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5-1931

North and South Dakota Horticulturist, 3(5)

South Dakota State Horticulturist Society

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Horticulturist Society, South Dakota State, "North and South Dakota Horticulturist, 3(5)" (1931). *South Dakota Horticulturist*. 26.
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NORTH and SOUTH DAKOTA HORTICULTURE

Volume III

Number V

MAY

1931

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Annual membership fee, \$1.00, fifty cents of which shall be for a year's subscription to the North and South Dakota Horticulture. Entered as second class matter at the Post Office of Pierre, South Dakota, under the Act of August 24, 1912.

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NORTH AND SOUTH DAKOTA HORTICULTURE

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

Published Monthly at Schubert Building, Pierre, S. D., by the North and South Dakota State Horticultural Societies.

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WHAT THE SLEET STORM TAUGHT US

Mrs. Fannie M. Heath, Grand Forks, N. D

Having just passed through the very worst sleet storm in the history of our state so far as records are available a few notes on how the different varieties of trees stood the test may not be out of place. It seems that Grand Forks and immediate vicinity was the section receiving greatest damage to telegraph and telephone lines and so far as we can learn our grove was in the very heart of the worst of it. Here are a few facts and I will ask the readers to use their own methods in estimating the weight some of our trees must have carried. One twenty-one inch branch with a few side branches totalling forty-eight inches when put on the scales weighed three pounds and ten ounces. After the ice was melted from it it weighed a bare two ounces, while still very wet and was a bare half inch in thickness at widest part. The melted ice measured three pints and a half teacup full of water. By these estimates what must have been the weight of one huge branch thirty-five feet in length and many side branches that came down. Being somewhat short of time and not short of water I did not weigh and measure up this one except to take the length. But I know that where before the storm there stood between our house and barn a huge cottonwood tree with wide spreading but few branches and this thirty-five foot branch on one side and a twenty-eight foot branch on the other there now stands an almost branchless trunk perhaps sixty-five feet high with a branchless stub eight or ten feet long and a few three to four foot branches giving mute but unmistakable evidence of the havoc one of these storms can create and of the few hours it took this storm to undo a tree growth of over forty years. Much of the damage was done the first evening for the ice covered trees were threshed by a strong wind. Then there followed the two days of almost breathless quiet. In my near fifty years on the Dakota prairies never have I seen two succeeding days that were freer from wind. Not a branch was stirring even at the very tops of the tallest trees. It was awe inspiring just to watch them.

Then the second storm started and again accompanied by strong wind the havoc was great. Treetops and branches were coming down so often that it was dangerous to go beneath them. One large top carrying hundreds of pounds of ice came down less than two minutes after my husband had walked under it. When the sun came out those ice covered trees were the most beautiful sight I have ever seen with the billions of diamonds sparkling and flashing in the sun and I cannot see how even heaven can have anything more beautiful to offer. Truly a never to be forgotten picture.

After the storm we made a careful survey of the grounds to see

(Continued on Page 75)

NEWS LETTER, APRIL, 1931
NORTH DAKOTA STATE HORTICULTURAL SOCIETY
C. B. Waldron, Secretary

By the time these notes reach the reader most of the garden planting will have been done, that is the first planting. It is well to remember that two or more successive plantings should be made of beets, carrots and sweet corn. One can take a chance with peas and summer radishes, which will do well if the weather man is reasonable.

You are planting your Golden Gem sweet corn, of course, but don't fail to plant some of the Sunshine. This keeps in edible condition for a longer period than most other varieties and that, with its high yield and good quality, makes it, in our opinion, the one most valuable sweet corn.

We bought our muskmelons last season from a gardener near Fargo who told us that his sales had run as high as \$50 a day delivered at the grocery stores and restaurants, and his melon patch was not very large—certainly less than two acres. He said he had difficulty in getting the trade interested in local melons until he insisted upon their sampling the fruit, after which he had everything his own way. One variety was the Early Hackensack. There might be a lesson here for some of our readers. Now is the time to plant.

Has anybody forgotten to order those Mary Washington asparagus plants? They are reasonable in price now and fifty plants will be enough for the average family. They can be set any time during May. After a year or two and for as long as you live you will be gathering a delicious product from your garden at about the time your neighbors are out looking to see if the radishes and lettuce are coming up. You may have been looking longingly at the half-dried bunches in the stores selling at the rate of two pounds for a bushel of wheat. There is only one way to beat that game and you know the answer. You can, of course, buy a packet of seed and grow your own plants, setting them into the bed the following spring.

If you don't wish to bother with taking your chances on getting cabbage plants started in dry windy weather, sow the seed thinly in rows across the garden and await results. Many acres are grown in this way each year near Fargo and there seems to be no danger of crop failure. They are thinned to the proper distance of course, and use may be made of the extra plants. Seeding may be done at any time. We would suggest the Golden Acre and the Short Stem Danish Ballhead as being good varieties.

