great building of the House of Gurney where a splendid dinner was given to the more than 60 members of the tour, a very generous and much appreciated gesture. After dinner we were shown about the building, where on each Sabbath and holiday, visitors arrive from all directions to enjoy the radio programs. Mr. J. P. De Pagter of the House of Gurney led the tour around the city where more nurseries and fine gardens were viewed, then the tour disbanded and the members returned to their homes. It was all very pleasant and we are very grateful to the many that worked to insure its success.

Early in December, two shipments of apples arrived in Victoria, B. C., en route to England, one of 1,000 boxes and the other of 1,400 boxes, the varieties being Jonathon and Ben Davis. The Japanese government is subsidizing the silk growers to pull their mulberry trees and replace them with apple trees, on account of the unprofitable prices received for silk. The varieties planted are all American, Winesap, Jonathon, Ben Davis, McIntosh, Rawle's Janet and Delicious.

I love birds and I have a feeding tray built on my window sill where I can easily put food in summer and winter, and in this way I have birds (common birds considered by man) coming every little while during the day to the feeder tray. Just as soon as the ground thaws in spring, the starlings poke their bills into the ground and get out the Japanese beetles as they are coming to the top. Last year many sections of my yard were actually plowed up by a flock of starlings, and among them were sparrows. My garden had fewer beetles than my neighbors and fewer bugs of all kinds. Some of my neighbors were overrun with cutworms and aphids, but I had no cutworms and fewer aphids than they. Yet I did not use one drop of poison in my yard; I kept my plants clean with ivory soap and water and the birds did the rest. I have seen the sparrows go over my plants for aphids and could see them grab a Japanese beetle, then fly down to the concrete and knock him apart.—Mrs. La Blanche Weeks, Hillsdale, N. J., in *Horticulture*.

BEEKEEPERS MEET AT GRAND FORKS

by
J. A. Munro



J. A. Munro

Plans are shaping up nicely for the joint summer meeting of the Minnesota and North Dakota Beekeepers Associations to be held at Grand Forks, North Dakota, July 28 and 29. This should be a most valuable meeting for anyone interested in beekeeping of this region. So plan to spend a couple of days renewing your friendships with fellow beekeepers and improving your store of knowledge on the subject of beekeeping.

Speakers already secured include Professor L. T. Floyd, Provincial Apiarist of Manitoba and Dean H. L. Walster of the North Dakota Agricultural College. Others are still to be heard from. It is hoped that a week or so before the meeting that a program will be ready for mailing out.

We are fortunate in securing such outstanding men as Floyd and Walster. They have always taken a keen interest in the development of beekeeping of the Great Plains Region. We are assured of hearing real messages of interest from them.

The two day session will include a program of talks and discussions on beekeeping, tour of commercial beeyards of this section of the Red River Valley and a picnic luncheon. The Grand Forks Chamber of Commerce will provide the coffee, cream and sugar.

NATURE DEPARTMENT

(Continued from page 76)

Willow Creek

Willow creek is the outlet of some half dozen sizable lakes in northwestern Deuel and southwestern Grant counties. It joins the Big Sioux about one mile below Watertown. Here is another larceny case. These lakes outletted preglacially by way of the south fork of the Yellow Banks river, to the Minnesota. The ice shut it off permanently and, as it melted northward over these basins a large glacial lake was formed. These waters dug Willow creek channel and it has since served.

Hayti Gaps

About five miles a little south of east from Hayti, in Hamlin county, is a broad gap in the coteau which is the divide between the Big Sioux valley proper and the large lake basins in south central Hamlin county. This bunch of lakes includes Poinsett, the state's largest. Originally this whole lake district—they are all connected—outletted through this gap into the Big Sioux

river, apparently. Subsequent erosive work has cut a lower outlet directly from the basin of big Poinsett to the same stream.

The Spear Point, Hidewood and Peemunky Creeks and the Giant Whirlpools.

Thrusting well out into the Big Sioux valley, like a mammoth spear point, from the high upland prairies to the eastward, just to the north of Estelline, in S.E. Hamlin county, is a peculiar, long, narrow, arm of land. It maintains about the same height above the big valley as the surrounding uplands. Its direction is nearly due east and west and at right angles with the valley. Its formation appears to be identical with and geologically a part of the upland from which it juts. From boyhood its incongruity has excited my keenest curiosity. It has always been a monstrous WHY to me. I believe I have solved the problem.

