

NORTH AND SOUTH DAKOTA HORTICULTURE

OCTOBER, 1938

*South Dakota State
College Library*



A beautiful 50-year-old Weeping Birch tree, growing in the yard of A. J. Keith, 415 N. Duluth Ave., Sioux Falls, S. D.—Courtesy of the Argus-Leader.

Plan to Attend Our Annual Meeting at Aberdeen, November 30 and December 1

634.05
77 811 63



THE CANVAS-BACK

by

O. A. Stevens



O. A. Stevens

This duck was first described by Alexander Wilson in 1814. Previously, both it and the Red-head had been compared with the Pochard of Europe. The canvas-back nested in the interior of the country which was then unknown, the northern prairie region where we now live. Wilson correctly observed that they came to the east coast in October, where great numbers of them gathered in the fresh tide water bays and fed upon the eel grass or wild celery as it is often called. This plant has scarcely anything in common with celery, though as he noted, "the root is white and has some resemblance to celery." The plant had been called *Vallisneria* 100 years earlier after an Italian naturalist. (either he misspelled it or preferred to change it). We preserve his spelling for the dock. So Wilson named the duck *Anas valisineria*.

Wilson observed that the birds were called canvas-backs at the Susquehannah. Evidently this came from the color of the wings as the birds rest on the water, and emphasized by their habit of gathering in large "rafts" where they might well look like a sheet of canvas spread on the water.

The canvas-back belongs to the group known as diving ducks, which feed largely upon the underground parts of water plants. These they secure by diving to a depth of several feet. Wilson accurately observed that the eel-grass grew in 7 to 9 feet of water, that the ducks dived down to secure the roots and the discarded leaves were washed up on the shore. Seeds of wild rice, water lilies and pondweeds, the tubers and young shoots of such plants, together with a few small animals are also eaten by these birds. In winter in the Mississippi delta region, they feed chiefly upon the tubers of the arrowhead, often called "duck potato."

The entire breeding range of the canvas-back extended from southern Wisconsin to Alaska and northern New Mexico. In winter they were found to some extent all along the Pacific coast, locally in the interior of the western states and from southern Illinois to the Atlantic coast and the Gulf coast. The principal breeding area lay in the prairie country from northeastern South Dakota to northern Saskatchewan. In the southern part of this area they have, of course, greatly decreased since the country was settled. One writer, referring to Minnesota about 1885, mentions that

Vol. XI.

October, 1938

No. 10

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

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

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

SOUTH DAKOTA OFFICERS

Dr. N. E. Hansen, President Emeritus	Brookings, S. D.
F. X. Wallner, President	Sioux Falls, S. D.
Geo. W. Gurney, Vice-President	Yankton, S. D.
W. A. Simmons, Secretary and Editor	Sioux Falls, S. D.
H. N. Dybvig, Treasurer	Colton, S. D.
Mrs. F. Briley, Librarian	Dell Rapids, S. D.

MEMBERS OF THE EXECUTIVE BOARD

H. E. Beebe, five years	Ipswich, S. D.
Max Pfaender, four years	Brookings, S. D.
S. H. Bober, three years	Newell, S. D.
J. B. Taylor, two years	Ipswich, S. D.
E. A. Gates, one year	Rapid City, S. D.

NORTH DAKOTA OFFICERS

Mrs. M. B. Kannowski, President	Grand Forks
Rev. J. R. McNeil, First Vice President	Carrington
E. C. Moran, Second Vice President	Medora
H. A. Graves, Secretary	Fargo
E. L. Shaw, Treasurer	Fargo

TABLE OF CONTENTS

	Page
The Canvas-Back, O. A. Stevens	110
Newsletters, H. A. Graves	111
Nature Department, H. L. Hopkins	112
Publicizing Honey, B. E. Groom	113
President's Corner, F. X. Wallner	114
News Notes, C. B. Waldron	115
Secretary's Corner, W. A. Simmons	116
Manitoba News Letter, W. R. Leslie	117
Book Review, Mrs. F. Briley	118
North Dakota Visit, F. L. Skinner	119

there were vast numbers of canvas-backs but not so many as formerly. By 1900 few of the nesting birds remained. North Dakota never had the wild celery nor as many of the other food plants as did Minnesota. The decrease of the birds has been due in part to excessive shooting. On account of their habit of collecting in large numbers, their answering readily to decoys and being relatively unwary, they were killed in large numbers.

The canvas-backs are ducks of the open water.

(Continued on page 120)



NEWSLANTS

Harry A. Graves



H. A. Graves

Attendance at the annual meetings of the Vegetable Growers' Association of America, held in Detroit August 29, 30, 31 and September 1, followed by several days in Ontario and Manitoba, made possible first-hand knowledge of many different phases of horticulture.

Talks and commercial exhibits at the meetings were very interesting. A celery transplanter that watered in the plants created considerable interest. The use of colored slides made from positives of the new color film were used to good advantage in connection with illustrated talks at the meetings. There appears to be a big future, especially in the horticultural field, for the use of this colored film in so-called candid cameras.

When a film is completed, it is returned to the company manufacturing it. The cost of developing is included in the original cost of the film. The film is returned to the cameraman as a positive strip in more or less natural color—depending upon the skill of the photographer. These colored positives may then be cut up and made into slides at home by the use of simple kits. I have seen many of these slides projected from a two-inch projector with very natural color effect.

One of the many interesting talks given at the meetings was a report on asparagus culture in Michigan by Kermit Washburn, president of the Michigan Vegetable Growers' Association. In Michigan, as in North Dakota, the recommended practice in regards to asparagus tops is to leave them stand in the field over winter. In Michigan, they are disced into the soil in the spring to furnish additional organic matter.

