



THE
CANADIAN
Horticulturist.



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The Canadian Horticulturist.

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AUGUST, 1880.

[NO. 8.

THE SUMMER MEETING OF THE FRUIT GROWERS' ASSOCIATION.

The summer meeting was held in the City Hall, Guelph, on Tuesday and Wednesday, July 6th and 7th, 1880.

There was a goodly representation present from various parts of Ontario, extending eastward to the County of Renfrew and westward to Lambton.

The President and Vice-President being absent, the Secretary called the meeting to order, and stated that the President had removed his residence since our last meeting to Pictou, Nova Scotia, and that he had received a telegram from the Vice-President saying that he would not be able to be present, which the Secretary feared was owing to the ill-health of our much esteemed Vice-President, a letter having been received from him a short time ago in which he expressed fear lest his health should not admit of his attendance at the meeting.

P. E. Bucke, Esq., of Ottawa, was called to the Chair, and after the reading of the minutes of the winter meeting, the Association proceeded to the discussion of the question, "Which varieties of Strawberries are least injured by the late frosts?"

In reply to this inquiry it was stated that as a matter of course the later any variety came into bloom the more likely it would be to escape the spring frosts, but that usually the late blooming varieties were also late in ripening. Also that those varieties which had an ample supply of foliage reaching above the fruit stalks were less liable to suffer, because the leaves, in some measure at least, protected the blossoms.

Mr. Gilchrist remarked that they were very liable to have late frosts at Guelph, and that he had not observed any marked difference in varieties with regard to their ability to resist frost, or to the blossoms escaping the effect of the frost by reason of being protected by the leaves, but that if the variety happened to be in full bloom at the time the frost came, the fruit was mostly destroyed; yet if it had blossomed long enough before to admit of the berries having attained to that stage of their growth when they are turned down towards the ground, the fruit mostly escaped injury, as also did those varieties which were not yet in bloom. Notwithstanding the fact that the Wilson blossoms are not protected by the foliage, it was the variety that strawberry growers relied upon in that locality for profit.

Further conversation on the subject failed to bring out anything definite with regard to the varieties of strawberry which suffered least from spring frosts, and the meeting adjourned, to meet at the Experimental Farm in the afternoon, and at the City Hall in the evening.

The President and Professors received the Association with great cordiality, and did all in their power to make their visit agreeable and instructive. After giving the gentlemen a birds-eye view of the farm from the top of the main building, they conducted them over that part of the farm which is devoted to fruit and garden culture, and explained the nature of the planting already done, and what has been commenced this spring of fruit and forest tree planting for educational and experimental purposes. A field of twenty acres has been set apart for fruit culture, with the expectation that ultimately it will be occupied by trees of apple, pear, plum and cherry, and in the meanwhile afford ample room for the cultivation of small fruits, other than grapes, for which a field of some five acres will be set apart. These fruits are intended to afford the institution a continuous supply of fresh fruit for consumption, and the means of examination, comparison and experiment as a part of the instructions given to the pupils.

A commencement has also been made in forest tree planting, beginning with the sowing of tree seeds, and the gathering of young trees from our own forests and planting them in rough

land that has never known plow, with a view of illustrating what can be done by every farmer in the way of supplying himself with trees for ornament, shelter and economical purposes.

The members were also shown the fine specimens of some of the most valuable breeds of cattle and sheep, which have been imported for the farm, thus enjoying an opportunity of examining and comparing different breeds not often to be found. In this way the afternoon was passed both very agreeably and profitably, and the members returned to the town in time for the evening meeting, most favorably impressed with the educational advantages of the institution, and the courteous hospitality of the officers.

It is gratifying to learn that the farmers are taking an interest in this School of Agriculture, and that already several thousand have visited the grounds this summer as a pleasant holiday excursion for their families, and have shown their appreciation of what is being done there for their benefit by paying a visit to the institution; and, although sometimes coming in considerable numbers at a time, not a shrub, or plant, or flower, or fruit was touched.