Hidewood creek, entering the Big Sioux about two miles above Estelline, is the outlet of Clear Lake and Goddard lakes, in Deuel county. Just to the south of the spear point there enters the big valley a little midget of a stream bearing the euphonious name of Peemunky Run. It occupies an immense old glacial water eroded valley and has a considerable drainage basin. Between three and four miles north of Estelline, entering from the western side of the main valley is the outlet from the large lake district in south central Hamlin county. This is the largest drainage system tributary to the upper Big Sioux.

Both to the north and south of the spear point are large circular basins, with what appears semi-circular beach lines in places. With the main stream half filling the valley with Keewatin water and the other streams mentioned, at full flood, each entering from the east along the north side of a basin, they would have the effect of a belt running half way around a pulley, by forming an immense whirlpool in each basin. These conditions would have the effect of saving the spear point formation from being eroded away by the main stream waters. Let me urge interested readers, the next time they pass that way, to stop on

(Continued on page 84)

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SECRETARY'S CORNER

by
W. A. Simmons



W. A. Simmons

We are in receipt of the following letter from Dr. Roy Chapman Andrews, Director of the American Museum of Natural History, New York, which is self explanatory. The magazine, as might be expected by any one who has read any of Dr. Andrews' articles, is intensely interesting. It is published 10 times per year and the price is \$3 per year and well worth it. Any of our readers that desire this magazine can secure it thru the writer who will be glad to send in your subscriptions:

"The American Museum is quite proud of its publication, Natural History Magazine. Considerable time and money have been spent in the past five years to develop this magazine, in order to awaken and promote a wide and intelligent interest in natural history, and to acquire and disseminate accurate information on the natural sciences that would be interesting and educational to the American people.

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"We would, therefore, be profoundly grateful, if you would see fit to send to us the names and addresses of your affiliates, so that we could acquaint them on this subject.

"Very truly yours,

"Roy Chapman Andrews,
"Director."

The summer meeting at Vermillion on June 11th and 12th was very well attended and, I think, a good time had by all. The flower show by the Vermillion Garden Club was very beautiful and complete. Dr. Over's display of peonies was worth going a long journey to view. On Saturday afternoon a program of informal talks was conducted, the President allowing most of those present to get any information they were harboring, off their chests. Professor L. L. Davis, of State College, told of his adventures in breeding tomatoes of a superior vitamin C content. He brought out the fact that there is a wide difference in the vitamin C content of different varieties, the smaller sizes usually containing more than the larger kinds and it is his endeavor to breed sorts of a superior vitamin content. The Vice President, Mr. Geo. W. Gurney, winner of a

beauty contest at one time, he did not say when, told of propagating the new Hansen hardy apricots and of getting a growth of four feet from the bud, this year. Mr. H. E. Beebe of Ipswich, chairman of the program committee for the winter meeting at Aberdeen, on November 30 and December 1, told of some of the speakers he had arranged for that meeting. Mr. L. G. Elsinger of Dell Rapids, told of using elderberry blossoms cooked in pancakes, in order to make that form of breakfast food more interesting. Mr. Chas. Benike of Clark, told of the good crop prospect in his vicinity and of the fine growth made by the trees set by the Shelterbelt people near Bryant. Mr. F. I. Rockwell, Extension Forester, told of the beautiful coffee bean tree, doing well in this state. Also of the community forests, where the community buys the land and the trees are set and maintained by the work relief clients. He told of the changing age picture of the population, the older people increasing in percentage and the birth rate falling. Also of dams being built at Pierpont, Andover and La Bolt and of lakes being established and trees planted at those places. Mrs. Florence Bervin of Centerfield told of the unusually good spring and everything doing so well. Mrs. Geo. H. Whiting of Bayfield, Wis., told of the importance of planting the home grounds, it not being a home till it is planted. She spoke of the beauty of her home at Bayfield, where she plans to spend the remainder of her days. She told of the fine row of Ponderosa pines, planted along the old highway into Yankton and of the fight the House of Gurney successfully waged to prevent the highway road builders from grubbing them out to widen the road, forcing the highway department to seek another section line for their new road, thus saving the trees. Mr. J. M. Downer of Freeman told of raising 12,000 soft maple trees from seed, in the early days and of raising quantities of apples, never selling any but giving away as many as 50 bushels per year. The President accused Mr. Downer of being 91 years of age, but Mr. Downer would only admit 90 of them. This may be true, though no one not knowing his age would guess within 30 years of this number of milestones. Mrs. Downer told of raising 70 tomatoes from a single plant by mulching it with straw and seeing that it did not dry out. Mr. Over told of the interesting tour arranged for the morrow and told of the starting time, etc. Dr. Eyster of the University told of the vagaries of seeds; of the cocklebur always containing two seeds, one growing the first year and the other, the next year. Also that most seeds were weakened by soaking, especially peas and beans. He advised that if quick germination was desired, it was better to sprout the seeds on a damp towel than to soak them, as in the latter case, the resulting plants would not produce as much as those from unsoaked seeds.