Visits to the large vegetable markets, both in Detroit and Lansing, were a revelation. The Detroit market is approximately one mile long with trucks standing close together in the stalls.

A tour of the Ferry-Morse Seed Farm at Rochester, Michigan, was followed by a visit to a large canning factory where sweet corn and lima beans were being canned during our visit. Three hundred women were at work sorting lima beans on moving conveyor belts. Outstanding items of interest seen at the Vaughn Seed Farm were several fields of Glads, of which they had 125 acres all in bloom.

The many fine old trees growing on the campus of Michigan State College, at East Lansing, and Ontario Agricultural College, at Guelph, make an impression not soon forgotten. Lawns

and other plant material also show the effects of more precipitation than we have here in North Dakota.

The general landscape in Michigan and Ontario holds the interest of the westerner, especially because of the many large trees scattered at random in the cultivated fields. Many of these were beautiful Sugar Maples with their well-rounded heads easily recognized from a considerable distance. Questioning an Ontario farmer regarding this practice, I found that their many small fields, or "lots" as they call them, are part of a rotation that includes a year or more of pasture. The random trees are for shade for livestock. A beautiful and humane idea, although to me it seemed rather inconvenient.

Wild carrot grows everywhere in Michigan and commercial carrot seed production is impracticable due to hybridization with the wild forms.

Horticulture at Guelph gives considerable attention to floriculture. Many new Glads were observed. Vagabond Prince, a smoky-pink of Prof. Palmer's, was especially outstanding. Fruit and vegetable work is carried on largely at the Vine-land station in the Niagara Falls area. Time did not permit a visit to this latter station.

A very interesting day was spent next on the horticultural plots at the University of Manitoba with Prof. J. H. Walker, horticulturist. Early Baltimore, a very firm and meaty tomato, came in for its share of praise. Many fine things in both vegetables and ornamentals were observed. In addition, a visit was paid to a very progressive truck garden near St. Vital, Manitoba. This gardener, located in a loop of the Red River, was using an overhead irrigation system and obtaining good results.

Within 250 miles of the Skinner Nursery at Dropmore, Manitoba, I decided no better time would present itself for a visit. Two rather unpleasant nights on the train were quite overshadowed by the pleasure of a day with Mr. Skinner on his 60-acre nursery of hardy plants. Mr. Leslie, in his Morden Newsletter for last month, has mentioned many striking things found at Mr. Skinner's. May I just add to the list the hardy Siberian Larch, *Larix sibirica*, a fine, rapid growing specimen tree with light green foliage that turns a bright gold in autumn; the Captain Hayward rose, hardy on its own roots and blooming the day I visited the nursery in spite of the fact it kills back each winter.

Dense plantings of Scotch Pine in a very thrifty condition spoke well for this tree for attractive windbreak purposes. Many more things deserve mention but nothing short of a personal visit can acquaint one with the wealth of beautiful and interesting things to be seen in this nursery located 250 miles northwest of Winnipeg and about 140 miles north of the Canadian border.

NATURE DEPARTMENT

by
H. L. Hopkins

Medicine Lake**H. L. Hopkins**

It is located near the southwest corner of Township 118 N. of Range 54 W., in central Codington county, South Dakota, about eighteen miles northwest of Watertown.

It can be reached from U. S. highway 212 (blacktopped) at a point 14 miles west of Watertown and 5 miles east of Henry, by good graveled highway, or from the north, northeast or northwest, over good graveled highways, by way of Florence.

Minnepejuta

This is the beautiful name by which it was christened by the great Sioux Indian nation. It means "healing" or "medicine" water. It is a mildly acting natural laxative and a very effective cure for all human skin troubles. This is especially true of the stubborn eczemas.

Buoyancy

It is the most buoyant water in America save only that of Great Salt Lake. It is ideal water in which to learn the useful art of swimming by child or adult beginner. Its buoyancy, because of its heavy mineralization, makes it the easiest water in America—excepting only Salt Lake—in which to float or swim. Aside from its healing and health-giving properties it is a pure joy to bask, in mid-season, on its shimmering bosom.

Analysis of This Water

By U. S. Bureau of Chemistry

	Parts per Million
Magnesium Sulphate (Epsom Salts)	30,260
Sodium Sulphate (Glaubers Salts)	12,223
Calcium Sulphate (Gypsum)	3,007

Sodium Chloride (Common Salt)	983
Calcium Bicarbonate	651
Calcium Carbonate (Chalk)	91

Total 47,215

The Coming Carlsbad of America

As its fame spreads with the lapse of time the site of this realing water will become one of the most noted spots in America. It is attracting the serious attention of men of the medical profession and is giving joy and healing to increasing hundreds of people annually. The U. S. Bureau of Chemistry is experimenting with this water and there is a possibility that the government may eventually acquire it and establish a national park and sanatorium.

Topography and Geology

The Medicine Lake environs, for the student of topography and geology, are highly intriguing and puzzling. The basin is in the midst of a giant moraine. Present topography strongly indicates that this basin represents a portion of the channel of a well developed preglacial water course which was disrupted by the Keewatin ice. Leading into and out of this little basin are no less than four large esker formations. It is the most heavily eskered district that I know of. I have been studying these problems for more than twenty years. They are tremendously complicated and fascinating. Some of my final deductions are still embellished with sizable question marks.