EVENING SESSION.

After appointing Messrs. Leslie, Beall and A. M. Smith a committee to examine the fruits on exhibition, the meeting listened to a paper from Mr. B. Gott, Arkona, upon the fruit prospects of the County of Lambton, in which he stated that this year there was likely to be not merely plenty of fruit, but a superabundance, so that orchardists are already looking out for a market. The crop of strawberries was unusually large. One grower reported having gathered from half an acre fifteen hundred and sixty-eight quarts, which he sold at an average price of nine cents per quart. Raspberries, currants and gooseberries are just ripening in great abundance, and of most admirable quality. Some simple method of preserving these summer fruits for winter use is much needed in this section. The apple crop will be plentiful, but not over-abundant. There will be some very fine pears this year, especially of Bartletts and Flemish Beauty, but the crop will not be very large. The supply of plums will be amazing, both in quantity and quality, and the crop of peaches promises to be the largest known in this county for many years—so great indeed that it will be impossible to obtain a sufficient market for them in that locality. The season was one of extreme and unusual earliness; fruits are ripening fully two weeks in advance of their usual time of ripening. Crops of all, except apples and pears, are unusually fine and abundant, and there is a more than usual immunity from insect pests.

Mr. Gott received the thanks of the meeting for his interesting paper, which he was requested to hand to the Secretary for the Annual Report.

RASPBERRIES.

The question, "What Raspberries succeed best in the vicinity of Guelph?" was considered. It appeared as the result of this discussion that the Philadelphia was the most hardy of the red varieties, but that in order to secure a crop with any degree of certainty from any variety it is necessary to cover the canes in winter.

Mr. Elliott had been quite successful with Clarke, Philadelphia, Franconia, Herstine and Brinckle's Orange when he gave them winter protection, but thought the red and white raspberries could never be profitably grown about Guelph because of the necessity of giving them winter protection, and the labor and expense which that involved.

The black-cap raspberries were perfectly hardy, and could be grown without difficulty.

GOOSEBERRIES.

Some very fine English varieties are grown about Guelph, and the testimony of the raisers

was that by planting in strong clay soil, keeping the bushes well pruned up from the ground and well thinned out, so as to admit of a free circulation of air, they did not suffer much from mildew. Others had not been so fortunate in their attempts to grow the English varieties, Mr. Gilchrist stating that he had tried some thirty different sorts, but that they mildewed so badly he gave it up, and now plants Smith's Improved in preference to other varieties.

FORESTRY.

The question, "What are the economical uses of woods, other than pine, and what are their respective commercial values?" In answer to this question Mr. Beall stated that at Lindsay he had noted the following facts:

Black Ash was used for making hoops and in carriage building, and was sold at from \$8 to \$10 per thousand.

White Ash was largely used in the manufacture of agricultural implements, and to some extent in house finishing, and sold at \$15 to \$20 per thousand.

Beech had no commercial value other than as firewood.

Butternut was used in the commoner kinds of cabinetware, and brought from \$10 to \$14 per thousand.

Basswood was employed in making common chairs, seats, buggy bodies, &c., and was worth \$8 to \$12 per thousand.

Birch was used to some extent in connection with Maple for flooring, also for stair railing, bannisters, &c., and varied from \$12 to \$20 per thousand.

White Cedar sold for fence posts, railway ties, telegraph poles, canoes, &c., at from \$16 to \$20 per thousand feet.

Elm was employed in the making of heavy sleighs and cutter work and was worth about \$12 per thousand.

Hemlock was made into scantling, railway ties and rough boards, and brought about \$6 per thousand.

Maple was manufactured into axletrees, flooring, implements, &c., and sold for \$16 per thousand.

Larch was used for poles, ladders, and sometimes for flooring, and was worth \$12 per thousand.

White Oak was employed in making heavy wagons, &c., and brought from \$20 to \$25 per thousand.

