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THE
Canadian Horticulturist.

VOL. VI.]

DECEMBER, 1883.

[No. 12.

ANNUALS.

One short season and they have finished their life-work. Yet in that short time how much they have done. What beauty and brightness they have given to the home; how many heavy hearts have they cheered, or added pleasure to hours of joy, and given new grace and loveliness even to that already lovely. Places that otherwise were bare they have clothed with beauty, and the evening air has been laden with their sweet perfume. Short has been their life, the summer days have quickly gone, autumn frosts come all too soon, and the bright flowers are blighted and blackened and perished. No, not too soon; that they were to do has been fully done. Let us learn the lesson they teach. December has come. The December of life is coming. *Will the life-work have been fully done?*

But the Annuals, the summer flowers: in spring we sow the seed, and in a few days they are gladdening our eyes with their beauty. Endless in variety of form and of color, in their adaptation to soil and location, if we but choose aright we may have them everywhere; some prefer to grow in the shade, others in the sunshine; some like a cool, clayey soil, others thrive

best in the hot sand; so that by giving to each the soil and location best suited to their habits we can have flowers to ornament the home, whatever may be the soil or exposure. The variety we now have from which to choose is almost without limit, and one has only to consult any of our seedsmen's catalogues to select those whose habit, season of flowering, and color commend them to notice. In such a paper as this it is possible only to call attention to a few of the many beautiful things that one might plant.

The Abronia is a valuable creeping plant, preferring a light sandy soil and the full blaze of the sun from morn till night. Its habit and general appearance and manner of flowering are much like those of the Verbena. The flowers are sweet scented, having a waxy appearance, and are produced in great profusion from June until the frost kills the plants. There are some three or four varieties, distinguished by different names; *Abronia arenaria* has yellow flowers; *A. unbellata* and *A. fragrans* produce blooms of a pale rose color. The seed may be sown late in the fall, just before the ground freezes, or in spring as soon as it has become

settled; but the fall sown seed will usually come soonest into bloom. Our readers will find the *Abronias* of easy cultivation if they can give them a light, and moderately rich soil and full exposure to the sun. The plants will soon cover a large space and need not be set nearer than eighteen inches.

The *Aster* is already well known and deservedly popular as one of the most attractive of our autumn flowers. This is its season of beauty, when the sun has begun to decline, and the evenings are cool, with abundant dews. Cultivators have succeeded in producing many varieties, some growing quite tall, others very dwarf, and others of an intermediate size, and these with names without end. Those of intermediate habit, and generally known as bouquet asters, seem on the whole to be the best. The aster prefers a deep, rich soil, with full exposure to sun and air, while the roots are kept cool with a thick mulch. The seed may be sown in a good rich seed bed, thinly in rows. Care should be taken that the plants are not crowded at any time. As soon as they begin to crowd, transplant to a permanent bed, placing them about a foot apart each way. A paper of choice aster seed from one of the best growers in Prussia, is one of the three papers of seeds offered to the readers of the *Canadian Horticulturist* in the spring.

Mignonette needs no description to make it known to our readers, its very name is suggestive of sweet perfume. The seeds may be sown in the open ground at any time after the spring opens, either in a shady corner or in

the open sunshine. It thrives best in a rich, friable loam. The individual flowers are exceedingly modest, yet the spike is not without beauty, while its fragrance is prized by every one. It is well to sow a small bed with it every three or four weeks until past midsummer, so that there may be a succession of bloom, for its sweet-smelling spikelets are always in demand.

The *Pansy* seems to look up at you as though it would speak. And does it not speak, though its voice is not heard, speak to your heart in a way that thrills, stirring many memories; touching perhaps some minor chord in your life's psalm, wakening thoughts of the days and the loved that come not again. It is the home flower, interwoven with all the scenes of home life and all the precious memories and ever to be cherished associations of that hallowed spot.

Though not strictly an annual yet in our climate it is well to treat it as such, and sow the seed in a rich moist loam, shaded from the fierce noonday heat, but not under the drip of the overhanging trees. It likes the cool moist air of early spring and later autumn, then giving forth its largest, richest blooms, but it dwindles and well nigh perishes under our midsummer heat. We have had good success with young autumn grown plants, slightly protected during the winter with a thin covering of leaves, which gave in spring most magnificent flowers in great profusion. The readers of our monthly can have a package of the choicest seed of this flower, if they so choose, raised by the

most skillful pansy-grower in Great Britain.

The Portulaca can not brook the shade, nor smile when the cool air of evening comes on. It revels in the full noontide heat, laughs in the face of the blazing sun, and asks only for clear skies and brightest sunshine. The weather is never too dry and the sun too hot for its comfort. It must have a sandy soil to be satisfied, for it will not thrive in clay or muck. The seed may be sown in the spring after the weather has become warm enough to give some warmth to the ground, and as the weather grows hotter the plants will grow faster, and soon cover the bed with their gay flowers, which are both single and double, and rosy purple, crimson, yellow or rose in color.

The Salpiglossis is better shewn in our colored illustration than by any word picture we can give. The rich and varied coloring of the flowers make them very attractive. The plants thrive best in a rich sandy soil. The seeds may be sown in the spring after the weather has become settled, or if it be desired to have flowers all summer, then sow in pots or small boxes in the house or cold-frame, and transplant when danger of frost is passed. We say sow the seed in pots or small boxes because then the ball of earth can be taken out without breaking; for the *salpiglossis* does not transplant readily, and it is important that the roots should be disturbed as little as possible.

The Drummond Phlox is the rival of the verbena for constant display and splendid color; in most gardens it will

prove even more satisfactory. There is every shade of color, ranging from pure white to darkest crimson. The seed may be sown late in the fall, just before the ground freezes, or early in spring as soon as it can be worked. The plants will begin to flower early in June, and continue to grow and flower during the summer and autumn. They will thrive in any rich friable soil, in the open sunshine rather than in the shade. Very beautiful effects can be produced by planting different colors in broad ribbons, such as scarlet, white and rose. The contrast is very pleasing and will well repay the trouble. A paper of mixed colors of the very best varieties, procured from one of the most eminent growers in Prussia, will be mailed with the papers of Pansy, and Aster seed to those subscribers who choose the flower seeds.

The foregoing are a few out of many beautiful annuals that will not fail to please every true lover of flowers. It is the aim and purpose of the magazine to disseminate a taste for flowers, by teaching how they may be grown, and pointing out those varieties that can be successfully cultivated with no other skill than that born of a determination to succeed. The late James Vick said that the cultivation of flowers is one of the few pleasures that improves alike the mind and the heart, and makes the lover of these beautiful creations of infinite love wiser and purer and nobler. Another has said that what is in our garden is typical of what is in us; if we have taste, refinement, a love for the beautiful and good,

a detestation of the evil and false, our gardens will show. And so the one reacts upon the other; as we exercise our taste for the beautiful and our love of the good in the careful cultivation of the garden, and thus bring ourselves through these creations of Infinite Love into communion with Him who is the source of all that is good and truly beautiful, shall we be changed into the same image, and by means of this communion become ourselves good and therefore beautiful.

MEETING OF THE MISSISSIPPI VALLEY HORTICULTURAL SOCIETY.

(Continued from page 172.)

At the evening session of Thursday, Feb. 22nd, Mr. O. B. Galusha, President of the Illinois State Horticultural Society, read a paper on the question, "Is there a better market strawberry than the Wilson?" After listening attentively to his paper from beginning to end, we were no wiser than when he began, and concluded that he had fully illustrated his own paper by the incident he narrated at the opening, saying that he was in the predicament of the German Magistrate who after hearing one side of a case said to the counsel, "Vell, you be right, anyhow;" but after hearing the counsel for the other side, said, "Vell, you be right too"; so I dismiss the case, and charge the constable with the costs for bringings such a case into court." President Earle introduced to the meeting, upon the conclusion of Mr. Galusha's paper, Professor S. A. Forbes, Illinois State Entomologist, who read an exhaustive paper upon "Insects affecting the strawberry." We shall not attempt even a synopsis of this truly valuable and instructive paper. Those of our readers who wish to pursue this subject, can procure a

copy of the Report of this Society by sending one dollar to the Secretary, W. H. Ragan, Esq., Lafayette, Indiana, in which they will find Professor Forbes paper in full, and very completely illustrated with cuts of most of the insects. This paper was followed by one from Mr. A. D. Webb, of Kentucky, the originator of the Longfellow and Warren strawberries, upon "The best strawberries for home use and for market." With an experience of twenty-five years, he names for home use in his locality, Cumberland Triumph, Warren, Longfellow, Monarch, Charles Downing, Mount Vernon and Sharpless. These have been selected by him after a thorough test through a series of years, (except the Mt. Vernon, which is of but recent introduction,) embracing unfavorable as well as favorable seasons, with an eye especially to hardiness and vigor of plant and reliable bearing, save that in the case of the Sharpless he has found it easily injured by frost and, in a wet season, liable to rot. Nevertheless, he would advise it be planted in every family collection and trust to Providence for deliverance from frost and rot. For near market he said he would add to his family list the Crescent, and for distant market would plant Wilson and Glendale. The Wilson, he said, has outranked all others as a shipper, has proved nearer a success everywhere than perhaps any other, and has been and is yet more extensively grown for market than any other. Glendale has acquired some reputation as a shipper, seems to succeed wherever tried, is a late variety, of large size, and makes a good show on the fruit stands when free from dirt. When dirty it is hard looking, but will wash almost as well as Irish potatoes.

The remainder of the evening was occupied with discussions upon manuring and watering strawberries and the

relative merits of the different sorts. Mr. Galusha, of Illinois, favored liberal manuring, especially with bone dust. Mr. Hollister, of St. Louis, has found the Wilson the most valuable and profitable variety, which was confirmed by Mr. Gibbs, of Chicago.

At the morning session on Friday, Feb. 23rd, the President read a number of letters from distinguished pomologists who were unable to be present, after which the society proceeded to the election of officers for the ensuing year. This was followed by reports from the Committees on Experimental Stations, on Horticultural Statistics, and exhibitions. The latter Committee recommended that exhibitions be held by the Society at least once in every two years. The Hon. F. P. Baker, of Topeka, Kansas, read a paper on "Irrigation in Horticulture." Beginning at the earliest dawn of primeval history, and running along down through Assyria, Egypt, Persia, Syria, China, India, Peru, Mexico, Italy, Spain, Germany, he fully established the antiquity and universality of the practice of irrigation, and proceeded to shew that a large part of Western Kansas and Nebraska, and Eastern Colorado and New Mexico requires irrigation before the soil can be cultivated and made to produce the usual variety of farm products; and that when these shall have been rendered fertile by irrigation, the tornado, horn of idleness on a parched, empty and lazy prairie, will become a thing of the past. He concluded his interesting paper by shewing that irrigation is needed wherever water does not fall from the clouds when and where it is required for the development of vegetable growths.