If you have newly broken land containing too many sods for cultivation, set your tomato plants there and mulch them with fresh stable manure. We have found that this gives a good crop without labor and leaves the soil in good condition for crops the next year without danger of cutworms. A little rotted manure about the roots at time of setting, or a little nitrate of soda or ammonium sulfate worked into the soil will hasten growth and advance the time of ripening.

Now that apples are scarce and high and the warm weather seems to call for fruit we are thankful for the lowly rhubarb which is an excellent substitute. Fork some well-rotted manure about the roots and note the effect.

If times seem hard, get a few of the new hybrid plum trees named in your lists and create a little private wealth that way.

One of our members has figured out (and being an ex-schoolmaster he should be a good figurer) that by killing the Horticultural Society appropriation bill the legislature saved each family of the state the price of a stick of chewing gum or a cigarette. Oh no, not each day, but for the whole two-year period. Isn't that some saving in face of the fact that hundreds of children in the state hardly know what a strawberry tastes like? Oh well.

DOMESTICATING THE PASQUE FLOWER

Claude A. Barr, Smithwick, S. D.

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The Pasque was well chosen as the state flower of South Dakota. Whether in its habitat on mountain or butte or in rough ravine or in my garden, no other among the native wildlings can approach its charm, and with thrift and endurance innate it is one of these fortunate beauties that are destined not to die out or even to become rare. Bravely independent it announces spring with or without the protecting care it has inspired in loyal South Dakota hearts.

Prairie Smoke, the Sioux named it, and when, guarded by the circle of last year's dark brown crinkled leaves, it throws back its robe of silver fur on sunwashed slopes in March, it does indeed suggest puffs of bluish smoke above embers of gold. Then as it blossoms in greater luxuriance and profusion on through April and into May, in the cool shade of pines, on north ridgesides and in pockets where snow has lain longer, shelter favoring more deliberate opening brings out its finer colors, satiny lavender within and purple to violet without.

In its fastnesses in the southern Black Hills where I know it best it seems especially adapted to hold its own. Not alone in inaccessible places does it spring up. It flourishes beside hoof worn paths in mountain pastures and returns with no apparent reluctance to ancient haunts now within town limits.

Success with Pasques in my garden was more or less the result of lucky chance, as with several others of the beautiful natives I now have growing. At first I failed in transplanting it, as have many others. But with the little pines I dug and brought to my own bit of prairie soil one year and another, in early May, now and then a plantlet of the Pasque, or one of blooming size, would nestle at the foot of a tree and I tried to avoid disturbing them when loosening grass and other undesirables from the chunks of earth about the pine roots before replanting. Many lived and some of these, still under the friendly shelter of the trees, are most sure to give freely of their delightful flowers.

As in their native sanctuaries, those which are most exposed are apt to open first. They, too, are most likely to be injured by belated snows that lie too heavily upon the furry buds or even the blossoms and they are even more susceptible to blowing soil if the spring is dry. Flowers are browned and buds blasted under a little of that harsh treatment.

With some protection almost any location seems suitable. I have one fine specimen in such a spot that wind whips away its snow blankets time after time during the winter, yet it has weathered the storms of so many years I have lost count. At first the soil sometimes drifted away, exposing part of the roots, and then there were no blossoms. The simple expedient of giving the plant a miniature rock garden held the soil. With this barrier, a stick of petrified wood, a wedge of snow white gypsum from the Black Hills, and a fantastic flint, it is quite at home now, though its roots are in unregenerated prairie gumbo. In a moist and mild spring it has given us more than a score of blossoms.

Withering flowers are the cue for springing into prominence of handsome characteristic foliage that lasts well through the summer, and with the leaves another charm is manifest for some weeks—the bronzy, furry, twisted whorls of the seed heads.

Some western nurseries are now listing the Pasque, botanically known as *Anemone patens*, and many list the very similar *Anemone Pulsatilla*, a European species. If you are in reach of the wild ones, try bringing some of them home in early May or just after blossoming time. Dig with a little of their native sod and plant where there is a little shade and wind protection. Or ask the nurseryman to help you.

EXTRACTS FROM THE DIARY OF A TRAVELING MAN**W. A. Simmons**

March 9. Hot Springs, S. D., deserves its name as the waters of the small creek that courses down the gulch parallel to the main street, have a uniform temperature of about 96 the year around. Large gold fish live happily in this creek the year around, and water cress grows in it at all times.

The power company has a pretty pool in its front yard, supplied with this warm running water, and in it, cress and lily pads were in evidence today. The more tender water lilies seem to retreat to their tubs in the bottom of the pool, in winter, but even these showed some leaves starting up. Many large gold fish were swimming about happily in this pool, and are kept there all winter. The only difference in their treatment from summer is that during cold snaps the usual Saturday night bath is not insisted upon.

