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THE QUEEN OF FLOWERS

THE Canadian Horticulturist.

VOL. V.]

DECEMBER, 1882.

[No. 12.

ROSES.

IT WILL BE REMEMBERED that the Directors have offered a rose plant to those who prefer to receive it as one of the articles to be sent to our subscribers in the Spring; and so, by way of reminder, this number brings to its readers a beautiful colored plate of this beautiful flower.

Fortunately there is no need that we tell of the beauty of the rose. Every one treasures bright visions of them, mingled with memories, and intertwined with associations that give a lustre or a mellowness to their beauty, awakening at the very thought of them emotions of pleasure. Every one admires the rose; every one would grow the rose. But it is not every one who grows the rose that grows roses. Success in this, as in all else, is the outcome of a love that ever burns but never consumes. Down, deep down in the innermost depths of the heart, it is ever glowing. The snows of winter may wrap the rose trees with their frosty mantle, but no chill reaches that love; nothing can ever damp its ardor. Tenderly the true lover waits on his Queen with untiring constancy; none the less when come the autumn days, with the sere

and yellow leaf, than when she is just budding into beauty, or glowing in all the splendor of queenly majesty. To those who can thus care for her, anticipate her needs and guard her from danger, she comes forth in all her loveliness. As an eminent English cultivator has tersely expressed it, "he who would have beautiful roses in his garden must have beautiful roses in his heart."

Much has been written on the cultivation of roses that needs to be modified somewhat to meet the peculiarities of our Canadian climate; hence a few hints are here given that it is hoped may be of some value to our readers, inasmuch as they are the results of some years of experience in growing the rose.

Select for the rose garden a spot that is sheltered from the sweep of the winds, yet not too near to growing trees, lest their roots rob the roses. If it be practicable, let groups of evergreens break the force of the winds, and temper their fury.

Mulch the ground with a liberal hand both summer and winter; thus will the roots be protected from mid-

summer heat and winter's frosts, and the ground be enriched and kept moist.

A clayey loam that is well drained and well enriched is most congenial to the rose. Keep the bed well enriched by a liberal supply of fertilizers, in which ground bone may play a conspicuous part. Sods gathered from an old pasture, and composted with manure from the cow-stable, make an excellent top dressing.

The ground should be kept loose and friable and entire free from weeds. Frequent stirring during the growing season is very important, whether weeds have made their appearance or not, unless the ground is kept moist and friable by an abundant mulch.

In winter protect the plants with evergreen boughs thrust into the ground around them. This will prevent the sun from injuring them by its strong shining after severe freezing.

THE BURNET GRAPE.

I think there need be no fears as to the success of the Burnet grape in this section of country. My vine has fruited two seasons. This fall I counted 56 well developed bunches, some of them weighed over 12 ozs. each. All ripened evenly and not a sign of mildew, vine vigorous and healthy. Last year I kept the fruit till the middle of January without the least difficulty. I consider the Burnet and Lindley the two finest flavored grapes in my varied collection. Some varieties mildewed badly this season. The Ontario is doing well, also the Gladioli you sent out flowered finely. The raspberry never grew.

The *Walter, Brighton, Salem, Wilder, Agawam*, and many other fine kinds of grapes, do well around Brockville.

D. V. BEACOCK.
Brockville, Oct. 27, 1882.

THE WORDEN GRAPE.

This is another very hardy, vigorous and productive black grape, ripening a few days before the Concord, and by very many good judges esteemed to be of better quality than that very popular and well-known variety. It does not ripen so early as the grape sent to our subscribers last spring, Moore's Early, but will come in a few days after, and ripen in localities where the Concord hardly makes out to get ripe. It is said to be a seedling of the Concord, which it very much resembles in form and size of both bunch and berry.

The opportunity is given to subscribers to the *Canadian Horticulturist*, who would like to plant a good, hardy and early-ripening grape, to make trial of the Worden without cost, and from our own acquaintance with it we would certainly expect that those who plant it will find it a very valuable variety.

Every year is giving us some new varieties of grapes, many of them of superior quality, and some of them ripening so early as to be specially valuable in our climate. Not very long ago the only grape we had was the Isabella, now we have so many that one is embarrassed by the very greatness of the variety from which to choose, each having some peculiar quality of its own which commends it to the planter. Even the Champion or Beaconsfield, poor as it is in quality, has a constitution so hardy, healthy and vigorous that it will be planted by many in our rigorous latitudes as much better than none.



WORDEN GRAPE.

THE NIAGARA RASPBERRY.

