

NORTH AND SOUTH DAKOTA HORTICULTURE

MAY, 1933



Marcus P. Beebe Memorial at Ipswich, S. Dak.



CLIMBING THE FRUIT LADDER

W. R. Leslie, Supt. Dom. Exp. Sta., Morden, Man.

The pioneer of Southern Manitoba harvested his small fruits and plums from nature's garden. Since 1874, when A. P. Stevenson commenced planting commercial fruits from Iowa and Minnesota, crab apple and apple trees have become increasingly general. The Dominion Experimental Station at Morden put out its first small apple trees in 1916. Surprising successes have been achieved. The prairie home-maker in the springtime of 1933 has available from prairie nursery firms a list of fruit varieties of proven hardiness and ennobled with aristocratic bloodlines which impart high quality.

It is very encouraging to consider some of the fruit varieties bearing substantially at the Morden Station in the past season.

The Melba apple, a seedling of McIntosh Red, produced at the Central Experimental Farm, Ottawa, gave two barrels, or six boxes. This is a grand variety. It promises to be comparatively hardy over Southern Manitoba. McIntosh itself gave 15 pounds of choicest fruit. The flavour was keener and the texture crisper than in apples from the Okanagan Valley. Among other varieties prominent were Goodhue, Haralson, Folwell, Minnehaha, Oxbo, Pine Grove Red, and Rupert. Of Morden Station productions, Manitoba, Manitoba Spy, Mantet, Mortof, and Spangelo were in heavy fruit. From the seedling apples developed here to date, no less than 20 kinds promise to make keen bids for recognition. Nearly 700 seedling selections are in the re-test plantations.

Of crab apples two varieties stand out in general merit. The Rosilda and the Trail are large for crabs and excellent when eaten out-of-hand. The former is an exceptional canned fruit, resembling canned pears. Pear varieties are also, beginning to loom up as contenders for space.

The plum parade exhibits such an array of improved new kinds that few comments can be made here. La Crescent (Minnesota) is renowned as an all yellow variety. Dropmore Gold (Skinner) will carry abundance of hardiness. Tecumseh (Hansen) looks better each successive year as an early, large, attractive plum for dessert and for canning. Radisson and Red Wing (Minnesota) are considered very valuable. They are both high in quality, the former early and productive, the latter the choicest home-grown jam variety having a rich apricot flavour, melting skins and smooth texture. Tokata, Oziya, Kaga, Hanska and Toka are apricot-plum hybrids of much merit. The first prune-type plums that fruited were Lunn and Mount Royal. These are considered lacking in hardiness. Of the straight native type plums, Assiniboine, Cheney, Wilson, Mammoth (Stevenson), Olson (Boughen) and Orchard No. 1 (Orchard), remain useful.

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In sandcherry hybrids, Sapa and Opata for quality, Oka for dessert, Tom Thumb and Champa for hardiness continue in vogue. Nicollet (Minnesota) is a pleasing substitute for canned sour cherries. Mordena (Morden) may well replace its mother, Compass Cherry, in this territory.

Sour Cherries, Morello type, are doing well. Some new seedling selections are ready for introduction. They are more fruitful here than the clear-juiced varieties, Early Richmond, Dye-house, and Montmorency. Sour Cherry growing is signally successful at the Morden Station.

Butternuts, Black Walnuts and select native Hazels are bearing well.

Improved varieties are even more notable in Gooseberries. Clarke, Carless, Poorman and Ross of the pigeon-egg-size types are thriving, and of the medium size berries, Pixwell (Yeager) promises to replace all predecessors, including its parent, Oregon or Oregon Champion, just as the Oregon has recently replaced Houghton and Downing. The handicap with gooseberries at the moment is the difficulty of securing stock, but nurserymen are acquiring supplies.

The prairie home-maker is enjoying the keen climb of the fruit ladder.

USE OF HONEY IN DIET FOR CHILDREN ADVISED

Furnishes Wholesome Sweet With Fruit, Breads and Desserts

Not only is honey a natural sweet but the sugars of honey, mainly glucose and fructose, are in a form very readily assimilated by the body. These sugars yield quick energy and heat for active, growing bodies.

Besides the sugars and some mineral elements, honey contains traces of volatile substances and a slight amount of acid and protein which give it a characteristic aroma and flavor. Some flavors are more pleasing than others, due to differences in the nectar of various flowers. The thickness of the honey is affected by climatic conditions or moisture at the time the nectar is gathered.

Adds Flavor, Texture, Energy

Honey may be added to the diet to secure desired flavor and texture as well as adding increased energy. It may serve to bring more "protective foods" into the diet when used in wholesome desserts, especially those containing fruit or milk. It should be used in meals containing adequate protein, and the protective minerals and vitamins in order to insure the well balanced diet necessary for growth and health.

Briefly, the essential foods in the daily diet are:

1. Whole milk, at least 3 cups daily.
2. An egg per day.
3. Meat or fish, usually once daily.
4. Two servings of vegetables daily, besides potatoes, one vegetable being leafy or raw or tomatoes.
5. At least two servings of fruit each day, one a fresh fruit or tomato.
6. Whole grain cereal, or bread, at least twice daily.
7. Butter, about 4 tablespoons daily.
8. Wholesome desserts.
9. A glass of water on rising and between meals.

There should be three meals a day according to a regular schedule. Lunches, when given, should not destroy the appetite for regular meals.

May Be Used with Fruits

Honey may lend attractiveness in various combinations of food in a well-balanced diet. It may be used to sweeten either fresh or dried fruits, as stewed or baked apples, peaches, pears or apricots. Its flavor combines nicely with the morning grapefruit, especially when the honey is slightly warmed and drizzled in a thin stream on the loosened sections of the fruit. Likewise, pleasing flavor is added to most breakfast cereals when a small amount of honey is used for sweetening.