On the hill back of the opera house nature has placed a fine display of yuccas which hold their color all winter. Hot Springs people smile when they see yuccas offered for sale in catalogs, as they are to be had for the digging there. Hot springs suffered a body blow early in January when John Robertson ran out of cider apples, but the people are bravely carrying on trying to accustom themselves to other beverages, and hoping for a better crop this year.

Mr. Robertson came in for the usual Saturday evening visit, and remained with me till after eleven when he left for the long ten mile drive home partly over very bad roads, covered with four inches of snow.

March 10. At what is known as City Park at Edgemont, S. D., the Burlington railroad has assembled a very fine collection of petrified wood and unusually shaped rocks. One log ten feet long and over three feet in diameter has been set upright on a cement foundation and shows, in addition to many knots, several woodpecker holes. It is probable the woodpeckers did most of the work before petrification set in and any bird seeking to enlarge the holes now would be out of luck.

One fairly complete tree trunk about forty feet long and ranging in diameter from nearly four feet at the large end, to eighteen inches at what was once the top, lies on its side along side the park. It looks exactly as though some old time woodsmen had sawed it into stove lengths and it had turned to a substance unsuited to their furnaces, before they found time to split it up. The whole log is said to weigh 14,370 pounds, and not having my pocket scales with me, I accepted the statement on the sign. Would have liked to put this in the back of the car and take it home with me, but as a policeman was watching me, was forced to refrain from doing so.

In the semi-circle in the park are arranged a row of the curious round stones called cannon balls with a few large ones in the center and the smaller ones tapering off toward the ends, with the smallest ones only about three inches in diameter. These, I suppose were duds from a prehistoric world war, that knew the quick firing 75's as well as the Big Berthas.

March 11. The Black Hills, beautiful at all times, were today aping their superiors in size, by wearing an aristocratic white wig on their brow. The snow was not deep enough to impede travel and was rapidly melting under the warm sunshine, in all the lower levels. Few were on the roads leading through the state park so one had more leisure to enjoy the scenery without having to constantly watch approaching cars.

Most of the animals in the zoo near the game lodge were still in their winter quarters but a number of elk were out taking a sun bath, and paying no more attention to passing cars than would a group of cattle. The wild geese were also out exploring their frozen lake, getting an occasional sip of melted snow, and apparently longing for the bathing season to re-open.

Business houses in Hermosa are showing some very large masses of crystals from a new cave recently opened up near there, which is said to bid fair to surpassing both Wind and Crystal cave in beauty. In practically all the Hills towns and in many open places between towns, carpenters and wood butchers were busy building rows of tourists cabins so if any visitor sleeps in the street this summer, it will be wholly from choice, not necessity.

March 15. Home today for a heavenly rest and a renewal of acquaintance with the family. While resting, as the day was fine, I managed to get a little much needed pruning done, amputating many dead and misplaced limbs on the shade and apple trees. There is one tree however, that I do not presume to prune and probably never will. It is a Delicious tree and there are so many limbs on it that I never can make up my mind where to begin sawing. Many times I have approached it, saw in hand, fully determined to prune it, but the problem always appears so hopeless, I flee without ever sawing off one limb. So I let them all stay on and fight it out and may the best limb win.

In a favorable year we get some apples from it, about the size of large crabs, as well as many small ones. It seems to be spreading like a Banyan tree though by different methods, as it uses the root sprout system, and if its activity in this respect is not limited by a cement curb, have no doubt that in time it will take the place.

The marvelously hardy tulips were up about two inches high on the south side of the house, and looked green and happy despite the freezing temperatures they were subjected to each night. Inside, the Easter lilies were about through blooming but the hyacinths were at their best.

The regal lilies in pots were also budded and standing independently upright despite their slender and inadequately appearing stems, promising much beauty later on. This is about the easiest lily to force; just pot them about January 15, and bring them at once up to light and heat, and they will do the rest. After blooming, you can set them out in the garden after summer weather appears, where they will bloom again for you the following summer.

March 30. Here is some of John Robertson's philosophy as expressed in a letter to the Hot Springs Star, anent his recent operation, and will help to explain the love and respect his friends have for him.

"From the time of entering the hospital to that of leaving, everyone was kind to me, including the several friends that sent flowers. I felt very thankful for the advantages of being in such a well equipped and capably managed hospital where I could be among friends and acquaintances; but somehow I could not get away from the feeling that I was getting more than my share of good things.

"I could not help thinking of the many other patients in that busy hospital, most having much more serious ailments than mine, and some, far from home and dear ones. I just felt as though I should not have those flowers to myself, and wished to divide with others.

"This brings to mind that it has been a number of years now since it began to dawn on me that I was not giving the world as much as received—in other words, I've been getting more benefit from others than I've been able to give in return. While it would please me to give more than I am getting, yet I've given that ambition up as hopeless. The busy tread of life is to be taken up again and while I may forget some of the past, the thing that stays with me increasingly is the kindness of friends. May God help me to be more worthy of my friends."