This new raspberry, which is offered to the subscribers to the *Canadian Horticulturist*, if they prefer to give it a trial, is one that was raised by one of the Directors of the Fruit-growers' Association, Mr. A. M. Smith, of St. Catharines. The plant is a strong grower, and apparently hardy. It endured unharmed the severe winter of 1880-81; but was somewhat injured during the much milder winter of 1881-82. The berry is large, considerably larger than the Philadelphia; dark red in color, in this respect much resembling that berry, though not quite as dark. It is a much firmer berry than the Clarke, and ripens a week later than that variety. In productiveness it approaches very closely to the Philadelphia. It does not ripen up its crop all at one time, but continues to yield ripe fruit for a considerable length of time, thus making it a valuable variety for domestic use. The flavor of this variety is excellent, being considerably in advance of the Philadelphia in this respect. It is only by actual experiment of planting it in different sections of the country that its adaptability to our climate can be fully ascertained.

THE PEONIA.

Few persons seem to be aware how great a variety of color and form there is in these most showy flowers—at least this conclusion is forced upon us from the fact that one so seldom sees them growing in the gardens of our flower-loving people. Yet, of all our herbaceous flowering plants none are more hardy, none better suited to our climate, none cultivated with more ease, and none make a more brilliant display when in bloom. The Peonia adapts itself most readily to all soils, and will bear neglect and abuse as uncomplainingly as a Pie-plant root.

After having been planted they will thrive and bloom best if allowed to remain undisturbed for several years, receiving in autumn a good top-dressing of well rotted manure to encourage their growth and improve the size and beauty of their blooms. The flowers are for the most part pleasantly scented, many of them having a very decided rose-like odor. The colors vary from a very dark purplish crimson to pure white; some are white marked with occasional streaks of carmine, some are of a deep, rich rose, others white with a light cream-colored centre, or a light purplish rose, or having the outer petals of one color and the inner petals of another color. The flowers are all double, and very beautiful.

The subscribers to the *Canadian Horticulturist* have the privilege of receiving a Peonia root next spring if they wish as the premium plant, which will give them an opportunity of giving it a trial.

THE FRUIT SEASON OF 1882.

P. E. BUCKE, OTTAWA.

The past season has been anything but a successful one for fruit-growers. In the eastern part of the Province the strawberry plants were badly heaved out by the wet spring, and were consequently much damaged by frost. Neither the currants nor the raspberries gave their accustomed yield. Even the grape vines did not produce their average clusters of rich fruit; and what they did bear were late in ripening, or did not ripen at all. The apple crop was a good average for this section; any trees growing gave good results. Mr. John Conn, of Kemptville, is going largely into ironclad fruit trees, and has a fine young orchard coming into bearing. He is thus enabled to show purchasers what they may expect by purchasing trees at his nurseries. Appearances would indicate that the

Ottawa will eventually become a fruit-producing region. Some fine orchards are also being set out at, Como, forty miles down the Ottawa River from the Canadian capital; and more trees are being planted about Ottawa itself. Indications show that the area planted with apples during next spring will be quite large. The despised Champion Grape came in handy and early; one grower sold his first cutting of this variety at 25 cents per pound! Vineyards on all hands are on the increase. Many are cultivating vines who never grew them before, and those who have them are planting more; so that our cold, backward season does not appear to have entirely damped the ardor of vineyardists. It is true, earlier varieties are being sought after. I noticed a new candidate at the Kingston Exhibition for public favor, in the shape of the *Jessica*, and purchased some vines. It is a white grape, or rather a dull shade of green; not large, but bigger than the Delaware, and said to ripen in the open air early in September. Its earliness is its great attraction. It is for sale by the esteemed Secretary of the Fruit Growers' Association, D. W. Beadle, who, I understand controls the market in this variety. One small orchard exclusively of Alexanders, a mile and a half from the city, was a beautiful sight during the end of September; their fine size and bright red color quite took the eye of the beholder. Mr. Johnson Brown was the grower of this fine fruit, and no doubt made large profits on his venture.

TWO RUSSIAN APPLES PROVE TO BE ONE.

Doctor Hoskins, of Vermont, writes to the *Rural New Yorker*, that after testing *Grand Sultan* and *Yellow Transparent* for a number of years, he has come to the conclusion that there is no difference between them.

Also, that *Charlottenthaler*, which he has lately fruited, is only another name for the same fruit.

TRANSPLANTING RASPBERRIES.

