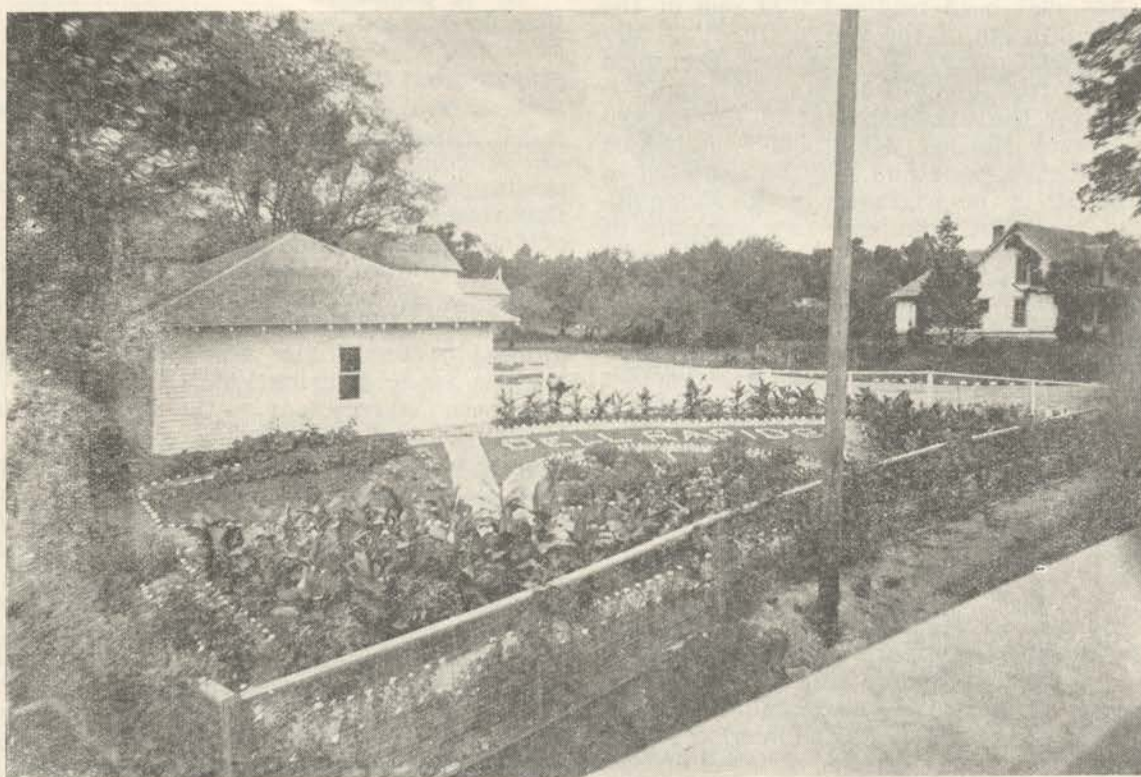


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# NORTH AND SOUTH DAKOTA HORTICULTURE

NOVEMBER, 1933

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A Part of D. H. Richardson's Yard at Dell Rapids, South Dakota.

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## NORTH DAKOTA STATE HORTICULTURAL SOCIETY NEWS LETTER



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

Through some oversight, the name of the author of the article on "Some Experiments With Shelter Belts," published in our September magazine, was omitted. Mr. E. J. George was the author. He has charge of this work at the Great Plains Field Station at Mandan, N. Dak. Evidently Mr. George knows what he is talking about because we have a request from Norman M. Ross, chief of tree planting at the Forest Nursery Station, Indian Head, Saskatchewan, for permission to publish this article in Canadian papers, and stating that it exactly matches their experience in Canada to our north. If you did not read this article, dig out the old magazine and read it carefully. You will find it worth while.

Word has just been received that one of the great horticulturists of the world, Dr. P. C. Macoun, has passed away. He has been Dominion Horticulturist for Canada for many years and is responsible for the establishment of the experimental farm at Morden, Manitoba, from which great things have come and may be expected in the future. He is the originator of the Melba apple, one of the most promising new varieties of apples for trial in our state. Those of us who have met him have always gained something new from each contact with him. His place will be an exceedingly difficult one to fill.

Professor Waugh, in the "National Nurseryman," emphasizes the necessity for vistas in landscape planting, that is, long stretches of lawn with an opening through surrounding trees to permit a long view. These, he says, give the effect of distance. He states their margin should be mildly punctuated with plantings and that there should be some object of interest to be seen at the end.

While we are on the subject of flowers, our *Lilium testaceum* once more made a wonderful showing this year. If our limited experience with it means anything, this lily should be ranked as one of the three or four best lilies for North Dakota gardens. Others are the varieties of Elegans, Tiger and Coral lilies. *Testaceum* is the tallest of the group and the latest to bloom. One stem this year produced 16 large blossoms which lasted for more than a month.

Three new grades of potatoes have been established by the United States Government. They are U. S. No. 1, size A, U. S. No. 1, size B, and U. S. commercial. A full description of these

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grades may be secured by writing the State Seed Department, Fargo, N. Dak.

It is reported from Kansas that the average yield of potatoes in that state has been increased by better cultural methods from 80 bushels per acre in 1910-1914 to 99 bushels per acre in 1915-1919, 115 bushels per acre 1920-1924, and 150 bushels per acre during 1925-1929.

A recent experiment at the University of Arkansas showed that tomato plants which were pruned produced a smaller yield than unpruned, whereas tomato plants not pruned but tied up to stakes gave more early tomatoes and larger total yield than those neither pruned nor trained.

Perhaps some of our members have not taken the time to analyze the table given in connection with Alderman and Angelo's plum pollination article in our September magazine. I would, therefore, like to call your attention to the fact that this article in general indicates that the Japanese hybrid plums cannot be depended upon to produce a crop unless pollinated by other varieties. To me, one of the interesting things was that the varieties Toka, Hansko and Kaga, as a rule, appear to be quite good pollenizers for other hybrid varieties. These three varieties are all crosses between our native plums and *Prunus simonii*, a different oriental species than the other hybrids. These varieties and probably some of the native sorts such as Surprise and Terry should be plant-





ed along with the Japanese hybrid plums, unless, as has been suggested before, you have a row composed of plum seedlings which would quite certainly provide the necessary pollination.