Glacial Water Beach Lines

Following the disappearance of the ice the water in this, as in all basins, remained at a much higher level than at present for a long period while the thoroughly saturated soil and minor basins of its drainage area were emptying and seeping into its basin. During this period it formed and has left distinct beach lines which are easily traceable some fifteen to twenty feet above present or normal water levels. These old beach lines are especially conspicuous around its southern lip. Many other basins also show them.

Life Forms in Medicine Lake Water

I have discovered but two forms of animate life in this water. One is a small wriggler, much like the larva of the mosquito. The other is very small in diameter and about one-half inch long. The latter apparently has leg-like appendages in front and a tail with propelling fin like a fish. The same, or very similar forms, are found in Salt Lake. Apparently no other animate life forms can exist in these heavily mineralized waters. There is a moderate growth, over the more shallow portions of the basin, of a cellular stemmed plant resembling some forms of sea algae.

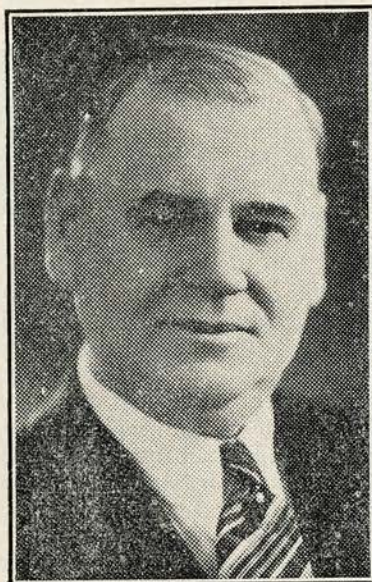
Source of its Minerals

The source of its mineralization is not positive.
(Continued on page 120)



PUBLICIZING SWEET CLOVER HONEY

by
B. E. Groom, Fargo



B. E. Groom

When I went to Cavalier county, now nearly 40 years ago, the future possibilities of various lines of production were always a favorite topic for discussions. I very distinctly recall hearing a man from an eastern state predict that some day North Dakota would be producing honey. He said that any country that could produce wheat, could produce honey. That remark prompted a cynical Irishman to observe, that when we got bees in North Dakota we would have to find a breed that would make honey out of snowballs.

Times and conditions have changed. With the introduction of sweet clover the production of honey was immediately undertaken, and as we see it, a marked success has followed the initial effort. In just a few years our state has become one of the leading honey producing states. Our sweet clover honey is a product that is not equalled or excelled in other honey producing areas. The trouble is, too few people know about the quality of this North Dakota product. Too few people are producing it and enjoying it, and so far, I know that comparatively little effort has been made to properly develop the honey industry in North Dakota.

To get a little idea of honey sales, I went to one of the leading grocers in Fargo the other night and secured the following data on some products that are commonly purchased: Karo syrup is selling in 10-lb. pails for 61c; granulated sugar is selling in 10-lb. lots for 55c; blackstrap New Orleans molasses was quoted at 65c for a 10-lb. pail, and the leading brand of honey that was on the racks was priced at \$1.03 for a 10-lb.

pail.

I have fed a good many head of cattle, hogs and sheep, but never run an hotel or restaurant, and do not know just how these commodities can be used to advantage, and as a matter of economy for a person feeding the public. Later, I asked a few questions from a hotelman about this, and he frankly stated that he did not know why more honey was not used, for at the prices quoted, the commodities that he could put on the table, it did seem to him that honey would be the cheapest in the lot. I do know that in serving cakes at breakfast, the comparison in honey and karo syrup should all be in favor of an increased use of honey. When they serve honey they put a small amount of it on a butter plate, while the karo syrup is served in pitchers, and ordinarily a much larger quantity of it is used with each order of cakes. It does seem as though a gallon of honey would go a great deal further than two tins of karo syrup. The bulk of the New Orleans molasses is not suitable for table use, and it is pretty hard to make a comparison in connection with that. This leads me to believe that the honey producers have a little job in doing some propaganda work for their product. I do not know of any commodity that offers a better opportunity for pleasing publicity than honey. It does seem to me that a good smart advertising man could do a real job in publicizing the merits of honey, and thereby create a much larger demand for this product.

Since the high quality of our honey began to be recognized, the Greater North Dakota Association has undertaken to give it some publicity. In fact, I think that we have done about as much to publicize the merits of this North Dakota product as the producers. Plainly speaking, we have always felt that the honey producers in North Dakota were about the poorest bunch in the state, in the matter of letting the public know something about the merits of their product. Time and time again, I have solicited different people to assist in the preparation of exhibits at large shows, conventions, etc. An exhibit in such places attracts attention, and if something real attractive is put on, it naturally creates a desire on the part of those attending to try that product. I know of no product that we produce in North Dakota that offers better opportunity for propaganda than our honey crop.