Makes Wholesome Desserts

Whole wheat bread or muffins with butter and honey, are wholesome and satisfying desserts. Nut bread made with honey for sweetening and served as sandwiches, furnishes a wholesome sweet for the child's school lunch. The nutbread sandwich takes the place of richer sweets, such as cake, and gives the child a better balance of essential food elements. In making honey nutbread use any good recipe, substituting honey for the sugar in the recipe, leaving out about 4 tablespoons of liquid and adding 4 tablespoons extra honey in proportion to each cup of sugar called for in the recipe.

As Substitute for Sugar

By observing this rule honey may be substituted in any baked product suitable for children. Wholesome desserts at mealtime tend to take away the "craving for eating sweets" between meals, or for the too concentrated kind of sweets which often spoil the appetite for a variety of foods at mealtime.

Children will like the following recipes:

PUMPKIN CUSTARD (CHINA PIE)

- | | |
|--------------|-------------------|
| 4 c. milk | ½ c. honey |
| 3 eggs | 1/3 tsp. cinnamon |
| 1 c. pumpkin | ¼ tsp. salt |

Blend the beaten eggs, milk, pumpkin and seasonings. Bake in small custard cups in pans of water starting at about 325°. When adults have pumpkin pie, the children may have "china" pie.

CREAMY RICE AND RAISINS

- | | |
|--------------|---|
| 4 c. milk | ¾ c. rice (¾ c. cracked wheat, more or less depending on coarseness of cracked grain may be substituted for the rice in this pudding) |
| ¼ c. honey | |
| ½ c. raisins | |
| ½ tsp. salt | |

Combine the washed rice and other materials. Bake slowly for about 3 hours, stirring frequently.

HONEY DATE BARS

- | | |
|--------------|----------------------|
| 3 eggs | 1 tsp. baking powder |
| 1 ¼ c. honey | 1 c. nut meats |
| ½ tsp. salt | ½ lb. dates |
| 1 c. flour | |

Sift together flour, salt, baking powder. Add dates and nuts. Spread ½ inch thick on a greased baking sheet. Bake 15-20 minutes in a moderate oven, until firm to the touch. Remove side crusts. Cut in bars about 1 by 4 inches. Roll in powdered sugar.

PARISIAN SWEETS

- | | |
|--------------------|----------------------|
| 1 lb. seeded dates | 2 tbsp. orange juice |
| 1 lb. figs | ¼ c. honey |
| 1 lb. shelled nuts | |

Clean fruit, put fruit and nuts through a food chopper. Add orange juice and honey and mix.



Shape into long, slender rolls. Roll in chopped nuts, cocoanut or powdered or granulated sugar.

HONEY BOY

$\frac{1}{2}$ c. shredded cocoa-nut	2 c. bran flakes
$\frac{1}{2}$ package dates (stoned)	$\frac{1}{4}$ c. seedless raisins
	$\frac{1}{2}$ sq. melted chocolate
	3 to 4 tbsp. honey

Run cocoanut, raisings and dates alternately through the food chopper. Add melted chocolate, flaked bran and honey alternately.

Form mixture into a roll. Cut in slices with a sharp knife. Wrap in waxed paper and store in a tightly covered container.—Alma H. Jones, extension specialist, child development, Iowa State College.

THE BLUE-WINGED TEAL

O. A. Stevens

The teal are less esteemed than the mallard for food or sport on account of their smaller size. They are, however, among the commonest ducks and a considerable number of them reach the table. Some say that they are the very best for eating. The birds are swift on the wing and fly low in compact flocks which makes them a tempting object to the hunter.

Unlike the mallard and pintail, the teal is strictly an American bird and is found chiefly in the interior of the continent. The eastern hemisphere has a teal which occupies a very similar position but is a still smaller bird more closely related to our cinnamon teal. It breeds through central Europe and Northern Asia and not many years since was found nesting in considerable numbers on the Aleutian Islands which extend from Alaska toward Asia. A very few individuals of our blue-wing have been taken in Europe.

The teal are distinctly warm weather birds as compared to the mallards and pintails. They range northward as far as Great Stone Lake, but for the most part only into the southern provinces of Canada. They nest abundantly in the northern half of the United States and only rarely in the southern states. The winter range is likewise farther south, from South Carolina, Texas, and Southern California southward, commonly to the northern coast of South America and on the west coast as far as Chile. Their spring migration is late, average dates being: Central Iowa, March 18th, Southern Minnesota, April 7th, Central North Dakota, April 12th, Southern Manitoba April 27th.

Nesting begins the first of June and continues into July. The nests are well made and usually well concealed by grass. Ten to twelve eggs are the most common numbers. They are about an inch and three-quarters long, dull white, creamy or pale olive white. Hatching takes place in

(Continued on page 60)

BLACK HILLS GARDEN NOTES

Mrs. Florence Bettelheim

Sturgis Garden Club opened its year with a lecture on Black Hills Wild Flowers, trees and shrubs by Arthur C. McIntosh, head of the Department of Botany at the State School of Mines, Rapid City.

Prof. McIntosh is an outstanding authority on his subject and gave us a fine lecture, illustrated with seventy-five colored slides.

Sturgis Club is carrying on a program of cleaning up, pruning and planting, and is offering prizes for the most attractive yard planting made during the summer.

The Club made a group order for seeds, shrubs and trees, thus securing special low rates.

Sturgis is one of the most attractive and well-kept towns in the Black Hills, and this result is largely due to the interest and cooperation of every citizen in all civic projects.