A new potato has been named by the Minnesota Experiment Station. It was formerly known as 16C and now bears the name "Warba," a Chipewa Indian word which means early. Here at Fargo, two out of three years' tests show this potato to be the earliest variety grown. It is a white potato with a pink eye, round in shape, resembling Triumph or Cobbler in the general outline. We have found it to be a very good yielder and well worth a trial. The objectionable feature seemed to be a tendency to produce too many tubers per hill and a little too deep eyes.

"Wisconsin Horticulture" says the poorest apple they have seen, both as to color and size, this year is Anoka. They consider it should not be planted in Wisconsin.

Mrs. Holly, also in "Wisconsin Horticulture," recommends using green ginger ale bottles rather than milk bottles for displaying blossoms at flower shows.

As an example of the great amount of pains taken with fruit in Europe, "Gardening Illustrated" recently printed a letter which recommended the pinning of a paper cone around each apple to prevent it from being pecked by birds.

The same publication has a letter highly recommending as a flowering plant, *Grindilia squarrosa*, the gum plant which is native here, which indicates that things are more likely to be appreciated away from home.

A correspondent asks about the desirability of alternating apple and plum trees when an orchard is set. Personally I think it a very good idea because plum trees are likely to be old and ready to die before the apple trees require more than 10 or 12 feet of space. So if the apples are planted 20 to 24 feet apart with plums between, they will have plenty of room after the plums are gone, and in the meantime the whole area has been productive. Then, too, I think the average fruit grower in this state is more likely to take care of his trees if they occupy the ground reasonably well and are producing something.

Before the winter season comes on, the experience of our members with the new sulfonated oil to prevent rabbit girdling, would be appreciated. We have heard of some complaints, it being claimed that the oil may damage trees. If you used the material last year, will you please write whether you intend using it again.

Before our annual meeting this summer, I asked Mr. Gerbracht, of Hettinger, to give us a talk on vegetable growing. He refused with the following statement: "As far as this country is concerned, the proposition is delightfully simple.

First, if it doesn't rain you don't raise any vegetables unless you water them and that isn't fair. Secondly, if it does rain, you raise some, provided you have **adapted varieties** and they don't freeze off, hail out, or get eaten up by insects." Please note that he emphasizes "adapted varieties," which is one thing many folks do not use. Among the other troubles insects require some attention and the rest you take your chances on. Despite Mr. Gerbracht's comments, he evidently believes that the grower has something to do with it since he mentions a neighbor who "actually raises things," partly because his location is quite favorable. But he closes with this significant statement, "Things just don't grow by themselves."

The MacMillan Company has just published a book entitled, "Delphiniums, Their History and Cultivation." The price is \$2.50.

Mr. E. Markham, in "Gardening Illustrated," says that the large flowered varieties of Clematis should have shade over their roots and the lower portion of their stems, but the long, flowering growths must have the sun.

The Pyrethrum has been one of my favorite perennial flowers ever since I came to North Dakota. This splendid hardy plant is not given the place it should have. English gardeners are much more appreciative of it and have dozens of named varieties differentiated by their color, shape and doubleness. Someone who wishes to specialize in something different and something that is worth while, might do well to consider the Pyrethrum as a specialty.

Watson Davis, in "Science," in writing of the most profitable investment of the Federal Government, refers to the expenditure for scientific research service which, he says, costs less than 7-8 of 1 percent of the amount spent by the Government.

J. H. Gourley, in "Plant Physiology," gives some results of an experiment with *Iris Germanica*, in which it was found that the plants did best on the more alkaline soil with a pH of 7.5 and 8. Those on an acid soil with a pH of 4.5 and 5 became practically worthless in 18 months. This is especially interesting to us since our soils are mostly on the alkaline side.

Professor Jones, in the February, 1933, issue of "Better Homes and Gardens," says that non-porous containers such as glass and metal are better than clay pots for house plants in the dry atmosphere of the home. When we were gathering material several years ago for the publishing of our bulletin on "Plants in the Home," it was mentioned several times by home plant growers that plants grown in tin cans required less attention in watering than did those in clay pots. Painted clay pots should be better than unpainted since it would tend to waterproof them.





## PRUNING SMALL FRUITS



Purley L. Keene

Annual thorough and judicial pruning is necessary in the handling of a small fruit plantation if the best results are to be obtained. No other group of fruit plants react so quickly to proper pruning as do the small fruits. A few years of neglect and we secure no fruit at all.

The most appropriate time to prune our small fruits is in early spring during warm days in March, after the snow has

melted away and the surface of the soil dried off enough so that the work may be accomplished readily and easily, but before any growth appears, before the buds begin to swell or the sap begins to move. If pruning is delayed too late in the spring of the year excessive bleeding from the pruning wounds occurs. This is especially true of the grape.

Where it seems advisable, due to varieties which have been chosen, to give them winter protection it may be desirable to prune in the fall of the year before the plants are laid down and covered with soil. Many growers will partially prune the plants in the fall of the year at the time they are covered, leaving more wood or canes than is necessary in order that they may further eliminate the canes in the spring of the year, removing those which have been injured or damaged through the processes of winter covering.

The pruning tools which are necessary in pruning the small fruits are few in number. A pair of hand shears will suffice for all pruning work although a number of other tools may be used to advantage. One may choose to have a light and a heavy pair of pruning shears; a pruning saw is convenient at times. Red Raspberries are frequently pruned with a pruning hook but in the home garden one can very nicely get along with one pair of hand pruning shears, or if this is not even available, an ordinary jack-knife will pass inspection. The tools should be sharp and in good repair, sufficiently strong to stand the wear and tear of every day use.