In these days we hear a great deal about production, over-production, over-consumption, and all that sort of thing. I don't believe that the country is producing more honey than it can and should consume, and I do believe that we can increase that by adopting the right kind of a publicity program. To date, the Department of Agriculture has not taken any action to cut our pro-

(Continued on page 118)



PRESIDENT'S CORNER

by

F. X. Wallner



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

The Great Plains official Horticulturists' tour started at Wattertown, S. D., Monday morning, August 15., the first stop being at the State Orchard, a few miles south of the city, to inspect the sand cherry seedlings that Dr. Hansen has brought through many generations during the more than 40 years he has been working with them. Most of us ate plenty of the fruit and found it uniformly pleasing and the size was fully equal to that of the sour cher-

ries. Growing in bush form, from 3 to 4 ft. in height, the fruit is easily and safely harvested and the black color seems to immunize it from bird attacks, though this may be only temporary, as the birds, like us, may eventually discover their quality. Brookings was reached in time for dinner and the afternoon was spent around State College grounds, inspecting the apricot plantings and other fruit and vegetable experimental plots. In the evening a banquet and program was enjoyed at the hotel. The tour was resumed early Tuesday morning, the first stop being at the Dybvig nursery and garden at Baltic. The State rose garden and orchard at Sioux Falls was reached at 10 a. m. and in spite of the fact that many of the new large hybrid plums were ripening, select seedlings of the Americanas were preferred by most of those that sampled them. From the State orchard the tour led past the sunken garden and swimming pool at Drake Springs, on south through the most beautiful residential district to our vegetable gardens at South Sioux Falls, on to Sherman Park, back to Terrace Park and down to the Cataract Hotel for dinner. The menu included iced, fresh picked Honey Rock cantaloupe, fresh picked 14-rowed Soo hybrid sweet corn, small sweet Spanish creamed onions, Ohio mashed potatoes, All Red, Ruby and Golden Bison tomatoes, Savoy cabbage slaw with green and red peppers, roast beef and Anoka apple pie. The drive, from Sioux Falls to Canton, on east on highway 18 to Garner, then south to Ames, is a thrilling sight for one that has not seen much tall corn. Iowa can indeed boast of tall corn and this was noted in the hundreds of sweet corn plots at the station and especially where field corn was used in the breeding stock. Early Wednesday morning, all gathered at the greenhouse, divided into different groups to inspect fruits and vegetables. Many new annuals were noted, a Picardy glad 5 feet tall from a No. 3 bulb; the labels came in for

much discussion but it was agreed that the perfect label was yet to come. The sweet corn breeding of Prof. Gabor was very interesting and I noticed Soo hybrid, a large 14-rowed narrow kernel, yellow ear that we had for dinner the day before, was one of the best. At 12, all returned to Memorial Union for dinner in a large, cool, comfortable hall. After dinner the 200-acre orchard was visited, where variety studies, orchard stocks and the seedling orchards were compared. It was noted that some were better on Hiberna stocks while others did better on Virginia crab. The orchard yielded 3,300 bushels in 1937 but is expected to yield 6,000 bushels this fall. The storage cellars were very interesting but no artificial cooling is used. At 4:30 we were driven to the federal nursery where all types of grasses and plants are grown for the erosion sections of that state. Trees and shrubs of many kinds are grown in the nursery, all types of machinery and seed cleaning devices were shown and explained, a narrow type tree digger for a 16 or 18 inch row would be just the thing for lifting carrots, parsnips and sugar beets. I should like to have one, it would beat plowing them out or digging by hand. A drive around the campus, the most beautiful in America, and the farms, totaling in all about 2,200 acres was then enjoyed. Dinner again in Memorial Union and the evening program and election of officers. H. L. Lantz is the new president, L. Kerr, Morden, Man., Canadian vice president, and the University of Minnesota and surrounding country will be next year's meeting place. The return trip Thursday morning was north to Clear Lake, Ia., where Sam Kennedy's up-to-date storage cellars were inspected. The potato storage is controlled by refrigeration, and early types of potatoes, as Warba, Ohio and Triumphs are kept perfectly up to May and 25 to 50 carloads are stored for winter. The onion storage is a large cellar holding several carloads but no refrigeration is used, but a drying system with fans. Eleven tractors are used on the 350-acre potato ranch, a 10-row potato sprayer is used seven to nine times on the 350 acres during the growing season. We inspected the potato sorter where 12 men were at a machine sorting and polishing a carload of Cobbler potatoes, being loaded. Onions are also run over this machine before they go to market. From here Mr. Kennedy and his foreman took us eight miles east where he has 120 acres of red, yellow, white and early type sweet Spanish onions on peat soil and are a fine crop, for this year. A crew of 25 men were going through the field pulling the last stray weeds so none would go to seed to bother, another year. A 65-acre field is a mile to the north. This field was damaged by hail and will not be as good as the regular globes. From Clear Lake we drove to Al-

(Continued on page 118)



NEWS NOTES

by

C. B. Waldron



C. B. Waldron

September is supposed to be a quiet month, horticulturally speaking, but it is about the best time of the year to take notes and plan for the coming season. It is the time, also, to go through the fall catalogues. Most of us will find it hard to resist the tempting offers of tulips and various perennials, most of which can safely be planted in the fall if they are given protection. It is the only season, of course, for planting peonies and spring flowering bulbs, and while we have our choice of fall or spring planting for the perennials, the work can usually be more leisurely and comfortably done in the fall.

Many will remember that last May, and even until the middle of June, their gardens were not making much of a showing. Modesty prevents us from naming one who had the passers-by stopped in their tracks by 150 Darwin tulips over two feet high, with blossoms the actual size of teacups. They lasted until June 10, and, until the peonies came, there was nothing else on the landscape to attract attention. That was their second year. After blooming, the bulbs all divided into three, or more, as is the manner of tulips, and now they have all been lifted, the larger divisions to be set back into the border as they will produce small to medium blooms next spring. The smaller ones are to be planted in the corner of the garden and given a year to reach blooming size.

To be perfectly fair to the Dutch, we should, perhaps, order a fresh lot of bulbs every second year. This system gives the surest results, of course, but unless one has more money than time he may consider it necessary to save his own bulbs.

Bulbs planted in the fall in moist soil should develop roots before the ground freezes. The freezing may be delayed with a mulch which should, of course, be left on all winter. These roots begin feeding in early spring and the size of the plants and flowers will depend partly upon their finding enough plant food.