Rapid City Garden Club has been handicapped by the shortage of city water for the past two years. This group has a fine study program and they grow new plants and exchange them. They have offered prizes for the best landscaped home, etc., and as soon as the city water supply is back to normal, will start an extensive program of improvements.

The Black Hills Outdoor Club of Spearfish, cooperating with the Garden Club, listened to Prof. McIntosh's instructive lecture on conservation of trees and wild flowers.

When General Geo. Custer and the 7th Cavalry passed through the Black Hills in 1874 he was so impressed with the beautiful flowers that flourished everywhere that he named one of the larger valleys, "Floral Valley" and in his diary alluded constantly to the variety, fragrance, and profusion of these blossoms that carpeted every hill and valley. Most of them are gone, destroyed through carelessness or ignorance.

One hot evening last summer, I saw two cars drive up to the Alex Johnson Hotel in Rapid City and a party of tourists climbed out of them, carrying arm's full of the lovely red lilies, which are growing scarcer every year. Though only slightly wilted the whole collection was dumped into a trash can. It is against this wanton destruction that all the Garden Clubs of the Hills are carrying on a determined campaign.

A very heavy wet snow covered the Black Hills Thursday and Friday and considerable damage was done to shade trees in Spearfish and other Hill's towns.

NORTH DAKOTA HORTICULTURAL SOCIETY NEWS LETTER



A. F. Yeager,
Secretary
Fargo, N. D.

Our 1933 Horticultural Handbooks have been printed and distributed. The Handbook is not as large as we would like to have had it and does not contain pictures, in fact is made up as cheaply as could be done and still contain the most important information. I hope you will look over your copy carefully and find out what is in it. It should be worth many dollars to most folks inside of a year. We suggest that you show it to your neighbor and get his membership in the Horticultural Society. Those of you who may not have paid your dues, which will be indicated by the fact that you have not received a Handbook, should send in your dollar immediately. Even though you can no longer get plant premiums we can still supply seeds.

Because of the rush of planting and transplanting, this month's news letter is being made up of items collected during the past year but which may not be especially applicable to this particular month. They should be interesting and instructive nevertheless.

Unless something unforeseen occurs, the State Horticultural Society meeting will be held at Valley City June 22 and 23. Make your plans to be present.

The selection of vegetables for show purposes should be done on the basis of their culinary value. The sample a housewife would pick for cooking purposes will indicate about the size and quality which should be selected for exhibit.

An Ohio bulletin gives the following as an excellent grafting wax to be applied with a brush in the melted state: Rosin 1 pound, linseed oil 3 fluid ounces, paraffin 5 pounds.

Fungus nats which produce the small white worms in house plant soils may be controlled by watering with a solution of corrosive sublimate at a strength of one-half ounce to four gallons of water, according to A. G. Ruggles of Minnesota.

R. B. Harvey, the originator of sulphonated oil for rodent protection, says, "We have found greases which spread over the surface of a tree when warm are undesirable. Evidently they seal up the lenticels." He also says crankcase oil is injurious, and that even highly refined paraffin may cause some injury.

G. T. Nightingale, in "Plant Physiology," says that tomato plants growing in a sulphur-deficient soil looked as though they had been gradually deprived of nitrogen. However, North Dakota soils are not likely to be deficient in this element. Howell, in the same publication, reports that western

yellow pine seedlings prefer acid soils but that they can withstand a wide variety of conditions.

Sayewell and Robertson report that tomatoes are 90 to 93½ percent water. Of the solids remaining, half is sugar. It is the vitamin content which makes tomatoes so healthful. It is hard to realize that a tomato contains much less solid matter than does milk.

Some seed companies are listing the Ohio Canner beet this year. We tested this variety before it was named and are prepared to recommend its culture.

Anyone who is a Glad fan may now purchase one bulb each of the 15 best varieties for less than he would have had to pay for a single bulb of many of the varieties two or three years ago. More than that, many of the varieties which sold at high prices two or three years ago have been found wanting and are no longer classed among the best. The result is that one could probably buy fifteen more beautiful Glads now for less than \$2.00 than he could have bought then for \$50.00. Incidentally, "Mother McCree," which sold for \$1000, does not rank now among the fifteen best, though it comes in 16th.

If you are planning on trying a new strawberry variety you might try Beaver. This variety is giving Premier a close race for popularity in Wisconsin, where many report considerably better yields from it.

The Minnesota Experiment Station reports native plums entirely satisfactory as pollenizers for the hybrid varieties, many of which fail to pollinize each other.

Sufficient favorable reports have been received on the hardness of horse chestnuts so that we would consider it a tree worthy of trial where one wants something of its type. People from farther south may perhaps remember the wild buckeye, which is a close relative. The seeds are not edible.

We are asked whether land which was kept clean last year and not cropped would need to be plowed before planting a garden this spring. I think I would not plow it but merely cultivate with a harrow or disk enough to kill germinating weeds and then plant.

Discussions among old-time gardeners are sometimes interesting, especially in showing the importance placed upon details. In "Gardening Illustrated" (English), a gardener emphasizes the necessity of pressing the soil down in a pot with the fingers instead of the thumbs.

The Michigan Farmers says that lilac roots may be prevented from spreading by digging a shallow trench a foot away from the plant and setting in a 12-inch strip of heavy galvanized iron.

A lady at Cleveland, Ohio, has a scrapbook

library of 300 volumes. Each volume is on a single subject and is made up of clippings taken from all kinds of books, magazines and papers. She says, "As a reference library it excels any books written."

Daphne cneorum is one of the small hardy flowering plants which seems to like this territory. It prefers slightly alkaline soils. It was one of the plants which particularly attracted my attention last summer at the Morden Experimental Farm.