In removing wood the cuts should be made as close to the branch or limb from which they are removed or as close to the ground as is possible. No stubs should be left to die and start decay back into the live tissue. The cut should be clean, smooth, and close so that a clean, smooth surface will be left. The actual process of pruning the bramble fruits logically falls under three heads: first, that of removing the old two-year-old dead

canes; second, the thinning out of the young one-year-old canes; and third, the heading back of the one-year-old canes which have been left. The two year old canes, after producing one crop of fruit, die, never produce another crop and are of no further use to the plant, merely being a possible source of disease and insect dissemination. Many growers remove these shortly after the picking season. If all of the new canes were left there would be too many fruiting canes the following year and as a result the canes would be crowded, and the fruit would be small and of poor quality. It makes no difference whether the bramble fruits are grown in a matted row or the hill system. Under the matted row system the canes are left six or eight inches apart, perhaps greater distances for the wider matted row. Under the hill system, it is customary to leave from six to eight canes to the hill. With the Black Raspberries a fewer number of canes are left since the canes are branched and occupy more space than is the case with the Red Raspberries. The same is true of the Blackberries and the Dew Berries. The strongest buds on the canes occur from the middle of the cane upwards toward the tip. The buds at the tip end of the cane are usually small and poorly developed while the buds on the bottom portion of the cane are also poorly developed. In order to encourage the more vigorous buds to form the fruiting branches the following year, it is customary to remove the tip portion of the cane, cutting off one-fourth to one-third of its length. This will usually leave the cane thirty to thirty-six inches in height depending upon the height of the cane and the vigor of the plant. Some growers make it a practice to cut the cane off nearly half way or at a height of twenty-four inches. Experiment work at the Minnesota Agricultural College has shown that this practice yields larger berries, producing a slightly earlier crop but a materially reduced yield and it is not a practice to be recommended.

The thinning out of the one-year-old canes and the heading back is usually delayed until spring even though the plants may be laid down and covered with soil for winter protection. All commercial growers of raspberries stake or trellis their brambled fruits after they are through puning. This is to aid in keeping the fruit off the ground and to prevent the breaking of the canes as they become heavily laden with fruit during the summer.

While the habit of growth of the cane or bush fruits, such as currants and gooseberries, is somewhat different from that of the bramble fruits, still the three fundamental steps in the pruning of the bramble fruits is applicable to that of the cane fruits: namely, first removing the old canes; second, thinning out the one-year-old canes; and third, heading back the one-year-old canes.





The canes of bush fruits live for several years and are most productive during their third and fourth year. They will produce some fruit during their second year and some, of course, during their fifth and later years. The canes during their first season produce no fruit and the older canes, due to their weakened vitality, produce small and poorer quality fruit. Hence, it is customary to remove the old canes at the age of four or five years, usually not over this age. This is done by removing the entire cane at the surface of the ground. It is customary to leave from four to six young, one-year-old canes in each bush, selecting, of course, the most vigorous and healthy individuals, removing all others, many of which will be short, weak, and spindling. A bush which has been properly pruned every year will then have four to six yearling canes on it, four to six two-year-olds, four to six three-year-olds, and four to six four-year-olds. We frequently find that as the canes become older they become infested with bores or diseases so that it may become desirable to remove them before they reach the age when they would normally be removed, that is, four or five years. So that frequently, instead of having four to six four-year-old canes in the bush, we may find that we have only three or four but this need not worry us for the most productive canes are the three-year-old canes rather than the four or five. In the case of the bush fruits, the fruit buds are formed the preceding season either on shoot growth or on spur growth on the older shoots which we term canes.

Many home owners feel that the pruning of grapes is a rather technical matter and that they do not know enough about it to properly handle it. They are perfectly willing to attempt the pruning of their bush and bramble fruits but get discouraged in trying to understand the pruning of the grape.

Let's stop for a moment and examine the growing habit of the grape, and see if we can't get at the underlying principles which govern its pruning. The grape, like the raspberry, produces its blossoms on the current season's growth which comes from lateral buds along the side of last year's shoots which in their second year are usually termed canes to distinguish them from the first year's growth which we refer to by the term shoot. No fruiting shoots will grow from wood which is older than one-year. In other words, wood that is over two years of age does not produce fruit or fruiting shoots. Therefore, it becomes necessary to keep in every grape plant a certain amount of young one-year old wood to produce fruiting shoots the second season. This gives us the first clue to the pruning of the grape. We must leave some young one-year old wood in every plant every year.

What would happen if we left all of last year's canes on the grape vine? Would we not secure so many fruiting shoots that many of them would be smothered out, that the plant would be unable to mature all of the fruiting shoots and the fruit which they were producing? This is exactly what happens when a plant is left unpruned. It makes such a rank vegetative growth that no fruit is produced. This is why we so frequently hear home owners comment on the fact that they secure fruit for two or three years after planting out grapes and after that their plants all go to foliage. In order to secure a crop of fruit then, it becomes necessary to thin out severely the one-year old wood which was formed the preceeding season. Nine-tenths at least, if not more than nine-tenths, of the wood which was formed the preceeding season must be cut away from the plant and discarded, leaving only enough young wood on the plant to produce thirty to fifty fruiting shoots. Each bud which was left on the one-year old wood theoretically grows into a fruiting shoot.

Now let's review these fundamental principles. First, that the old wood—two years and older, which has borne fruit once will never produce fruit or fruiting wood again. Second, that the wood which is formed one season will produce fruiting shoots the next season. Third, that if all the new wood formed the preceeding season is left on the vine, it will attempt to produce at least ten times more grape clusters than it could possibly mature; and fourth, that at least nine-tenths of last year's wood should be cut away from the plant each spring.

Now, we have a number of ways in which this may be done. We will briefly mention one which we recommend most highly for South Dakota conditions and that is the method commonly known as the fan system of training grapes. It is a cane removal system rather than a spur removal system. Commercial growers in the grape sections of the United States usually use spur removal system and it is probably better from a commercial standpoint, but the fan system of renewing four or five canes each year seems to be the best system under our conditions. Four or five last year's shoots, vigorous and at least four feet in length with well developed buds, are selected. These shoots should preferably come from the trunk fairly close to the ground. All other one year old shoots are removed. These four are then cut back so that they leave from eight to twelve buds on each and they are tied in a fan position on the trellis.