After some discussion of the subject of Mr. Baker's paper, a short paper written by Mr. E. P. Roe, of New York, was read, he being detained at home by sickness. The title was "Small fruits

in the South," in which the writer discussed the necessity imposed upon the Southern fruit grower of seeking to develop a class of varieties suited to his climate. Doubtless Canadian growers will find their advantage in acting upon this suggestion fully as much as the Southern.

At the opening of the afternoon session, Mr. P. J. Berckmans, President of the Georgia Horticultural Society, read a paper upon "the Newer Peaches and new fruits for the Cotton States." In this paper he maintains that the form of the leaves and a very slight difference in the texture of the flesh is all the variations he has been able to detect between the Alexander, Amsden, Governor Garland, Waterloo, Saunders, Downing, Musser, Wilder, Brice, Early Canada and perhaps a dozen others. The Early Louise and the Early Rivers have so thin a skin as to prevent distant carriage. He states that the Flat Peach of China is well suited to the subtropical climate of Florida, where the varieties cultivated by us are not successful, and advises the horticulturists of that State to raise seedlings from this Peen To peach, believing that new and distinct varieties will be obtained giving them a race of peaches as valuable as the Orange. He expressed the opinion that the Japanese Persimmon would prove a valuable fruit especially below latitude 32°. He also gave the history of the LeConte Pear, the original tree of which is yet standing and although now some forty years old has never shewn any sign of blight nor failed to yield a crop of fruit. This seems to be well adapted to the soil and climate of the south where the pears of European origin are a failure. This paper was followed by one on "Pears and their culture in the South," by W. H. Cassells, of Mississippi. Although of great interest to those residing in the south, we did not find anything in

it that would be likely to help the Canadian planter. From the paper and the discussion which followed, we gathered that the pear-blight is fully as troublesome in Georgia, Kentucky and Mississippi as it is at the north.

On reassembling after tea Mr. T. V. Munson read a paper on "Systematic Horticultural progress," in which he suggested that each member take in hand some particular fruit, notifying the Secretary what fruit is being experimented with, and at the meetings present, either in person or by written paper, an account of the work done and progress made, and that from these a year book of progress be compiled. A paper on "Horticulture versus Ruts," was read by T. T. Lyon, of Michigan, in which he sets forth the importance to the cultivator of following the ruts in which his plants and trees run, instead of trying to make them run in his ruts. This was followed by a very interesting paper by Governor R. W. Furnas of Nebraska, entitled "Forestry on the plains," in which he presented his own experience in the growing of trees upon the prairies during a residence of twenty-seven years. Since 1854, there has been planted within the State of Nebraska, 244,355 acres of forest trees, and it is estimated that the indigenous growth since fires have been kept out is equal to half the area planted. In the State of Kansas, there has been planted since the first settlement in that State, 139,995 acres of forest trees. Actual measurement of the growths made at two feet from the ground show that White Elm in fifteen years from planting attained a circumference of 24 inches; Catalpa Speciosa in twenty years grew to 48 inches; Soft Maple, *acer dasycarpum*, at eighteen years measured 69 inches; Cotton Wood, *Populus monilifera*, in eleven years, 93 inches; Black Walnut in sixteen years 50 inches; Rus-

sian Mulberry in six years 24 inches, and White Pine in twelve years attained a girth of 29 inches. The State of Nebraska, incorporated in her Constitution a provision that the increased value of lands by reason of live fences, fruit and forest trees grown thereon, shall not be taken into consideration in the assessment thereof; and enacted by statute that one hundred dollars shall be deducted from the assessable value of lands for five years for every acre planted to fruit trees, and fifty dollars for every acre planted to forest trees. Experience has shewn that better results are secured by planting the tree seeds and afterwards assorting into grades, and transplanting each grade by itself in its permanent location, than by sowing the tree seeds where they are intended to remain.

The evening session was closed by the reading of a paper sent by Doctor John A. Warder, of Ohio, on "The influence of Forests on health," in which he treated of the climatic influences of forests, effect of denuding the mountains, shelter belts, and their value in preventing the dissemination of malaria.

OSTRICH FARMING IN AMERICA.

The San Francisco Bulletin tells of a farm in California, on which there are twenty-one Ostriches kept for their feathers. The eggs have not yielded any chicks; why not, is somewhat uncertain, yet it is said that the feather crop pays for keeping the birds, even if no chicks should be raised. It is stated that three pairs of Ostriches have been taken to Florida with the view of ascertaining whether they can be made a source of profit in that climate. It is said that there is now a hundred thousand domestic Ostriches in the African Ostrich farms, whose feather crop is worth four and a half millions of dollars.

VALUABLE INFORMATION CONCERNING VERY HARDY TREES.

The readers of the *Canadian Horticulturist* are aware that Mr. Chas. Gibb, of Abbotsford, Province of Quebec, spent last summer in visiting the horticultural establishments of Europe, and that in a special manner he investigated the fruits and trees of Russia in the hope that he might be able to find some very hardy varieties of good quality which could be introduced into Canada, that would be valuable acquisitions, particularly in Quebec, the Algoma district of Ontario and in Manitoba. From his published notes and letters we here bring together some of the most valuable items of information, which strike us as being specially worthy of attention.

THE SCOTCH PINE, *Pinus Sylvestris*. At the ancestral house of the Vilmorins, those well known seedsmen and nurserymen of France, he found a variety of this Pine of great value, differing in its habit of growth from those that have been imported into this country hitherto, and well worthy of attention. Its habit of growth is upright and straight; the first plantation was large enough for masts of sloops and small schooners. There were plantations from the seed of those planted down to the third generation, and even the third generation of them were from twenty to thirty feet high and as straight as candles. This form of *Pinus Sylvestris* does not seed as abundantly nor does the seed germinate as certainly as that of the other forms which are comparatively of little or no value, hence the seed of commerce is that of the poorer sorts. This form of the Scotch Pine should be imported and grown in this country that its valuable timber may become a source of national wealth.

THE WHITE POPLAR, *Populus Alba*, var. *erecta*. This variety is nearly as

erect in its habit of growth as the Lombardy Poplar and is thought by Mr. Gibb to be very important both as a timber and an ornamental tree. Professor Budd, of the Iowa Agricultural College, who accompanied Mr. Gibb, says that the best forms of this White Poplar will yet become our leading lumber tree for hundreds of economic uses. Already a very considerable demand has sprung up for such wood for purposes of paper making. Cuttings of this Poplar have been ordered from Russia for trial at the Ontario Agricultural College.

THE WEEPING BIRCH, *Betula alba verrucosa*, seems to be a variety of drooping birch, with foliage like our common white birch, which Mr. Gibb thought to be specially desirable. He saw it growing upon the dry soil of the Petrovskoe Park, near Moscow, in which the avenues and groves of this birch formed the most attractive feature, presenting a charming vista of bright, translucent, white barked trunks.

THE APPLE. To his surprise, Mr. Gibb did not find what we call the Siberian Crab in Russia, save in some botanical collections. The apples that prove hardy in their colder sections are quite different races from those grown here or in Western Europe, and he has come to the conclusion that the kind of hardness we require in an apple tree, that it may thrive in our extremes of hot summers and cold winters, is not to be found in occasional individuals of the races we have, but by introducing the races of North-eastern Russia which there grow in climate so very similar to our own. There seems to be two of these races there, one of them known under the generic name of Anis, of which there are many varieties. This Anis apple he says is the leading apple of the Volga; that in latitude 55° North, in a climate of great extremes,

600 miles further north than Quebec, there are twelve villages where the peasants are growers of this race of apples in large quantities. Another race seems to be designated by the name of Antonovka. It is the leading apple of the vast prairie region that stretches from Tula to the south of Kharkof and from Kozlof to Kiev. He found this apple in latitude 54° north, about 480 miles further north than Quebec, regarded as their hardiest and most productive apple tree, noted for its length of life, average annual bearing and fruitfulness in old age. The Apopt is the name of another family, to which the apple grown here under the name of Alexander belongs. Arabka or Arabskoe is the name of yet another family, seemingly not quite as hardy as the two first mentioned, yet containing some members that are likely to prove valuable here.

THE PEAR. The wild pear he found planted in the public square at Simbirsk on the Volga, as an ornamental tree, where the soil is dry, the summer sun hot, the air excessively dry, and the winters very cold, because it maintained a dark green, glossy, healthy foliage better than any other. The pears were of two forms, one like a Bergamot in shape, small, and very variable in quality; the other pyriform, small and usually too astringent even for cooking. The most hardy variety which he found yielding fruit that is eatable, is the Tonkovieta; next to it in endurance is the Bessemianka, which is considered the best that is grown in the severer parts of Russia.

THE CHERRY. This also appears to consist chiefly of two families, the Vladimir and the Ostheim. Of these the most important is the Vladimir, which is probably so named from the district where it is most extensively grown, there being over a hundred

orchards, each containing fifteen thousand trees. The Ostheim is supposed to be a native of the Sierra Nevada mountains of Spain, much resembling the Vladimir in foliage and habit of growth.

THE PLUM. This fruit was found by Mr. Gibb in Vladimir and Kazan, some red, some yellow, but most were blue, much resembling the prunes of Germany. He thinks some of these Russian plums may prove to be valuable for us. It is doubtful whether they are any more hardy than the Chickasaw plums of northwest America, but they may be of better quality. Mr. Gibb mentions a dwarf variety of the Prunus spinosa which is very ornamental when laden with its small blue fruit, and advises its introduction as an attractive plant for our lawns.

THE APRICOT. There is a variety of this fruit growing in eastern Turkestan in great quantity, which though small in size is sweet and of fair quality. Also in the Province of Mantchuria there is yet another variety really good, which is brought in considerable quantity to the Pekin market. Mr. Gibb thinks we should give these a trial.

THE ROSE. Mr. Gibb learned that the Japanese Rosa Rugosa was perfectly hardy at St. Petersburg and Moscow, hence we may be sure that it will thrive in our climate. Both the single and double forms are beautiful.

NATIONAL SCHOOL OF FORESTRY.

It is intended by the promoters of the exhibition, which it is proposed to hold in Edinburgh, Scotland, next summer, to make it the starting point of a National School of Forestry, an institution much needed in Great Britain. At present students have to go to schools on the continent for instruction, while there is ample scope for study at home.

BEN DAVIS AND STONEWALL JACKSON APPLES.