To which I can only add that if John Robertson is not worthy of his friends, and has not given much more than he has ever received from the world, God help the rest of us, in a similar ambition.

The people who live in the Hills complain about the snow at times but for one who has never visited them in the winter, it is a rare treat to see the evergreen covered hills after a snowfall.

CARE AND PLANTING OF SEEDLING CONIFERS, FROM THE NURSERY

Walter Philbrick, Turtle Lake, N. D.

My first planting of evergreens was in the spring of 1926 and now I have about seven hundred of them, about fourteen different varieties, from four inches to four feet tall.

When I receive the trees from the nursery, I mix up a thick black mud and put the roots in the bucket of mud, being sure to get the mud on all their roots. Then I plant them twelve to sixteen inches apart in the morning or evening, or during the day if it is cloudy or rainy, and press the dirt firmly around the roots. After planting, if the ground is rather dry, I give them a soaking with water; if it is rather wet, I cultivate a loose mulch. Then I fix up a partial shade for them for six or eight weeks and sometimes for the larger part of the summer. For



Black Hills Spruce

Black Hills Pine

Native Cedar

this I set boards on edge about four feet apart and nail lath on the boards about one-half inch or so apart. For transplants twelve to eighteen inches high, I have found nothing better than empty nail kegs with a part of the bottom knocked out. For plants more than eighteen inches high I use banana crates, staking them down firmly. Where it is possible to run the rows of seedlings east and west it is an easy matter to shade them by placing a board on edge on the south side of the row, slanting it towards the seedlings, staking and nailing it in place. Where this manner of shade is used there should be a hedge or something on the north and west to protect the plants from the drying winds. Sometimes I water them the second time during the summer. Seedlings and all evergreen transplants must have plenty of cultivation.

The seedling bed should be located where the soil is heavy or of clay loam. I generally transplant them from the seedling bed after the third year. Transplanting should be done with a ball of earth in the early spring or fall (I have transplanted them in the middle of September and had very good success) and the seedling bed should be very moist or wet at the time of transplanting. Not all of these transplants will need shade, but the ones whose roots were disturbed close to the tree during the transaction will need a couple of pails of water, also shade, and right here is where you can use the empty nail kegs.

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THE SONG SPARROW

O. A. Stevens, Fargo, N. D.

About the second week of April in the latitude of Fargo there comes one of the sweetest singers of our feathered friends. The song sparrow has been called "Everybody's darling" and this name is truly appropriate. They are not obtrusive birds and we shall not find them singing from the treetops. During the spring migration we may hear them in our back yards in the city but we are not likely to see them out in the open lawn. Probably we shall catch sight of a bird only for a moment until it scuttles under some bushes. When startled into flight they usually rise but a few feet and dart into the grass or brush with quick wing beats and a pumping motion of the long tail. Song sparrows are at home in the thickets, especially along the edges of streams, lakes or marshes. Their song seems especially to harmonize with the trickling or quiet lapping of the water. Beginning with a few hurried notes it passes into a deliberate melody which has a particularly clear, pleasing quality. The nests are built in tufts of grass or in low bushes and the eggs are spotted with brown.

The song sparrows are fairly distinctive among those of their kind, they have by no means a striking appearance. They are about the size of English sparrows and are very much streaked with dark brown both on the back and on the sides below the wings. The central part of the throat is not marked, but two large triangular spots at the lower sides form one of the best recognition marks. A third large spot is on the center of the breast. Smaller streaks cover the breast and sides of the throat. The top of the head has two broad stripes of reddish brown mixed with black.

Few bird species are more widely distributed or more generally common. Song sparrows occur over all of the United States, northward to Hudson Bay in the east and to Alentian Islands of Alaska on the west coast. They are found in winter through the southern states and quite commonly in the central states of the east. They nest from northern Ohio northward and at higher altitudes throughout the west, even in Mexico.

The song sparrows from different parts of the continent vary considerably in appearance. The ornithologists seems to have delighted in describing some two dozen varieties. The birds from the desert region of the southwestern states are quite pale in color and average about five and three-quarters inches in length. Those of the northern Pacific coast are very dark and reach a length of seven and one-half inches. One of these numerous varieties is called Dakota Song Sparrow and was described from specimens collected in the Turtle Mountains. The birds of the eastern states are all considered to belong to one form. In the west they seem to have become settled in different districts and distinct clans have developed.

The food habits of the song sparrows are somewhat representative of many kinds of native sparrows. About three-fourths of their food is weed seeds and the remainder is insects of various kinds. Seeds naturally must be depended upon for the colder part of the year. During the summer insects are abundant and of course are more suitable for the nestlings.

Arbor Day was given more attention than usual this year. Improvement of parks and the establishment of parks in the smallest towns came in for considerable attention. In DeSmet the stores all closed during the forenoon. They will soon have the finest park of any town their size in the state.

