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SOUTH DAKOTA HORTICULTURIST

Volume II

Number 5

MAY
THIS BOOK DOES
NOT CIRCULATE
1930

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SOUTH DAKOTA HORTICULTURIST

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President—Dr. N. E. Hansen.....Brookings, S. D.
Vice-Pres.—John Robertson.....Hot Springs, S. D.
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EARLINESS TEST OF SOME MELON VARIETIES

Mr. T. M. Currence, Division of Horticulture, University Farm, tells us in the Minnesota Horticulturist of the test he made in 1929 with a limited number of varieties of melons. The seed was secured from different seedmen. Each variety was repeated twice, making three plantings of each. The seed was all planted directly in the field on May 15. Harvest began on August 22. The watermelon test was incidental to that of muskmelons. This accounts for the few varieties grown. The table gives the result of the test.

Variety	Yields		Yields		Average	
	First Week No. of Fruits	Weight in lbs.	Second Week No. of Fruits	Weight in lbs.	Yield for two Weeks	Weight of Fruits
Muskmelons:						
Osage	0	0	0	0		
Extra Early Osage	0	0	6	24.19	24.19	4.03
Pages Early	4	20.79	17	67.22	88.01	4.18
Extra Early Hackensack	3	10.64	26	88.72	99.36	3.43
Greely Wonder	3	10.47	13	50.80	61.27	3.83
Golden Champlain	15	32.21	58	101.24	133.45	1.83
(From Will Seed Co.)						
Golden Champlain	18	37.43	53	104.11	141.54	1.86
(From Joseph Harris Seed Co.)						
Lake Champlain	4	8.59	59	120.89	129.48	2.06
Fordhook	1	2.91	14	21.13	24.04	1.60
Knight	0	0	146	237.76	237.76	1.63
Hales Best	0	0	13	25.65	25.65	1.97
Edwards Perfecto	1	2.03	8	11.71	13.74	1.53
Benders Surprise	0	0	16	60.57	60.57	3.79
Ohio Sugar	0	0	10	33.90	33.90	3.39
Pollack	0	0	7	8.84	8.84	1.26
Hearts of Gold	0	0	18	35.39	35.39	1.97
Emerald Gem	0	0	47	95.81	95.81	2.04
Watermelons:						
Yellow Rind	0	0	7	56.58	56.58	8.08
Arikara	0	0	3	23.93	23.93	7.98
Klondike	0	0	14	162.62	162.62	11.62
Colos Early	0	0	24	266.58	266.58	11.11
Kleckley Sweet	0	0	8	104.67	104.67	13.08
Chillian Black Seeded	0	0	4	49.88	49.88	12.45
King and Queen Winter.....	0	0	24	248.13	248.13	10.34
Phinneys Earley	0	0	14	151.09	151.09	10.79
Early Fordhook	0	0	15	206.10	206.10	13.74

The plum trees were beginning to blossom along the Missouri River in the vicinity of the Wheeler Bridge on April 12th. From all appearances the buffalo berry and maple had been in blossom for a week to ten days.

The article written by Mrs. Lewis Weber in this issue is not heavy reading. It is intended for the youngsters. We are all grown up youngsters and favor seeing the citizens of tomorrow receive an application of horticulture once in a while.

PEAR GROWING IN SOUTH DAKOTA

John Robertson, Hot Springs

In this article we will say something about our experience in growing pears. We will not say a great deal about first experiences, which included the time between 20 and 30 years ago. But we did have some first experiences and needed them in order that we might better appreciate the later ones we have had during past 15 years. In the beginning, we tried out several of the leaders then recommended and had most sorts live long enough to fruit before killing out entirely by blight. There was only a single sort that has lived along and done well till the present and this is the Sudduth. But this is not a very hardy sort and produces rather small and inferior quality fruit, so we have been constantly on the lookout for superior sorts and having an eye watching for any indication of blight. Our ambition has been to grow pears of good marketable size and of a quality equal to the average that may be shipped in from what are known as pear growing districts. But our early experiences taught us to be moderate in quantity of each on trial in these later tests, as well as rather conservative in what we say about each. A fine large and good quality fruit is not worth mentioning, if the tree that it grows on will not live and do well.