Red Oak brought only \$15 per thousand when of the best quality; such was sometimes used in cabinet work.

Black Walnut was not indigenous about Lindsay, and probably on that account commanded a high price, running from \$100 to \$120 per thousand.

The meeting thanked Mr. Beall for the very valuable information he had given, and the remainder of the evening was spent in conversation upon the uses to which our various woods were put, and the constantly increasing cost of many of them, owing to the diminishing of the supply and the increasing demands of an increasing population.

MORNING SESSION.—July 7th.

At the opening of this session the Secretary read a letter he had recently received from one of our most prominent pomologists, Mr. James Dougall, Windsor, accompanied with a photograph of a new weeping cherry that had originated on Mr. Dougall's grounds, and a branch laden with fruit taken from one of his new seedling cherries, named by him the Windsor. In this letter Mr. Dougall states that the Windsor is a very prolific and valuable market fruit, the

specimen branch sent being from a young tree that is bearing for the second time, and is literally loaded with fruit, all the branches being fully as well and some much better loaded than the branch sent.

The Secretary stated that he only regretted the branch had not been received a little later, so that he could have brought it to this meeting, for it was certainly the most profusely covered with fruit that he ever saw. The cherries, though not *very* large, were of fine size, and seemed to be quite firm fleshed. They were hardly ripe enough to enable him to judge of the flavor. He should think that if any variety of cherry would be profitable as a market sort this certainly would take the lead.

He also exhibited to the members the photograph of the Weeping Napoleon which he had received from Mr. Dougall, which was taken last year, and remarked that the fruit sent him from this tree had become mouldy in the transportation, and that he could not speak of its quality. The fruit did not seem to be as large as that of the Windsor, and was darker in color.

Mr. Dougall states in his letter that the origin of the weeping variety was a side shoot from the stem of a Napoleon Cherry, that grew out below the graft and bent down to the ground. Some trees were budded from the shoot, one of which being worked up high grew to be quite a large tree, the others being budded at the ground never could be got to grow into a tree. The one from which the photograph was taken was budded subsequently at nearly six feet high, and shows a most perfect and beautiful weeping habit.

The Secretary also read a letter from Mr. A. Hood, Barrie, in which he regrets his inability to send to the meeting some fruit of a cherry tree growing in the grounds of Mr. J. E. Cotter, of Barrie, which he describes as being a forest growth, though the fruit bears no resemblance to the common wild cherry, and as being perfectly hardy in that climate and productive. He thinks the tree worthy of attention, because the fruit is superior to anything else that is equally hardy, healthy and vigorous.

Mr. Hood states that he thinks fruit will be a failure in his section—plenty of blossoms, but little fruit. Plums in particular, from some cause or other have set very little fruit, and the curculio has put in his mark on what little there is.

The meeting expressed their thanks to Messrs. Dougall and Hood for their kindness in bringing these matters to their attention, and referred the letters to the Secretary for incorporation in the Report.

The Chairman, Mr. Bucke, of Ottawa, opened the discussion upon “The advantages of tree growth and shelter on climate, rainfall, and the protection of growing crops,” with an interesting paper, for which he received the thanks of the meeting, and which will be published in the Annual Report.

The time was fully taken up in the discussion of the importance of planting trees for shelter, and the several kinds of trees, native and foreign, that may be cheaply and profitably planted.

It was stated that in many places a demand had sprung up for soft woods, such as basswood and poplar, for the manufacture of pulp for paper, and that often broken land which can not be profitably tilled could be planted with these rapid growing trees with great profit. Many young trees of ash, maple, hickory, &c., could be taken up by farmers and planted for a couple of years in nursery rows where they could be cultivated, and then transplanted to broken ground and hillsides, with great certainty of living.

Mr. Beall mentioned an instance of a farmer who desiring to have a belt of trees for the shelter of his orchard, fallowed a strip of the desired width and then covered it with leaves and surface soil from his wood lot, and in a few years it was densely covered with a growth of young trees.