The National Nurseryman mentions a nursery inspector finding Siberian Elms badly infested with bark borers. Here's hoping these little pests may not like our winters.

New York Experiment Station at Geneva reports that red oxide of copper (cuperite) has given good results as a dust seed treatment to prevent damping-off of seedlings.

The Boyce Thompson Institute says that high-bush cranberry seed ordinarily requires two years to grow. They recommend gathering and pulping four days, storing the seed dry and cool for one year. During the first summer expose the seed for 60 days at a temperature of 68 to 74 degrees Fahrenheit, then during the second winter at a temperature of 41 degrees F. for 60 days; so at the proper time. They find it takes this long for the tiny seedlings inside the seed to go through the necessary preliminary growth process.

Michigan Technical Bulletin 118 states that apparently some pollen grains in beans carry mosaic disease. Special Bulletin 217, from the same Experiment Station, is entitled "Marketing Michigan Beans."

In Michigan it is reported that it requires 20.6 hours man labor, 20.2 hours horse labor, and 2.4 hours tractor time for growing an acre of beans. The usual rate of seeding is 50 pounds per acre.

The Royal Horticultural Society of England is nearly 129 years old and now has a membership of over 27,000.

To raise cactus satisfactorily one must have good drainage and must not over-water.

Normal apple varieties have a chromosome number of 34. These are the small particles inside of the cells which carry the hereditary characteristics from one generation to another. It has recently been found that a number of our apple varieties have from 48 to 51 and that is the reason why many of their blossoms fail to set and why seed from them often does not grow.

The University of Arkansas reports that weak Bordeaux mixture made up of one pound copper sulphate, three pounds hydrated lime, and fifty gallons of water sprayed onto apple blossoms when they are wide open prevents a large amount of fire blight damage.

J. D. Long, a Glad grower, says he wonders whether Baron Manchausen didn't get his start in the Glad game describing new originations.

Louise B. B. Wilder, in "House and Garden," discusses mallows for gardens. Among those of special interest to us are the hollyhocks, which, she says, are the saving grace in the gardens of many a beginner and should be no less the pride of more established gardens. Among other plants given special mention is *Lavateria*. Perennial *Lavateria* is one of the best, large, flowering plants we have. Another given special consideration is *Malvastrum coccineum*, or flame mallow. She suggests "Prairie Fire" as a good name for it. (This plant was one of Mrs. Heath's favorites and rightly so.) She closes by stating "Plants suffer from vagaries of fashion and just now the mallow clan is not in the public eye. The hollyhocks are thought too obvious and the musk mallows are not sufficiently elegant, but all these plants are friendly and blossomy when these attributes are most wanted."

Depression plants, or winter plants, as they are variously called, are now something of a fad. To make one, put a large cinder or a piece of coal in a bowl with five tablespoonsfuls of salt, five tablespoonsfuls of water, and five drops of mercurchrome. I assure you it does produce a rather interesting effect within a few days.

"Wisconsin Horticulture" mentions the silver lace vine, *Polygonum aubertii*, as a desirable vine for trial. Have any of our members tested it?

A correspondent in "Gardening Illustrated" says if vegetables are put into hot water instead of cold salt water and then brought to a boil, the flavor is greatly impaired and in some cases lost. Also that butter destroys the flavor of most vegetables. Beans and peas suffer in flavor if the lid is kept shut.

The Canadian Government recently had to suppress the growing of certain variety of poppy because they found that it contained such a high percentage of morphine.

A new dahlia society is "The Central States Dahlia Society, Inc." Its secretary is F. R. Kleehammer, 3653 Diversy Avenue, Chicago, Ill. The dues are \$1.00 per year and free dahlia roots are offered as premiums.

In propagating apples on their own roots in England, the whole tree is laid down and all parts gradually covered with earth as the sprouts arise from buds.

Professor Chapman, of our soils department, recommends for garden application, 30 tons of barnyard manure per acre, to which has been added 500 pounds of 45 percent superphosphate. He states that farm manure is particularly beneficial where alkali salts are present.

MARCUS P. BEEBE MEMORIAL

This library was erected by the heirs of Marcus P. Beebe, Edmunds County pioneer in memory of his great faith in the development of this part and all of South Dakota. The bronze plate in the vestibule reads

This Library was built in 1930
As a Tribute to the Memory of

Marcus P. Beebe
1854-1914

A Pioneer of 1883

By his wife Leota F. Beebe
and their children

Inez Beebe Perisho

Gertrude Beebe Mears

M. Plin Beebe

Hiram E. Beebe

Marjorie Beebe Beardsley

His Faith in God, his Country and
the Great North West never faltered

The architecture resembles an old English home adapted for library use with large windows and a pleasant touch showing a welcome to all. The design is by the late Allen E. Erickson of Chicago. The stones were taken from the prairie and laid in the wall with no cutting or other preparation. These are practically all granites rounded by the glaciers which brought them down from Canada a hundred thousand years ago. The walls were laid and pointed by P. A. Lundbom and his son, Elmer, and this is the only building of any size of prairie stone that has been finished in this manner in the United States.

Asbestos and cement shingles in red, gray, buff and purple tones cover the roof making it everlasting and beautiful. The gables are of brick covered with buff Oriental stucco and relieved by half wood facings the coloring of which as well as the color scheme of the interior of the library, is due to the good taste of Paul Satzinger. All of the work in this building except the roof and rubber tile floor was done by local people under the supervision of John D. Williams with his usual thoroughness.

The oak wood work and most of the furniture was made by the Dakota Sash & Door Company of Aberdeen. The charging desk is a beautiful example of South Dakota workmanship, the design by Michaleson of Aberdeen embodying the latest ideas in library work. Mr. McGregor, the manager of this firm took special interest as his wife, formerly Helen Smith of Ipswich, was for years the Ipswich librarian.