An esteemed subscriber residing in Nova Scotia asks for information concerning the above named apples. It is not known where the Ben Davis originated, but the tree has proved itself to be very hardy, a free grower, coming into bearing early and yielding abundant crops. It seems in some measure to take the place of the Baldwin where that tree will not flourish. Its habit of blooming late makes it specially valuable in places liable to late spring frosts, because even these have generally passed before the blossoms have opened. The fruit is of a good even size, free from blemish, and bears transportation well. It is roundish, and conical in form; in color yellow, overspread and striped with red. The flesh is white, tender, juicy and pleasantly subacid, but by no means high flavored. In use from January to May. In the Report of the Fruit Growers' Association for 1882, page 82, it is said to be gaining in popularity, finding its way very generally through the Province, and looked upon as very hardy and a fine shipper to the British markets. In the Report for 1880, at page 24, Mr. P. C. Dempsey, of Trenton, says of the Ben Davis, that the tree is hardy, and commences to bear at three or four years from the graft; that the fruit is large, and will save until July with ordinary care, and command a better price than the Golden Russet.

The Stonewall Jackson was found growing in a stone wall on the farm of Silas Jackson, in Clarence, Annapolis County, Nova Scotia. The tree is said to be a strong, upright grower when young, and a good bearer. The fruit is described as medium in size, roundish and slightly conical; in color yellow, shaded with light and dark red; the flesh whitish yellow, tender, juicy, subacid, and of very good quality. In use

in January to March. So far as we know its reputation is purely local. We have never seen the fruit, and do not know of a bearing tree in Ontario. There is another Stonewall Jackson grown in Southern Alabama that is quite distinct from the one of Nova Scotia, to which latter fruit we presume our correspondent refers.

THE PROFITS FROM GROWING SMALL FRUITS.

In treating of this subject the *Prairie Farmer* remarks that if our farmers were asked from which the most bushels could be raised, an acre planted to corn or one planted to strawberries, they would probably reply without hesitation, from the acre planted to corn. And if told that an acre planted to strawberries would yield three times as many bushels as could be raised from an acre devoted to corn they would probably be inclined to doubt the statement. Now how many of our farmers grow an average of sixty bushels of corn to the acre? However, the writer has grown as many as eighty, and ninety, and occasionally a hundred bushels to the acre. Suppose we accept these figures as the maximum quantity that one can raise with careful cultivation and favorable weather, and that the average price of the corn in our market is fifty cents a bushel, we shall then have fifty dollars as the gross value of the crop of corn. Now if our readers will turn to page 171 of this sixth volume of the *Canadian Horticulturist* they will see that Mr. Smith, of Wisconsin, stated after more than twenty years' experience in the growing of strawberries, in that climate so similar to our own, that he does not consider two hundred bushels per acre an extra crop, that he has repeatedly raised much more, sometimes even double that quantity. Mr. Parker Earle states, see page 172, that one

hundred and fifty bushels to the acre ought to be secured with considerable certainty. Now the price of strawberries will average six cents per quart, or one dollar and ninety-two cents per bushel, which will make, at one hundred and fifty bushels per acre, a gross yield of two hundred and eighty-eight dollars. It requires three years to produce two crops of strawberries, so that one will get from corn in three years one hundred and fifty dollars, and from strawberries five hundred and seventy-six dollars. Which is the more remunerative crop?

THE FRUIT GROWERS' ASSOCIATION OF ABBOTTSFORD, PROVINCE OF QUEBEC.

The Annual Exhibition of this Association was held on the 27th of September last, at which two hundred and seventy plates of apples and thirty-eight of crabs were exhibited. The growing of pears is a new industry in that section, and only eight plates, comprising three varieties, were shewn. The Flemish Beauty is said to take the lead in point of hardiness, the Clapp's Favorite being next to it in that respect. There were twenty-nine plates of plums. The Lombard is reported as having fruited heavily this year. Seedlings raised from the wild plum of Wisconsin have borne fruit for five years, always full and sometimes loaded. Also the Chickasaw and the flat plum of China are growing there, and so far seem to be hardy. Mr. W. M. Pattison, of Clarenceville, Quebec, exhibited sixty varieties of grapes grown in the open air. Some new varieties of Russian Melons were shewn, we presume by Mr. Chas. Gibb, and pronounced very fine.

A new feature of the exhibition was a collection of the foliage of some 100 varieties of ornamental and timber trees, not natives of this province;

among which were 11 varieties of maple, 11 of ash, 8 of poplar (including three varieties from Siberia, and one from Turkestan), 10 of willow, 5 of European basswood.

There were also Walnut and Philodendrons from both North China and Japan; the Ailanthus, Ginkgo, and Honey Locust from China; the Cercidiphyllum, which grows to an immense size on the mountains of North Japan; Conifers from the Rocky Mountains, Central Europe, Chinese Tartary and Japan; shewing that Abbotsford is taking the lead in increasing the flora of the province and developing the production of both useful and ornamental trees and shrubs.

The matter of ornamental street planting has received some attention amongst the members of the association, and it is believed that Abbotsford is the only place in the province of Quebec where Norway maple, Weir's Maple, Catalpa and the beautiful European cut-leaved weeping birch have been planted as road-side trees.

The forestry movement here was entered upon in no sense as a commercial enterprise, but purely for experimental and educational purposes, but gradually nurserymen are beginning to move in the matter to supply a demand that is sure to spring up for ornamental and timber trees.

REMEDY FOR THE YELLOWS IN THE PEACH.

Dr. Penhallow, of Houghton Farm, advises as the next best thing to a specific fertilizer for the peach, composed of costly ingredients, the utilization of all the wood ashes one can save or buy, with the addition of common salt as a means of obtaining the chlorine he would get in muriate of potash.

NOTE.—Our readers can gather wood ashes where wood is used for fuel and

buy refuse salt by the car load at the Salt Works. We hope some of them will give this a thorough trial and report their experience through the columns of the *Canadian Horticulturist*. Mr. Robert N. Ball, of Niagara, thinks he has found the application of lime to his peach trees to be very beneficial in arresting what seemed to be the first stages of the yellows.

HARDY FRUITS FOR MANITOBA AND MUSKOKA.

The following taken from the *Winnipeg Daily Sun* is of especial interest to those of our readers who live in the colder sections of the Province :

"While reading an interesting and valuable letter from the pen of the indomitable investigator into apple culture, Mr. Charles Gibb, of Abbotsford, P. Q., addressed to our department of agriculture, we are again reminded of the wonderful enthusiasm which characterizes the efforts of fruit-growers. With many it seems to be an infatuation, and a most fortunate one it is, in view of the inestimable benefits thereby conferred upon the world. When the impartial Judge shall write down a list of earth's heroes we expect to find near the top the names of many such quiet, earnest workers as Mr. Wilder, of the U. S., Mr. Beadle, Mr. Saunders and Mr. Gibb, of our own Dominion, whose life's labors have been devoted to the invention and development of blessings, among the richest mankind can employ. We do not propose in this connection to speak of the value of fruit as a luxury, its health-giving properties, or its influence upon the morals of the community, although we are naturally led in that direction. We simply intend to refer to the contents of Mr. Gibb's letter, draw attention to its importance and acknowledge the kind interest he manifests for our good.

Mr. Gibb has spent very much time of late years in travelling and investigating the character and value of the fruit of different countries and climates. His experience is especially valuable to North-west people because much of it has been gained in Russia, in the same latitude as our own country, where large quantities of fruit are grown, not only for home consumption, but for export. The opinion has been commonly and popularly expressed, that whatever might be expected of this country, the cultivation of other than strawberries, raspberries, currants and other small fruits in the fruit line, was out of the question. Mr. Gibb, whose opinion can fairly be set against an army of novices and casual observers, is not so impressed. He says: 'I look forward in hope to the time when Manitoba shall have, in specially favorable and sheltered places, her commercial orchards supplying her markets with home-grown fruit, and also less favorable soils and situations growing fruit in an amateur way with more or less success.' And, in this reference, he speaks particularly of apples.

"After leaving here a couple of months ago, Mr. Gibb spent some time in Minnesota inquiring into the history of all efforts there made in fruit culture. It is the result of this research that he makes the excuse for the letter we refer to, and very full of value, it appears to be for North-westerners. He says: 'The question of hardiness is of primary importance to Manitoba, for we are not now in search of fruits for the future sheltered city gardens of Brandon and Portage la Prairie, but for open prairie exposure, trees expected to live and thrive without shelter belts.'

"The opinions given by Northern Minnesota fruit-growers, whose experience is the truest guide to experimental work in Manitoba, would lead to trials of the following varieties of apples :

Florence, Martha, Duchess, Wealthy, Tetofsky, Transcendent, Hyslop and different members of the Russian Anis family. Of the yellow Anis grown in Minnesota, he says: 'It is a medium-sized apple of pretty good quality, somewhat red in color, and though hard and crude when I saw it, does not keep later than the beginning of October. Red Anis No. 985 is much like it, possibly a little more red, and much like Skeischapfel No. 413 of Mr. Underwood; scarcely the true Anis Rosovo of the Volga, but a near relative.' Mr. Poffer, of Pewaukee, Wis., suggested to him for trial in the rich soil of Manitoba, the slow growers like Tetofsky, Gibb, Duchess and Cherry crab, and also Transcendent. These he suggested from what he knew of them farther north. Gibb crab, he says, is doing well so far as Crookston."

There is one thing to be remembered concerning the Hyslop and Transcendent crabs, and all of that race, that they are much more subject to the disease known as "blight" than the Duchess, Wealthy, Martha and other apples of the same type. It is very discouraging to have a fine orchard of crab apple trees, just coming into bearing, ruined by that mysterious but fatal blight. In addition to the varieties named above we would suggest that trial be made of Wolf River, a very large, bright, red apple, ripe early in winter; Waupaca, large, yellow, over-spread with red, ripe in November; and Weyauwega, which is yellow, splashed with deep red and a good keeper. These all originated in Northern Wisconsin and are reported to be very hardy. Scott's Winter is also a very hardy apple and keeps well into July, which should thrive well in Muskoka; and will probably do well in Manitoba if planted on ground having a gravelly sub-soil. It is very doubtful whether any apple tree will

thrive planted over the cold tenacious clay sub-soil that prevails at Winnipeg. However, experiment will decide this question, nothing else can satisfactorily.

THE CURL IN THE PEACH LEAF.

Professor Penhallow writes to the *Country Gentleman* that the curl in the peach leaf is caused by the growth of a fungus known as *Ecoascus deformans* Freckel (*Ascomyces deformans* Berk, *Taphrina deformans* Tul.) During its growth it not only causes the leaves to curl, but to lose their green color and become more or less red and yellow, and we see from this, therefore, that such leaves are incapable of performing their normal functions in the assimilative processes of the plant. The necessary result of this is, that there is a very limited formation of wood while such leaves remain on the tree. For this period, therefore, it must be admitted that the curl does exert a positively injurious influence. It is found, however, that these leaves fall off during the month of June, and a new set of leaves free from curl appears. Upon these, then, the entire growth of the season depends, and because, unless otherwise diseased, the tree then very frequently makes a fine growth, fruit-growers generally believe that the curl is of no importance, and that it does not injure the tree at all.