SPRING MARCHES ON

by
W. E. H. Porter



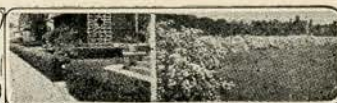
W. E. H. Porter

The chief advantage of hardy perennials is the fact that altho the first year you have to possess your soul in patience, from then on your garden is blessed with color in spring and early summer at a time when annuals are merely peeping thru. At present date, June 4th, my garden is a blaze of color, the only contributing annual being the ever willing *asperula azurea*, and it is getting difficult to keep a record of all the fresh blooms that appear daily.

May 21st. On this bright spring morning, with a brown thrasher pouring out its melody from the topmost branch of a white poplar, a sense of satisfaction permeates one. *Phlox subulata*, with its sheets of pink, pale blue and white, is now approaching its best as also is the gold mats of *Alyssum montanum* and nothing could be better for a marginal border. We owe a debt of gratitude to C. W. Wood of Copenish, Mich., for his introduction of a new rocket, *Hesperis steyeniana* from the Crimea, now breaking out into full bloom and fragrance in shades of white, thru pink and magenta to violet blue. The old fashioned "Dames Violet" *matronalis* is much later, developing a rank growth and weedy appearance out of all proportion to its small characterless blooms of purple and white. Other spots of color are *Thlaspi jankae*, white, *Arabic procurrens*, a really good rock cress suitable for poor land, the snow white blooms against rich dark green foliage making it one of our best dwarfs. These are both crucifers. *Veronica gentianoides*, pale blue spikes, the first veronica, a bright bed of violas in about every color and shade, an ever spreading mat of *Nepeta hederacea* (gill over the ground) dark blue interspersed thru dull green foliage. *Nepeta mussini*, a much richer, brighter blue on grey green foliage, nothing better for a border. Speaking of catmints, I am pleased to note that all the Souv. Andre Chaudrons have reappeared—enlarging their sphere with a later show of long tubular flowers tho it hibernates rather early. It is also an encouragement and a surprise to note reappearance of *Coreopsis tripteris*. Last year some seeds were sent me to try out as an annual, but unfortunately a heavy fall frost prevented even one flower from maturing. We are fortunate in having a hardy perennial *coreopsis* for North Dakota that needs no protection, for all my plants have come thru. The winter annual *Asperula* also begins to throw mauve shade over the border and best of all *Daphne cneorum* has after

all decided to blossom; my bush seems to be doing better since a spreading growth of violas provide evergreen shade. *Daphne odora*, a broad leaved evergreen, apparently winter killed to root, *D. mezereum*, only installed this spring so have no data; however, new foliage seems to be immune to frost and wind burn and being deciduous, will probably be hardy; saw my first catbird in the shrubbery May 23rd. Light frost, apparently no damage—seed leaves of *Cobea scandens* burned, but plant unharmed as top soil is getting warm. Hansen's hardy apricots leafing out; these trees arrived early in April and owing to frozen condition of ground were not planted as deep as they should have been but it seems to have made no difference, whereas my so-called hardy Russian Superb has again killed back severely and at present shows no activity. We are fortunate that nurseries in the Dakotas are giving the public a chance to get Dr. Hansen's introductions in their own home lots. My red silver crab, said to be the most beautiful of ornamentals, is leafing out to the very top; it was planted late in October, 1937; also one of Siberian black currants planted at the same time shows blossoms.