At the close of the discussion the meeting expressed its opinion in the following resolution:
RESOLVED, that the members of this Association are deeply impressed with the importance of

encouraging the growth of forest trees in this Province, believing that they exercise a very decided influence on temperature, and furnish valuable shelter for our field crops and fruit trees. We also regard this subject as an important one from an economical standpoint, and believe that general forest planting in those portions of the country which have been almost denuded of woods would soon add very much to the value of land, and become before long a constant and increasing source of revenue. In this way also much land now of little or no value on account of its rough, hilly or stony character could be utilized with great advantage to the owner.

Some conversation was also had upon the encouragement of tree planting, the tenor of which was to the effect that it could be best done by placing before the public the necessary information with regard to the value and feasibility of such planting, and the profit that would result to the planter.

How to popularize the study of forestry among the sons and daughters of farmers was also considered, and the meeting was of the opinion that the introduction of a class-book on this subject into our common schools would do more than anything else to impart knowledge, and so awaken an interest on the subject; and upon motion of Mr. Beall the meeting requested the President and Directors to confer with the Honorable the Commissioner of Education upon the introduction of such a class-book.

THE FUTURE OF SOUTHERN ONTARIO.

BY RICHARD STEPHENS, PORT DOVER.

There are two important considerations to be thought of in making choice of a home for life, but are too often overlooked by emigrants and settlers; these are the geography and geology of the country they adopt as their future home. People make a trip to Muskoka, Manitoba or Dakota, and stay a week or two, generally in the pleasantest time of the year. The country visited looks fresh, green and smiling. There is the charm of novelty about it. They take a spade and turn up the soil, say in Manitoba, and find it is of the richest description. They are assured by old settlers that it is fifteen feet deep, and there is no doubt of it. It is inexhaustible, and the waving fields of grain, promising a yield of forty or fifty bushels to the acre, testify in its favor. They do not see the snows of winter burying this fair scene two or three feet in depth, with the thermometer making a temperature of 50° or 60° below zero, and the shrivelling blizzard tearing across the plains, almost taking away the human breath, and fraught with danger to all delicate organizations, whether of animal or vegetable life. They do not see the resistless tornadoes sweeping past, and leaving nought but desolation in their track; nor the plague of grasshoppers, consuming every green thing; nor the teams of oxen and horses during the spring and fall floundering through the mud almost as deep as the virgin soil. These, and many other serious obstacles to a pleasant life—and life can be lived but once—do not strike forcibly the casual visitor. To young, strong, healthy men without much means, who can endure hardships and are not afraid of hard work, these western countries offer a homestead and independence in a few years. But let no one who has means, or a comfortable home in southern Ontario, be tempted by the west, either of Canada or the United States.

There is a great future for southern Ontario. We mean the strip of country bordering the north shore of Lake Erie. Owing to the geographical position of the lake, the prevailing cold west, north-west and northerly winds come from inland, where their force is broken by woods, hills and irregularities of the country, so that it is never very cold in winter; not so cold as the south side of the lake, where the full force of northerly and westerly gales sweep with all the violence accumulated by an unobstructed passage over the open waters.

The County of Norfolk is especially favored in this way, being additionally sheltered from the west by the tongue of land stretching out into the lake known as Long Point. The whole of this strip on the north shore of Lake Erie is situated geographically on a limestone formation, the soil being rich in lime, which is one of the essential constituents of most fruits. It is a fact often overlooked by horticulturists, that conditions of climate being equal, fruit growing will be successful on a limestone soil and a total failure only a few miles distant on a different geological formation. Striking examples of this peculiarity are shown at Montreal, in the valley of the St. Johns, N. B., and around Annapolis and Digby, N. S., where choice apples are produced. In every instance it will be found that the soil where the apple tree succeeds best is rich in lime. Take the valley of the St. Johns. Apples are grown here which for flavor and beauty of coloring are unsurpassed, and the trees are enabled to resist the rigors of the climate, while a few miles on either side fruit growing absolutely fails. Only a few miles to the south, and no apples can be produced among the granite hills of Maine. It is useless to look for them on the carboniferous fields which border the Gulf of St. Lawrence, only a few miles to the north. The same is true of Montreal, and of the narrow fruit belt of Nova Scotia.