Where less hardy varieties are being grown which require winter protection, it is customary

(Continued on page 132)





## EXTRACTS FROM THE DIARY OF A TRAVELLING MAN

W. A. Simmons

**Sept. 5:** I had a very pleasant visit with Mr. Charles McCaffree at his beautiful country home near Canova today. The drought and heat had taken their toll in his garden as they have in those of nearly all of the state. His only means of irrigation was a 200 foot well with an iron pump, and after the water had been cajoled into appearing above ground, it had to be carried to the garden in milk cans. Satisfying the thirsty soil by this means was more laborious than his boyhood experience in carrying water to the elephant.

Mr. McCaffree has promised to contribute regularly to the magazine from now on and his articles will be very much worth while, as he has a great fund of horticultural information, and his years of experience in newspaper work have made him proficient in "getting it over" in enjoyable form.

We always class Mr. McCaffree and our president, Mr. Robertson, together. Both are of Scotch ancestry and both are warm-hearted and high-minded gentlemen, whom it is a rare privilege to know. Mr. McCaffree is really a godfather of our magazine and gave freely of his time in getting it started.

**Grafton, N. D., Sept. 13:** Dr. Aylen, Superintendent of the State Home for the Feeble-minded, did not seem at all surprised at my appearing at the institution today but was rather astonished when I left. This is one state home where sufficient land was provided, and Dr. Aylen can now be classed among the bonanza farmers with farming operations on 1230 acres to direct.

This year 250 of these acres were in potatoes, that are yielding about 65 bushels per acre. Even this great crop of over 16,000 bushels will not last the year out, the Doctor assured me, making it necessary to buy spuds during several months of the year, as he has over 800 mouths to feed. Tomatoes were a big crop and were produced in quantities in excess of the capacity of the inmates to consume, although they are highly prized as food and are eaten at each meal and many consumed between meals.

Even in this dry year the grounds show the favorable effect of having a good horticulturist in charge. The Doctor has two large beds carefully prepared to receive roses in the spring, with plenty of well rotted cow manure incorporated in the soil. Were he located at the north pole, the Doctor would somehow contrive to grow roses.

The Doctor told me he had but two advantages in gardening, unlimited labor and plenty of manure. He has a nice little greenhouse in which to start early plants and he also had quite a showing of 'mums and carnations now, as well as cac-

tus and other permanent flowers. Irrigation is a laborious problem with him, as the artesian water in their water system will not do for that purpose. They have to haul the water from the creek in tanks and distribute it around the grounds in buckets. Here, as well as in the excavation for and the preparation of the rose beds, his abundance of help with strong backs and weak minds came into play very nicely.

Mrs. E. W. Gould of Minneapolis writes as follows: "I ran across this paragraph in an article on lilies, 'A thousand years before the Christian Era, King Solomon of Israel put lilies on the map. The temple was being built for that great house of Jehovah, renowned in Biblical history, "and upon the top of the pillars was lily work. So was the work of the pillars finished." I Kings, 7:22.'"

I had entirely forgotten that the Jews had Kings, though I was painfully reminded of that fact once, as one of the worst trimmings I ever got at poker was when one of that race held four of them.

It is claimed that a rose bush bearing white flowers still blooms at San Gabriel, California, at the age of 127 years. It was originally brought from Madrid, Spain.

### Scandal in the Garden

"I once did love my garden  
But now my garden's dead.  
I found a bachelor button  
In the Brown-eyed Susan's bed."

—Senator Stanley in the Minneapolis Journal.

**Minot, N. D., Sept. 24:** I had the pleasure today, long anticipated, of seeing Judge Lewis' glads, not exactly at their best, being far too late for that, but Minuet and several other kinds were showing many fine blossoms still.

Judge Lewis, President of the National Gladiolus Society, has a lovely home on the brow of the hill, right where Central Avenue, finding the direct climb a little too much for it, turns slightly toward the east. He has more than two acres of ground and raises glads there to the number of close to 100,000 each year.

The glads are planted in beds about four feet wide and the level of the beds is about six inches below the level of the paths that give access to them. Each bed contains four rows and he spaces the glads about three inches apart in the rows. He believes they should be given a little more room than this, but with such great quantities of bulbs he feels he should give them all a chance to bring forth their annual offering of beauty and lacks the heart to deny this to any of them.

The Judge is by no means a man of one flower and had great beds of zinnias as well as many other annuals and perennials, but his second choice is undoubtedly the delphinium, of which he has vast numbers of all colors and shade gradua-





tions. He plants quantities of seed from hand-pollinated beauties each year and finds he gets better results from his own produced seed than from any high-priced seed he is able to buy from noted specialists.

The Judge is most decidedly a live wire and the National Gladiolus Society is to be congratulated on possessing the wisdom to re-elect him President year after year.

Another Minot member of the Society has been kept constantly in the harness of public spirited work as President of the Greater North Dakota Association for over seven years. I refer of course to Hon. C. E. Danielson, in private life the proprietor of the Grand Hotel, doubtless the one Vicki Baum had in mind when she wrote her famous book. No guest has ever been known to escape him, as he makes it so pleasant that one is irresistably drawn back to his house.

Frank E. Paulis, whose ground adjoins Lake Kampeska, near Watertown, South Dakota, has for the past three years been experimenting in growing sweet potatoes and is convinced there are commercial possibilities in that crop for South Dakota farmers. He says a rather light sandy loam is required and with it plenty of moisture. He prepares his hills with considerable care, eighteen inches apart and eighteen inches high, leaving a depression to hold moistur around each plant.

With such a system, evidently irrigation would be required in seasons such as we have been having of late.