Such views are manifestly erroneous, and it would be much better for the peach industry if our fruit men would apply remedial measures as soon as the curl is manifested. According to my own observations, each year more fully confirms me in the belief that the presence of curl is indicative of low vitality in the peach tree, and that the yellows will be quite apt to follow shortly. I trust these lines may have the effect to stay the progress of erroneous ideas which seem to be gaining altogether too rapidly.

THE ANALYSIS OF SOILS.

Dr. Sturtevant, who is the Director of the New York Agricultural Experiment Station, thus replies to inquiries as to whether the station undertakes the analysis of soils, setting forth the reason why the station does not undertake soil analysis.

A cubic foot of soil in the average condition of moisture weighs from 70 to 100 pounds. The soil taken ten inches deep from an acre of land would therefore weigh about 3,000,000 pounds.

For the purpose of analysis, in the ordinary method, about 1-10 of an ounce of this soil would be taken, and this represents about 1-480,000,000 part of an acre.

If one ton of superphosphate, containing ten per cent. of phosphoric acid, were thoroughly mixed with the upper ten inches of an acre of soil we should have added 200 pounds of phosphoric acid to 3,000,000 pounds of soil, or one part to 15,000; that is to say, that each 15,000 pounds of soil would contain one pound of the added phosphoric acid. As but 1-10 of an ounce of this would be used for analysis, this 1-10 of an ounce would contain but 1-15,000 added parts of phosphoric acid, and this proportion would be represented by the percentage figures 00.0066, or .000066 of an ounce.

This will be better understood if we repeat that in percentage figures it would require the addition of over 300 pounds of the superphosphate to the acre to change the third decimal figure of the analysis by a unit. The corollary of this is that as the chemist rarely works in this class of analyses beyond the second decimal figure, the addition of an ordinary fertilization, or that sufficient to make the difference between a good and bad crop, would not be detected.

We can moreover state the practical improbability of taking two samples of

soil from different places in the same field which would analyze alike within even the second decimal figure.

In the beginning of the application of science to agriculture, the public attention was strongly attracted by the theory that a chemical analysis of soil was about to offer a sure means for determining definitely the condition and the needs of our soils, and various charlatans disseminated the idea of this possibility for purposes of their own, in order to secure the privilege of prescribing and furnishing the diet required for each field of the farm.

At the present time it is universally recognized by men of scientific training that the analysis of the soil for the purposes of the individual farmer can offer no solution to the problem of what fertilizer or how much to apply.

PROFESSOR TANNER'S REPORT.

This report just submitted to the Council of the Institute of Agriculture, England, states that the Professor traveled fully 5000 miles within Canadian Territory and that throughout the whole of his tour he found those settled upon the lands, prosperous, healthy and happy. He goes on to say, "after conversing freely with large numbers of these settlers, I am able to state that I did not meet with a single instance in which they were not fairly successful, contented, and full of hope for the future. They worked hard, it is true, but that labour was sweetened by the knowledge that they were improving their own property. Their personal requirements were easily provided for by the aid of a rich and productive soil, their families were growing up around them in the enjoyment of health, and without any anxiety being felt as to their future success in life. In speaking of Canada as I have done, I must not be supposed to repre-

sent it as an Earthly Paradise from which disappointment, loss, and suffering are excluded. Failures have arisen, and will arise, for men bring upon themselves here, as elsewhere, the results of their own imprudence and lack of perseverance, but these constitute an excessively small proportion of the cases existing in Canada, and they are quite exceptional in their character."

NATIONAL ASSOCIATION FOR SANITARY AND RURAL IMPROVEMENT.

This Society has for its object the establishment of local societies for the purpose of effecting both sanitary and rural improvements, and the issuing of publications on these subjects as well as the holding of annual conventions for discussion and conference.

The Secretary is very desirous of obtaining the address of any such societies existing in Canada, or of any persons who are interested in forming such organizations. If any of our readers can give the desired information they will please address Mr. Chas. M. Wingate, Secretary, 119 Pearl Street, New York.

AGRICULTURAL EDUCATION.

The Council of the Agricultural and Arts Association of Ontario have issued a circular, setting forth that they have decided to inaugurate a scheme of annual examinations in subjects bearing directly upon the work of the farm, somewhat similar to those in vogue in England and Scotland, accompanied with the granting of certificates of merit. Only second and third class certificates will be issued at the first examination, for which the required courses of reading are indicated in the circular. Money prizes will also be given to the three candidates for second class certificates obtaining the greatest

number of marks of \$25, \$20, and \$15 respectively; the same to those who have never attended any agricultural school in Canada or elsewhere; and to the four candidates for third class certificates who have not attended any agricultural school, \$30, \$25, \$20, and \$15 respectively. The examinations will be held in connection with the High School intermediate examinations of next July, and candidates are required to send in their names and desired place of examination, stating whether they have attended any agricultural school, to Mr. Henry Wade, Secretary, Agricultural Hall, Toronto, before April 1st, 1884, of whom copies of the circular containing full information can be had on application.

PLUMS, RASPBERRIES, GRAPES.

TO THE EDITOR OF THE CANADIAN HORTICULTURIST.

MR. EDITOR,—I have seven trees of the Fellenburg plum, from two to five years old. To the present none of them have shown any of the black knot, while some 40 other plum trees of several varieties have all been badly affected by it, more or less, for the last five years. If such is the case with others who have the same kind, I have no doubt but that quite a number of our members would like to know it.

Fruited two bushes of Shaffer's Colossal raspberry; have taken off berries one inch in diameter; average size $\frac{3}{4}$ and $\frac{1}{2}$ of an inch. It is also a heavy bearer.

I have pruned about 50 grape vines of several kinds, some of which show most of this year's growth of wood to be dead; others not quite so bad, but all more or less so. What is the cause?

Did not ripen any grapes this year, even the Champion did not get a chance to ripen through our early frosts.

Have a tree of the American chestnut, planted about eight years ago. Our

severest winters since it was planted have not affected it any. Have not had any fruit from it yet. Quince trees frozen down two years ago. Peach trees killed out. E. D.

BLANCHING CELERY.

Mr. W. C. Milton writes on this subject to the *Michigan Farmer* as follows;—First I sow in a cold frame early in spring; when the plants are about two inches high I transplant in rows; plants 12 or 14 inches apart in the rows, the rows about five feet apart. When the plants are about ten or twelve inches high, I then commence to handle by gathering up the stalks and leaves and drawing about three inches of earth around each plant. When they are 16 inches or so high I take a common three-inch drain tile and slip over the plant. This is done by one person gathering up all the leaves, and another person with a strip of cotton cloth, three inches wide and about five feet long, commencing winding around the stalk at the base and winding up to the top. Then slip your tile over, and as the tile descends unwind the cloth, and so on through your row, or as much as you wish. You can take up one plant and not molest any of the rest. Care should be taken that the leaves come out over the top of the tile, or it will smother. This is as near the way that I managed with mine as I can tell you on paper."

Mr. Milton says his plants are always nicely blanched the entire length of the tile, and free from canker, dirt or worms. The tile settles into the earth slightly, and protects the plant from insects. He has had good success with this method, and he thinks it less trouble than the usual one pursued by growers. It is an easy thing for growers to test it with a few plants, and if they grow as fine samples as Mr. Milton exhibited, they ought to be pleased with this new idea.

THE GARDENS OF VANCOUVER ISLAND.

I do not know when I have been more agreeably surprised than by a visit to the town of Victoria, which is on the south-east point of Vancouver's Island and between latitude 48° and 49° in the North Pacific Ocean. We have been for some days sailing on the Pacific and along the Straits of San Juan de Fuca, the heavily snow-capped mountains of the Olympic making the air so chilly that those who kept in the open air at all had to do so with overcoats, or, if ladies, in warm wraps or furs. All at once we came to the mouth of Puget Sound, opposite to which is Victoria, and all was at once pleasant. Summer weather and everything as lovely and beautiful as the prettiest poet might imagine. The harbor of Victoria is, however, small and shallow, and, as a consequence, our heavy vessel had to lie for six or eight hours a mile and a half outside, waiting for the tide to rise, and this gave me the opportunity to do some interesting botanizing among the rocks along the coast.

The town of Victoria, which we reached in the afternoon, is an indescribably pretty place. It is built on a high rocky bluff, and has a park called Beacon Hill, from its use in signaling in those olden times when Indians were troublesome. Though the mountain tops, some fifty miles away, are perpetually white with snow, except when the morning and evening sun lights them up in purple and gold, the air in the town is warm (though without sultriness), owing to the long day's sun—sixteen hours now, July—warming the sheltered spots where the high mountain ridges keep off the arctic winds.

The people are fond of flowers, and almost every cottage was embowered in vines, and seemed ready to break down with their load of blossoms. In my early life in England, I have memories

of whole buildings completely covered from roof to the ground with sweet Roses and gratefully scented Honey-suckles, but I have often found that early memories become magnified. The distance of time lends an enchantment to the early view. I had come to suspect that the Roses may not have been quite so strong, nor the Honey-suckles quite so sweet, as these early memories record them. But here they were, even excelling these impressions and giving a new echo to the voices of youth. The tale was true. The wild English Honey-suckles, running by the cottage door, rambling under the eaves to almost gable end, dropping in festoons between the windows, and only by the aid of art permitting a glimpse of the within, and giving out thousands—yes, thousands of bunches of their deliciously scented purple, and white, and yellow flowers. And the Roses, and the Pyracantha, and the Evergreen Ivy, and the scores of other things which, even in Philadelphia cannot be grown without much trouble, here they may be seen climbing in wonderful luxuriance, or making bushes in some cases, nearly as large as the habitations they adorned.

Roses! yes! How they would have charmed the heart of an Ellwanger or a Parsons! How the enormous "Jacks," by the thousands, would have made the purses tremble of those florists who with us only get them to perfection by the lavish expenditure of cash and by the sweat of their brows! Even the standard or tree Roses are grown to an enormous extent, and make the same beautiful ornaments in yards that they make in the Old World. And the indigenous Rose—*Rosa Cinnamomea* or Cinnamon Rose—grows in a state which I may almost call grandeur. I have it growing in my Germantown garden, but about three feet is all the height it cares to grow for me. Here you may see bushes—nay, masses—scores of feet in

diameter, ten feet or more high, and bearing thousands of their remarkably sweet, rosy flowers, giving a fragrance to the air for a long distance away. In many instances the Sweet Brier and Eglantine of the Old World had become naturalized, and got into the fraternal embraces of their native brother; but those were also growing with equal luxuriance, showing that it is the climate which does it all.