A September drive from Toledo to Fargo afforded a good opportunity to study fall gardens. The outstanding annual for the whole distance was the petunia which seemed to be at the height of its season, though it had been blooming for weeks. Other noticeable fall blooming annuals

were the scarlet sage, cosmos and China aster (where these can be grown). Among the fall blooming perennials, the gaillardia and hardy asters seem to be indispensable.

Nurserymen now offer an alluring list of hardy asters of many colors, and if we would prolong our summer, we can hardly do without them. We would like to include the hardy chrysanthemums, but we are almost too far away from the peach belt.

Of course there are the dahlias that never seemed to have caught the fancy of North Dakota gardeners for reasons quite sufficient, perhaps. And then the gladiolas. We spent most of a day with them at the Minnesota flower show, coming away filled with thrills and delightful sensations. You have to believe it, they are right there before your eyes, but to those of us who can remember ever so far back, the newer gladiolas are such creations as we scarcely dreamed about.

Instead of five or six blooms opening at a time, we may now count up to twenty of large size and perfect form and with a bewildering array of exquisite colors such as no artist could successfully imitate.

Giving colorful accent here and there to your border, they will make you forget the beauties of the past as summer wings its way to the realm of things that are no more.

Ruby and MacDonald RHUBARB

Per 100 root divisions \$12.00

500 and over \$11.00 per 100

GUARANTEED TRUE TO NAME

A. R. MUNDAY
OAKVILLE, MAN., CANADA

N. O. MONSERUD

Landscape Architect
Tree Surgeon

Office—First National Bank Building
SIOUX FALLS, S. DAK.

PHONE 555

SECRETARY'S CORNER

by

W. A. Simmons



W. A. Simmons

A Minnesota member writes: "That was a fine article in the Post on water culture. It was surprising to us that such small amounts of the food would nourish the plants, but it seems as though one would have to be a pretty good chemist to succeed in it. It also occurred to us how much plant food is wasted in the earth." And we might add, how much water is also wasted, water being almost as precious as plant food.

A sister writes: "I have learned how to raise heavenly blue morning glories and have three very thriving vines full of buds and one has had blooms open three mornings. You soak the seeds, plant them in paper pots, water them hopefully; they finally show one or two sickly plants. You plant out, still in their pots (bottoms deleted), where you hope they will grow. They lead a sickly life for some time but finally give up the ghost. This soil in the pots which you carefully prepared, you dump onto a cigar box where you planted and transplanted the other things. Then after some time, you have your man set out from this box three plants of lavatera, raised from some old seeds you thought might grow. Later these plants want to run so you give them some long (6 ft.) cane stakes. When they still aspire, you add strings to a tree for now you are sure they are Burpee's hyacinth flowered white beans, that you also potted. Then one fine morning you sit up in bed and behold a lovely heavenly blue morning glory." Sounds easy, dont it?

Mr. Chas. Vitak, of Sioux Falls, thinks he has found the answer to the tomato grower's prayer in Dr. Yeager's new Ruby. When Mr. Vitak, who can easily lick his weight in wild cats, came to lift the plants for staking, he thought they were nailed down. He did not weigh the fruit but thinks there was fully 50 lbs. on each plant. The fruit was smooth and its taste delicious. He fertilized, both when setting the plants and in August and irrigated when necessary. Mr. M. E. Efting, of Sioux Falls, who neither fertilized nor irrigated, and whose plants consequently suffered considerably from the long dry spell in August, got the following yield from five plants of each of the varieties listed:

Penn State	38 lbs.	9 oz.
Bison	28 lbs.	
Break of Day	27 lbs.	7 oz.
Earliana	25 lbs.	6 oz.

Golden Bison	24 lbs.	7 oz.
Pink Heart	24 lbs.	6 oz.
All Red	20 lbs.	
Scarlet Dawn	18 lbs.	8 oz.
Tree Tomato	16 lbs.	11 oz.
Italian Red Pear	10 lbs.	

In his opinion Scarlet Dawn was the best tasting tomato of the lot. Probably by the time this is read Jack Frost will have cut down the gardens of many of our readers, but for those favored with a longer growing season or those in pockets, overlooked by this light-fingered gentleman, we wish to remind that there are many plants in the garden that can be potted up and brought into the house. Many of these will bloom on for most of the winter. We have had best success with Harmony Marigolds, Orange Flare Cosmos and Calendulas. We try to select rather young and small plants as these transplant easier and naturally have more life expectancy than older and larger ones. When the weather permits, we like to keep these transplanted plants out in the garden as long as possible before bringing them indoors, so they will become accustomed to their new container before having also to maintain life in a close and warm room. A neighbor has just brought in a large salvia, covered with lovely red blooms. This has been potted in a 1 lb. coffee can and I will watch this plant with interest, as success would add another to my list, for dependable indoor blooming. Many have recommended nasturtiums for the winter garden, but my experience with them has been disappointing, getting little but sickly vine growth from them. I also like to have a few common morning glories clamoring over the sunny window. Have tried the washed out "heavenly blues," but found them very niggardly with their blooms and really think the deep blue and the bright red of my two common sorts more attractive and they certainly are more productive in blooms.

A letter from Dr. Hansen tells of the heavy crop the Manchu apricots are bearing this year. It is to be hoped that the supply of these trees will soon catch up with the demand as it is something that should be in every home orchard. It seems to be entirely hardy, bears young and early, when little else in the way of fruit is found in the orchard and is a decided addition to our list of hardy fruits.