The orders for the lots of trees offered by the Department of Agriculture and the State Nurserymen's Association for farm and school ground planting continue to pour in but there has been no notice of shortage of hardy stock from the nurserymen. You can have as many lots as you desire.

LANDSCAPE HINTS FOR FARM AND HOME GROUNDS

Max Pfaender, Landscape Architect, Sioux Falls, S. D.

(Illustrated address delivered at the annual meeting of the State Horticultural Society at Mitchell, S. D., January 8, 1931)

Why is there such a thing as landscape gardening? One reason for its existence, and the usually accepted one, is the desire for beauty, the urge to decorate and embellish that which belongs to us. The other reason is, and this is much deeper and therefore does as a rule not enter our minds, unless our attention is called to it, that it is the outgrowth and material expression of that common human trait—acquisitiveness. We all have ambitions to own and enjoy real estate. We love the mountains, valleys, rivers, lakes, forests and all other items that produce scenery, including even the vast prairies. Most of us cannot own large areas and for that reason do the next best thing, and crowd as much scenery and small imitations of lakes, rivers, forests, hills and prairies as possible into our own grounds. The lily pool is the lake, the rock garden the mountains, the shrubs are the forest and the prairie is the lawn.

When this subject was assigned to me, I did not notice anything peculiar about the way it was worded, but after analyzing it, the word "Hints" arrested my attention. For fear that I might go beyond the stage of hinting, I looked it up in Webster and he defined a hint as a remote allusion, a slight mention, an intimation, an insinuation, a suggestion or reminder without a full declaration or explanation. Now, I must admit that I am lost with the above definitions of "Hint".

But right here I will confess that the proper use of hints may often do more good than the other method. The hint is the tool of the diplomat and strategist and, for that reason, I trust that you will forgive me if I appear awkward in the manner in which I use hints.

Group A—Hints on Planting Materials

1. Some of the more or less prominent authorities appear to agree fairly definitely that the more hardy varieties are, as a rule, more satisfactory for planting in any given locality. (Note: If they had not directed me to give "hints," I would have said: "Use only hardy varieties." You can notice that the hint system is more long winded than my blunt method of expression).

2. It seems that many home owners are well pleased with their grounds when the plantings produce an interesting effect throughout the year, that is, during all four seasons.

3. One amateur homeowner once said that they had a neighbor who had an aunt in Iowa who tried to get as many plants as possible into her yard that produced fine autumn effects.

4. Many people love to have birds in the yard and those that desire to attract the birds often plant those shrubs which, on account of their edible fruits, will attract the birds. Such plants would include elderberries, chokecherry, buckthorne, juneberry, mulberry, buffaloberry, Siberian sandthorn, flowering currants and many others.

5. Plants with various shades of green foliage or leaves of various colors, like purple, yellow, gray, and plants with different types of leaf-shape appeal to many people and when these are used in the plantings, they often add great interest to the landscape. (Really, this "hint system" is getting my goat and I kindly ask you to use my own system, rather than the hints).

Group B—Hints (or "Blunts") on Arrangement

1. Have a plan, either in mind or black and white, or if possible white on blue (blue print). In all cases the house and grounds should be planned at the same time, as one affects the other. Many individuals derive great pleasure in planning their own grounds and are to be commended for it. Those who do not have the inclination, time or ability to do so should secure expert advice, as many costly mistakes can be avoided by doing so.

2. The average home grounds can be divided into three fairly well

defined separate areas, the front yard or public area, the side and back yard or the private family area, and the service area, for garage, garden, drive, clothesline, garbage cans, etc.

3. The walks or driveways should be direct but slightly curving if possible and located where they will be the least conspicuous.

4. Shade trees should be located where they are wanted for shade, for framing the house and for a background.

5. The bulk of the plantings should be made along the borders of the property. This is much better than to encroach too much on the lawn area. Too many isolated groups and odd shaped beds in the lawn should be avoided.

6. In the front lawn the main planting should be a simple but neat foundation planting of either shrubs, dwarf evergreens or a good mixture of both. The smaller the front lawn the more narrow should this planting be. Where the foundation is high, fairly tall shrubs are in place, but where there is no foundation or only a very low one the plantings should be mostly dwarf varieties.

7. Plant shrubs in groups or borders to produce mass effects. Such effects are much more artistic than specimen shrubs planted here and there, far apart.

8. The low growing shrubs should always be in front of the tall varieties. Shrubs near walks and drives should be of the more stiff and erect growing varieties so they do not overhang.

9. Unsightly views should be hidden by the planting of tall shrubs, dwarf trees, trellises with vines or hedges.

10. Provide for an outdoor living room. This is the private area properly planned and developed so it will serve the greatest possible use. It should be enclosed. It should be provided with shade trees, seats, benches, table and here can be located the lily pool, rockery and perennial borders. It should be a secluded sanctum for family and friends, for rest and enjoyment.