Many years ago I tried a few plants in my garden, but in our heavy soil the tubers took refuge in the hard clay subsoil and had to be mined with a pick. Perhaps the raised hills are intended to prevent this game of hide and seek.

**Oct. 10:** Not many compliments come the way of a travelling man, but I had one paid me this week that made the whole day joyous. An old customer had sold out and in introducing me to his successor said, "I have known this man for 25 years and have never known him to steal anything that was properly nailed down."

The Chinese Ring-necked pheasant is a marvel of hardiness and energy, having to my knowledge passed through several hard winters when the only food obtainable was the seeds of Russian thistles. But their fondness for improved roads make them somewhat of a nuisance during the summer and one rather welcomes the hunting season when hunters keep them in hiding for at least a half of each day. In mental equipment they seem about on a par with our domestic fowl. When a car approaches, they suddenly discover they have urgent business requiring immediate attention on the other side of the road. If they can cross the road ahead of the car, they appear hap-

py, but occasionally one will get a late start and seeing that it cannot make it, will stop short a few feet from the car and give the driver a mean look as though to convey to him that it considers him a poor sport.

During the hunting season we worry lest hunters will slaughter the entire crop, but those that have pursued them with a dangerous weapon with intent to kill assure us our fears are quite groundless, as the pheasants take splendid care of themselves, evidently having no ambition to appear on anyone's dinner table.

## EVERGEENS AND OTHER THINGS

Walter Philbrick, Turtle Lake, N. Dak.

The Spruce Tree (Black Hills and Colorado) is undoubtedly (to my mind) one of our coming trees for beauty and shelter belt planting.

It seems to be the general opinion of the public that spruce are so delicate or difficult to grow that it is useless to try to grow them. It seems that the average person must be educated or experienced along this particular line in order to have success in growing evergreens.

I do not believe that we nurserymen, The School of Forestry and The Northern Great Plains Station, (we will not mention the A. C. this time) give the people enough instructions on how to properly care for these trees and get them started coming the first year or two.

A man living in our vicinity told me a year or two ago, that spruces were the trees for this country, but were too hard to get started, and what few one does get to grow are too expensive for some people. Another man told me that he had driven 180 miles to the Bad Lands to get Cedars, that he took a number of them home, planted them,—that they grew nicely for two or three months. He said that he watered them every day, and that a short time after he stopped watering them that they all died. He said, "they grow out there in the scorea, in the cracks of the stone and in places where there seems to be little or no soil at all. Can you tell me why they would not grow for me when I gave them good care?" I told him that I believed that he had watered them a little each day and that had caused them to start most of their roots near the surface and that after he had stopped watering them this top soil soon dried out and the trees naturally died.

A year ago I sold some evergreens to a certain party in Turtle Lake. As the case was, I planted these trees, told them how to care for them and I was certain that the trees would come along nicely. A few months later the lady told me that the trees had all died, that it must have been my fault because I had planted them, that they had cared for them the way they were told to. A





few questions soon solved the problem. These trees were watered with water taken from a deep well there in town, such water must contain some chemical which means death to plant life, as I have known it to kill house plants also. Another man in Turtle Lake told me recently that Spruce were nice trees to have but that I could not get them to grow for more than three years on his lot there in town. I told him that I thought they should do well there if they were fenced in. Then he said that he had hired a man to haul water from the deep well spoken of before.

Usually, when a man buys and plants one evergreen and it dies, he is done with them, they will not grow for him, in his kind of soil or for some other reason. However, this same man if refused by the first girl to whom he proposed would try that again.

My first planting of Colorado spruce proved a 100 per cent failure. These trees were small ones and were not balled or burlaped. I planted these trees carefully, taking care that the roots did not become dry, watered them well and shaded them partly for a week or two. At that time I did not realize that it took them several weeks or more to get their roots established so they could take care of themselves.

By following a few simple rules I think that the average person would have success in growing evergreens. Plant before growth starts in the spring; water well at the time of planting unless the soil is in a very wet condition; be careful not to let the roots become dry. Even if the trees come to you balled and burlapped, do not leave any of them exposed to wind or sun while you are planting them. In most cases it is safe to say that they will need part shade for several weeks during the summer. Take a look at them every day during the hottest part of the summer, if you notice that their new growth becomes badly wilted in the sun, adjust the shade and water well if necessary at that time and the chances are your trees will pull through. Pack the dirt around the roots firmly when planting. I do not believe 25 to 30 lbs. of earth balled and burlapped on a spruce tree 12 to 18 inches tall is sufficient to carry the tree through the first season without the help of part shade during the hottest part of the summer. I have found that spruce trees 18 to 30 inches tall when burlapped with about 150 to 200 lbs. of earth were able to do well without any shade the first year. I would advise that unless it is a rather wet fall, to water the trees well before winter sets in. I find that it is the dry winter winds, or the winters which have little or no snow that cause many of our trees to die which were planted the previous season. It may also be said that the winter sun is about as

hard on the baby evergreens as the summer sun.

**Watering.**—Trees should not be watered in what we may call a mild way, or as a shower bath, or so it will wet down only two or three inches. They should be watered well about every week or 10 days the first season after transplanting so as to get the new roots to go down into the natural moist soil. Light watering causes the new growth of roots to grow too near the surface, and then when one quits watering them and thinks they are well enough along to shift for themselves they soon fade and are dead.

I have noticed this spring that many of the evergreens sent out by the Northern Great Plains Field Station to their co-operators have suffered a heavy loss. If these trees are from 4 to 12 inches tall when they are sent out and are not balled and burlapped, I would not advise planting them in their permanent location, unless one has only a few of them so he can give them the proper care, such as part shade and plenty of water when needed. I would suggest that trees of this size should be planted in a bed about 18 inches apart in the row and the rows at least 2 feet apart, and be left in this bed for two or three years and then be transplanted to their permanent location with a ball of earth. It is also true that care should be taken not to shade them too much, such as having the shade too dense or too heavy, as too much shade will kill them.