Contrasting blocks of light and dark mottled brown rubber tile with black border and base-board covered the floor, the colors harmonizing with the brown quarter-sawed oak shelving and beam work

The floors, walls and stairways are of concrete reinforced with steel bars. The basement partitions are all brick, the roof is of asbestos making the whole building practically fire-proof and taking the lowest insurance rate in the city. There is no wood construction anywhere on the outside of the building except over brick.

The latest type of forced air heat was designed by L. E. Smith of Ipswich. The ducts under the basement floor are 30 inches wide and high enough for a man to go through. The entire building is designed so that any part may be reached without delay. The insulite ceiling and thick stone walls with air space under plastering together with three layers of felt under the asbestos roof keep the temperature constant making the building cool in summer and easy to heat in winter.

The walk to the building, the lobby floor and the stairs to the rest room are laid with marble from Italy, Belgian, Austria and other parts of the world and onyx from Mexico, in colored cement. The stairs to the main room are of Napoleon gray marble.

Many are interested in the prayer rock on the south side of the entrance walk. This five ton boulder has laid on a hill side on the farm of Lewis Larson south of Mobridge as long as any one can remember. Before the white men came a deep path had been worn to this rock from the Cree Indian Village on an adjacent hill and it is supposed that the Indians fell to their knees placing their hands in the prints on the rock. The present position of the boulder is to the south and a little east and with the same incline, just as it was in its original position looking toward the Missouri River. Some day the truth may be known as to when the strange signs on its face were made and by whom.

The interior of the library is one large room with beam ceiling and shelving 7 feet high around the walls. The latest adjustable shelves house the 4,800 books belonging to the Ipswich City Library. This library for the past five years has had the largest per capita circulation of any in the State due to the efficient work of the librarian, Mrs. Lillian Witz.

The Beebe family and the City of Ipswich extend a hearty invitation to all to visit this library during the library hours of 10:30 to 12 and 2 to 6 on all six week days and from 7 to 9 on Tuesday and Thursday and Saturday evenings.



EXTRACTS FROM THE DIARY OF A TRAVELING MAN

W. A. Simmons

March 26: We have discovered an easy and effective way of keeping a Christmas cactus trimmed up; set it on the floor where a two-thirds grown kitten can get at it. The slender, nodding branches of the cactus seem to irresistibly attract our young cat, and if allowed to do so he would put in most of his day sparring with them, winning every round by a knock-out of substantial amounts of foliage. However, the cat is in better repute in our household than the cactus at present. Since the depression struck us, this plant has seemed to lose all its courage and has produced but one blossom, but since this one blossom now adorns it, it may be that it believes the hard times are over.

At Linton, North Dakota, the fine hotel is conducted by an able and noted doctor who is very fond of all plants and particularly of the crab or Christmas cactus. At one time he had a fine plant of this species in each of the large and luxurious bedrooms but he had to give that idea up and return the plants to the office to save their lives.

This cactus, like a scofflaw, always looks dry, and each occupant of a room thinking the plant had been neglected and hadn't had a drink in a month, would take pity on it and deluge it with water, with disastrous results to the plant. The matter of watering house plants is much better attended to when left to one person, as when too many persons butt in on the job it is apt to result as in the case of the whole family salting the soup.

March 31: At 11:35 A. M. today occurred a very important event in the life of the Ford coupe that so greatly assists me in covering the horticultural news of the Dakotas. The speedometer reached its counting limit and then started all over again. It hesitated for a brief moment with five nines proudly displayed, then threw them all in the discard and drew five ciphers in their stead. Now I have a brand new car with but a few miles registered and am in a position to engineer an advantageous trade with some unsuspecting Ford dealer.

April 2: At their farm near Madison, South Dakota, the Winesburg Bros. have been using flax as a nurse crop for alfalfa for the past three years and claim the following advantages for it. Flax can be seeded later than other nurse crops, thus allowing the ground to be worked later for the elimination of weeds. Flax does not make the dense covering that other crops make, thus giving the alfalfa more sunlight and a better opportunity to grow. Then as the flax ripens, the leaves gradually fall away, allowing the sunlight

to filter in and preparing the plants for the harvest time when they are left unprotected in the sun, preventing the burning that sometimes takes place when a dense covering of oats or wheat is removed.

Shedding more light on the bald head question, the Boston Herald says, "A German doctor has just announced to the world that bald heads are really a sign of intrepid virility. Ah, these great open spaces under which men are men."

April 9: Several things about Henry Morgenthau, Jr., Governor of the Farm Credit Administration, are of interest to horticulturists. First, he is a brother of Mrs. Helen M. Fox, author of one of the most charming of lily books, "Cinderellas of the Garden." Then he is the owner of 1400 acres of rich bottomland in the Hudson Valley near Fishkill Hook, of which 250 acres are in apples, about half to McIntosh. The 1932 crop was about 23,000 bushels, fine fruit, well handled and sold in the New York market at the top price. Even in that year of depression those farms showed a nice profit, two in fruit and one devoted to dairying.

For eleven years he has owned the American Agriculturists, a paper established in 1842 and which has increased its circulation from 100,000 to 160,000.

It is nice to know that the President has picked for that important post not a mere theorist but a successful man with eighteen years experience in actual farming.

The United States Department of Agriculture has a new yellow fleshed potato known as U. S. D. A. Seedling 44428, said to have yielded 500 bushels per acre in Maine. This will be tested in ten states, including both Dakotas, this year. This is a late maturing potato, said to be rich in growth producing vitamin A and was produced from a cross of a Costa Rica potato and a yellow fleshed potato grown from seed obtained from an English plant breeder. Small lots of the tubers will be furnished to the experiment stations in each of the ten states and these will be furnished to careful growers for this year's trial.