In the spring of 1917 Professor Hansen sent us from 2 to 4 trees each of several Numbers of his new sorts. These all grew, and have proved hardy. As each sort bore fruit we were rather disappointed in not finding it of the size and quality we had set as a standard that might be attained. So, in the spring of 1923 we began top grafting these sorts to stocks of several different new kinds that we got through various sources: and now we have the most interesting mixture of pears that I ever saw. I do not want to leave the impression that the Hansen pears are of no value. We did not try to discourage these on lower parts of trees: but simply set scions on sides and upper parts of each tree, sometimes several different varieties on same tree. We did not complete top working in one year. While a beginning was made in the spring of 1923, the most at any one time was done in 1924. But in each year since, as a new sort has been sent me, or as some already on trial have shown superior merit, we have been setting more scions. Am not going to the trouble of checking up and saying how many varieties of pears we have; but there is a goodly number, and most have been bearing several years now. With the Hansen sorts below, as well as above in some trees; and several other different sorts mixed in, there is no trouble about lack of cross-fertilization of blossoms; so we are sure of a good set of fruit, unless the spring is extremely unfavorable. We are not going to say much about the blighters, or other varieties that we do not favor as comparing favorably with sorts desirable for eating out of hand as well as cooking.

Two of the most hardy pears we have ever tried are known as Tait numbers 1 and 2, originating in Canada. We got these in the spring of 1923, and they have been bearing for 3-4 years. These are comparatively slow, stocky growers, with the wood ripening up well, and never showing the least discoloration of pith or cambium in passing through winters. The fruit of each is only medium in size, green color, early maturing, and fine quality eating, without grit. The No. 2 is the earliest, heaviest, and most regular bearer. These should prove valuable for growing in most severe locations, as well as being worthwhile to have along with other kinds in sections where pear growing is not so much of a problem.

The next hardiest pear that we have is the Patten. While there are several numbers in Patten pears, it is generally understood that there is only one number that has proven superior in size; this is No. 1206, now known as Patten. This is a strong grower, shapely, and hardy. It does not appear to be a very early, or heavy bearer during first years; but very likely improves in this respect with age. While the fruits have not grown uniformly large here, yet the general average is above medium

in size. The fruits are colored reddish on sunnyside, keep fairly well, and are of very good quality. Valuable as the hardiest of large pears.

The Mendel has not proven a strong grower top worked, but has done fairly well as individual trees. While it has never killed back any through winter injury; yet the cambium and pith discoloration after passing through winter indicates that it is not first in hardiness, though I think may be grown in most sections. It is an early bearer, of green colored, medium sized fruit that keeps well. The quality is very good; being superior to Patten in this respect; but size and appearance is not so encouraging, grown here.

The Minnesota No. 1 has pleased us the best of any as a most dependable producer of above medium size, fine appearing and fine quality fruit. The fruit is reddish from the time of setting on and stays that way right along, being very noticeable. This will not keep equally well with Mendel, but much more valuable as a market sort. It grows well and shapely top worked, but is not more hardy than Mendel. Should prove valuable in sections where ordinary varieties of apples stand the winters.

None of the five varieties of pears that I've chosen as being worthy of attention by propagating have shown the least signs of blight so far. I've tried describing the characteristics of each as these have appeared to me. It is hardly likely that all these will stand the test of time with freedom from blight, so, when someone may be summing up conclusions on these years later, the best pear will be that which has continued to live along vigorously and has made a good record as a dependable producer.

HEADING BACK

W. R. Leslie, Dominion Experimental Station, Morden, Man.

The nursery tree, upon being dug, is deprived of many of its roots, the machinery by which water is absorbed. If the top of the tree is not modified in size by pruning or "headed-back," at the time of replanting, the specimen is very apt to die from sheer drying out. It is essential that the top of the young tree be cut back to balance the greatly reduced root system.

Out on the Great Plains area it is important that fruit trees be kept low. The apple and plum whip may well be cut back to from 12 to 18 inches from the ground. Main scaffold limbs may thus be induced to come out from very close to the ground as well as at the uppermost buds. Low headed trees are the result and, at the Morden Experimental Station, these are the ones doing best.

Raspberry canes, upon planting, are cut down to within four to eight inches of the ground. Those left unlimited in length are apt to die and, at best, are due for a heavy struggle. The leaves transpire moisture even while the shortened roots are becoming established in their new soil setting. Currants are cut back to stubs. Gooseberries, ornamental shrubs and shapely trees, such as birch, are frequently not headed-back but have a generous thinning made of their branches. Specimens so treated require more care than headed trees. They should be watered and tall trees staked for the first season.

Native shrubs such as saskatoons transplant most successfully when the tops are cut back to near the soil level. Shrubs taken from the woods are apt to fail in the garden unless severely headed-back. As new root development takes place, shoots will be put forth and a sturdy bush be obtained.

Trees that are established and have formed a double leader with a sharp crotch require having one of these main branches cut back and thus restrained. This timely care will probably avoid the splitting and destruction of the tree that is seen very much too frequently. The leader thus dwarfed by pruning tends to become a side branch to the other, and the crotch will strengthen. In general, the unpruned limb should be to the west, from whence come prevailing winds.