Next to the human form, the most beautiful unit in nature is a tree.—Prof. F. A. Waugh.

Apple-Bacon Pancakes—2 cups flour, 2 cups milk, 6 strips bacon (minced), $\frac{1}{2}$ cup finely minced apples, maple syrup. Blend all the ingredients and bake on a griddle over a rather slow fire. Serve with maple syrup.



MANITOBA NEWS LETTER

by
W. R. Leslie, Morden



W. R. Leslie

The first scheduled inspection in the August meetings of the Northern Great Plains Group, American Society for Horticultural Science, was a couple of miles south of Watertown, South Dakota. There Dr. N. E. Hansen, Professor Emeritus of Horticulture, State College, at Brookings, continues his extensive sand cherry breeding work. Tens of thousands of fruiting seedling sand cherries were surveyed. A large population of the succeeding generation were in seedling rows ready for setting in the new trial acres next season.

Visitors received several clear-cut impressions at the Watertown Station. In the first place, every bush seemed to be heavily productive. None of the fruit hanging on the morning of August 15 was what the workers at the Morden Station would call very large, and few were in the class known as small. Most fruits were typically purplish black or blue black when mellow ripe. An occasional one was clear yellow. A few had dark red skins, thus departing from the type color as do some chokecherry seedlings, with clear red skin. Most important of all, the flavor was remarkably uniform in its pleasingness. Not one bush of the hundreds tasted gave fruit heavy with bitterness nor stinging with astringency. In other words the native sand cherry, by persistent intelligent selection, has been raised many plateaus above the common level at which Dr. Hansen found it about 40 years ago. He has the fourteenth generation removed from the wild developing. Although he comments that it is not fully civilized yet and that it still has a little of the tomahawk under the skin, it must be admitted by the most obstinate gardener that the present South Dakota seedling sand cherries have been carried a long way up the mountain of improvement. The ruthless elimination of common types for 13 generations and the saving of seed only from the better kinds has turned the trick. Some of the best sand cherries now available, although not Bing cherries are very fair substitutes for some sweet cherries.

The annual field day at the horticultural Illustration Station at Kenville, Manitoba, was a series of surprises to visitors from farther south. Kenville is less than 10 miles from Swan River town in the renowned fertile Swan River Valley. The Valley lies north of the Duck Mountains, which mark the first prairie steppe northwestward from

Dauphin, and is hemmed in on the northerly side by the rounded but considerable Pasquia Hills, another link in the first steppe.

The uninitiated stranger would anticipate blueberries, raspberries, currants, gooseberries, cranberries, strawberries and sand cherries. He finds these and many fruits of bolder stature and characteristic of milder and more southerly climes. Crab apples abound, including the most aristocratic in this class of preserving fruit, namely Rosilda and Trail. The varieties favored in North Dakota, the Florence and the Dolgo, are in heavy bearing. Robin was laden with well developed fruits and is valued for canning. Virginia, Elkhorn, Osman, Columbia, and others were thriving.

In standard apples the surprise element attained its zenith. A four-year tree of Haralson, the prized long keeping, general purpose apple, introduced by the Minnesota State Fruit Breeding Farm, was developing enough fruit to nearly fill an apple box. Several varieties introduced by the Morden Station are bearing and apparently useful as far as 215 miles due north of the international boundary in fruit gardens. Among those bearing were Moris, Spangelo and Mortof. Other varieties appear comfortable and ambitious and are developing fat sturdy fruit buds for 1939. Antonovka, the best known apple from the Russian Steppes, was in fruit.

In plums, the finest sight was Underwood, laden with fruits huge in size, typical in suture and in light waxy bloom coating. Opata and Sapa were bearing abundantly all over the bushes. Ezaptan, a sister of Sapa from the South Dakota Station, is productive also to the top. A Pembina tree has given as much as 14 plum baskets of fruit in one year. Mansan and Mordena are fully hardy.

Beta grapes were as fully laden with bunches as generous as one would expect from a vine in a garden of its native southern Minnesota.

The proprietor, Mr. A. A. Douglas, is doing a great job of his task at Kenville, and has revealed alike to optimists and to doubting Thomas that important commercial fruits may be grown with success and pleasure by home-makers across the farther side of the Duck Mountains. His pioneer work is of vital importance in the further development of the prairie provinces.

Late September is a more or less restful and leisurely point in the yearly round. Late apples and grapes may still be clinging to branch and vine. The shrubberies then have begun to take on highly flushed and spendthrift coloring. Autumn asters and a few other late perennial flowers and persistent sturdy annuals will supply floral grace to the ornamental grounds.

BOOK REVIEW

by
Mrs. F. Briley



Mrs. F. Briley

Soil-less Growth of Plants, by Ellis and Swaney, published by Book Dept. Reinhold Publishing Corporation, 330 W. 42nd St., New York. Price \$2.75.

Carleton Ellis is celebrated as the holder of the third largest number of patents granted to any individual in the history of the U. S. Patent Office. Various forms of use of nutrient solutions, instead of soil, for the growing of plants are considered and described in this book.

Something is also said of the ways in which these solutions are prepared. A number of formulas are listed with hints which may be used to advantage in mixing and using plant food chemicals. It seems probable that drug, hardware and department stores and flower shops will stock soil-less growth chemicals to answer the demand of the amateur experimenter. No more can we assure that a rosebush grows for us because we were born under the right star, or that the potatoes in our garden refuse to come up because we planted them at the wrong time of the moon. One of the biggest selling points of soil-less growth, as handled by the authors, is the subject of common detriments, such as soil diseases, insects, parasites, etc. In this age when one looks twice at a penny before spending it, it is reassuring to read that one need not go to any great expense to carry on soil-less growth projects. On the contrary, the authors strongly advise the amateur experimenter to improvise his own trays or tanks and to mix his own chemicals. With this book as a guide soil-less growth experiments should be exceedingly fascinating work for anyone entering it. There are 58 illustrations, figures and diagrammatic sketches.