11. Leave large open lawn areas. This is necessary to create the proper artistic effects for the rest of the year.

12. Perennials should be planted in long borders with gentle curves of pleasing design.

Group C—Artistic Considerations

1. Plant with the purpose in mind of creating an interesting sky line. A straight row of trees or shrubs or a tall hedge do not create an interesting sky line, but rather a monotonous one. Use bollena poplars and a pleasing mixture of tall and dwarf trees with some tall shrubs.

2. As a rule, the entire scheme should be worked out in pleasing curves. Severe curves should be avoided.

3. Make suitable background plantings for all features of the garden such as pools, rockeries, arbors or statues, etc. Perennial borders should also have their background. When there is no background the best effects are lost.

4. Special features such as pools, arbors, fountains, etc., should not be too prominently located, but rather mellowed by properly surrounding them with plantings or at least with connecting borders that will make them fit in with the general scheme.

Group D—Psychological Effects

1. Slopes, difference in elevation, contour, all these when properly incorporated into the scheme, will give that subtle touch of beauty that often cannot be explained.

2. Hidden nooks or partly concealed little corners of beauty or features add a desirable air of mystery and unexpected surprises.

3. The enclosure idea is very important for best results. It gives one the feeling of security and privacy.

4. The more green and less of other colors, especially the gaudy ones, and the less of too many artificial features, as concrete trellises, etc., the more restful the scene will be. The beautiful and peaceful shade of the green of a well kept lawn attracts the normal mortal and invites him to rest.

Group E—Maintenance

1. Shrubs should never be pruned up from the ground if their beauty and real purpose is to be preserved. After the third or fourth year some of the old wood may be removed from the inside and all young new shoots allowed to grow.
2. Keep all borders well trimmed.
3. Properly watering plants is an accomplishment.
4. Fertilizing is helpful.
5. Spraying is often necessary.
6. Give winter protection to plants that need it. The colored slides will illustrate these points.

CARE AND PLANTING OF SEEDLING CONIFERS FROM THE NURSERY
 (Continued from Page 71)

With seedlings four to eight inches, such as Norway Spruce, Black Hills Spruce, Colorado Blue Spruce, Norway Pine, Mugho Pine and Scotch Pine, if properly dug, cared for, packed and shipped to me from the nursery in good shape as the case has generally been, I have had 95 per cent to 98 per cent live through the first summer. In some cases where I got them in lots of twenty-five, all have lived.

With Colorado Blue Spruce transplants twelve to eighteen inches, packed in moss with mudded roots and shipped over five hundred miles, less than 8 per cent died. With Red Cedar which I dug up wild in the Bad Lands of North Dakota during the early part of April, six to twelve inches, about 9 per cent died. With Black Hills Spruce purchased from people who dig them wild in the Black Hills, eight to twelve inches, about 15 per cent died, and the latter are not as robust and dense as the nursery grown stock. All those tried were without ball and burlap.

WHAT THE SLEET STORM TAUGHT US
 (Continued from Page 66)

the various varieties of trees which had stood the test. Box elders, cottonwoods and willows showed much the same results. All had lost many branches but not so many of the trunks were broken. We were much surprised to find that in this respect the ash trees had suffered most. Many of these with trunks more than six inches through where broken showed their entire tops snapped off. Basswood split badly but the good old American elms stood the test nobly. Scarcely a branch was broken. Arbor vitae were broken considerably but not as much as one would expect considering the load of ice they carried.

The spruce trees were pathetic objects indeed with branches close to their trunks, yet when the ice had left them showed scarcely a break. Our birch, oak and Chinese elms are all small so just laid down as did the shrubs until the weight was removed then were damaged surprisingly little.

On the black walnuts not a twig was broken which has led me to wonder why this splendid tree is not more often planted. Its one failing is that they are almost impossible to transplant but they are easily raised from seed and make a rapid growth. People seem to think it takes too long to grow trees from seeds but the time goes in just the same whether you have trees growing or not and it takes but a few moments to bury a nut just where you want your tree to grow.

In doing this there is only one point for us of North Dakota to remember and that is to procure our seed nuts from just as far north as possible. The Agricultural College can usually supply them. We lost all of our first and second plantings because we had procured the seeds from too far south and they were not hardy here. Our trees grown from seeds from the Agricultural College are making splendid growths and are a beautiful shade tree to say nothing of the pleasure of growing your own nuts and the value of the trees as furniture lumber in years to come.

The walnuts sold in the stores are not the black walnut and are useless as seed. I make this statement as quite a number of persons have asked me about planting these walnuts.