On the north shore of Lake Erie we find all the conditions of soil and climate favorable, not

only for apples but for the choicest varieties of fruit. Peaches flourish luxuriantly so far as they have been tried, bearing every year. Rev. Mr. Quinn has the honor of being the successful pioneer peach grower in the County of Norfolk. From about a thousand trees only four years planted he is said to have netted over a thousand dollars last year above all expenses. The prospects for the coming season promise a much richer harvest. Many are encouraged by his success to plant extensively. Mr. A. Ball set out eight hundred trees this spring, and many others are planting from fifty to five hundred. The railroads from Port Dover, intersecting all the leading lines of the country, facilitate the shipping of peaches, and make their culture a possibility in this section. Much greater possibilities, however, await the horticulturist in the production of grapes and the manufacture of wine. This is almost the northern limit of the great grape producing belt of America, and wherever there is a clay loam within a few miles of the lake, grapes can be produced of the finest flavor, with enough of saccharine matter and abundantly rich in the wholesome acids to make a wine for general consumption to supersede other liquors. It ought to be produced in such abundance as to drive beer, whiskey and other vile compounds into the background. Pure, wholesome native wine is the best promoter of temperance, the cure for dyspepsia and delirium tremens, and the restorative for patients suffering from the effects of chronic malaria.

In the same latitude as Italy, Portugal or the south of France, we have a climate tempered in summer by the cool breeze off the lake, and mellowed in winter by the vicinity of so large a body of fresh water. Our soil is capable of producing all kinds of grain crops, and if we have not so deep an alluvial soil as is sometimes found in the west, that is to our advantage, for we are able to find a bottom for our roads. If we can not boast of fifteen feet of black muck we have fifteen inches of good earth, and that is sufficient for all practical purposes. It would cost more to bring anything below that to the surface than to buy a new farm, so we need not covet these deep lands of the west.

This is the country in which to enjoy life. Farmers can live if they choose as well as the best bloods of Europe, dress as well and drive as fine horses; and their wives and daughters are as attractive and accomplished as any class in the world. It is doubtful if any ordinary society in any country in the world can show a better average of ladies than Ontario. Many of them dress in the latest styles, wear the best materials, and what is a good deal more to the purpose, they know how to wear them gracefully and becomingly. If the independent land owners of southern Ontario, only knew it, there is very little that they need desire, and certainly nothing in the west.

MIDSUMMER AND AUTUMN FLOWERING SHRUBS AND PLANTS FOR THE DECORATION OF GARDENS.

BY WILLIAM C. BARRY.

(Continued from July No., page 112.)

For midsummer decoration the

HOLLYHOCK

proves very effective. As it attains a height of from six to eight feet it is useful to plant at the back of borders of shrubbery, and it may also be arranged in beds or planted alone. In July no flower is more attractive, and their long spikes of large rosette-shaped blooms of beautiful and brilliant shades of color present a charming appearance. No garden which lays claim to completeness can afford to dispense with so great an attraction. Hollyhocks are raised easily from seed planted in the open ground in July, so that the young plants may become strong enough by autumn to survive the winter by being slightly protected. They can be lifted early in the spring, transplanted, and they will flower in July and August. Propagation by division is performed in autumn as soon as possible after the plants have flowered. The roots should be dug up and cut into as many pieces as there are shoots, and these pieces can be replanted. We raise our plants entirely from seed, and as the varieties are constantly changing I will not endeavor to give any list.

Another valuable class of summer-flowering plants are the

DELPHINIUMS, OR LARKSPURS,

which exhibit a wonderful variety of beautiful colors and shades from pale blue to black. In the mixed border they are superb. Tall and conspicuous when in flower, they never fail to arrest the attention of even the most unobserving. Their culture is easy, and, like other perennials, they can be increased by division in the fall.