PRESIDENT'S CORNER

(Continued from page 114)

bert Lea, Minn., and on north to the Hollandale district that has been called the garden spot of the country these dry years. But it has been too wet this year and the first place we stopped, the center of the opinion section, we were told there would be only 40 acres of good onions in the 2,000 acres. Potatoes will also be damaged. All homes and the little village that was out in the open a few years ago, now have tree shelterbelts, wind-breaks and hedges. Mexicans and their families were topping onions at 3 to 5 cents a bushel, or 18 to 20 dollars per acre. Before the dust storms these peat beds and fields of vegetables were free from weeds and weeding was a small item in

growing a crop and all fields were usually free from weeds at harvest time. But this time I noticed most of the fields were covered knee high with weeds and grass and the Mexicans had to pull weeds to find the onions. They will never be able to grow cheap onions again as they will be plowing under ripened weed seed that will come up, years to come. Twelve years ago, at a peat land meeting at Sioux City the promoters of this drained lake project, predicted that in less than 10 years only peat landers would be able to grow vegetables, but they have had trouble not thought of at that time and I think growers on mineral soil, tending strictly to business will be able to grow crops even though prices are ruinous. On my return home my sweet Spanish onions looked pretty good to me. It was a vacation well spent and I enjoyed every moment of it. Surely more of our horticulture friends will want to attend this tour next year.

PUBLICIZING SWEET CLOVER HONEY

(Continued from page 113)

duction in this high quality crop from North Dakota, as they have of our hard red spring wheat, and on that account it is an opportune time to go ahead and produce what we can and develop the market, which I believe is waiting for us.

THE PIONEER SEED HOUSE

*Nursery-Greenhouses of
the Northwest*

Founded at Bismarck, in Dakota Territory,
in 1882.

Specialists in Garden Seed, Trees, Shrubs,
WILL'S Fruits and Flowers, adapted
Seeds in Hardiness, Drouth Resist-
Grow ance and Vigor to Dakota
conditions.

FREE CATALOG

Ready January 1st of Each Year

OSCAR H. WILL & CO.

BISMARCK, N. D.



A NORTH DAKOTA VISIT

by
F. L. Skinner, Dropmore

On August 8 and 9 I had the pleasure of attending the meetings of the North Dakota Horticultural Society. On the 8th the time was occupied by the reading of papers, addresses, etc., followed by an excellent banquet at the Country Club at Bismarck. On the morning of the 9th we visited the Federal Horticultural Field Station at Mandan and were shown over the Arboretum, the vegetable trials, grounds and the orchards by Messrs. Baird and Killan. Among the shrubs that attracted particular attention in the Arboretum were the Chinese Hawthorn (*Crataegus pinnatifida*), a shrub with finely cut hard glossy foliage and red fruits; and *Cladrastis amurensis* (*Maackii amurensis*) a shrub with pinnate leaves of hard texture that give it the look of a broad-leaved evergreen, the flowers are borne in dense upright spikes of white pea-shaped flowers with an eye or spot of yellow. This shrub is hardy at Dropmore, Manitoba, and should therefore be hardy anywhere in North Dakota. The Hawthorn also is hardy at Dropmore when grown from Manchurian seed, though the large fruited form (*C. pinnatifida major*) winter kills to a certain extent with us. The plum orchard was looking extremely well and a large block of thrifty hybrids of the Japanese plums were noted, these had not yet reached the bearing stage. Among the plums that were bearing, Opata, Tecumseh, Minn. 62 and 133 had ripe fruit and many favorable comments were heard regarding the latter three. The apples had suffered more from the drought than the stone fruits but still a number of varieties were standing up well and bearing, the Florence being very heavily laden.

In small fruits the Station selections of the yellow flowered currant (*R. odorum*) were very good. This fruit makes good jam and very fine flavored jelly.

I had visited the Mandan Station three years ago and was agreeably surprised at the way things were coming back with the return of more normal moisture conditions.

Leaving the Federal Station we drove to the nursery of G. Will & Co., and had lunch under the trees as guests of the firm. Near where we had lunch were some nice specimens of *Juniperus virginiana* from the Platte river, also some nice pyramidal forms of *Juniperus scopulorum* from the Bad Lands to the west of Bismarck. After lunch we looked over a nice block of Bad Lands Juniper. These varied much in color and shape, some were neat little mounds suitable for rock garden work while others gave promise of developing into very ornamental trees. These Junipers are among the finest ornamentals that can be grown in North Dakota and deserve to be

planted extensively. A visit to the perennial plots where many interesting native plants are cultivated was followed by a visit to the new nursery at Apple Creek; here most of the firm's trees and shrubs are now grown. We especially noted some fine young stock of the Butternut and Manchurian Walnut but quite a selection of other trees and shrubs were being grown to perfection in this nursery.