P. E. BUCKE, OTTAWA.

A couple of years ago the transplantation of raspberries was recommended in August, when the young plants were in full leaf. This paragraph was copied into a large number of papers, and was eventually sent me by a friend all the way from California. Further experiments this year in the direction of early planting revealed the fact that July is a better month than August; and in future the writer will make his plantations in June if the plants are to be had from three to four inches high. Every one knows who has tried it that late autumn or spring planting, cutting the canes to four or six inches long, does not result in a good plant the first bearing year: the canes are branchy, and as a rule not very strong. But by the early system of moving plants, a good cane is obtained the first year, and the following one a good supply of fruit, thus gaining almost two years on the old system. Try it.

AGING OF WINE BY ELECTRICITY.—If an electric current is passed through new wine the same is said to acquire the properties and characteristics of old wine in a few days.—*Journal Vinicole*.

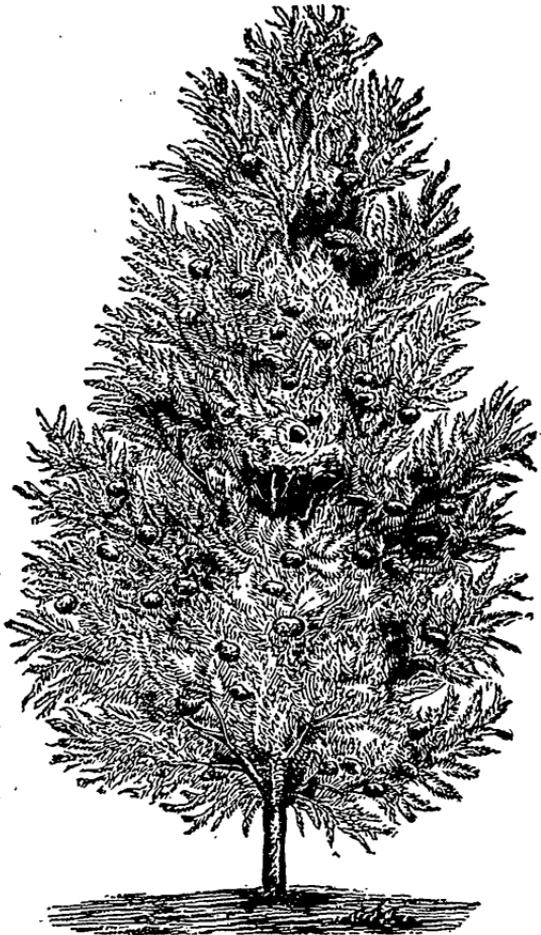
STRIPED BUGS.—A strong solution of tobacco water will drive the striped bug away from melon vines and the small flea from young cabbage plants. I have found it an unfailing remedy the past four or five years. I apply it while the sun is shining, through a sprinkler several times a day, until the plants are coated with the yellow solution, and rarely find it necessary to repeat unless washed off by rain; the tobacco water is also an excellent fertilizer, and is worth using for that purpose if no other.—J. K. S., in *Fruit Recorder*.

OAK-LEAVED MOUNTAIN ASH.

The growing taste for ornamental trees is a very gratifying indication of the desire of our people to make their homes attractive. The time and money expended in planting beautiful trees and shrubs around our rural dwellings, is repaid fourfold in the increased value of the property if one should ever wish to sell it, and a hundredfold in the added pleasure, and comfort too, of those who occupy them.

In our climate it is of the first importance that the trees we plant should be of a hardy character, that they may be able to endure the extremes of both heat and cold to which they must be subjected. The Mountain Ash is of such a character, not only the American but also the European species; indeed, so far as we are acquainted with them, all the varieties of the Mountain Ash are exceedingly hardy, and well adapted for planting in all parts of Ontario.

The Oak-leaved variety makes a very pretty, compact, medium-sized tree, quite suitable for places of moderate dimensions. The accompanying engraving shows its usual style of growth. It presents at all times a pleasing appearance, but especially in autumn, in common with both the American and European species, when laden with its clusters of bright scarlet



OAK-LEAVED MOUNTAIN ASH.

berries. It is usually propagated by budding on the European or American Mountain Ash, but can also be successfully worked by grafting upon the apple.

There is also a dwarf and a weeping Mountain Ash, both of which make handsome lawn trees.

LAWNS

AS PREPARED AND KEPT ON THE GOVERNMENT GROUNDS, OTTAWA.

Much has been written on the subject of the best methods of preparing for lawns and keeping them; mine is nothing new. Having proved so successful, many inquiries are made what has constituted my success, under so unfavorable circumstances, and as they are always a very noticeable feature by visitors, I give you my treatment.