EXTRACTS FROM THE DIARY OF A TRAVELING MAN

W. A. Simmons, Sioux Falls

March 8. Called on Rev. George E. Green at Wakonda this morning. As I approached the house I saw a large red squirrel dash out of the door of the porch and hotfoot it across the street.

Mr. and Mrs. Green were on the porch, laughing heartily.

As I came in, the damage done by the small marauder was manifest. Mrs. Green had concocted one of her famous custard pies, a pie like mother used to make, and placed it on the porch to cool.

The squirrel had landed in the center of the pie, tipped it over and hopelessly wrecked it.

Perhaps some day I may be tempted to try laughter as a substitute to the remarks I usually make on such an occasion, but in a serious case like this, when one sees the climax of a good dinner fade out like a moving picture kiss, am afraid it would not bring to me the comfort that uttering some of the words learned at the hired man's knee in boyhood does.

Mr. Green is a true follower of our Savior, even to the skill with woodworking tools, and he has built some very pretty window boxes.

He gets a plain box of proper size and then nails on branches of trees to make a rustic effect, after which a coat of varnish is applied and he has a window box that is much more attractive than any that could be purchased.

Rosy Morn petunias that he tells me have been in bloom all winter completed the beauty of the box.

It was with immense satisfaction we learned of the action of the American Pomological Society in awarding one of the Wilder silver medals to Dr. N. E. Hansen "for exploring foreign countries for fruits and flowering plants useful in the United States and for breeding and developing many fruits and ornamental plants particularly adapted to the Great Plains sections of North America."

It seems this recognition is considerably belated but it is better late than never.

While there are some features of his work wherein we could wish improvement, such as failure to select the best of its parentage and destroying the balance, instead of losing these outstanding individuals by hiding them in a mass introduction of mediocre varieties as in the case of his grapes and roses, we cannot lose sight of the fact that he is a great plant breeder and his outstanding introductions in the plum and cherry-plum classes have done much to make life in the Dakotas pleasanter and richer.

Another improvement we could wish for is in the manner of their introduction.



Daughter Jessie Simmons Holding One of the Family Mouse Traps

When an outstanding fruit is about to be introduced and but few trees or scions are available, sale of these should, we believe, be confined to the nurserymen, who alone are in a position to rapidly multiply them by propagation, and soon make an abundant supply at reasonable prices, available to the general public.

To distribute these things to amateur fruit growers is to run serious risks of losing them, as even when such planters makes these things grow, they are incapable of propagating them and their becoming available for general distribution is greatly delayed.

Our sympathy goes out to Mrs. M. W. Sheafe, whose fine flower articles have so delighted our readers during the past year, in her great loss of the companion of 48 years of wedded life. General M. W. Sheafe was one of the state's outstanding citizens and a man that was responsible for much of the state's present greatness.

The whole state joins with Mrs. Sheafe in mourning his passing.

By invitation of the Royal Horticultural Society, the Ninth International Horticultural Congress will be held in London from August 7 to 15.

Among the papers to be delivered by Americans, we were glad to see "Fruit Stocks Where Mercury Freezes," by Dr. N. E. Hansen.

March 15. Mr. H. A. Volz, one of our members at Winner, is one of the most enthusiastic canna fans in the state.

He has a large bed of them each year and when in bloom it is the floral show place of the city.

He showed me boxes just received from an eastern dealer containing over 400 canna roots of the rarer varieties.

Mr. Volz does not attempt to carry his roots over winter but buys a new stock each spring.

He has two fine plants in a window box in his office that have occupied that place of honor for four years, so at no season is he entirely out of his favorite plant.

Dr. W. F. Gericke, head of the department of plant physiology, has been carrying on some notable experiments in growing field crops, vegetables and flowers entirely in water.

By dint of innumerable experiments, the exact requirement of each plant is discovered and this is supplied to the water in the form of pills.

Thus the nitrogen, phosphorus, magnesia, iron, potassium, sulphur, etc., which the plant would normally draw from the soil, is dissolved in the water and there is no guess work about the plant getting the elements it needs, as is often the case when plants are grown in soil. Also no irrigation is required as but little water is required to keep up the water level in the covered tanks, none of it being wasted by being absorbed by the thirsty soil.

Also the gardener is emancipated from the age old battle with weeds and much of the damage from insects is eliminated, as most insects come from the ground.

Superior vegetables and flowers are grown in shallow tanks about six inches in depth and in the case of Dr. Gericke's experiments, 30 feet in length and three feet in width.

These experiments are continuing and are by no means complete as yet, but enough is known through over five years of trial to state definitely that increased yields with practically all vegetables and flowers can be secured by this methods, and Dr. Gericke thinks that practically all deserts can be made to support a large population by food produced in this manner.