May 25th. First tulip out, a few *Lynchis fulgens* now well up, show dark red foliage; our Chinese elm leafing out later than American white elm. May 26th. New England bracken fern coming up wherever planted, seems spreading; a hardy perennial in N. D. in full sun and dry land. Saw Baltimore oriole in grove, earlier than usual. May 28th. Hot south wind, 79 in shade. Blooms noted, parrot tulip, common purple lilac, a Siberian crab, common thorn *Lotus corniculatus*, yellow fragrant pea like flowers—ivy leaves. This keeps going up to October frost, an orange potentilla, blossoms short lived, hardy worth keeping in garden. May 31st. *Penstemon crandallii*, an ever increasing mat of evergreen heather-like foliage shot thru with bright blue bell-shaped flowers, which also form a perfect deep fringe all round; this very hardy, charming perennial qualifies with *Phlox subulata* as a leader of our North Dakota early flowers; a dry barren, very exposed hillside are apparently just the right conditions for *P. crandallii*. June 1st. *Erodium chrysanthemum*, pale primrose, from seed sown a year ago also *E. supracanum* pink, both these *erodiums* have the most beautiful silver foliage; *erodiums* seem to be hardy in N. D. with one requirement, perfect drainage; cold damp soil in April eliminated half of mine this spring. *Dianthus neglectus*, a dwarf matted carnation—single dark pink with white eye, very fragrant. *Lamium maculatum* (pink dead nettle), very showy foliage variegated white. June 3rd. Most remarkable; all my *aquilegias*, crimson star columbine, are coming blue this year, possibly due to the depression. Am glad to note at last, one bloom on my Leon Gambetta hybrid lilac.



MANITOBA NEWS LETTER

by
W. R. Leslie



W. R. Leslie

part of the elm seed is developing.

Apricots and Chinese Wild Peach probably suffered somewhat from low temperatures but Siberian, Manchurian and Scout Apricots are swelling their fruits in promising manner. The Wild Peach has not at any time set seed here out of doors.

The week ending May 21st exhibited much charm. Two outstanding aristocrats were the Fragrant Viburnum, or Viburnum carlesi and the Rose Daphne. The former is the earliest of its group to flower, preceding by a week its cousin, V. lantana, the Wayfaring-tree. Blossoms are in a round umbel about three inches across. The florets are bright pink which fade to creamy white. The fragrance emitted is unusually sweet and rich, stirring the memories of Trailing Arbutus, Frezias, and other quality favorites. The Rose Daphne plant is prodigally arrayed with rosy heads. This little evergreen shrub never fails to reward its friends with beauty and fragrance for several weeks each spring. The Fragrant Viburnum is somewhat less dependable but seldom fails.

Apple blossom time at the Morden Experimental Station saw the return of Dr. N. E. Hansen, Professor Emeritus of Horticulture at the State College, Brookings, South Dakota. This notable man, who has produced more of the recognized varieties of fruits useful to Canadian prairie gardens than any other Institution, and who has made eight plant hunting expeditions to Europe and Asia in the interests of prairie horticulture, although past the milestone known as three score years and ten, is active on new long term apple and plum breeding projects.

His outdoor breeding this spring began in April in Southern Missouri. A snow storm and frost injured the earliest work. Dr. Hansen recognizes the virtue of late blooming varieties, and at Morden he was partial to parents such as his own Olga and the Ottawa varieties Rosilda and

Piotosh which bloom several days after many other crabs and apples. Choice of tardy bloomers among plums and sand cherries are preferred also for the purpose of developing varieties which, opening their flowers leisurely, may produce crops of fruits in seasons when those of early blooming varieties are lost to catchy May visits of Jack Frost.

The Hopa crab was developed by Dr. Hansen by crossing the Red-vein crab of Turkestan with the Siberian crab. Red Silver, of similar breeding but with more color in the leaves and still deeper bloom, was selected by his son, Carl A. Hansen. The introduction of the red-vein blood promises to revolutionize crab and apple growing. A number of varieties are now available of good size with pink to purple maroon bloom, dark purplish bark and reddish wood. They tend to be especially rich in pectin, and Morden cooking tests reveal some strains which have jelled juice even when canned in the ordinary manner.