The position and material on which they are could hardly be worse, standing high above all other surroundings, exposed to every gale, without any shelter, mostly excavated from the rock, no fresh soil having been drawn to them; what was found on them was so mixed up with the refuse from the buildings in their construction, such as sandstone cuttings and other material, as to be almost unfit for such a purpose.

In the excavation, great care had to be taken of the soil found on them; of it I made three sorts, putting the first and second qualities into separate piles, and the worse carted away. A large portion of this excavation was from the solid rock over six feet deep, taking nearly two years to do it in, which gave ample time for sod and such like material as I had in my first quality of soil to be well rotted.

In putting on the soil I laid first a foot of second quality, finishing with another foot of best. In carting it on I took care that the carts passed all over, not allowing them to make roads, so that it would be equally pressed down, so that at the present time, six years since, there is not the slightest sag in any part of it. When perfectly level I put on a heavy coat of well rotted manure (I prefer cow manure, with no straw); I then gave it two good plowings, cross harrowed it, and raked it; then I was ready for the

grass-seed. Much diversity of opinion here exists as to when is the best time to sow it; portions were done four different years, always with the same success. I sow in the fall as late as I possibly can, so that the seed will not germinate till the spring. In sowing, I have it sowed first one way and then crossed, being sure that it is all covered, using plenty of seed with a good share of white clover. I make a harrow of inch boards driving in five-inch nails; this is drawn by a man and again cross-harrowed, and if any small stones should turn up pick them up, and give a good roll with a heavy hand-roller.

When spring comes, before the frost is out of the ground, you will see it green, and will soon be fit for the lawn mower. Now, as soon as the mower will catch it, continue this all the season, and by the fall of the first year you will have a lawn as close as it is possible to make it, provided you use plenty of water during the warm months; never wait till it begins to show signs of burning before you water and once get it stunted; water when the appearance of dry weather sets in; it is much easier to keep it wet than wet it after it gets dry.

I give a good top-dressing of well rotted cow manure, with no straw only what is well rotted, taking care that no fresh is used, for you will get weeds fast enough into a lawn without that. In the fall I put on the manure roughly, so as that it will help to catch the first snow. In stopping mowing be sure to leave a fair fleece of grass; if too much your first mowing in the spring will be difficult, if too close you expose the roots of the grass. In the spring, whilst the manure is wet, break it all as fine as you can, then rake; this manure will not rake off if properly managed, only the dead grass; after

this pass a heavy roller drawn by a horse with boots on, or a heavy hand one.

These lawns are just as green in the middle of summer as in the early spring. They have been during that time, six years, mowed once a week all summer, and when vegetation is rapid twice. Never, if possible, allow your grass to get so long as to require raking off; cut as short as it will drop unseen, as it will do much to mulch and retain moisture.

In winter beware of allowing roads to be formed by foot-passers, or otherwise, for if you do, your grass is sure to be killed by the formation of ice, or leave an unsightly track for a portion of the summer. If ice has formed on any part of it, cover it up with snow or something else, for as sure as the sun strikes through this ice so sure will your grass be scalded out. Dry frosts early kills grass unless there is an over-abundance of moisture. I generally have snow taken from about doors and put on to such places.

N. ROBERTSON,

Sup't. Gov't Grounds, Ottawa.

A SURE PREVENTIVE OF CHICKEN CHOLERA.

Several experiments have been made during the last five years by different parties for the purpose of preventing the spread of chicken cholera, by inoculation or vaccination. We have during the past two years vaccinated the fowls in nineteen different yards where the cholera was prevailing badly, and in each yard we left some common fowls not vaccinated, and they all died. Out of the 2,000 vaccinated only eleven died, although they were in the same yard with those not vaccinated that were dying daily by the scores. We have every reason to believe that this chicken vaccination is as effective in preventing cholera among fowls as vaccination is

in preventing smallpox among the human family. Vaccinate a hen and in eight days its system will be thoroughly inoculated, then cut off her head, and catch all the blood in some vessel, then pour the blood out on paper to dry; a half drop of this blood is sufficient to vaccinate a hen, and the blood of one hen will vaccinate a whole flock. Catch the fowl you wish to vaccinate, and with a pin or knife make a little scratch on the thigh (just enough to draw blood), then moisten a little piece of the paper with the dried blood on and stick it on the chicken's leg, where you scratched it, then let the fowl run, and you need have no fear of chicken cholera. As the result of many experiments, I have now dried blood enough, I suppose, to vaccinate ten thousand fowls, for which I have no use, as I do not sell patent medicines. If any of your readers are enough interested in poultry to try this preventive, by writing to me I will send you free of any charge enough dried blood to start with. All I ask is that they send immediately, before the blood loses its strength, and report the result of their experiment to your many readers.