These "pills" are not on the market as yet, but the doctor announces that the formula for these, as well as full directions for their use, will be announced as soon as possible.

Rivoire, a prominent French seedsman, says, "The result of our experiments is the fact that several kinds of flower seeds which have lost their power of germinating one year after the crop may be sown after a storage of several years with full success.

(Continued from Page Twelve)

THE NATIONAL FLOWER AND GARDEN SHOW

Mrs. M. W. Sheafe, Watertown

By the time this article reaches our readers, the Eleventh National Flower and Garden Show will be a memory only, but a memory that will linger with us for years to come. A great event for the northwest country, one, it is hoped, many of our flower lovers were able to attend. It is quite impossible to do justice to this wonderful exhibition by description, it must be seen to be truly appreciated. At 1 p. m. Saturday, March 29, the doors of the mammoth auditorium were thrown open for admission to the balcony seats, as no one was allowed on the main floor until after the formal opening.

During the interval of waiting, one could look down on this most gorgeous scene of color and forget for the time being the wintry blasts outside. At 2 p. m. the official program opened by the entrance (to a march on the fine pipe organ) of 12 little girls dressed as colonial pages and six as butterflies, who formed an escort for the executives of the societies and special guests, who took their seats on the stage. As this show was national in scope, a beautiful American eagle in bronze occupied a prominent place on the front of the stage. The opening number was the singing by the audience of "America," accompanied by the organ.

During the singing, representatives of the army and navy, on each side of the stage, stood at attention, while a beautiful American flag was unfurled. A fine invocation by Rev. Phillips E. Osgood of St. Marks Church, Minneapolis, followed, after which in a few well chosen words Theodore Wirth, chairman of the local executive committee, introduced President Earle H. Mause, who briefly expressed his appreciation of cooperation shown and said, "We are proud to dedicate this flower show to the people of the Twin Cities and the Northwest." Mayor Krenze of Minneapolis officially received the flower show for the city. During his brief remarks he said, "It seems as though the automobile has supplanted the home and there are times when the fragrance of gasoline threatens to replace the fragrance of flowers around our homes." Governor Christianson paid high tribute to the inspiration and education that comes from such a show. The purpose of these shows is to create a love of flowers and to advance floriculture and horticulture in all its various branches.

The flower show having been presented and accepted in formal manner, the doors were thrown open by the costumed children when their director sounded her "calla" trumpet. A fine program of organ music followed which no doubt many enjoyed. The writer, a lover of music as well as flowers, having a single track mind, was oblivious to everything but the flowers. The attendance was so great it was very difficult to get through, but feel more than repaid for the effort in the four hours spent in the beautiful auditorium with its walls decorated with southern smilax, a fitting background for the wonderful exhibits, some of which I will try to mention. In the center of the auditorium was a large circle with a walk around it and covered with fresh green sod. On this was placed the tall tile shaped wicker baskets, painted white, each basket held 50 beautiful cut roses with stems several feet long and each rose perfection in itself. A most wonderful display of skill in the growing of this so-called "Queen of flowers." At either side of this circle were the rose gardens, one of which was unique, because of the furniture made entirely of the growing roses. This plot of ground with a fence at the rear entirely covered with Rambler roses in full bloom and ground covered with green grass showed an "aeroplane" several feet long made entirely of rose plants, which looked as though it had just alighted, chairs and other garden furniture arranged artistically about as though ready for the guests just arrived. The interesting part of this display was the great skill shown in creating these pieces and in being able to grow in such small containers, which were entirely covered, the many feet of stalk necessary to make the various articles. Great skill was also shown in the feeding of these plants to keep them in such perfect leafage, not a petal or leaf discolored, bruised from transit, or in any way imperfect, and all the plants used in full bloom.

On the opposite side another rose garden, featuring different varieties, an artistic arch with beautiful blooming climbers over it and continuing along the fence.

Adjoining the rose gardens were the bulb and perennial gardens, all so artistic, practical and appealing. One very attractive with a "Dubrois" fence on three sides, choice golden bell Forsythias in full bloom made a solid background which was slightly raised, a southern dogwood with large white flowers towering above our heads, lilacs in full bloom. In the front two cut leaf birch trees in full leaf. A curved flagstone walk bordered with groups of dainty blue grape hyacinths, in clumps, back of which gorgeous Darwin and Breeder tulips from white to deep rose and into the bronze shades between the stones growing through the sod were groups of crocuses in several shades, each and every plant, blub or tree looked as though it had always been there and was happy and comfortable.