We have transplanted spruce 15 to 20 inches tall during the last part of September with excellent success. These were moved with a ball of earth. We have had spruce and cedar trees 10 to 14 inches shipped to us by parcel post from Boston, Mass., without dirt on their roots, set them out about the middle of April and they did well the first season. We have found cedars much easier to start than spruce but they are not as hardy, in fact the Bad Lands cedar has not proved as hardy with us as Black Hills and Colorado Spruce. During the past winter we had Bad Lands Cedar 2 to 3 feet tall kill back almost completely while many of the spruce did not lose even the terminal bud. Both varieties had been planted in a very exposed place for three or more years. Mugho Pines seem to be perfectly hardy with us on the prairie. Pfitzer's and Savin Junipers killed back slightly in a somewhat sheltered location the past winter, but did not kill back at all the two previous winters. The common Chinese Juniper does not appear to be hardy. Norway Pine has killed out except where it had protection from the winter sun. Arbor Vitae does not kill out if it is well watered late in the fall. It appears that the White Spruce (native of Minnesota) is not going to be hardy here. I have recently noticed some of them 8 to 10 feet tall in Turtle Lake, which were





killed out and were located in a sheltered location. I can not say whether the Norway Spruce and Douglas Fir will prove hardy or not. This spring I put out a few plants of Korean Boxwood, also Daphne Cneorum. The latter seems to be hardy at the Morden, Man. Experimental Farm.

Yes.—I may say that we have a little experimental farm of our own out there on the prairie a few miles south of Turtle Lake. We plant everything that we think will grow to help make North Dakota beautiful, and of course, we plant a lot that will not grow. Gardening is a much more difficult task in the country where one hasn't the city water, so we do not go in for flowers that require plenty of water, such as Cannas. Phlox and Glads. However, we have about 120 different varieties of perennials, and about 50 named peonies and 60 named iris. I have decided that our natural soil is not what many of our flowers and shrubs want, so I have hauled in three or four loads of what may be called "woods-loam." We have found that such flowers as Jack-in-the-Pulpit, Myrtle and a few others grow in this soil that would not grow in our natural soil. We got one truck load of soil from where the native oaks grow, taking only about one inch of the top soil under the leaves. I have in mind that this will prove equally as good as peat moss.

All of my Regal Lilies killed out last winter but one, and that looks rather weak. I mulched them as usual, late in the fall. About a week ago we drove over to Mr. Gregg's Nursery near Garrison. I noticed that he had about four dozen of these lilies in his garden growing nicely. They wintered well for him.

Peonies are lovely flowers, but it seems that many people can not grow them so they will produce their grand flowers. I have seen some that were killed by too much fertilizer. I have seen others that were starving to death. A man in town told me to come up to his house to see if I could tell why his peonies did not bloom. He had 6 of them, said he had had them several years and they cost more than a dollar per root. It was about the middle of April when we walked out on his lawn to take a look at them. He showed me several little places about 6 inches square, where something was coming up that looked a great deal like garden beets, less than 10 feet away 4 or 5 large cottonwood trees were growing. I told him that he could pay as much as \$15.00 per root and plant them in the same place and he would never have them bloom. There are many such cases where peonies are starved to death by placing them too near large trees or shrubbery.

I wish to mention a few words about one of my favorite shrubs, the Lilac. We have 36 different

kinds in our garden, most of which are French Hybrids. No one knows the beauty of this lilac unless they see it in bloom. I am planting no lilacs except those on their own roots.

I believe that we should boost more for the Northern Great Plains Field Station and the other experiment stations in our state. Urge your friends and acquaintance to visit these stations and see what can be grown here. I had read about the Mandan Station many years ago, but I did not go to see it until a friend told me that we should just go there and see how beautiful the evergreens were growing on the hill tops at the Northern Great Plains Field Station.

### CORES, PITS AND SEEDS

Chas. McCaffree,

Librarian State Horticultural Society  
Fine Meeting in Prospect

January 17 and 18 are the dates for which the Dell Rapids Garden Club, about the liveliest in our state, is making pretentious plans. It is the Convention or Winter meeting of the Horticultural Society and from the enthusiasm it is easy to believe this will be the best convention for years. An unusual season brings new points for discussion and planning, but better yet is the promise of the keenest interest on the part of the 30 new members in Dell Rapids, most of whom will be attending their first convention. They are going to help actively in the program which Secretary Vance is preparing. This much was offered by a member of the local committee, met by chance this week, who added they have some very good numbers arranged now. Dell Rapids has an unusual group interested in horticulture as it includes gardening. The atmosphere in that town will be fine for our two days' stay and we are just going to have one of the most enjoyable and profitable conventions of the horticulturists for years.

Our hosts are planning with enthusiasm for the banquet the night of January 17th. Reminiscent of several banquet occasions in Dell Rapids this writer will testify no one may succeed better in such events. The horticultural high lights of this state are expected to dignify and make this a valuable session and there is hope for one or two speakers of horticultural fame from other states. Garden club members will find especial subjects for their discussion at the coming meeting and there are some new groups to participate also.

### Observation

Dr. Hansen, at State College, is reported to have some creative work underway with tomatoes and with his customary originality he is proceeding along an uncharted course. His announcement will be awaited with great interest.





Tomatoes are so good now that an improvement to compare with his improvement of plums will just about make them strawberries.

The mail box is over across the pasture and a trip almost daily has brought a continued surprise. During this hottest, driest summer of the century there were some dainty, jaunty little blooms looking up courageously every day. The grass about gave up but not the flowers. Perhaps Providence has a lesson in that, certainly an inspiration.

Our family has decided that the little yellow pear, or pickling tomatoes, picked a little green make a better ground cherry pie than ground cherries. Also they are much easier to grow and more productive, not infested with worms. It is goodbye to ground cherries except Prof. Yeager's new 1½-inch new ones, which sound very desirable.