April 12: Robert Page Lincoln in his "Outdoors" column in the Minneapolis Tribune comments on the back to the farm movement among the English Sparrows. With the advent of the automobile they lost their jobs with the street cleaning department and have taken to the wide open places where they have become of considerable value as insect eaters. It is admitted that they eat some grain, one "questimeter" stating that they consume \$25,000,000 worth in a year, which Mr. Lincoln states he will not even consider as authentic. But there is no denying that they do consume large quantities of insects, even large ones like grasshoppers.

I have personally seen them pursue a large hopper for several minutes, following their vic-



tim when it took to the air and darting at it when grounded. At the termination of the chase they would put one foot on the victim, and with the beak rip off and devour first the wings, then the drumsticks, and when only the torso remained would get it headed cropward and strain and choke till it too went down.

Mr. Lincoln says the statement has been made that from a single pair of sparrows 275 billion birds would eventuate in ten years. This figure must have been arrived at by some one who had lots of time, also lots of pencils and paper. Ten years ago there were several pairs of sparrows domiciled at our place and unless I miscounted there are not even 274 billion of them there now, and we haven't noticed any birth control literature in their nests either.

It seems that the English Sparrow is becoming in our country what it is in its original home, a valuable insect eating bird that does not deserve all the harsh things that have been written about it.

April 16: May is the month of apple blossoms, the month in which owners of such trees garner their first of the two crops given by these trees annually, that for the soul. After, in common with our friends the bees, enjoying this wonderful display of fragrance and beauty and after the sweet petals have fallen and formed a snowy carpet on the ground beneath the trees, comes the time to spray. Lime sulphur and arsenate of lead should be used and the endeavor made to get a little of this mixture into the calyx of each embryo apple.

Somewhere about, carefully concealed during the day, are the small and inconspicuous little codling moths and these will venture out in the first warm nights to lay their eggs on the small leaves of the apple tree. Soon these eggs will hatch into tiny worms who will seek ingress to the apple, and the calyx is a convenient pathway. With plenty of poison there, many of the worms are disposed of before their career of crime has fairly started.

However, the worms do not always choose this backdoor entrance and many tunnel boldly in from the sides of the apple. In about two weeks from the fall of the petals the husks will fall off and the small apples will appear. Then we must spray again so that the small fruits will have a protective coating. At this second spray and all subsequent ones it is best to go very light on the lime sulphur or omit it altogether, as the leaves of the tree are then present and the lime sulphur is apt to burn these and cause an abnormally large June drop.

In history we read of the king who wished that his enemies had but a single head so that they could all be destroyed with a single movement of the axe. We could well wish that in the case of the codling moth, but the pesky things

keep coming on all summer, so as the apple grows we must put on more sprays and even then will be apt to find many wormy apples at picking time.

We are learning more about the codling moth each year, as many bright minds are constantly working on the problem. Spraying is no longer regarded as being all sufficient, but in regions of worst infestation it is supplemented with bait traps and tree bands and even then wormy apples are found at harvest time. And so, each year, we spray to relieve our consciences, not expecting it to be one hundred per cent effective but thinking perhaps we would have had more wormy apples had we not done so.

SOME OF MY PLANTING PROBLEMS ON THE PRAIRIE

Charles Benike, Clark, S. D.

Having come from Rochester, Minnesota, in 1906, to find a home in the West—being very poor—I bought a very stony and rough quarter, which was at that time used for grazing purposes, and to drag dead animals into the ravines as a sort of inducement to wolves for trapping. Not being able to build, I rented a farm some three miles distant and gradually dug stone and broke the land, which, by the way, is a man's job. At the time, there was no road of any kind, but merely trails that crossed my place allowing travel with the least resistance.

The first ten years, I lived on a rented farm. In the spring of 1916 I started to build on my own place, and by December 8th, I was ready to move onto the place. Having always been a nature lover of God's great out-of-doors, I now realize more than ever, the absence of trees, shrubs, and flowers. Truly it is not a home until it is planted.

In the spring of 1917, I planted my first trees; one thousand ash seedlings; some two hundred Black Hills spruce; some shrubs, and last but not least, fruit trees. Now, let it be understood, that my plan at the time was just a small family orchard. Was I criticized? That is putting it mild. All the different names I was called at the time would not look good in print. I loved this work and having been discouraged so much by people saying they had tried and given up, even if a person could get fruit trees to live during the summer, the jackrabbits would put the finish to the trees during winter. The buildings are back from the road some thirty-five rods and the driveway is lined on both sides with a double row of Black Hills Spruce. They looked very small, 12 to 18 in size. People would drive over the trees and on several occasions a neighbor had a run-away team that took through the evergreens with a wagon and as the wagon swayed the wheels would knock over trees on the frozen



ground. I told this neighbor I would buy the rope if he would promise to tie the horses. Well, all this meant I had to fence. All the time, I was determined to know why fruit trees would not grow here. I have met up with a good share of grief, but liking this work, the fruit trees have responded. The original family orchard, I enlarged. Now, I have taken on more land for orchard purposes. I am continually planting and top-grafting and trying out new kinds. **Have not lost a single tree during these dry years.** Some may wonder why. I think to quite a large extent a person succeeds about to the amount of interest and effort put into the work.