Some of the gardens featured pottery, sun dials, bird baths, fountains, sculpture, everything to add attractiveness and beauty, each garden in itself a work of art, impossible to describe. In these gardens were seen many familiar flower friends. Flowering maples, delphinium, foxgloves, irises, bleeding hearts, pinks, violets, pansies, forget-me-nots, callas, both white and yellow and many others, all seemingly in just the right place to make a most artistic effect. Along the sides of the building (main floor) were huge beds 200 feet and less for each exhibit. Hydrangeas in a solid mass, so one could scarcely see the green foliage, such dainty colorings, very large florets and enormous heads. Beds of wonderful calceolarias in all the colors and markings of this plant. Cinerarias in all the unusual blue shades, besides the many combinations of colors. Beds of valley lilies so dainty and fragrant. Easter lilies, regals and some of the unusual varieties in the reds, pinks, down to the more commonplace kinds. The platform held the exhibits of orchids and the other exotic plants. Among them were choice rare ferns, enormous palms, acacia trees in full bloom, also genistas, magnolias and azalias, beautiful rhodendrons in several shades were banked at the base of the platform and at one side were unusual colorings in amaryllis, very choice indeed. As the writer was unable to get on the platform owing to the crowd and saw this display only from the balcony, cannot mention any outstanding plant or flower, but can truthfully say all exhibits were perfect.

On the floor below were the rock and cactus gardens, each one complete in itself. As the names of exhibitors were not allowed, all one could do was wonder and admire. The rock garden especially pleasing was like a ravine, with ledges of flat rock jutting out here and there, from which grew many kinds of rock loving plants, columbines, harebells and others. On the top of this garden were shrubs leaning over as though trying to see the falls and trickling stream running into a pool, where goldfish and other kinds disported themselves. In and about this pool were various water plants. All was so natural and realistic it was hard to believe it was not a work of nature alone. The cactus display was large and very interesting, the blooms gorgeous and to one who enjoys them, very appealing. Along the sides of this room were many kinds of exhibits, signs gave the names of the firms and advertising was freely distributed and information cheerfully given.

A tea room sponsored by the Garden Flower Society of Minneapolis seemed to be a very popular place, as the writer's time was limited and food for the body less desirable than food for the soul, I chose hyacinths. In closing let me say the educational value of this flower show was very evident. Pencils and note books taking combinations of colors and groupings of plants as well as names and varieties were convincing proofs.

There is much more to be said of this exhibition but fear too much time and space has already been taken, but must express my delight over the winning of the prize by the carnation. The orchid is truly the rich man's flower, while the carnation may be grown in the sunny window of the most humble home. The winning by our Aberdeen rosarian, B. F. Siebrecht, of three prizes for his Premier, Talisman, and Templar roses was a distinct honor as the competition was very strong.

WATER LILIES—VARIETIES AND SOIL

Thos. W. Hobart, Sioux Falls

In crater pools last month I wrote or intended to write just how I had built the type. I find that I failed to tell just how we built the bottom of this and all other pools. The same cement mixture is used as for the sides excepting that more water is used, making a somewhat thin batter and enough is mixed and wet at one time to pour the whole bottom, a layer about one to one-and one-half inches is spread over the whole bottom area then a layer of the "damrock" (see last month's article) about two inches deep is roughly scattered over this, then another layer of the batter just enough to hide all the rock, tamp until even and water stands on top, now use reinforcing, chicken netting, bed springs or old wire, most any kind of wire will answer the purpose, then another layer of damp rock, then a two to two and one-half inches of cement batter, tamp and trowel smooth and let set 24 hours covered with burlap, old carpet or hay kept damp. Leave this covering to tramp on while building the sides so as to keep the bottom clean. After 24 hours build the sides as described last month. There is no danger of a leak at the joint if they are kept clean and well moistened before new cement is joined on. We have been as long as a week making one pool, working at odd times.

The other point, you do not need to use 20 penny spikes to hold the reinforcing in the sides. We did because we had a lot of old ones, pieces of old telephone or other wire nine or ten inches long bent into staples will work better than spikes.

Soil

Few amateurs ever get the soil for their lilies strong or rich enough. It is almost impossible to get it too rich. This mixture we find satisfactory. With a 10 or 12 quart pail measure out four parts of the richest black dirt you can get (sift through one-fourth or one-half inch screen before measuring) add one part or pail of *Wizard brand pulverized sterilized sheep manure and two pounds of Rose Growers steamed bone meal. Stir and shovel over until thoroughly mixed, tamp hard into the pail, box or tub in which you plant your lilies to within one and one-half or two inches of the top. Fill this top space with small rock or coarse gravel, leaving an open space in center in which to set plant. Now set tub in pool and fill pool with water to two inches over top of tub. Let set two weeks to form muck, plant lilies and fill around plant with gravel. This gravel covering on tub keeps the water from forming green scum and also keeps the water from becoming roiled by dogs or other animals or children playing with sticks, etc.