When the time shall come that the whole country shall be brought under improved speed in traveling connections, and the United States shall be but a few days' reach from this now distant land, this ought to be the great Rose center of the American continent. Not only the Rose, but numberless plants of the Old World have escaped from cultivation, and are making their way through the world on their own account most gloriously. The English Daisy, the "gowan fine" which Burns tells us of in "Auld Lang Syne," is getting out everywhere among the grass, and the Furze and the Broom and many others abound in the woods and along the road-sides.

In Mr. Johnston's beautiful nurseries I saw the Deodar, and many other evergreens half-hardy with us, growing magnificently, and I have never in any part of the world—not even in its native home at Calaveras, Mariposa, and other places—seen the great Mammoth Sequoia so evidently satisfied with this world as in Mr. Johnston's grounds. These nursery grounds are not very large, but have more variety than I have seen in any nursery since I left home. Apples, Pears, Plums, and particularly Cherries, make a remarkably vigorous and healthy growth, and just now the Cherries are breaking down with their weight of fruit. But here, as elsewhere good culture has to tell its own story. Apples orchards are set out, then they are left to struggle for food with the grass or other vegetation, and soon get

yellow, hide-bound and moss-clotted; and then the owners tell me "the Apple is one of the fruits which will not do in Victoria"; but when you come to places where the Apple has all the ground to itself, or having other things growing with it, is still manured for both, then you will see that the Apple will do as well as elsewhere.

And what a country for the cooler-loving fruits and vegetables! The common Currant grows five feet high, and bears fruit as large as the Cherry or Versailles. And such Cabbage, Lettuce, Peas, etc., few if any of our readers ever saw.

I almost felt that I could remain here; but when I remembered the grapes and watermelons and tomatoes, and scores of other things which we have and they may envy, I shall feel free to return as happy as when I left home. —THOMAS MEEHAN, in *Gardener's Monthly*.

NEW PLANTS.

BEGONIA, PRINCE ALBERT VICTOR.—

A first class certificate was awarded to this new Begonia which is described in *The Garden* as an extremely fine double-flowered variety of the tuberous rooted Begonias, having large flowers whose petals form a perfect rosette of bright cherry crimson; while the plant is a sturdy grower and well furnished with blossoms.

ROSE, HER MAJESTY.—The floral event of the National Society's Rose Show, was the winning by Mr. H. Bennett, of Shepperton, the Society's gold medal for the best Rose in the show with his new Rose called Her Majesty. It is instructive to find that a homely English farmer, now retired from the occupation of corn growing, should have beaten both home and continental raisers by producing, not only for the year the finest new rose, but

also one which will probably prove the best of a decade of years. We are thankful Her Majesty does not wear those leafy habiliments of colour which have made so many of our new roses of recent introduction; on the contrary, it is of a lovely soft flesh tint. Just as A. K. Williams has proved to be the richest coloured and most beautiful rose of its class so far, so will Her Majesty occupy that distinguished position amongst fair roses—in fact, amongst regal flowers the queen. On stands of many blooms there has been such a ringing the changes upon the Baroness de Rothschild and La France, both very beautiful of their kind, that another new rose belonging to their section is indeed a treasure. Her Majesty, as becomes such a royal flower, is large in size and beautiful in form; and it was noticeable, in spite of the expansion caused by the heat, that she maintained her good looks to the last. —*The Garden*.

CHRYSANTHEMUM ALEXANDER DUFOUR.—A new early flowering variety distinct from all the rest of the race, inasmuch as it is a cross between the Japanese section and one of the varieties with short florets. The flowers are larger than any other of the early race, the florets being narrow, prettily reflexed, and of a bright amaranth, a colour peculiarly pleasing and cheerful, particularly under artificial light. As to its extreme floriferousness, the plants shown by Messrs. Cannell, of Swanley, bore evident proof.

EUCHARIS SANDERL.—A new bulbous plant from Columbia, and quite distinct from either of the other two cultivated species. It has large deeply furrowed foliage of a pale green colour. The flower-spikes overtop the foliage, and bear umbels of pure white flowers nearly as large as those of *E. grandiflora* (amazonica), but with the corona

suppressed. It will doubtless prove to be a valuable garden plant, and as popular as the other two species.

NEPENTHES NORTHIANA.—A new Pitcher Plant from Borneo. It is one of the largest species known, producing pitchers nearly a foot in length, and of proportionate breadth. In form they are distinct from those of other species, inasmuch as the rim is broad and deeply furrowed. The ground colour, which is pale green, is marked by large, irregular blotches of crimson-red. The plant shown by the introducers, Messrs. Veitch, bore but half-sized pitchers, but those were quite characteristic of the species.—*The Garden.*

MAGNOLIA PARVIFLORA.—Mr. S. B. Parsons, writes to *The Garden* concerning this new variety of the Magnolia as follows:—I wish you could see now our specimen of *Magnolia parviflora*, a new species which we received some years ago from Japan. The tree is about 8 feet high, and the leaves, which are fully formed before the flowers appear, are 6 inches long and $3\frac{1}{2}$ inches broad; on it are 128 buds in all stages of expansion. Some are the size of an egg, while others are fully expanded, making a flower five inches in diameter. The most charming form is that of a cup, the heart-shaped petals, two inches in diameter, forming a perfect curve over the stamens and pistil. The petals are of a pure and creamy white without a trace of colour. The sepals have a slight pink colour. The mass of stamens is two inches in diameter, and they lie horizontally and compact, half of each being well-defined deep vermilion, and the other half a scarlet-tipped orange. The pistil rising from these stamens is $1\frac{1}{4}$ inches long and three-eighths of an inch thick, with light green and scarlet tints. This *Magnolia* has the combined fragrance of banana, pine-apple, and winter

green, and one flower will perfume a room. With its beauty of form and colour, and its exceptionally delightful fragrance, I think I am not extravagant in pronouncing it the most charming hardy flowering tree that I know. He further adds, I would like you to see also our Japan Maples, for which we think this region is the home. For the convenience of ploughing between them, we cultivate them in rows two hundred feet long and three feet apart, and the luxuriant mass of colour as you look upon them from the end is something to be remembered. I have massed a number of kinds upon a lawn with grand effect, but I am very fond of two kinds planted in a group—the japonicum aureum and the polymorphum sanguineum. The rich gold of one makes a charming contrast with the blood red of the other through which the sun shines as through a glass of claret. The atropurpureum is very nearly equal to the sanguineum. On a bright summer afternoon I stood under one of the latter nearly 10 feet high, and, looking up through the leaves, made transparent by the red light, the effect was very charming. The cold of the past winter had no effect upon these Maples, while *Retinosporas* were badly hurt, and even the Norway Spruce and in some instances our native Hemlock were entirely killed.

RED ASTRACHAN APPLES.

Col. B. L. Wiley, one of the most extensive apple growers and shippers, as well as the pioneer in that line, at Makanda, shipped 900 third-bushel boxes of Red Astrachan apples from only fourteen trees. As prices were high for apples he netted about 62 cents a box, or about an average of \$40 per tree. Besides, there were about 200 boxes in amount that dropped off, the value of which for cider or vinegar may be added to the above. Has anybody

fourteen trees which have paid better this year? The Astrachan is a tardy and shy bearer when young, but atones for these faults by yielding heavily when older.

We are told also, that D. Gow, of Cobden, sent a trial lot of 100 $\frac{1}{2}$ -bushel boxes of Red Astrachans to Cleveland, which netted him over \$100. These fortunate shipments of Astrachans this summer will induce additional planting of this variety. A young orchard of 500 Astrachan trees in this vicinity bore its first crop this year.—*Farmer and Fruit Grower.*

GATHERING PEARS.

Perhaps there is no fruit on which the quality so much depends on the right time of harvesting as pears, for if gathered too soon they shrivel, and, if eatable at all, they are more or less insipid, whilst if left on the trees till they are eatable, particularly the early varieties, they are mealy and flavourless—at least such has been my experience, and even now, after years of practice, we sometimes fail to hit on the right time to gather some of the kinds; hence the suggestions I have to offer as to when to gather must not be taken as infallible, but simply as the best I have yet learned. To begin with the earliest and second early varieties, the former under any circumstances are always more or less mealy; obviously therefore the time of gathering cannot make them firm and buttery in flesh, but they are always best if gathered about a fortnight before being fit for table, and the best criterion as to when they have attained that degree of maturity is to gently lift up the fruits, and if they part readily from the tree, then they should be gathered and be placed in a cool, airy room. The same rule is equally applicable to the second early varieties with this addition, that if a portion of the fruits of the same tree

be gathered at intervals of a few days or a week, the season when they are fit for use will be greatly extended; this is particularly the case with respect to Williams' Bon Chrétien, Beurré d'Am-anlis, Brown Beurré, Seckle, and Marie Louise. I have also noted it to be the case with some few of the latter varieties, Winter Nelis, for instance; we gathered a few of this kind a week ago, others will be gathered this week, and others will be left on the trees as long as it is safe to leave them, and so, as in former years, we shall hope to have ripe fruit of this kind from November to February. Other late kinds, that by following the same rule, may have their season of use lengthened are Josephine de Malines, Beurré Bosc, Delices de Hardenpont, Passe Colmar, and Beurré Diel. With respect to gathering very late kinds, the best rule to follow is to disregard every symptom of maturity, such as black pips, pecking by birds, and even ready parting from the tree when moved by the hand, and only gather them as soon as they begin to drop from the tree naturally; there will then be few if any shrivelled fruit, and at the season of ripening the quality may be expected to be all that can be wished. I need scarcely add that all kinds should be handled with the greatest care, and if space can be afforded for laying them singly on the fruit-shelves, not only will they be more readily inspected to remove decayed fruit, but the percentage of such will be more reduced than if they were laid in double file.—*The Garden.*

MELON AND SQUASH BUGS.

I want to say *most emphatically*, that I hereby give the remedy for the melon and squash bug. Had a fine lot of melon and squash this season, up and looking well. All at once the bugs came down on them as though they meant business. I took a tight barrel,

threw in one and a half pailfulls of fresh cow drops, filled up the barrel with water from creek, stirred thoroughly, filled a pail, took a handfull of weeds having thick stems and long leaves, dipped in the liquid and dribbled the vines, letting it run freely down the stem so as to thicken around the stem, thus preventing their harboring at that point. The second day I went over them again. The bugs all left for parts unknown—may be in disgust at the smell and looks of the plants. Am entirely satisfied it's a good fertilizer, so another season I shall not wait for the bugs to come, but dose the plants soon after they come in sight.—G. R. RICHARDSON, in *Fruit Recorder*.