I like to plant one year whips that give a person a chance to head low which is very important. I would ask a nurseryman just one guarantee. A good live tree true to name and that's all, with no replace or half price. I expect to go on where the nurseryman left off. That is to say, to nurse the little fellows and protect them from all harm in summer as well as winter. I find mulching the trees as soon as the ground freezes and working the mulch into the ground in spring, preferably with a four-tined fork, is good. Never allow weeds or grass to crowd as trees and grass don't get along well together. I visited a neglect-
(Continued on page 60)

1932—TOMATO VARIETY TEST

Purley L. Keene

The plants were seeded in flats on April 6th, transplanted to flats (1 $\frac{3}{4}$ " x 1 $\frac{3}{4}$ ") on April 18th, potted (3" rose pots) on May 9th, and planted in the field May 23rd, 4' apart in rows 5' apart.

VARIETY	Accumulative Yield in Ounces on Six Plants								No. of fruits produced up to Sept. 24	Av. Wt. per fruit in ounces
	July 31	August			September					
		10	20	30	10	14	18*	24		
June Pink	37	102	715	1307	1661	2251	2754	3037	798	3.81
Earliana V.	3	51	506	1156	1399	1783	2157	2474	534	4.63
Earliana S.	20	53	342	825	1226	1517	2016	2211	520	4.25
Burbank	2	67	382	704	1207	1790	1998	2169	609	3.56
Progress	9	48	612	1037	1379	1700	1979	2323	457	5.08
Early Stone		5	170	463	683	1120	1904	2381	584	4.08
Red Head	9	61	320	783	1094	1404	1846	1994	528	3.78
Millet's N. D.		11	180	557	987	1320	1783	2003	468	4.28
John Baer V.			117	452	703	1094	1716	2089	513	4.07
Harris Success		15	202	511	792	1204	1644	1848	622	2.97
Bonny Best		3	185	492	743	1065	1602	1865	508	3.67
Chalk's Early Jewel		14	241	560	815	1039	1589	1927	445	4.33
J. T. D.		32	203	531	810	1149	1557	2008	500	4.02
Landreth		18	233	505	702	890	1477	1799	448	4.02
Woods Select		21	184	342	676	1105	1468	1669	585	2.85
Pritchard		7	188	562	758	960	1452	1738	403	4.31
Golden Queen		8	111	276	764	1161	1431	1548	512	3.02
Perfection	3	5	178	459	672	992	1417	1716	473	3.63
John Baer S.		8	195	466	806	1030	1394	1660	375	4.43
New Globe			107	418	576	881	1325	1683	316	5.33
Norton		5	119	311	557	896	1324	1630	486	3.35
Greater Baltimore		10	144	355	631	902	1316	1578	428	3.69
Bloomsdale	3	8	209	495	721	865	1276	1552	328	4.73
Break O' Day		8	208	562	766	929	1222	1617	319	5.07
Earliana		8	145	490	638	788	1137	1591	335	4.75
Bison	39	88	458	760	898	973	1081	1123	336	3.34
Marglobe			139	327	552	687	1064	1357	306	4.43
Stone		16	152	283	505	626	1053	1775	391	4.54
Early Detroit			75	285	467	651	973	1435	310	4.63
Beauty			30	100	384	641	922	1176	235	5.00
Ponderosa			157	238	324	480	811	1361	178	7.65
Extra Early Globe		8	158	298	375	455	810	1376	298	4.62
Dwarf Champion			42	273	441	579	705	817	289	2.83
Dwarf Stone			30	129	306	474	695	931	224	4.16

* Varieties arranged according to their yield up to this time since this date is nearer the average frost date for South Dakota than that of Sept. 24th.

May
1933



NORTH DAKOTA
HORTICULTURE
SOUTH DAKOTA



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KINDS AND VARIETIES OF VEGETABLES; AMOUNTS AND COST OF SEED; TIME OF PLANTING; AND FOOT OF ROW FOR A GARDEN FOR A FAMILY OF FIVE

Prof. Purley Keene—State College, Brookings, S. D.

CITY LOT GARDEN

Kind	Variety	Foot Row	Planting Date	Amount	Seed	Cost
Beans	Stringless Green Pod	150	May 10	1 1/2 lb.		\$.60
Beets	Detroit Dark Red	150	May 1	3 oz.		.45
Cabbage	Jersey Wakefield	150	May 10	1 pkt. or 75 plants		.05 .90
Carrots	Chantenay or Danvers	75	May 1	1/2 oz.		.10
Cucumbers	White Spine	150	May 20	1/2 oz.		.15
Dill	Black Seeded Simpson	10	May 1	1 pkt.		.05
Lettuce	Red Weathersfield	75	April 15	1 pkt.		.10
Onion	Hollow Crown	150	April 15	2 oz.		.40
Parsnips	Dwarf Curled	75	May 1	1 pkt.		.05
Parsley	Laxtonian	10	May 1	1 pkt.		.05
Peas	Harris' Early	150	April 15	1 1/2 lbs.		.60
Peppers	Scarlet Globe & White Icicle	50	May 20	1 pkt.		.10
Radish	White Flecked	75	April 15	2 pkts.		.10
Rutabagas	New Zealand	150	April 15	1 pkt.		.10
Spinach	Golden Hubbard	25	May 1	1 pkt.		.10
Squash	Golden Bantam	150	May 20	1/2 oz.		.10
Sweet Corn		600	May 15			
			June 1			
			June 20	1 1/2 lbs.		.40
Swiss Chard	Lucullus	25	April 15	1 pkt.		.10
Tomato	Earliana & Bonny Best	300	May 20	2 pkts. or 75 plants		.10 1.50
Turnips	Purple Top	150	April 15			
			Aug. 1	1/2 oz.		.10
Potatoes	Certified seed either Cobbler or Ohio	600	April 15	1/2 bu.		.60
				TOTAL cost of seed		\$4.40
				TOTAL cost of plants		\$2.40