THE DAHLIA

is still recognized as a most valuable fall flowering plant, but it is not nearly so popular now as it was some years ago. The culture, is so easy and so well understood that I do not deem it necessary to refer to it in this article. Neither will I occupy your time in naming and describing the many select kinds now grown—the names of which are to be found in the trade catalogues.

THE TRITOMA UVARIA,

sometimes called the *Red Hot Poker* or *Flame Flower*, blooms in September. Its flower stems are from three to five feet high, and are terminated with spikes a foot long, of pendant red and orange scarlet tubular roses, resembling the plumes of a soldier's cap. In the mixed border these plants are very showy and effective, and they are also very useful in the centre of beds of autumn flowering plants.

A late flowering

SPIRÆA, CALLED CALLOSA ALBA,

must not be overlooked in a collection of midsummer flowering shrubs. The plant is of dwarf compact habit, almost round; always forms a pretty specimen, and produces white flowers. It commences to blossom in July, when all the other Spiræas are out of flower, and continues in bloom nearly all summer. For the edges of borders, or employed as a single specimen, I know of no shrub that is more elegant and useful in a garden.

HARDY ROSES.

A few of the finest autumn flowering varieties may be named, as follows: Alfred Colomb, Marguerite de St. Amande, La France, Countess of Sereney, Paul Neyron.

FRUITS IN WYOMING COUNTY, STATE OF NEW YORK.

(Continued from July No., page 109.)

APPLE CULTURE.

Whatever may be said of our fruits, the apple is appreciated in Wyoming County. All agree that no branch of horticulture or agriculture better rewards the care bestowed upon it. The area of our apple orchards is every year increasing, and what is better, we are all learning that profits are contingent upon judicious management. Touching cultivation, the testimony already in, warrants us in summing up the case: Plowing of orchards is not necessary to their highest vigor, long life, or abundant fruitfulness. Few have failed to notice the vigor and productiveness of fruit trees, which, standing in yards, or near fences and buildings, escape the plow and get plenty of nourishment. The chairman of this committee, in an address published in the transactions of the New York State Agricultural Society of 1867, page 141, made this statement: "When I hear of trees standing near a woodpile, in the corner of a fence, near a barn, a hog pen, or the kitchen door, I am prepared for a big yield. The great majority of our apple trees are either starved outright or go very hungry. There are few instances of very large yields, except the tree by an adroit strategic movement backed itself up against a building, a morass, a barnyard, or something that could shield one side at least from its remorseless plunderer, man, and furnish some nourishment." This was said after carefully collecting numerous orchard statistics, and observations made since fully confirm it.

Not three days ago the writer's attention was called to a tree sixty-five years old, fresh and vigorous, which bore last fall fourteen barrels of apples. It stood close to the kitchen door, where slops were thrown and where neither plough nor grass were allowed to trouble it. Mr. Heath took a thousand barrels of very fine apples this year from 350 trees (specimens may be seen on your tables); the frost destroyed his apples on the flats; five Spys and fifteen Baldwins gave 180 barrels. The ground has not been plowed since the year they were set.

Properly stated, the question in controversy is this: Which will kill the quickest, a sharp plow or a tough sod? We confess we can't tell. We have thought the thing over a great deal, and we can't decide. Sometimes one, sometimes the other is to be preferred, but they are both nuisances to be abated. The sod should be broken by mulch, manure, the rooting of hogs, the stamping of sheep, or the spade fork—the plow is always and invariably a choice of evils. Theoretically, nothing on earth is more absurd than to plant an orchard and then go to work systematically to exterminate every root that ventures within eight or ten inches of the surface. That is exactly what we do, as all who are familiar with the process will admit, when we keep orchards under the plow. The assumption is, that rich, warm, genial soil must be devoted to beans barley and buckwheat, and the tree, from which the chief profits are expected, must go down, down, and struggle for a living among the cold, barren clods of the subsoil. The doctrine is absurd on the face of it, and experience confirms what reason suggests. If we plow when the trees are young, we should plow lighter and further off as the roots extend, and always remember the roots know where to go as well as any member of the New York Horticultural Society can tell them.