F. X. Wallner, with the largest market garden in the Dakotas, has been trying out some tomatoes originated by Prof. Yeager of North Dakota, and thinks it the best he has had. He comments on the remark in this column recently that the Bison is so good none other is needed in our gardens. He is satisfied with the Bison for an early but thinks the Pink Ovate (not permanently named) is better for the late season. He reports it is in shape similar to the Ox Heart but not so large and much more desirable for household use. He handed over seed enough to just about make continuous hoeing next summer. We will see if we can indorse Mr. Wallner's expert opinion.

Red apples carry or create or fit into a psychology. This was learned during several years' exhibiting at the big shows. But a new evidence confirmed it last summer. Because of an old association this writer was privileged to accompany a very important and famous man from Washington in a business call on Governor Bryan of Nebraska last summer. Former Governor Weaver of Nebraska was interested in the cause and acted as guide or sponsor on the visit over to the "Governor's Mansion," which he himself had been occupying only a couple of years earlier. We had been told that Governor Bryan had anything but a kindly feeling for the former governor and did not hesitate to show it. Anyway Governor Weaver, who is an extensive fruit grower, had recently sent Governor Bryan a box of his Wine-saps and had evidently known the governor's taste for as soon as he was ushered into the room Governor Bryan thanked him enthusiastically and praised the apples given most artistically. And every expression during an hour's conference was courteous, thoughtful and kindly. That box of apples must have accomplished a very graceful service, providing, of course, that the Nebraska political observers had the correct

opinion as to the two distinguished gentlemen, as mentioned. The gift was easy for Governor Weaver because he has 375 acres of bearing orchard, largely Jonathans, at Fall City, Neb. That is his business. The thought comes that if Governor Weaver has further political ambitions his method with Governor Bryan, if carried to all the voters would be simply irresistible. And a horticulturist in any of the prairie states is sure to have correct ideas of the public good.

A new yellow fleshed potato has been giving phenomenal yields in Maine test plots. The yellow indicates the growth promoting vitamin A. Its family tree shows it is a hybrid of a northern with a wild South American variety. When the two Americas unite to produce a potato is should be a world beater. If the new potato carries greater growth when combined with South Dakota pork than the Early Ohio, clothing manufacturers are going to lose some money. The new Katahdin potato introduced by the Department of Agriculture is making some fine records. We will be getting some fine reports on the new Chipewa under trial also.

Promotion of new plums, even reaching the big magazine, prompts the thought that South Dakota's great gifts to northern orchards might be of still greater good to more people with selling genius back of them.

Bought 50 lbs. of onions the other day in a cotton mesh bag which impresses as the best container yet. Also saw strawberries in cellophane wrapper this year. The shippers are making quite progress in containers which help sell to high class trade.

Mulch time comes this month—and it pays too. Some plants not usually associated with mulching will profit by it. A good rule is to mulch all fall planted bulbs and roots in the Dakotas. The favorite time in my garden for many years was Thanksgiving Day. But that was not from horticultural judgment but rather convenience of a holiday from the office, just as peonies and tulips were usually planted by electric light to conform with an early life habit of six o'clock closing. A gardener can enjoy the looks of a good thick bed of mulch in the garden during the coming months because it adds to his success next summer. The usual mulching materials will be lacking in some of the state this fall but ingenuity will find something to cover our prized possessions and we can care for them. Leaves are good mulch and can be dug in next spring instead of our having to haul them away.

Disgracefully small glad bulbs have come out of the ground this fall, in the dry sections, not the Scripture 100 fold or even two fold but rather one-third fold. Most seem alive and should recover next season and perhaps give some bloom.





## THE KINGLETS

O. A. Stevens

It may seem peculiar that this name should be applied to a very small bird, but a king may be all a king in manner, yet not a giant in stature. It may have been their fearless behavior or merely their brilliant crowns which suggested the name to the great French naturalist Cuvier. The North American forms are two, the Ruby-crowned and the Golden-crowned. Europe and Asia have four or five others, and the counterparts of our birds in Europe are called Golden-crested Wren or merely Gold-crest, and Fire-crest. They are not closely related to the wrens, but their size, behavior, and to some extent their call notes, have some resemblance.

It is not difficult to make the acquaintance of the kinglets, yet the beginner is quite sure to miss them. Once their seasons and behavior are noted, they are easily located if here. In size they are somewhat smaller than a house wren; in color, olive-green with white wing bars, suggestive of some of the warblers or smallest flycatchers. It is their behavior, more than anything else, which identifies them. They are exceedingly active creatures and usually are found exploring the smaller branches of spruce or pine trees if these are present.

The other day I held a male ruby-crown in my hand. He seemed not to mind it greatly though he had been much exhibited. When held quietly he would close his eyes and seem to take a nap. His red cap was then nearly covered by the olive green feathers which surround it. Sometimes he seemed a little indignant and would raise the feathers, thus showing the red spot to cover nearly the whole top of his head, a triangle with the tip forward. Frequently in the spring migration, one may see the bird in a bush, the crest erected and gleaming like fire in the sun.

Mrs. Ruby-crown wears no such decoration. In the Golden-crown family, things are more evenly distributed, and there is less difficulty in recognizing these. The female has a crown spot of yellow, bordered with black. That of the male is tinged with red in the center. The general color of this bird seems lighter than that of the ruby-crowned, with more tendency to gray than to olive-green.

The kinglets are hardy little birds. Their spring arrival in our region is early April and not until late September are they back again, lingering then until the first of November before finally withdrawing a little farther south. Dr. T. S. Roberts reports a few winter records for the golden-crowned in Minnesota but none for the ruby-crowned. Neither are reported in South Dakota during the winter. In the vicinity of New York City, the golden-crowned is reported as fairly

common, the ruby-crowned occasional in winter. With us, the ruby-crowned lingers well into May during the spring migration. The golden-crowned does not stay so late and does not appear in the fall until the first of October. Some of the birds, nevertheless, get as far south as Mexico during the winter.

The golden-crowned is recorded as nesting in the evergreen forests of northern Minnesota, but the ruby-crowned not so far south. The nests are built of rootlets, mosses and fine fibers, placed high in evergreen trees. The eggs are half an inch long, white or cream color with brown specks. The golden-crowned seems to be a prodigious layer, nine and ten eggs being recorded. They even have to place them in two layers!