Varieties

The white and yellow chinese pigmies are the prettiest and most novel of all and can be set in an eight inch bulb pan (low flower pot) and grown in a dish pan, the little leaves are about one and one-half to two inches across and the midjet double flowers about two inches in diameter are borne quite profusely and set every one who sees them wild even when grown by the side of the larger lilies, the cost is from \$1 to \$1.50.

Blue Triumph. This new lily is a wonder, soon comes into bloom from a small root. Last year it bore rich blue flowers up to nine inches in diameter in profusion and there were nearly 100 blooms in July, August and September, with 30 or more buds in all stages of development showing at one time. Price around \$5.

Pennsylvania is very much like the above plant in size, color and foliage, sweet scented but blooms not more than half as freely as the above. The price is from \$3 to \$3.50.

Miss Whittaker. There seems to be two lilies under this name. The one I have grown, bearing light blue flowers, is a very beautiful plant. The other I have not grown, is described as a very large dark blue prolific bloomer and extra hardy and is priced around \$3.

August Koch is a very free producer of light lavender flowers about four inches in diameter. It grows well in a small pool or half barrel tub

and for us last year after one-half inch of ice had entirely killed all the foliage and buds of all the other varieties, several buds of this that were below the ice came up and bloomed for a week or two after the weather turned warm again. This was the only one that showed signs of life after the hard freeze. This ranges in cost from \$2 to \$3.

Chromatella (Marlicea yellow). A very free flowering, very double, light yellow flower that seems made of wax, five or six inches in diameter. The best pure yellow flower I have seen. This is about \$2.

Omarana. A very good light pink, darker at edge of petals, prolific bearer of flowers up to five or six inches across. Costs \$1.25 to \$2.

Comanche. Large flowers of a rich copper shaded salmon or apricot color, red shades as the flower ages. A large compact flower and a free bloomer, three or more flowers out all the time, foliage dark olive green flaked with brown. The blossoms are held above the water, a very beautiful flower. This ranges in price from \$5 and up.

Gloriosa. A magnificent variety, flowers up to seven inches in diameter, that float on the water, deep carmine, deepening with age, very free bloomer, a good cut flower lasting a week or more desirable for tub or small pool, in a tub the flower does not reach so large a size. This also sells for around \$5.

Do not plant the lilies too early in the spring. None of the above, even the hardiest, were planted before June 13 and 15. And if you could have heard the people who had planted theirs out in April and May gasp and wonder how we had so many and such large flowers, you would realize that it did not come from early planting, which may give earlier flowers but at the expense of freedom and size of bloom later on.

*If you cannot secure the sterilized pulverized sheep manure, use the same amounts of perfectly fresh cow or horse manure without litter of any kind. While this is disagreeable to handle, it will answer the same purpose.

CARE OF THE ORCHARD

C. Bolles, McCook, Neb.

If ever there was a tree that needed pruning it is the sand cherry cross or plum cherry. Left alone it forms a runty looking thing while if grown as a bush it looks as though you had something. In bush form the branches will drag the ground, in fruit, and thus get away from the summer winds.

Our oldest Opatas is 20 feet across the younger ones tape 15 feet. These are the largest of the group but the St. Anthony is a close second. Last year the Opatas sometimes carried two bushels per tree yet in bush form never broke down, while those pruned high and having a smaller load split down.

The oldtimer's excuse for high pruning was to cultivate close up. If you would use a spring tooth harrow spread out between sections it would work well under the bushes.

When we get organized and folks will listen to advice, we're going to advocate about three things for the home orchard.

First comes a good fence. When we started up without a fence all the rabbits in the countryside gathered with us for their annual vacation. About the time they had gone home the stray stock came along and did their part.

Second we'd have fewer trees bought and with them a spring tooth harrow and a hand hoe. The disc has a place in the farmer's field but it was never made to skin fruit trees and mound them up. In a 1000 mile trip through the plains many many home orchards were neglected and a lack of proper tools explained much of this.

Third we'd tell folks to lay the plat out in long rows so that the windbreak and fruit could be tended. In harrowing every two weeks we find long hauls and few turns get over the ground.

WHY PEONIES REFUSED TO BLOSSOM

Claude A. Barr, Smithwick

The peony is a lovely flower worthy of much effort and attention. Note the word "attention." I have a number of plants of just two varieties, the one a great towering pink of that wonderful melting tint which is the most beautiful color in the world; the other an even more perfectly formed white, probably the Festiva Maxima, with a fragrance as fine as a rose. But it is only lately that I have gained confidence to plant more peonies.