TRIMMING APPLE ORCHARDS.

Perhaps nothing in the whole range of our discussions more requires investigation than the trimming of trees. We need to know how the tree is affected by trimming at different seasons of the year, and at the various stages of its growth. Trimming in winter promotes growth and in summer checks it—the one makes wood, the other fruit. Nice discrimination is required to know what is needed, and how to secure it. A tree starts more shoots than it can develop and support—left to itself some branches die, and all stagnate. A good deal of fruit may set, but much will fall; much will be imperfect, and all will be small and flavorless. Properly trimmed trees will seldom set more fruit than they can mature, and so the labor of thinning will be lightened.

We have time to call attention to only two or three points. We think the common method of cutting out the centre of the young tree a very pernicious one. Several limbs are started, say five feet from the ground, but if the central leading one is removed the others shoot upwards, all striving for the mastery, and are not knit and joined as lateral branches should be. In a tree, however, as in society, there ought to be a leader. We recognize and respect the leader in the pear tree, and we ought to in the apple tree. We make three serious objections to the prevailing method of trimming. Cutting out the central leaders we injure the symmetry of the tree; we weaken it and make it liable to split; and the fruit is not so well exposed to air and light. If the centre is preserved, the side branches are well joined to the trunk like the thumb to your hand, and will bear a strain; if the centre is removed the branches grow like the fingers of your hand, and do not bear a strain so well. The inverted umbrella shape looks open on the start, but as the limbs develop the south side branches take the sun, shading the north side; the light and air are not as well admitted as when the branches shoot out literally from a central column.

DISTANCE IN THE ROWS.

It is a grave question how far apart trees should be planted. There is some reason to believe that apple trees twenty feet apart, properly thinned and shortened in, will yield more fruit to the acre than if planted thirty five feet apart. Tops must be open and trees must not crowd each other. Planted near together, they must be rigidly shortened in—dwarfed in a measure. Each year's growth must be cut back to two or three buds, and the top held to the space allotted to it, so there shall be no crowding. Now, will not this cutting back produce fruitfulness, as with the grape vine? Will not the wood be firmer, the tree harder, and the fruiting better for this circumvention? One thing is certain, the trees being numerous draw more evenly from the soil. Being smaller in size, they do not draw so heavily from their immediate locality. The draft on the soil is more evenly distributed. Two or three significant facts confirm this theory. One of the most noted orchards in the State, the Smead orchard, of Pavillion, gave \$1,370 worth of fruit in 1862, \$4,100 in 1864, and \$4,500 worth of fruit in 1865, and consists of six acres, planted less than twenty feet apart. The only other orchard we can hear of that makes as good a showing is an orchard of trees belonging to Mr. Connable, of Warsaw, which in several different years has yielded \$1,000 worth of fruit; it is also planted less than twenty feet apart. A theory with such a backing may well be looked into.

REPLY TO INQUIRY CONCERNING TAP-ROOTS, PAGE 88.

Mr. J. A. Mackay, Winona, writes, in answer to Mr. J. W. Cumming:—"Forty-five years ago a road was cut through the old Jesuit orchard at Quebec. The trees were said to be over a hundred years old, and though neglected were said to bear well. Under each tree was a flag of magnesian limestone, which must have been brought from a distance."

QUESTION DRAWER.

R. J. Graham, Belleville, Ont., writes:—

1. I have an orchard of about six hundred trees in all, set out from ten to twelve years ago. I am troubled with blight on the ends of the apple tree limbs—worst on Fall Pippins. The trees are very healthy, and have grown extremely rapid. I had them grafted with *Æsopus Spitzenburg*, and most of the grafts blighted when they had made a growth of about six inches. Can you tell the cause or give a remedy for the above?