At the nursery our party broke up and I had the pleasure of Professor Mattson's company on the drive to Fargo, where on the following day I saw some of the work being done at the Agricultural College, some of the interesting trees of Fargo, and had a delightful visit with Dr. Nelson whose garden is full to overflowing with interesting plants. Here I noted that *Philadelphus virginianus*, that kills back to the snowline with us, seemed to be quite hardy and was quite a tall bush. In another garden I visited, with Professor Graves, I saw the finest tree of the Ohio Buckeye that I have ever seen and it was well loaded with nuts. This Chestnut is hardy and fruiting with us at Dropmore and is well worth while planting throughout North Dakota. At the Agricultural College I was most interested in the Black Walnuts, the Apricots and Gooseberries. These Walnuts are beautiful trees and as they are bearing a fine crop of nuts, in my opinion they should be widely tested throughout the state. I noted that the Butternuts were not doing nearly as well as the Black Walnuts and had suffered severely from recent winters; at Dropmore we find the Butternut hardier than the Black Walnut and it is possible that we may have a hardier strain than that growing at the college at Fargo. After an extremely dry season in 1937 our trees had some branches winter killed but they came back well this year with more favorable moisture conditions and are fruiting freely.

Both the Black Walnut and the Butternuts require a deep rich soil with ample moisture and this should be borne in mind when planting them. Both should do well in the river bottom lands at Bismarck.

Most of the best Apricots had been harvested before we went over the plantation. However, we found several that were quite edible and gave promise of making good preserves. These also, I think, should be widely tested throughout the state; a percentage of them should certainly give edible fruits and the balance could be used as stocks for the better varieties. Here in Manitoba we find that the Apricot does not make a very good union when budded on sand cherry or plum stocks. Hence the advisability of growing quantities of Apricot seedlings for stocks.

The Gooseberries I also found very interesting. At Dropmore we find both Pixwell and Abundance

(Continued on page 120)



NATURE DEPARTMENT

(Continued from page 112)

tively known. It is my theory that the minerals are supplied through springs in its deeper parts. The presence of these springs is indicated by swimmers finding very cool spots on the water surface. These deep spring waters doubtless gather the minerals found in this lake from the great laboratory of nature in deep subteranean deposits carrying them up in solution.

There are many springs containing variable medicinal salts on various parts of the earth. Mother Nature, in her inscrutable wisdom, seems to have provided them as a healing balm and blessing to her myriad animal creatures.

There are numerous sweet fresh water springs of excellent quality about the rim of this basin particularly at its eastern and western extremities. They are surrounded by patches of ordinary fresh water rush, which apparently cannot survive in the fully mineralized water.

Experimental work in testing the action of Medicine Lake water on many kinds of concrete has been carried on for several years by many bridge and road building engineers.

Accommodations

There are a couple of small resorts with bath houses where suits and towels can be rented. Confections, soft drinks and light lunches are also served, but there are no sleeping accommodations.

Vision and Prophecy

At times the mysterious faculties of the human mind, in its reasonings, deductions and visions, nimbly leaps the barriers and gently moves aside a bit of the misty veil that obscures the unknown future and takes a cautious peek. Without such effort this little tribute of sincere love, for one of my favorite play spots, for nearly fifty years, would not seem balanced or complete. Such a glimpse shows to me a fine golf course on the shapely hills and knobs—ideally suited—surrounding this water; an ample tennis court! a goodly supply of graceful canoes; a cluster of comfortable cabins and a bunch of modernly equipped buildings for housing, feeding, sleeping and hospitalizing—with hot and cold baths—the year around, large numbers of people. Minnepejuta, with its pure, sparkling, buoyant, healing water; its balmy air; its strange and intriguing landscape and history, endure it with an enduring charm and enchantment that will eventually make it one of the most frequented and popular play spots and health resorts in the world.

THE CANVAS-BACK

(Continued from page 110)

During migration they keep away from the growths of rushes. In winter they collect in large "rafts" and spend the night on the water. Un-

like the mallards which nest on the land away from the water, the canvas-backs choose dense clumps of reeds or rushes where the water is a foot or more deep. Here their bulky nests are built, lined with down and about eight eggs laid. The eggs are about 2½ inches long, grayish olive or greenish drab.

The canvas-back has long been famous as a game bird. When well fed on wild celery they are considered particularly fine flavored. Many people, however, believe this over-rated and prefer the milder mallard and teal. They have also been considered as among the swiftest flying birds. Such speeds were much over-rated until means of accurate testing became available. A flock chased by an aeroplane a few years ago reached the respectable speed of 72 miles per hour.

A NORTH DAKOTA VISIT

(Continued from page 119)

do very well and three-year-old bushes yielded from 10 to 15 pounds of fruit each that make excellent jam and jelly.

We also visited a large field of tomatoes that are being grown on for selection. Though I do not know much about vegetables still I thought some of the varieties looked very good and at the present time many of the tomatoes grown in Western Canada are varieties originated at the college at Fargo by Professor Yeager.

A fruit-of-the-month club, organized by a fruit growing company at Reseda, Calif., is the latest thing in farm marketing. Each month, members of the club receive by parcel post a container of the California fruit that is at its peak. This varies from quavas and nectarines to pomegranates and avocados. There is no membership fee, members paying only the price of the fruit they receive, plus postage.—Country Home.

Oregon scientists use a ripe pear as an example for lagging green pears to follow. They find that a green pear placed in a closed container with a ripe one ripens twice as fast as it does alone. The same results are reported with apples, bananas and tomatoes. The ripe fruit gives off ethylene gas, a chemical employed for artificial ripening purposes.—Dr. Firman E. Bear in The Country Home.

Discussing the type of milk which should be supplied to school children, the chairman of the town's health committee said: "What this town needs is a supply of clean, fresh milk, and we should take the bull by the horns and demand it.—The Earthworm.