DESIRABLE SHRUBS.

Chionanthus virginica (white Fringe Tree of the United States).—So called from the narrow strap-shaped petals giving to a raceme of its flowers the appearance of a bunch of white fringe. It is so different when in blossom from all other shrubs, and withal so pretty, that one wonders it is so rarely seen. In general aspect it may be likened to a Lilac. It is said to grow naturally in boggy places; in England, however, it does well in ordinary soil, but not where very hot and dry.

The Carolina Allspice (*Calycanthus floridus*) would be by many considered dull and uninteresting were it not for the delicious fragrance of its purplish blossoms, which, though not very attractive to the eye unless closely looked into, are not only quaint, but pretty. In a moderately moist spot and where slightly shaded from the full rays of the sun this Allspice will flower for nearly three months in summer.

PYRUS MAULEI.—Of Maule's *Pyrus*, it may safely be said that its season of flowering is spread over a longer period than that of any other, except it be *P. japonica*. A specimen of it was in

flower early in the spring, and on June 15th there were several perfect flowers on it, which have, however, since dropped. This is so beautiful and floriferous a shrub, that it certainly ought to be in every collection, however small.—*The Garden*.

AN INTERESTING NATIVE PLANT.

THE ZAUSCHNERIA.

This somewhat harsh name has been bestowed upon a handsome little fuchsia-like plant of the far West, which is well worthy of a trial in our gardens. The genus includes but the single species, *Z. Californica*, which is found throughout southern and central California, and eastward to New Mexico and Utah. The plant is herbaceous, or slightly woody at the base, with a strong, hard, perennial root. The stems—about a foot long—are decumbent and descending, and grow so thickly as to quite cover the ground. The stems and branches are terminated by loose racemes of scarlet flowers. The latter are about an inch long, the parts in fours,—tetramerous, as the botanists say,—with the calyx and corolla colored alike. The style and stamens, as in the *Fuchsia*, are exerted to some distance beyond the petals, and the anthers are loosely attached by the middle, presenting that pendulous appearance which is so prettily seen in the anthers of the *Lily*, and which gives to the latter flower its chief grace. The leaves are about an inch long, lance-shaped, slightly toothed, of a deep green, and more or less hairy. Altogether the habit of the plant, the disposition of the flowers, the highly colored calyx, and the exert style and stamens, render it strikingly like a *Fuchsia*, while it has a charm possessed by no variety of the latter—a brilliant scarlet color.

In its native mountains its specific attractions are heightened by the sur-

roundings. Where the cañon broadens out into a little garden-like expansion, it loves to take possession of the gravelly bottoms on either side of the stream, where it grows to the exclusion of almost everything else. The surrounding cliffs, covered with vines and ferns, form a rich setting for the garden beneath.

In the flower garden it would doubtless admit of great improvement, as even at home its appearance varies greatly with soil and altitude. As it is accustomed in the Sierra Madre to severe cold and very sudden and frequent changes, it would probably prove nearly, if not quite, hardy in this latitude. It should be grown in a light, rich, well-drained soil, with an abundance of water, especially about the time of flowering. During winter it should be well covered with mulch, or be placed in a frame.—H. H. RUSHBY, in *The Garden*.

BURNING COAL-TAR TO KEEP OFF THE FROST.

Only two seasons in twenty years have grapes frozen in my vineyard previous to the 20th of October. The nights of the 4th and 5th just passed were one of the exceptions. With the thermometer at 24° in the morning, strong measures are needful for protection. My vines, bearing four tons of grapes to the acre, were uninjured the first night by the protection given from fires kept burning throughout the night. Having part of a barrel of coal-tar on hand, I found it of more service and less expensive than wood. Hereafter I shall be provided with a few barrels of it when frosts are expected, also some brush or combustible material at the edge of the field to be protected. The application of coal-tar is easy and produces the slow combustion needful. Coal-tar is so much more effectual and cheaper than wood, while more conveni-

ent for use during the night, that it often may be available when other fuel could not or would not be procured. What grapes were on the vines on the night of the 5th and unprotected by fires were completely frozen to the centre, although the thermometer registered the same degree of cold as the previous night.—J. H. DICKERMAN, *New Haven County, Ct., in N. E. Homestead*.

DRYING TOMATOES.

In Italy an extensive business is carried on in drying tomatoes to use during those portions of the year when the ripe fruit cannot be obtained. Tomatoes are raised, for the most part, between rows of grape vines, so that the land of their culture costs nothing. Sometimes the tomato vines are trained on the lower bars of a trellis, to which the grapes are attached. The tomatoes are allowed to remain on the branches until they are quite ripe, when they are picked and pressed in bags made of coarse cloth, which allows the pulp to pass through, but which retains the seeds and skins. The pulp is then thinly spread out on cloth, boards, or in shallow dishes, and exposed to the sun to dry. When it has become quite dry it is broken up fine, or ground, and put into boxes or bags and sent to market. A large part of it is used for making soups, but considerable of it is employed as we do tomatoes that are preserved in tin or glass cans. It is soaked for a few hours in warm water, and then cooked in the ordinary manner. Large quantities are wanted for home consumption, and considerable is exported. This would seem to be a profitable industry to engage in in this country. The pulp of tomatoes could be dried to good advantage in any of the styles of apparatus employed for drying apples, peaches, and small fruits.—*Rural Record*.

PLUMS FOR VERY HIGH LATITUDES.

Professor Budd of the Agricultural College of the State of Iowa, has given a great deal of attention to the study of those fruits which will succeed in very cold climates, and as the result of his studies advises that we turn our attention to plums of native origin. He thus describes a few of those which have come under his observation. We copy from the Iowa State Register his description as follows :

WOLF PLUM.—The fruit of this variety attracted much attention at the State Fair. It is nearly as large as Lombard, and for eating or cooking, about equal in quality. The firm fruit, and peculiar pubescent branches and leaves show some admixture of the European plums, yet, practically, the tree belongs to our native species, and seems perfectly hardy.

DE SOTO.—This was found near an old Indian camping ground, near the mouth of the De Soto, above Dubuque. The tree is a true iron-clad, and an early and regular bearer. The fruit is about the size of the Damson, and quite free from acidity of skin when cooked.

BASSETT.—This is said to be a seedling of the beach plum (*Prunus Maritima*), probably fertilized by some foreign sort. The fruit is small, with a pit little larger than that of the cherry. It is rather firm for desert use, but not excelled for cooking. The tree was not injured on the college grounds last winter.

FOREST ROSE.—This is of the Chickasaw race, originating, I think, in Missouri. In foliage the tree much resembles the peach. It seems perfectly hardy and bears young and regularly, so far as tried. In fruit it is superior to any and all the Chickasaw varieties we have tested.

ROLLINGSTONE.—This is an apparently native variety of Minnesota, with

blue fruit. It has a thicker skin than any of the above and more acidity when cooked, yet it is worthy of attention in the northern countries as a free bearer in the worst seasons, and the possible parent of a line of larger leaved varieties bearing blue fruit.

SPEER PLUM.—This is a small plum, free from acidity of skin when cooked, and seems an early and abundant bearer. It was brought to notice by Hon. R. P. Speer, of Cedar Falls, who is sending it out for trial. I have given the name as we have it, but I think not correctly.

BOOK NOTICES.

CATALOGUE.—Of Standard-bred trotting stock at Ashland Park Stock Farm, near Lexington, Kentucky; B. J. Treacy.

AMERICAN CHEMICAL REVIEW.—Published in Chicago, Illinois, \$5.00 per year, postpaid, devoted to the interests of the arts of applied chemistry.

SCIENCE.—An Illustrated Weekly, published by Moses King, Cambridge, Massachusetts, for the Science Company, \$5.00 a year. Always full of matter interesting to the thoughtful mind.

CATALOGUE.—Of works on Entomology, September, 1883, contained in the Bureau for purchase and exchange under the direction of Ed. Andre, 21 Boulevard, Bretonnière, à Beaune, Côte-d'Or).

TRICHINÆ AND TREATMENT OF TRICHINOSIS.—By W. C. W. Glazier, M. D.; published by the Illustrated Medical Journal Co., Detroit, Michigan, price 25 cents. Gives the entire life history of *Trichina Spiralis*, with copious illustrations.

THE CANADIAN ENTOMOLOGIST.—Is published monthly by the Entomological Society of Ontario, \$1.00 per year. It is edited by Wm. Saunders, Esq.,

President of the Society, and contains the latest information relative to insects, their life history, and when injurious the best means of counteracting their ravages.

DESCRIPTIVE CATALOGUE—Of ornamental trees, shrubs, vines, etc., grown at the Germantown Nurseries, Philadelphia, Penn., Thomas Meehan, Proprietor. Mr. Meehan is a very accurate and well informed botanist, who knows what he is doing, and cultivates a very large variety of both American and foreign ornamental trees, etc.

THE BIOGRAPHICAL MAGAZINE—For November contains short illustrated sketches of Alphonso XII, King of Spain; Lieutenant Greely of the Greely Polar Expedition; Lord Coleridge, Chief Justice of England; Li Hung Chang, Prime Minister of the Chinese Empire; Jules Ferry, Prime Minister of France; Prince Bismark; Martin Luther; Harriet Beecher Stowe, and other celebrities.

TRANSACTIONS—Of the Maine State Pomological Society, 1882. Doctor Hoskins, in an admirable paper on hardy winter apples, states that he knows of but one Canadian apple that is truly iron clad, the Peach Apple of Montreal; and that the hardiest winter apple, widely known in this country is the Wealthy. The McIntosh Red, he says, will bear all that can be said in its favour, for excellence of quality, beauty and productiveness, and *where it does not spot* will be a great acquisition; it is not iron-clad, yet more hardy than the Faucuse. The Mann apple has winter killed badly with him.

The December number of the **AMERICAN AGRICULTURIST** contains about one hundred engravings, which is twenty-five per cent. more than that in any other illustrated periodical in this or any other country. These illustrations are engraved expressly for the paper by leading artists, covering a wide variety

of rural subjects as well as farm inventions and contrivances. These engravings alone in any single issue of the paper are worth far more to every farmer and housekeeper than the subscription price for five years. Notwithstanding the **AMERICAN AGRICULTURIST** is fully worth four dollars a year, the subscription price will continue at \$1.50 during 1884.

THE GRIFFIN WEEKLY NEWS.—Published at Griffin, Georgia, by Douglas Glessner, price \$1.00 a year. It gives interesting intelligence on the subject of fruit culture in Centre Georgia. The W. W. Woodruff fruit farm started there in 1872, now has on it 5,300 pear trees; 17,000 Grape Vines; 2,500 Apple Trees; 1,500 Plum Trees of the Wild Goose variety; and 10,000 Peach Trees. Some of our Canadian fruit growers have also commenced fruit farming there, notably, Mr. W. Oldfield, of the Province of Quebec, and Messrs. Edwin S. Leavenworth and J. McKelvie, of St. Catharines. If any of our readers wish to keep up with the progress of this new fruit region they could not do better than subscribe for this weekly.