HORSE CULTIVATED 1/2 ACRE GARDEN

Beans	Stringless Green Pod	200	May 10	2 lbs.		\$.70
Beets	Detroit Dark Red	200	May 1	4 oz.		.60
Cabbage	Jersey Wakefield (early)	100	May 10	1 pkt. or 50 plants		.05 .60
Cabbage	Danish Ballhead (late)	200	May 10	1/2 oz. or 100 plants		.15 1.20
Carrots	Chantenay or Danvers	100	May 1	1 oz.		.15
Cucumbers	White Spine	200	May 20	1 oz.		.15
Dill	Black Seeded Simpson	10	May 1	1 pkt.		.05
Lettuce	Red Weathersfield	100	April 15	1/2 oz.		.10
Onion Seed	Hollow Crown	200	April 15	1/4 lb.		.60
Parsnips	Dwarf Curled	100	May 1	1/2 oz.		.10
Parsley	Laxtonian & Telephone	10	May 1	1 pkt.		.05
Peas	Harris' Early	200	April 15	2 lbs.		.70
Peppers	White Rice	50	May 20	1 pkt.		.10
Pop Corn	Sugar Pie	200	May 10	1/2 lb.		.15
Pumpkin	Scarlet Globe & White Icicle	200	May 20	1 oz.		.10
Radish	White Flecked	100	April 15	1 oz.		.15
Rutabagas	New Zealand	200	April 15	1 oz.		.15
Spinach	Golden Hubbard	100	May 1	1 oz.		.15
Squash	Golden Bantam	400	May 20	2 oz.		.40
Sweet Corn		1200	May 15	3 lbs.		.75
			June 1			
			June 20			
Swiss Chard	Lucullus	50	April 15	1 oz.		.10
Tomato	Earliana & Bonny Best	400	May 20	2 pkts. or 100 plants		.10 2.00
Turnips	Purple Top	200	April 15	1 oz.		.15
			Aug. 1			
Potatoes	Certified seed either Cobbler or Ohio	800	April 15	3/4 bu.		.60
				TOTAL cost of seed		\$6.90
				TOTAL cost of plants		\$3.80

The entire supply of seeds of string beans, corn, lettuce, peas, and radishes should not be planted at one time, but 10 days or two weeks apart so that fresh vegetables may be had through the season.



BUTTERCUP SQUASH

This is one of the originations of Prof. A. F. Yeager. We have many reports praising the quality of this squash. It is not a large squash but more nearly what one would class as a family-size. It averages about three pounds in weight. It has a thin skin, not requiring a hatchet to cut it open as do some of the larger varieties. The flesh is bright orange in color. Another good thing in its flavor is that it keeps for a long time in storage. The seed is not sold by all seedmen but some of the seedmen in both North and South Dakota have seed for sale.

SOME OF MY PLANTING PROBLEMS ON THE PRAIRIE

(Continued from page 57)

ed nursery last spring, where I should judge that mice alone had killed eighty per cent of the trees. Grass had gotten among the trees, and mice and cottontails had done the rest.

There having not been a single tree on my place, I found that after my young trees had gotten a good start, that I had another problem to contend with, namely, jackrabbits. After the snow covered every source of supply, the rabbits would come in armies to devour the young trees. A good deal has been written about protecting trees from rabbits, but personally I do not approve of the methods mentioned. I try to use nature for protection. I think their rule holds true, to humans, as well as animals. I don't think it is natural for rabbits to eat trees in summer, but when winter comes and they are cut off from their source of supply, then they are ready to move. Then I haul out feed for them preferably oats and corn. To make a long story short, I haven't lost a single tree by rabbits since relying on this method; while others lost everyone.

Horticulture is a study with me. I get an unmeasured amount of satisfaction and contentment out of this work, and my trees as I spend time taking notes on them Sunday afternoons, walking down through the rows seem to say to me, "thank you, call again."

I have somewhere over one hundred varieties of apples alone, besides pears, cherries, plums, grapes, mulberry, gooseberries, currants, June berries, elderberries, raspberries, and some two thousand strawberries.

"Na, they don't do here." Among the visitors on the place last year would say, "how did you do it." I would answer. Quite natural. If you love the work, then by all means plant. If not,

don't plant. Remember that the bundle of little trees you get from the nursery are baby trees; they need your baby care and that's about all.

One more word in conclusion. Our great South Dakota has only fairly started in this line. If it has taken eleven years before our own people would plant the Anoka Apple, how long will it take before another apple tree is planted.

THE BLUE-WINGED TEAL

(Continued from page 52)

three weeks and the youngsters are at once on the move. The male has disappeared as soon as the eggs are laid and takes no interest in his family.

The food habits of the teal are much the same as those of the mallard. They feed in shallow water, securing food on the surface or usually only as far below as they can reach with their necks. Water plants, seeds, buds and tubers of pondweeds, grasses, sedges and smartweed, comprise most of their diet. Snails and water insects make up most of the animal matter. Wild rice is of course a favorite item, and wheat and barley are eaten to some extent.

In agreement with their late arrival, the teal leave early and are on their way southward with the first frosts. A few blue-wing teal were among the ducks banded in Alberta, and one of them was recovered in Texas. One bird banded by F. W. Robl of Ellinwood, Kansas, was killed in Cuba, two other in Honduras and several in Mexico.

The nesting of the teal has, of course been much restricted by the settlement of the country, but small preserves of slough territory would easily retain many of them. Mr. A. C. Bent writes of North Dakota in 1901: "Almost every little pond hole, creek or grassy slough contained one or more pairs." Dr. Thos. S. Roberts records that it was found to be the most common duck nesting in western Minnesota in 1929.