INTERNATIONAL HONEY PRODUCERS MEET

J. A. Munro, Fargo, N. D.

That beekeepers everywhere are interested in having the latest information on honey and methods for improving conditions in the beekeeping industry was well illustrated at the annual meetings of the American Honey Producers' League and other related organizations held last winter at the Royal York Hotel, Toronto, Canada. This is said to be the finest hotel in the British empire and was built at a cost of more than fifteen million dollars. More than two hundred delegates, representing the important beekeeping areas of Canada and the United States, were present to hear the program which, according to the general consensus of opinion, was the best in the history of the industry.



J. A. Munro

In behalf of the government and the beekeepers of Ontario, the Hon. William A. Martin, Minister of Public Welfare for the Province, in his address of welcome, extended greetings and expressed the hope that the same organizations would, at some time in the near future, come again to Ontario. Representing the several organizations in annual session, Dr. M. C. Tanquary, President of the League, expressed appreciation for the splendid arrangements made for the entertainment of the delegates and followed with his address as president. In the course of his remarks, Dr. Tanquary pointed out the broad scope of the industry, its remarkable development within the past few years and indicated that the success of beekeeping requires the continued cooperation of its members and the dissemination of proper information about honey to the general public.

Many were the valuable topics discussed at this convention. Dr. H. E. Barnard, President of the American Honey Institute, in reviewing the work of the organization for the past year, spoke of the valuable contacts made with various food industries, dietitians, home economics departments, parent-teachers' associations and individuals and pointed out that the institute is much encouraged by the enthusiasm shown honey.

Possibilities of a national honey week were outlined by Miss Malitta D. Fischer of the American Honey Institute. The interest in honey should be nation wide, she said, and the adoption of a honey week, at which time special radio talks and articles on honey might be stressed, would do much to inform the public regarding the merits of honey. She indicated that national food authorities had already agreed to participate in this project and that the date for the week should be decided upon and announced in advance so that plans could be developed to make the week as successful as possible.

Professor Russel H. Kely of Michigan told of the financial support which the institute is receiving from various trade organizations, beekeepers' associations and individuals but pointed out that many individuals, associations and concerns directly or indirectly connected with the beekeeping industry and receiving benefit from the work of the institute are not contributing anything towards its support. He deplored this condition and indicated that if the institute should be forced to cease its work through lack of proper support the injury to the industry would be irreparable.

(To be Continued)

TOMATOES (Continued)

Thomas W. Hobart, Sioux Falls, S. D.

Soil Preparation

Good gardeners know that the preparation of the soil before planting is as great a factor as any other in the production of any crop of high quality and yield.

When we had an unlimited quantity of land we used to have all our plowing done as early in the spring as possible (if it had not been plowed the fall before). From that time until we were ready to sow or plant each crop we kept the ground harrowed frequently, at least three times in every two weeks, and immediately after every rain as soon as the soil would not stick to the harrow teeth. Each harrowing was continued sufficiently so as to destroy every vestige of weed growth that appeared. By this system all our garden ground was always clean and ready to plant to any crop, with all the moisture that the season had yielded conserved. We also had the ground compacted as is necessary for best crop production, more and more as the season advanced. So that when we were ready to set our tomato plants in June every possible condition was provided in the best shape for immediate and rapid growth of the plants.

The ground so handled up to this time had all surface weed seed germinated and killed so that with proper shallow cultivation the rest of the season we were never bothered with weeds in our tomatoes or in fact in any other of our garden crops.

In later years when rentals became high and we had learned the advantages of concentrated and intensive gardening we would sow rows of radishes five feet apart and plant spinach, dwarf peas, early beets and sometimes early beans between the rows of radishes and cultivate these crops with the Planet Jr. wheel hoe and at the same time get our ground in the best condition for the tomato crop. (The tomato plants were set in the radish rows, these having been removed by that time).

On the poorer soil on high ground we spaced our plants of Earliana and Jewell five feet apart, in rows five feet apart, staggering the plants in alternate rows so that they were approximately six feet apart. On richer low ground the distance between plants was seven to ten feet (this latter for Matchless and the original Stone) depending on how we found the different varieties developed on such soils.

These distances were arrived at after many trials of plants set at all distances from one to fifteen feet apart. These trials showed that crowding so that the plants overlapped prevented early setting and materially reduced the yield and quality per ground area. For instance, plants set one foot apart each way and allowed to grow at will produced little or no fruit at all. Plants set three feet apart each way ripened small, rough, seedy fruit late in August, but no crop more than three pounds per plant. While plants set five feet apart each way would produce one-half bushel or more of good sound fruit.

Planting Out

With our small pot grown stocky plants, the holes for planting were dug six inches deep three or four inches across with a spading trowel (of my own invention) in these two handfuls of a mixture of four parts of pulverized sheep manure and one part of fine rose growers steamed bone meal; the two thoroughly mixed was dropped and given a stir with the trowel to mix it with the loose dirt in the hole, the root ball of the plant was set so that the top of the ball would be at least two inches below the garden surface when the earth was filled in and firmed. (Two to two and one-half inches of the top of each plant was all that appeared above the surface).