The return of Dr. N. E. Hansen in early September to gather his fruits is anticipated. The staff of the Morden Station enthusiastically look forward to many annual returns of the Dean of American Fruit Breeders to this Station, when they may enjoy working close to him on neighboring trees as fruit tree chromosomes are mixed up towards more and more improvement in prairie fruits.

The season of French lilacs at the Morden Station has been noteworthy in point of abundance, size and persistence of bloom. There are hundreds of varieties to choose from and the visitor who is only casually acquainted with modern lilacs soon becomes bewildered. The following list among double-flowering types were impressive:

White—Edith Cavell, Ellen Willmott, Mme. Lemoine, Mme. Abel Chatenay.

Pink—Leon Gambella, Mme. Antoine Buchner, President Viger, Carmen, Marechal Lannes, Belle de Nancy, President Fallieres.

Reddish—Mrs. Edward Harding, Edouard Andre, Paul Thirion, Mme. Leon Simon, President Loubet, Etiole de Mai, Desfontaines.

Blue—Condorcet, Abel Carriere, Emile Gentil, President Grevy, Comte Adrien de Montebello, Godron.

Mauve—Charles Sargent, Marc Micheli, Maurice de Vilmarin, Victor Lemoine, Claude Bernard, Jean Mace.

Purple—Violetta, Paul Hariot, Charles Joly.

Practically all lilac bloom fades with age and the color descriptions and classifications may well vary as to period of bloom when observations are made. An example is the variety Conga. In contrast Volcan and Pascal retain their rich purple hues comparatively well.



NEWS NOTES

by

C. B. Waldron



C. B. Waldron

The only people who have had flower gardens worth while up to the first week in June have been those that had judgment and foresight enough to plant tulips. Except for these splendid showy flowers, most gardens would have little of interest until the iris comes into bloom about two weeks after the tulips have gone. In looking over the tulip plantations this spring, we have noted a considerable difference in size of the plant and flower and the question arises as to what might cause this difference. Our own experience might be worth noting, since it seems to result in very large and showy plants that continue in bloom for a long period. About every second year we add a generous coating of very well-rotted stable manure, forking it in to a depth of several inches. This is done at the time the new bulbs are planted, or at the time the bulbs are dug up, divided and replanted. Some people think that because the tulip bulb contains a large amount of stored food that fertilizer is not necessary, but when it is remembered that the tulip bulb, shortly after planting in the fall, sends out an abundance of roots that feed the plant the following spring, and, in fact all thru the summer until the leaves wilt and disappear, it will be seen that rich soil is important. This is particularly so with Darwin tulips, in which long stems and large flowers are more important than with the early blooming varieties.

We have found, from experience, that generous protection during the winter is also an important factor. A few years ago, a bed left unprotected made very poor growth the following spring and the majority of the plants failed to bloom at all.

The old-fashioned tulip bed, which was planted by removing the surface soil and setting the bulbs in some definite pattern before replacing the soil is not seen much, if at all, in late years. The more appropriate arrangement seems to be to place them in a border where their place will be taken later in the season with gladiolus and any of the annual plants. A very good arrangement is to have them placed in front of a row of peonies with a row of Dwarf iris at the outer edge of the bed. The iris, of course, comes before the tulips, while the peonies are just in bud when the last of the Darwins pass out.

It is probably not necessary to mention that

the tulip bulbs should be dug every second year and separated. Some of those that we planted a year ago last fall sent up four flowering stalks this spring, and, of course, at the base of each of these is a new bulb. There is hardly any other investment that one can make that will increase his earnings to that extent. In buying tulip bulbs, therefore, we are making an investment that will last throughout our lives and give a very substantial return in interest each year.

* * *

The question of pruning is one that is always before us. Just now, the inquiry often comes up as to whether shrubs can be pruned at this time of the year or not. As a matter of fact, for most shrubs this is the best time of the year. We don't like to prune in early spring because that cuts down the current crop of bloom, but as soon as the spring is over the old canes of the Spirea, Honeysuckle, Hardy Roses, Cotoneaster and Red Dogwood, and any of the other shrubs of a similar nature, may be pruned by cutting entirely the older canes. All the Red Dogwood canes two years old, or more, should be removed, and with the Spirea and Honeysuckle nothing over three or four years old should be left. This permits the shrubs to constantly renew themselves so that the blooming area is compact and close to the ground so that no naked stems are in existence. There is no object in leaving more than seven or eight canes in any flowering shrubs as the greater number cuts out the light and tends to kill off the interior branches. If this pruning has been neglected in early summer, it will be better to let the shrubs stand until fall, rather than do any pruning in the middle of July, as the shoots coming after that will not get large enough to do so much blooming, or they might fail to mature and winter kill as they have with us on the few occasions when this mistake was made.