This blight in the twigs of the apple trees is well known in this part of the country, but the cause and cure are yet unknown.

2. PEARS. I set out Flemish Beauty, Bartlett, Sheldon, White Doyenne, and Osband's Summer. All died with blight but the Flemish Beauty, one Sheldon, and one Osband's Summer. The Flemish Beauty have done extremely well. I have about thirty fine bearing trees. Last year the leaves became covered with brown spots, and the fruit spotted black. I see this year they are doing the same. Can you tell me the cause or give a remedy?

This rust or spotting of the leaves, and spotting and cracking of the fruit of the Flemish Beauty occasionally occurs in this section, but has by no means been a constant trouble. The cause seems to be a peculiar fungus growth upon the leaves and fruit. No remedy has been promulgated, but dilute carbolic acid is sure death to fungoid growths, and careful experiments with it would be valuable.

3. CHERRIES. I set out twenty trees, Black Eagle, Oxheart, Royal Duke and Bedford's Prolific; I also have some common black and red. Of the trees I bought, the most became rotten hearted and died, but what lived are large trees, and have never borne any fruit yet. This year the leaves are covered with small brown insects, which are eating up the leaves, and on common fruit are spotting the cherries. Soil clay loam. Can you account for the above?

The insects are probably the Black Aphis. Syringing the tree freely with water in which tobacco stems have been steeped will soon rid the tree of them.

I have about fifty plum trees, of nearly all varieties, which have done remarkably well, being loaded every year since they commenced to bear, four years ago. I have not been bothered with *Curculio* or black-knot. I have some borers in my apple trees. The raspberry plant arrived in good condition, is planted in rich loam, and has made a growth of about six inches.

4. Which are the best varieties of strawberries for family use?

This is largely a matter of taste. Some dislike acid strawberries, and others dislike some other peculiar flavor. The writer finds no better strawberry to his taste than a perfectly ripened Wilson, preferring it by far to Jucunda or Triumph de Gand. Many prefer either of the latter to the Wilson. Crystal City is a very early sort; Prouty ripens after; Cumberland Triumph large and very productive, and Glendale, late. These should satisfy the wants of any family in the strawberry season, if one only plants enough of them.

An esteemed correspondent asks:—

What about the Cuthbert Raspberry; is it the same as the Pride of the Market?

A few days ago we made a visit to our friend Morris, of Fonthill, County of Welland, and spent the day with him rambling over his nurseries, and among other interesting objects he showed us some rows of both of these varieties growing side by side. The only difference that we could see in them was that the Cuthbert row had been much more severely winter-killed than

the Pride of the Market. In foliage, habit of growth, color and size and flavor of fruit, we could not see any difference. The Cuthbert row having suffered so much more from winter-killing the canes was necessarily less productive. We had about concluded that the winter-killing of the Cuthbert row was owing to some accidental cause too obscure to be certainly designated, but on subsequently examining a small block of Cuthberts at Lockport, N. Y., we noticed that they had been also considerably killed back by the winter. If there be any difference between the Cuthbert and Pride of the market, this is the only one, and this requires the test of future trial to be accepted. It appears to be a very prolific bearer, and the fruit is of good size, good color and flavor, and sufficiently firm to carry well to market.

THE GREGG RASPBERRY.

Mr. Morris also showed us a few rows of this new black-cap in bearing. Under the same treatment it is not only larger than the Mammoth Cluster, but fully as productive, and ripening just after the crop of Mammoth Cluster is harvested. Beginning with Davison's Thornless, which is one of the earliest, the season of black-caps is very much prolonged by adding a few rows of the Gregg, to come in after the Mammoth Clusters are gone.

TRANSCRIBER'S NOTES

A table of contents has been added for convenience.

Obvious printer errors including punctuation have been silently corrected.

Inconsistencies in spelling have been preserved.

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