Plants were dropped in each hole with the right hand, the plant being held by the stem between the thumb and forefinger and with the three free fingers enough loose dirt was flipped in to hold the plant in position. One evaporated milk can full of water (one-half pint) was given each plant to settle the loose earth around the root ball and when this

had soaked away the hole filled nearly full of loose earth and tramped by placing the feet on each side of the plant and "standing down hard."

Immediately after a field was set the whole surface was shallow cultivated or wheel hoed to replace the dirt mulch over the ground which was trampled while setting the plants. On the hottest day at 2 o'clock in the afternoon these plants set in this way seldom wilt and in one or two hours show new growth, the buds and bloom stay set and fruit commences to form at once which will ripen in forty to fifty days without fail.

Cultivation

Surface cultivation just enough to keep a dirt mulch, the same rule as in harrowing being followed. In early years with the twelve tooth horse cultivator and in the later years with the Planet Jr. wheel hoe exclusively.

After the first bunch of fruit is set on each branch (of which most of the vine varieties produce from three to five or six) as the fruit develops the branch bends over toward the ground, if you will look on the under side of this branch where it nears the ground you will notice a lot of little pimples forming. These are root nodes and if the branch touches the ground they will develop and take root in the ground if it is loose and there is moisture enough. Now give nature a little help here; loosen the soil two or three inches deep, mix in a good handful or two of the sheep bone meal fertilizer and bury this part of the branch under the soil for four to six inches of its length—to keep it from being torn loose by winds or careless cultivation; set stakes crossed above the buried stem to hold in place.

In two weeks this will be well rooted and if you wish can be severed from the main plant. If you do this, however, your crop will be just ordinary as usual. If, on the other hand, you leave it attached to the main plant, as you should, you will find that all the fruit on the whole plant will develop from two to three times the normal weight and be of much finer quality than when grown under other methods. You will also find that the fruit borne by these plants does not become smaller and watery or acid, as usually happens in the latter part of the season, but remain to the end full size and of highest quality.

Proof of the Pudding

That plants grown by this system will stand more cold and bear more fruit than any plant grown by the ordinary methods in general practice was conclusively proven in the cold year of 1916.

Up to that year because we charged 35 cents per dozen while other growers sold seemingly the same quality at 25 cents and fine transplanted plants sold as low as 15 cents per dozen, our sales had gradually grown to seven to eight thousand plants per year. In the spring of 1916 we sold nearly nine thousand plants. The season proved to be one of low temperatures especially at night. There was an almost total failure of the tomato crop in local gardens. Our customers kept reporting yields almost the same as usual.

All through that fall and winter people who had never bought plants of us were calling at the garden or phoning wanting to place orders for plants for the next spring, invariably stating that their tomatoes the past season had been a failure, while some neighbor who had plants grown by us had a wonderful crop and so they wanted to be sure of some of our plants the next season.

The upshot of this was that we made every effort that our facilities allowed and grew more than thirty-two thousand plants for the next spring. When the selling season came on we in thirty days had sold every plant (except our own reserved for which we were repeatedly offered \$1 per dozen) and could have sold twenty thousand more, as almost every one of our regular customers brought one to three more new customers with them that spring. Never since then has there been enough of these plants produced and those who in part use our methods in growing have raised the price to 50 cents per dozen and the sales have

not fallen off. Although at this time several growers produce some sixty to seventy thousand plants resembling our type of plant, they are often offered \$1 per dozen at the end of the season when the plants become scarce.

The fact that our plants produced fruit the cold season of 1916 when all others failed proved that the hardening off of the plant in heat and wilting is the correct method, in fact is nature's way. As what happens in nature to bring any plant to maturity quickly is the longer spells between rainfall with hot dry spells in between that bring plants of all kinds to quicker maturity which causes them to form buds and bear fruit. With long cold seasons, nature herself cannot ripen or mature the tomato plants and so fails to give us a full crop by artificially maturing the plants (in reality by following nature's own methods) we get them to the fruit bearing stage of maturity before we set them out and after that, even continued cold weather cannot wholly keep the bearing process from functioning and we are repaid by a good crop in spite of unfavorable seasons.

It is with the hope that some younger growers will try to master the system and perhaps bring even greater perfection to it that I have written this paper in such detail.

A question answered: These plants can be grown in the house by a south window, on a hot water radiator or in a box with a glass top, heated by an electric light globe or an oil lamp, anything that will keep a high even temperature and at the same time allow a good circulation of air so that the drying out and wilting process can be kept under control at will. I have grown them this way myself with as good results as in the best greenhouse.

It is the will to understand and do the thing right that makes one succeed and not elaborate facilities.

Note: I see that I failed to state that the plants must not be held in the pots more than three or four weeks at any time or they will become root bound and stunted which has the same effect on the bearing qualities as carrying the wilting process too far.

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