* * *

The Walnut trees that were planted on low ground some eight years ago have made a remarkable growth, and even during the dry season have extended themselves from a foot and a half to two feet each year. On the other hand, trees only a short distance away in good loam soil, but in a higher situation, have made less than a fourth of that growth. This would indicate that it is not worthwhile to plant the Walnut unless one is able to give it an abundance of water or has a very favorable natural situation. The trees this spring are full of bloom and a full crop seems assured.

We will be glad to distribute nuts this fall to anyone who will promise to plant them instead of crack them.



BOOK REVIEW

by
W. A. Simmons

Garden Bulbs In Color, by J. Horace McFarland, R. Marion Hatton & Daniel J. Foley. Published by The Macmillan Company, 60 Fifth Ave., New York. Price \$3.50.

With these authors, the quality of this book can be readily imagined. There are 275 beautiful illustrations in color, in addition to many others showing the form of the flowers in black and white.

John C. Wister in the foreword says: "Dr. McFarland has brot to this book the same care and accuracy which characterizes his recent works. Like the two preceding books, the publication is possible only because the Mount Pleasant Press, under his control, has for so many years published well-illustrated bulb catalogs for many leading seed-houses, bulb dealers and nurseries." Sixty pages are devoted to tulips with 46 varieties illustrated, making this a wonderful source of information for reference when making out an order for bulbs. The difference between the different divisions, Darwins, Cottage, Breeder, etc., are explained and illustrated in a manner to impress it on one's memory, also the original source and the history of their development and improvement is given in an interesting manner. Narcissus are given 44 pages, 55 illustrations; this, the author says, is one of the world's oldest cultivated flowers and the first of the more important bulbs to "brighten our spring gardens." The lily lover will find 50 pages devoted to this lovely flower and 46 varieties described and illustrated. It tells of the easy ones that the beginner should attempt at first so that confidence may be acquired in attempting the more exacting and more beautiful ones, and gives full directions for success with the latter sorts. Then "other bulbs" are given 135 pages, in which 158 varieties are described and pictured. The more important ones such as Dahlias, Gladiolus, Hyacinth and Iris being given many pages while some of the lesser bulbs are given but one, but full cultural directions are given to all. Illustrations in color are really the only kinds that carry much significance in the case of flowers and probably all authors of garden books would much prefer using them, but few are able to do so. Because of the circumstances narrated above, the authors of this book were able to, and did use them and have produced a very beautiful and valuable book that should be in the library of every garden lover. It is not only a book to be read with enjoyment but a reference book of great value that every reader will want to own and have always at hand.

NORTH DAKOTA STATE PARKS

by
Dr. Geo. F. Will, Bismarck



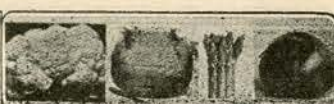
Dr. Geo. F. Will

With the great increase during the past decade in automobile traffic and the accompanying shortening of working hours for large portions of the country's population, a very much increased need for recreational facilities on a nation wide scale has arisen. Our National Parks each year are visited by many additional thousands of people, the number running into several millions last year and being much higher already for this year. Together with this increased interest in our National Parks has come all over the country a demand for similar areas on a lesser scale to serve states and counties. The park movement has increased in every state to a point where parks and park maintenance are an important part of many state governments.

North Dakota has had a nucleus of a park system for a great many years. More than thirty years ago, through the instrumentality of Dr. Libby and some of the pioneers of our state, the State Historical Society was organized, and in that organization means were provided for the acquisition and preservation of definite areas as State Parks. The purpose was primarily to preserve sites of historic interest and plans were put into effect very soon after the organization of the society to purchase or acquire some of these tracts.

As the holdings of the Society gradually increased in the number of historical areas various local communities saw that it might be advisable to place in a recognized state park system some of the recreational areas as well so that gradually a number of these were added to the historical areas. Thus the holdings of State Parks by the Historical Society came to be divided into historical parks, recreational parks and historic sites. These latter, of which there is a considerable number, are very small areas set aside or purchased for the future erection of a commemorative marker and are in no sense park areas.