BUSHBERG CATALOGUE.—Illustrated and descriptive, from Bush & Son, and Meissner; Bushberg, Missouri; is not merely a catalogue, but a very full manual of the Grape, Grape culture and Wine making. This manual comprises over sixty pages, treating of soil and climate, of the species indigenous to the United States, of grafting the vine, trellising, pruning, diseases of the grape vine, insects preying upon the vine, gathering the grapes, mashing, pressing, etc. The descriptive catalogue is the most complete we have yet seen, giving the name, synonyms, species and when known, the parents; followed by a full description, with character the variety at present sustains among grape growers.

GOLDEN ROD.

The air is warm and balmy yet,
The meadows still are green;
But Autumn's royal seal is set
Upon the smiling scene.
For look! along the wayside nod
The tossing plumes of golden-rod.

It seems but yesterday we found
The May flower on the hills;
And gaily were the gardens crowned
With June's first daffodills.
We thought 'twas yet the opening year—
Ah, golden-rod, what brings you here?

We had so many things to do
That scarcely are begun—
Say not that harvesting is through,
And Summer days all done!
With winced sundals were they shod,
And fled when you came, golden-rod.

"I care not for your greeting cold,
September's child replies;
"My livery of burnished gold
Suits best autumnal skies.
No sighs I waste for vanished Spring,
I wait upon the Autumn's king.

"For he, the king, has need of me,
Fringe on his mantle's hem,
When gold and scarlet leaves shall be
His blazing diadem.
Grieve not that days like these are near—
They are the glory of the year!"

—Portland Transcript.

THE BRANDY GAGE.—A new plum, one of the strongest growers, and very hardy; fruit medium size, yellow, ripens early, and equal to the true Green Gage in flavor; a great and constant bearer, which does not affect the growth of the tree.—*New York Witness.*

GIANT ZITTAU ONION.—This is one of the finest onions that has ever been cultivated. It is handsome in shape, clear yellow, and if sown in March and properly treated many of the bulbs will weigh upwards of one pound by the end of September. Hitherto the seed has been rather expensive, but when cheaper it will doubtless be generally grown as a main crop variety.—*The Gardener.*

LADIES' CABBAGE.—Boil a firm white head fifteen minutes, changing the water, then, for more from the boiling tea-kettle. When tender drain and set aside until perfectly cold. Chop fine and add two beaten eggs, one tablespoon butter, pepper, salt and three tablespoons of rich milk or cream. Stir well together and bake in a buttered pudding dish until brown. Marion Harland says: "I can safely recommend

this dish, even to those who are not fond of any of the ordinary preparations of cabbage, as being both palatable and digestible."

DECORATIVE TREE PLANTING.—The Commissioners of the Woods and Forests, of England, are trying to plant a large extent of crown lands in the Isle of Man with forests and ornamental trees. The experiment, which is watched with interest not only by those who follow silviculture as an art, but by the many who regard with apprehension the gradual denudation of forest and woodlands, leads *Land* to comment on the growth of a taste for planting; for transforming into artistic plots, grounds which are ill-favored and uninviting; for digging lakes and forming cascades, resulting in magnificent combinations of sylvan charms.—*American Gardener.*

BAGGING GRAPES.—A correspondent asks for advice on the propriety of bagging grapes. The advantages are, protection from insects and birds; to some extent exemption from rot when that disease prevails; but more particularly in the appearance which the bunches present by freedom from external injury and with the undisturbed bloom of the berries. Sorts which sell at high prices pay for the expense of bagging; common grapes do not. Where performed for profit, the work must be systematized, the bags made by wholesale methods, and the persons who apply the bags must understand the business of applying them rapidly. As the bags retard somewhat the ripening, the grapes keep longer and may be supplied to purchasers a longer period, and the bags afford some protection from autumn frosts. To prevent rot, the bags should be applied soon after the fruit sets, or before it is half grown; otherwise the operation may be deferred till nearly the time for coloring. Manila paper is the best material, and the upper fold should be drawn over the bunch and pinned, so as to form a roof to exclude rain. Sometimes bagged grapes have been badly injured by long rains in retaining moisture and causing cracking of berries. Time will determine to what extent the practice will ultimately prevail in vineyard culture.—*Country Gentleman.*

INDEX.

	PAGE		PAGE
Abbotsford, F. G. Assa	274	Belinda Grape	10
Abronia	265	Ben Davis Apple	93, 273
Abutilons	69	Berberis Sinensis	15
Adolph Strauch	154	Berberis Thunbergii	15
Agricultural Education	278	Bessemianka Pear	272
Algoma, Fruit Trees in	5	Betula alba verrucosa	271
Alligator Pear	229	Bidwell Strawberry	34, 197, 224
Amateur Fruit Growers	33	Blackberry, The Snyder	186
American Pom. Society	105, 209	Blackberry, The Taylor	189
Ampelopsis Veitchi	191	Blackberry, Brunton's Early	2
Analysis of Soils	277	Blackberry, The Early Harvest. 2. 114,	15
Andromeda polifolia	14	Blackberry, The Early Cluster	236
Andromeda catesbei	14	Black Knot	188, 232
Andromeda Japonica	14	Black Walnut	17, 66, 83
Anis Apple	271	Blanching Celery	279
Annapolis Valley, Fruit in	174	Book Notices	45, 70, 95, 141, 164, 190, 239, 260, 286
Annals	265	Border Plants	111
Antonovka Apple	272	Brandywine Kaspberry	193
Aport Apple	272	Brandy Gage	288
Apple, The	271	Brighton Grape	10, 167
Apple Aphis	213	Burnet Grape	31, 76, 175
Apple, A promising Winter	202	Burning Coal Tar to keep off Frost	285
Apple Trade	168	Butternut	83
Apple Trees girdled	174	Cabbages	115
Apple Tree Bark-louse	48	Cabbage Worm	4, 116, 216
Apples	73, 83, 172, 282, 271, 272	Cabbage, Early	63
Apples Dried	168	Cabbage Beetle	110
Apples, Early, for Market	187	Cabbage Butterfly	116, 216
Apples, Export Trade	44	Calla	20
Apples, how Sold in England	160	California, Apricots in	191
Apples, Packing of	216	California, Grapes in	213
Apricot Growing	167, 191	California Prunes	215
Apricot, The	272	Calluna vulgaris	15
Arnold, Chas	100, 130	Calycanthus Floridus	284
Arabka Apple	272	Canned Goods	137, 227, 238
Arsenic, for Codlin Moth	188	Canning Oranges	145
Ashes	96	Cardinal Flower	24
Asparagus Culture	168	Caroline Raspberry	193
Aster, The	266	Carolina Allspice	284
Atlantic Strawberry	204	Cattle in Streets	204
Autumn Hints	259	Celery, Large	96
Bagging Grapes	223, 288	Celery	59, 156, 229, 279
Bagging Tomatoes	214	Champion Quince	2
Banana	256	Charles Downing	3
Bark-louse	208	Cherries	205
Barrie	82	Cherry Slug	60
Basset Plum	286	Chestnut Oak	112
Beans, new	18	Chicago Parks	192
Beans, Lima	182	Chionanthus Virginica	284
Bees injuring Grapes	5, 56	Chrysanthemum, New	281
Begonia Rex	11	Cladastus tinctoria	230
Begonia, Prince Albert	281		

	PAGE		PAGE
Clematis	25	Eleocarpus cyaneus	259
Clematis, Davidiana	14	Eleocarpus dentatus	260
Clematis, Coccinea	25	Empire State Grape	10
Clematis, Hybrid	140	Ensilage	163
Clematis, Jackman's	263	Erica vagano	15
Clethra alnifolia	14, 16, 152	Erica carnea	15
Clinton, The	198	Eucharis	225
Clinton, Fruit at	34, 58	Fucharis Sanderi	281
Clover Seed Midge	112	Evaporator, improved	205
Codlin Moth	106, 123, 128, 154, 188	Experiments with Tomatoes	203
Colorado Beetle	6	Experiments in Tree Growing	242
Conklin Peach	96	Extermination of White Grubs	123
Corn, Manuring for	100	Fall Planting	208
Cornus sanguinea	14	Fellenburg Plum	278
Correspondence, 51, 52, 76, 105, 123, 156,	174	Ferns	258
Cotton Seed Oil	209	Figs	113
Crab Apples	211	Field Mouse	127
Crescent Seedling Strawberry	210	Flower Garden	139
Crimson Beauty Raspberry	35	Forestry Exhibition	249
Cultivation of Potatoes	210	Forestry Association of Quebec	35
Cumberland Triumph Strawberry	210	Forest Trees	189
Currants, Cultivation of	251	Forest Rose Plum	286
Current Worm	52, 101, 116, 160, 175, 218	Fountain Pump	156, 198
Curl Leaf in Peach	276	Franconia Raspberry	194
Cuthbert Raspberry	193	Freerias	224
Cutting Seed Potatoes	37	Fruit Crop of '82	36
Dahlia	107	Fruit Culture in Russia	185
Danger to Shade Trees	176	Fruit Evaporators	66, 205
Dates	178	Fruit Growers' Association—	
Davidson's Thornless Raspberry	194	Winter Meeting	79
Decorative Tree Planting	240, 288	Summer Meeting	219
Desmodium penduliflorum	14	of Abbotford	274
Desmodium Canadense	14	of Grimsby	127
Desirable Shrubs	284	Fruit Growing	77, 134, 184
De Soto Plum	286	Fruit Insects	233
Deutzia crenata	14	Fruit in Annapolis	174
Dicentra spectabilis	90, 155, 217	Fruit in the North	159
Doyonné d'Ete Pear	212	Fruits in England	117
Dried Apples	168	Fruits of Minnesota	173
Dried Fruit Market	200	Fruit Prospects	157
Dried Fruit	92, 119, 150, 162	Fruit, Preservation of	88
Drummond Phlox	267	Fruit Report	158
Drying Tomatoes	285	Fruit, Preparing for Market	180
Duchess Grape	10	Fruit Show	257
Dunlap Peach	48	Funkia	22
Dwarf Pear	83, 218	Garden, How to Make it Pay	113
Early Apples	187	Gardens at Vancouver Island	279
Early Cabbage	63	Gathering Pears	283
Early Canada Strawberry	51	Genesee Peach	48
Early Cluster Blackberry	236	Geraniums	19
Early Grapes	59, 105, 108	Girdled Apple Trees	174, 220
Early Greens	182	Giant Zittau Onion	288
Early Harvest Blackberry	2, 114, 215	Gladiolus	8
Early Peaches	137, 216, 258	Glucose Honey	6
Early Victor Grape	108	Good Place for Forest Trees	189
Easter Beurre Pear	7	Gooseberries, English	32, 81
Edinburgh Forestry Exhibition	240	Gooseberries	251
Education, Agricultural	278	Grapes Under Glass	4