One may not safely take for granted that the peony will succeed in South Dakota as does wheat grass, say, or the pasque or the pine, merely because it, or some species of it, are native to the dry, cold climate of Siberia. We who have lived many years in the west river country are forced to accept the oft repeated recommendation that the peony is the best hardy perennial for the state with a grain of salt—with many grains of hopeful waiting, ounces of disappointment and pounds of effort at finding the right location, preparing the soil just so and seeing to it that in at least one period of three to four weeks other than the blooming season there shall be no shortage of moisture.

I rather think that a vote on the best hardy perennials taken west of the river would place the iris first, or one of several others—even the lowly hollyhock is apt to give a larger sum total of satisfaction. And the recurrent question why buds reach a certain stage of development and then fail to bloom suggests that the difficulty is not all confined to the west. But I have learned a trick with peonies which makes them quite reliable bloomers and I wish to pass it on.

Let me tell you my experience. First I had peonies eleven years without a blossom. I planted them as they were planted in moister climates and did even better in cultivation, keeping out the grass 18 or 20 inches from the plants. After a few years they were moved to clean ground where tree roots soon made a stronger pull on the available moisture. I moved them again.

"Oh, why did you do it?" cried a friend who grew peonies where the blossoms come year after year without number from the same plants in the same place and with no care. Moving is not really so serious if you feel you can afford to sacrifice a year's full bloom for some other gain, but in my case the buds still failed.

By this time I had learned to ask the advice of everyone who might possibly know anything about peonies. I asked an acquaintance in Shenandoah, Iowa, and was referred to Henry Field. "He has a wonderful store of knowledge of such things," I was told. And Mr. Field thought the blasting of buds when half grown was due to lack of moisture when the plants were maturing the previous summer. The idea showed insight.

In late September and October peonies are dormant. Just before this time, then, they are closing the season's business, completing the storage of strength in the beefy roots, bringing to the right stage the buds from which are to spring the next year's growth and flowers—if they can. In dry times I had found the foliage dead, the young buds shriveled and the roots spongy at this vital period.

When the first week in August had passed and I knew the ground to be very dry and there was no cloud even the size of a man's hand in the western sky, I made a little trench with the hoe about each plant and poured in two to four buckets of water and refilled with soil when it had soaked away. And again a month later for there had been no rain.

And then spring. Do peonies do well in dry gumbo? I'll say they do. I have all sorts of blossoms and now I am going to add to my varieties.

By the way, we're not all nurserymen. Why shouldn't some of us trade peony roots?

Fall is by all means the time to transplant and plenty of moisture

before and at this time is the only assurance of flowers the following spring. You cannot expect blossoms from spring planting. As much preparation as for small fruits is no loss, specifically, a hole 24 inches wide and 18 deep and refilled with top soil and loam or sand. Crowns should be placed carefully at two and a half to three inches under the ground.

Improper depth of crown is a cause of blasting buds, and that and recent transplanting are the causes usually credited with failure to flower. Both, however, are matters nature will adjust, with some little loss of time. Once in early June a plant was covered with eight inches of soil by a flood. Along in August a lone little shoot came up. It grew four inches. Later I found a bud started for a new crown at the proper depth and the plant blossoms now the same as any. Other than these things some may possibly have a wrong soil condition. Form a soil which has an abundance of calcium and other alkalines, fertilizers are to be kept away.

GARDEN NOTES

F. X. Wallner, Sioux Falls

April 10. Most of the cabbage seedlings have been transplanted, also several thousand tomatoes. The weather seems to stay fine and soon we will be taking a chance on planting a few rows of cabbage out in the field.

The more hardy vegetables are coming up, but we fear that they will be frozen as the season is advanced several days and we are sure to have another cold spell.

Most seed catalogs are selling a better grade of carrot seed than in the past; the coreless, also red cored Chantenay, are both quality carrots.

Reports from Washington are to cut all garden crops to avoid overproduction, yet more Mexican vegetables are coming in than ever before.

The three bins of onions left out all winter are in very good shape except for some along the outside next to the planks where there was no chance for the frost to come out in the soil.

April 17. The cold spell has arrived and we fear for our two or three acres of radishes that are up. If it snows a little more so they will be covered before the freeze, they should escape.

We just received a new machine called Ro-Ho on the order of the Backer mulcher, but improved, looks like a handy tool that any boy could do good work with.

I saw them try out a garden tractor on a nearby place the other day. They plowed around once and gave it up. I wonder are they a success or not?

EXTRACTS FROM THE DIARY OF A TRAVELING MAN

(Continued from page 6)

"Purple foxglove seeds, one year old seeds that have entirely lost their power of germinating, will germinate after two years with 50 per cent and show after three years a good and after four years a perfect germination.

"But after five years they do not germinate at all.