The kinglets have scolding notes somewhat like those of the house wren. April reports of wrens may safely be assigned to kinglets. The song of the ruby-crowned always surprises and delights the listener. It is a clear penetrating warble of which Dr. F. M. Chapman says in his first experience, he thought it must come from a bird at least as large as a bluebird. The golden-crowned has not such a striking song but has a shrill call note similar to that of the brown creeper.

These birds are entirely insectivorous and highly beneficial as they glean the last traces of eggs and small hibernating insects from the bark and buds of the trees. Plant lice and scale insects are a prominent part of their food. Usually we see them skipping very nimbly about the branches but another common pose is hovering at the side of or just below a branch.

## SOME EXPERIMENTS WITH NEW FRUITS

R. L. Wodarz, Wyndmere, N. D.

The experience I have had the past several years with the newer varieties of apple and plum has given me a good deal of pleasure. It has been sort of trial and error experience.

I am fond of top-grafting supposedly tender sorts on hardy trees. Some eight years ago I ordered about three dozen Siberian crab seedlings (*Pyrus Baccata*). My plan was to crown graft some and top graft others with some apples which were not entirely hardy in this part of the country. As time went on I kept on top grafting those seedlings, some with McIntosh, some with Cortland, and Perkins, and Goldo. Everything went well until fireblight in the form of body blight showed up. About one-half of those top grafted went by the wayside, tho very little of the grafted wood showed any blight. It was the seedling tree that became diseased. However, I have seven of the original *Pyrus Baccata* that never showed the least blight. Lower down they bear cherry apples and further up choice quality





varieties that we probably could not grow from the ground up.

The McIntosh has fruited with me the last year. It is a tree about 16 feet in height, grafted onto the leader 3 feet above the ground. So far it seems as hardy as any tree I have on the place. Cortland, top grafted on a Virginia crab, fruited fairly large apples, about the size of Wealthy. Cortland grafted on Anoka does well. McIntosh on Anoka also does well, but Dolgo dwarfs every graft I ever put on, whether it is a McIntosh, a Cortland, or Minnehaha.

Looking at this top grafting from another angle, some of us have an urge (mostly subconscious) to do a little fruit breeding, and still have not the time or facilities to do that kind of work. Why not let nature do part of that. To illustrate, this spring I selected a thrifty 6 year old Anoka apple tree. Onto it I grafted two Anisim, two Red Flesh crab, two Dolgo, two McIntosh, one Bismar (Bismarck x American crab) and one Minnesota No. 790. Within 3 years or so most if not all of these should be in bearing. A happy combination may result. Planting at least part of the seed, we should get some interesting seedlings. Along in the pedigree we have color, quality, blight resistance, size, long keeping, early and heavy bearing, and above all, hardiness.

Now a little of my experience with the hybrid plums. I am sure that we all agree that the hybrid plum is about as important a fruit as has ever been introduced into North Dakota. Truly, they are plums. But they are a little different and have to be handled somewhat differently. I have had much experience with overbearing, wormy plums, and borers. The first two are easily controlled, I find. The borers, on the other hand, are an entirely different problem. From experience I found out that the native plum trees are seldom bothered. An easy prey to borers is the Underwood, Loring, Waneta, and Tonka varieties. Sapa and Opata are pestered some too.

In order to outwit these borers, I would graft these hybrid plums on a native plum tree trunk, two, three or even four feet above the ground. In some cases it works well, in other cases it makes the tree a little top heavy. I have come to the conclusion that it is better to pick out three or four main limbs of a healthy, strong native plum seedling and graft the hybrids onto them. At any rate, we must solve this borer problem or the nurserymen won't sell many of the hybrid plums if this pest is as bad elsewhere as it is in the southeastern part of North Dakota. The average person thinks that it is dry weather that kills the trees. Of course, I am not too sure that every variety of hybrid plums is subject to this pest.

This is my method in grafting. There is no

grafting wax used, no string to tie scion and stock together, no watching of the graft afterwards. Do the work in a minute and forget about it. Rubber tape is used (not friction tape). An 8-oz. roll of rubber tape will cost from 16c to 20c and that is all that is needed. Even the protecting fabric which is pulled off is used as a temporary label.

Above all, I want to have the scion and stock healthy. Join them together either by means of a wedge or whip graft. Cut four or five inches of tape off. Peel the protecting cover off, stretch it a little, and wind it around and around until the cut area is covered. Of late I have covered the scion with parawax as an additional protection. Most of my grafting is done the first part of May.

W. A. Simmons, of Sioux Falls, gave me the idea of using rubber tape.

Pennsylvania College is concluding some orchard tests which have been under way for 25 years. That is a long time to wait for conclusions and we youngsters horticulturally likely do not have the patience to wait. That is too much history for South Dakota horticulture anyway. Our youth explains some of the disappointments but we have courage to say "We are on our way and getting the experience to avoid mistakes."

In the Pacific Northwest there is a considerable reduction in orchard area, in the Wenatchee district nine percent last year. A canvass showed that few Delicious were taken out but all the other varieties lost. The orchards are being standardized with Delicious most popular, Winesap, Rome Beauty and Jonathan next. Reported in American Fruit Grower.

## PRUNING SMALL FRUITS

(Continued from page 124)

to prune away part of the wood in the fall of the year so as to reduce the amount that has to be laid down for covering with soil; then a more accurate and thorough pruning is done in the spring of the year at the time the plants are uncovered. If these simple points are borne in mind, it matters very little what system you pursue in the pruning of your grape plants. We merely offer this four-cane removal system which we call the fan system, as a satisfactory system for this locality.

If these few simple rules in the pruning of our small fruits and grapes are followed every spring, much larger fruit will be secured and it will be of much better quality and better in color than if the pruning is neglected. If anyone is interested in securing further information in regard to the pruning of our small fruits, we will be glad to hear from him.