The Historical Society, until very recently, has felt that the very meager funds which it has received amounting to only a few hundred dollars for each two-year period, were best invested in the acquisition of important historical sites, and consequently development has always been deferred. The wisdom of this policy can be judged from the large number of well distributed areas now belonging to the state as park areas. With the coming of the depression, however, and the



making of jobs for our citizens on a relief basis the opportunity came to our state to get some really worthwhile park work done. It was soon discovered that the only way in which such work could be handled by the CCC park camps was through a recognized state agency for parks. Tentative arrangements were made for the camps to work under the Historical Society set-up, but it was soon discovered that our State Park Administration needed a revamping. Consequently in the winter of 1935 the legislature passed a bill authorizing a State Park Committee to be appointed by the directors of the Historical Society with the approval of the Governor, but to be an independent committee having charge of all state parks and state park affairs. This committee was promptly organized. It consists of: Col. Dana Wright of St. John, Prof. O. G. Libby of Grand Forks, Mr. Robert Byrne of Bismarck, Mr. Russell Reid of Bismarck, and myself. Russell Reid is the secretary and administrative officer, merely continuing the work which he had already undertaken before the bill was passed.

Under the bill this committee has full supervision of all park areas, authority to make and enforce rules for them, authority to provide maintenance where necessary and to purchase additional sites and areas after proper examination as to their fitness. This authority has enabled it to cooperate with the federal government in keeping employed, first five and at present four full time CCC Park Camps. These camps have given North Dakota an opportunity to advance beyond anything imagined possible a few years ago in its park development. The government in the CCC camps alone has given us more than a million dollars worth of work and material and is continuing to add to this sum in value all of the time. This work justified to the legislature the necessary appropriations to cover maintenance and administration of parks. By means of some \$15,000 over a four-year period, we have been enabled to keep within the state these park camps and enjoy the benefits of their work in park areas. In addition it has been found possible within the last year to do a good deal of work in marking and improving some of the minor park sites through WPA projects. In this way it has been possible to combine in the same sites both recreational and historical interest. Sites have been marked, fenced and picnic facilities provided in addition to the marking of significant historical material at a number of points and a good deal more of this sort of work is likely to be still possible. We hope that this will include rather an ambitious development in the partial restoration of old Fort Abercrombie.

The CCC park work of course has made possible the development only on the large sites.

(Continued in August edition)

NATURE DEPARTMENT

(Continued from page 78)

the western end of this strange formation and take a keen look at the surrounding landscape.

Medary and Deer Creeks and Warren's Gulch

The Medary—named after an early governor of Minnesota—heads in the territory to the north and east of Elkton, in Brookings county, with many little fan-like feeders, some of which cross the Minnesota line. It passes about one mile south of Aurora and enters the Big Sioux in the northern edge of Moody county. Deer Creek, joining the Medary near Aurora, is its chief tributary, and has a more interesting history.

It is the outlet of Oak lake, near the northeastern portion of Brookings county. Its basin drains quite an area in southeastern Deuel county. Oak lake preglacially outletted, by way of the Lac-qui-parle, into the Minnesota.

When the melting Keewatin ice uncovered its basin, between the ice front and the high coteau about its southern rim, its mounting water was forced to dig a new route toward the sea, and the result is highly picturesque Warren's Gulch. After the ice had left its deposits the new outlet was lower than the old and it has remained. After passing through this new channel these waters united with those from the Lake Hendricks basin, which were forced to the southwest for almost identical reasons.

These united waters found their way to the Medary by way of Deer creek. The tremendous trench they excavated is evidence of the large volume of water and earthy materials transported. With the disappearance of the ice the Hendricks outlet returned to the Minnesota.

Glacial Water Outlet of Lake Benton, Minnesota

A situation very similar to those described covering the Willow, Hidewood and Deer creeks was repeated at Lake Benton. Another glacial lake was formed in its uncovering basin and this water forced to the Big Sioux. The enormous old glacial water valley, leading from the southwestern extremity of the lake basin, almost directly to the big river, in Moody county, plainly tells its own story. With the ice gone its waters returned to the Minnesota.

N. O. MONSERUD

Landscape Architect Tree Surgeon

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