"Seeds of *Primula obconica* and *Pruniula auricula* should be sown two, three or four months after harvest.

"One year after harvest practically none of the seeds will germinate.

"But after the second year germination is again perfect, after the third year the germination is good and after the fourth year again perfect. *Pruniula auricula* seeds will germinate after two years satisfactorily, after three or four years perfectly."

"Results of recent experiments at the Cornell Experiment Station seem to prove that the one worthwhile result obtained by the use of the hoe and cultivator is to free the garden of weeds," says Horticulture.

"With three plants—carrots, cabbages and tomatoes—deep cultivation does no more good than simply scraping the surface. As a matter of fact, the scraping process was more beneficial for celery than tillage. If there is a moral to be drawn from this it is that garden makers would be foolish to incur a backache without more tangible results."

HOW THE FLOWERS COME IN SPRING

Mrs. Lewis Weber, Farmer

1. It is early spring. My garden is all put in order like a house for a party. Sunshine and shower have gone out to tell the flowers that the sun is on his way from the south and will soon want to see them all. The flowers are asleep in their dark little rooms under the ground. But they are awakened by the voice of sunshine and shower, they say, "We are coming," and they are soon pushing their way towards the light.

2. First of all little snowdrop opens her eyes and looks out, then she puts on her white dress and looks like a little fairy smiling at the sun. Then Miss Violet and all her sisters come, dressed in their pretty suits; they are very modest and yet everybody loves them. Next comes bright eyed Daisy, her dress is of gold fringed with white and she looks like a true child of the sun. Some say that her great grandmother was called "days-eye" because she woke up so early in the morning and looked so bright. And she is as wide awake as her great grandmother was, but her name has been shortened.

3. The buttercups come with the daisys. Robin Redbreast is so delighted to see them that he greets them with a merry song. By and by the graceful pond lily comes, floating on her green boat on the bosom of the lake, and her cousin the bold tiger, nods to her from the shore. Then Mr. Humming Bird begins to play a march and the whole family of pinks followed by the roses come trooping along.

4. By this time there are many guests, too many to name. Blue eyed forget-me-nots has come with the gay morning glory and the sleepy poppies and the tall sunflowers nod lazily to each other as the warm south wind kisses them all. And the honey bee and butterfly greet them with a pleasant "Good morning" and the great sun comes up to meet them and smile his kind welcome.

I was informed by reliable parties that several people near Fairfax are growing peaches, and a lady has two bearing apricot trees, one of exceptionally fine quality. There are several bearing apricot trees in Parker. We will have peaches and apricots growing in all parts of our state before many years—we hope.

A vine we intend trying this year is the Heavenly Blue Morning Glory. This has been highly praised from two different sources, one Canadian and one government official from Washington, who recently visited us. Maybe you would like to try them, too.—North Dakota Horticulture.

Have any of you grown or attempted to grow the Ailanthus tree, also called Tree of Heaven? If so, what success did you have.—North Dakota Horticulture.

Bulletin No. 444 of the Ohio Experiment Station, in speaking of setting strawberries, states that shallow planting is more detrimental to the plants than deep planting. While they emphasize planting exactly the right depth, if there is a variation, a greater depth is more desirable than a shallow one. We have observed the same thing in our own tests.—North Dakota Horticulture.

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Speaking of mulch paper, Mr. Livesay of Jamestown mentions the mulch paper as a fine place for cut worms and other insects to hide under. While he had poor results with paper this year, he thinks that in the average year it would be all right.—North Dakota Horticulture.

Several articles, both English and American, have recently appeared which mention Eremurus, of Fox-tail Lily, as highly desirable and easily grown. Have any of you tried it?—North Dakota Horticulture.

One correspondent recently asked for samples of Jumping Beans. These we could not supply. Incidentally, the jumping beans jump because they have insects inside of them.—North Dakota Horticulture.

We did get some comments on Zumbra Cherry and Nicollet in response to our request of last month. Four people reporting stated that they considered Zumbra worthless and had already dug them out or were going to dig them out. Three did not condemn Zumbra but all stated that it was a rather weak grower and not overly productive, but that if the fruit was left on the tree a week or more after it appeared to be ripe it was of very good quality, particularly for preserving. As regards leaving fruit on the tree, I believe there is no question but what Zumbra is good if left on the tree long enough. However, our observation has been that the birds start eating them as soon as they begin to color, so that cherries left on the tree to ripen fully have been conspicuous by their absence when picking time came.—North Dakota Horticulture.

The Missouri College of Agriculture, at Columbia, Mo., has issued a little circular on the "Use of Electricity for Hotbed Heating." If you would like this circular, write them and enclose 10 cents for the publication.—North Dakota Horticulture.

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