	PAGE		PAGE
Grapes.... 7, 10, 21, 27, 59, 83, 92, 95, 105, 108, 163, 278, 119, 120, 121,	140	Large Strawberries	199
Grapes, Ripening of	163	Lawn making.....	201
Grape Vines	79, 207	Laying Turf in Summer	216
Grape Vines, Grafting of	183	Lay of the Ancient Hybridist	264
Grape Vines, Paris Green on	209	Leiophyllum buxifolium	15
Grapes, Keeping in Winter	216	Lily of the Valley	38
Grapes, Bagging of	223, 288	Lily, Victoria Regia	221
Grapes in Lake Erie.....	236	Lima Beans.....	182, 206
Grape-Growing in California	213	Linden Grape.....	10
Grape-Growing in Huron County	107	Little, Mr. James	247
Grape Vine Plume	202	Lombard Plum	17
Gregg Raspberry	194, 210	Lost Rubies Raspberry	196
Green Peas	76, 163	Magnolia parviflora	282
Grimsby Fruit Growers' Association	127	Magog Red Streak Apple	172
Hansell Raspberry	1, 194	Manitoba, Fruit Trees in	33
Hardy Border Plants	111	Manitoba, Fruits for	275
Hardy Herbaceous Plants	217	Management of Grape Vine.....	207
Hardy Ferns	258	Manchester Strawberry.....	196, 224
Hardy Trees	271	Mangoes.....	238
Hardy Fruits	275	Market Pears.....	161
Hedges of Honey Locust	44	Marlboro' Raspberry	40, 207
Heliotrope	20, 217	Maple Egerian	176
Highland Hardy Raspberry	194	Maule's Pyrus.....	284
Highland Grape	62	Melon and Squash Bugs	283
Hopkins Raspberry	194	Melons, Fertilizer for	3
Horse Radish	144	Mexico, Rubber Plant in	192
Horticultural Gossip.....	126	Mice, to Protect Trees from.....	32
Horticultural Swindle	9	Mice girdled Trees	122
House Plants	19	Michigan Horticultural Society	28
Hybrid Clematis	140	Mississippi Valley Hort. Society.....	148,
Hydrangea paniculata grandiflora	13, 255	170, 268	
Illustrations..... 8, 9, 11, 13, 20, 21, 39, 60, 61, 63, 65, 67, 90, 93, 98, 99, 102, 103, 104, 114, 122, 146, 147, 150, 152, 153, 176,	245	Mignonette.....	266
Improved Fruit Evaporator.....	195	Mimulus cupreus	257
Insects..... 48, 112, 176, 188, 202, 208, 213, 233, 235, 240,	283	Minnesota Fruits	173
Insecticides	192, 240, 253, 256	Mobile, Reminiscences.....	244
Insects on Roses	240	Mouse, the Field	127
Interesting Native Plant	284	Mushroom Culture	51
International Exhibition	34	Muskoka, Fruits in	30, 275
Jackman's Clematis	263	National School of Forestry	272
James Vick Strawberry	169, 196, 218, 224	National Sanitary and Rural Improvement Association.....	278
Japan Maples	282	Nepenthes Northiana	282
Jefferson Grape	2	Neviusia Alabamensis	15
Kalmia latifolia.....	14	New Fruits	2, 210
Keeping Grapes.....	216	Newburgh Muscat.....	10
Kieffer's Hybrid Pear	391, 118, 160	New Strawberries.....	108, 196, 224, 240
Kitchen Garden	259	New Plants	281
Lady Washington Grape.....	10	New Orleans	146
Ladies Cabbage.....	288	Niagara Grape	253
Large Peach Orchards.....	191	Niagara Raspberry	194
		Oak Leaved Mountain Ash.....	99
		Oak, The Chestnut	112
		Oil from Sunflower	252
		Oleanders	107
		Old Ironclad Strawberry.....	65
		Onion Maggot	235
		Onion, Giant Zittau	288

	PAGE		PAGE
Orchards, protection to	48	Prunus triloba	14
Orchards, large peach	191	Puget Sound Fir Tree	96
Ornamental Shrubs	13, 14, 183, 191, 234, 284, 247	Pyrethrum	256
Ornamental Trees	97, 99, 112, 83, 282, 271	Pyrus Maulei	284
Ornamental Berries	183	Quince, The	215
Osthem Cherry	272	Quince Trees	162
Ostrich farming	270	Raspberries, 193, 196, 198, 207, 210, 278,	211
Ottawa Valley Fruit Report	158	Raspberries in New Jersey	237
Packing Apples	216	Raspberries in Illinois	187
Pansy, The	266	Recipes	72, 144, 288
Paper Bags on Grapes	120	Red Astrachan Apple	282
Paris Green on Grape Vines	209	Refrigerator Cars	203
Parsnips	41	Relation of Seeds to Quality	15
Peaches for Market	3, 135	Reliance Raspberry	195
Peaches	3, 83, 135, 137, 190	Remedy for Peach Yellows	274
Peaches, Early	137	Reminiscences of Mobile	244
Peach Orchards	118, 191	Report of Prof. Tanner	277
Peach Yellows	235, 274	Report on Trees	33
Peach Leaf Curl	276	Report on Fruits	57
Pear, The	175, 212, 272	Report on Russian Fruits	142
Pears-Cracking	57	Rhubarb Forcing	120
Pears for Market	161	Ripening Grapes	163
Pears, Winter	185	Roadside Tree Planting	251
Pears, Gathering of	283	Rollingstone Plum	286
Peas, Experiment with	177	Root Pruning	214
Peas, Preserving	163, 191	Rosa rugosa	263, 272
Peas, Trellis for	138	Rosebugs	21
Perennial Plants	247	Rose, The	272
Petite Marguerite Pear	175	Roses. 81, 145, 227, 237, 200, 240, 263, 272, 281	272, 281
Philadelphia Raspberry	195	Rubber Plant	192
Phlox Drummond	267	Rural Improvement Association	278
Phylloxera	85	Russian Fruits	26
Pinus Sylvestris	271	Russian Mulberry	199
Piper's Seedling Strawberry	240	Russia, Fruit Culture in	185
Planting Trees in the Fall	208	Salpiglossis, The	267
Plums	83, 272, 278, 192	Salsify	93
Plum Trees	188	Salvias	236
Plum Crop	201	Sanitary Association	278
Plums for high latitudes	286	School of Forestry	272
Po'keepsie Red Grape	10, 94	School Grounds	139
Poetry	24, 48, 72, 96, 120, 144, 168, 192, 216, 264, 288	Scions, cutting of	77
Portulaca, The	267	Scotch Pine	271
Populus alba var. erecta	271	Scraping trees	212
Potatoes	86, 94, 144	Seed Breeding	180
Potatoes, The Cultivation of	210	Seed Potatoes	37
Preventable Losses	7	Seneca Queen Strawberry	197
Prentiss Grape	121, 132, 173	Shaffers Colossal Raspberry	60, 195, 278
Preparing Fruit for Market	180	Sharpless Strawberry	190, 197, 224
Prices of Canned Goods	238	Shirts Strawberry	197
Profits of Small Fruits	273	Shrubs	14, 183, 234, 247, 284
Professor Tanner's Report	277	Singular freaks	190
Progress of Manufacture of Cotton Seed	277	Silverbell tree	191
Oil	209	Small fruits	53, 124, 190
Promising Winter Apples	202	Small trees	64
Pruning	77	Small seeds, how to grow	143
Pruning Raspberries	198	Snyder Blackberry	186

	PAGE		PAGE
Soil Analysis	277	Trees, Scraping of	212
Solid Raspberry	195	Tree Agents	172
Sorghum	48, 132, 179	Tree Planting	251, 288
Souhegan Raspberry	15, 195, 211	Tree Planting Act	125
Southern Fruit Show	257	Tree Growing	242
Speer Plum	286	Turner Raspberry	196
Sparrow, English	54, 59, 186	Tyler Raspberry	43, 196
Spirea arifolia	14	Ulster Prolific Grape	10, 95
Spirea pruinifolia	14	Valuable Information	271
Spirea Thunbergii	14	Vancouver's Island	279
Special Fertilizers	3	Vergennes Grape	2
Squash, The	11	Vegetables, new	104
Squash bugs	283	Vegetables in England	136
Stayman's Early Blackberry	9	Vegetables	241
Styrax Japonica	14	Viburnum plicatum	13
Stratford	82	Viburnum microcephalum	14
Standard Pears	83	Victoria Grape	140
Stone's Hardy Blackberry	91	Victoria Currant	155
Stonewall Jackson Apple	273	Victoria Regia Lily	221
Strawberry beds	24	Vineyard, a Naboth's	215
Strawberry enemy	151	Violets	42
Strawberay notes from Ohio	250	Virginia Fringe Tree	63
Strawberries	49, 62, 82, 108, 169, 174, 196, 199, 204, 210, 216, 224, 240, 250	Vladimir Cherry	272
Stylographic pen	94	Warder, Dr. John A.	221
Sugar Beet	7	Wash for Trees	215
Sugar Maple	131	Waterloo Peach	48, 190
Summer meeting of the Fruit Growers' Association	219	Watermelons	138
Sunflower Seed, oil from	252	Weeping Birch	271
Sunflower, Value of	190	Weigela rosea	14, 59
Superb Raspberry	67, 195	White Fringe	284
Sweet Chestnut	83	White Grapes	121
Sweet Corn, new	64	White Grubs	123
Sweet Corn, canning	133	White Pine	84
Switzer Apple	168	White Poplar	271
Tanner, Prof., Report of	277	Wild Cucumber	218
Tarnished Plant Bug	151	Wilson Strawberry	23, 129, 174
Taylor Blackberry	189	Wintering Cabbage	4
Texas Red Hybrid Blackberry	2	Winter Pears	185
Thwack Raspberry	195	Winter Radishes	2
Toads	189	Wolf Plum	286
Tobacco for Cabbage Beetle	110	Wood Ashes	96
Tobacco Juice Vapor	192	Worden Grape	81
Tomatoes	191, 203, 285	Wyoming Red Grape	10
Tonkoviетка Pear	272	Yellow Wood	230
Transplanting	141, 162, 255	Yellows in Peach Trees	258, 274
Trees, Best for Transplanting	69, 136	Zauschneria	284
Trees, Planting in Fall	208		