W. H. GRIFFITH.

Zanesville, Ohio.

Chickens so often have to do with our gardens, our readers will not consider this paper unsuited to a horticultural magazine.

PRIMO STRAWBERRY.

This has not been a favorable season for the strawberry, so cold and backward that the general crop is considered light. I have experimented with all the now leading varieties for the last ten years, and have grown strawberries for the New York market, and I have not found a strawberry to fill the bill so well as the Primo. This is the second year that I have fruited it.

I find it hardy and very prolific, a sure cropper, very attractive in color, being a bright scarlet. But the leading feature of this new berry is its exquisite flavor, possessed by no other variety I know of. This berry I believe originated in Newburgh, N. Y., and is now in the hands of a Mr. J. G. Burrow, Fishkill, N. Y., of whom I bought my stock. I shall plant it extensively another season.—P. A. M. VAN WYCK, in *Farm and Garden*.

CULTURE OF THE CAULIFLOWER.

One of the most greatly prized, by epicures, of all our vegetables is the cauliflower, and by many amateur cultivators it is one of the most difficult to raise in perfection, particularly by those who have not learned its special needs by actual experience. Many a gardener, who cannot tell why, grows this excellent vegetable successfully; and by watching his manipulations, we are enabled to study out a system which, when followed, generally proves successful. Every variety of plant has its peculiar needs, and when those needs are known, provided for and complied with, it becomes a comparatively easy task to grow the plant successfully. I am told that "in Erfurt cauliflowers are grown in low muck lands, with intervening ditches of water, and even then, during dry weather, water from the ditches is thrown over the plants." Water, therefore, is one of the peculiar needs of this plant; but I have known excellent cauliflowers grown in this country on comparatively dry sandy loams, and better ones on loams of a more heavy and retentive character. Water, and manure water, were freely given the plants when once established; and the soil was freely stirred.

This sort of culture, however well it may serve for amateur and small gar-

deners, is impracticable for market gardeners, as a rule. In all cases we must have plants that have good roots, and plenty of them, and for this, time must be given for them to grow. A slow growth of top must therefore be encouraged by starting the plants early in a hot-bed, and transplanting, when small, into other beds partly spent of heat, and later into cold frames, where they may stand till time to transplant into the field. If properly hardened off, they will stand as much frost as a cabbage without injury, and we know that by setting cabbages to the depth of most of the stems' length, they will endure quite a degree of frost. It is important that the plants get established, for an early crop, in the field on permanent beds as soon in the spring as possible, that they may have the benefits of spring rains and cool weather to mature before early summer drouths and heat come on. All the cabbage tribe require a good degree of moisture and cool weather to induce them to head well. If the crop is properly treated, the plants will mature ready for market in mid-June, leaving plenty of time to clear and prepare the ground for second crops.

Cauliflower should never be grown on the same ground oftener than once in a course of five or six crops, and less frequently where two or three crops are annually grown on the same soil. An indispensable essential in the growing of good cauliflower is that manure be liberally applied and the land thoroughly prepared. Thorough culture must be the rule. Lime, superphosphate and guano, in conjunction with farmyard manure, should be applied freely in proportion to the amount of manure available. By pursuing some such course, splendid crops of this most delicious of the cabbage family may be grown annually. The catalogues enumerate and describe a dozen or more

of varieties, but for practical purposes, for the early crop, Early Dwarf Erfurt, Early Paris, and Lenormand's will be found quite as satisfactory as any.—W. H. WHITE, in *Country Gentleman*.

THE CLEMATIS.

The wonderful improvement in these beautiful plants, combined with their easy culture, and the many uses to which they may be employed, has created a popularity and demand for them unequaled by any other climbers.

In answer to several readers about the hardiness and culture of the Clematis, we may safely state that all the best and most beautiful varieties are perfectly hardy in the Northern States, and of the easiest culture. Yet, as with most plants, to obtain best results, a certain amount of care and attention has to be given. Even throughout Canada they are now grown extensively and satisfactorily. Mr. Wellington, who has given much attention to their culture, stated before the Fruit-growers' Association of Ontario that he considered them thoroughly hardy in Canada, capable of the finest results, and that there is scarcely any place where they are inappropriate. "They are excellent upon the lawn as pillar or stake plants, or growing upon stumps of trees; in beds or borders, in the garden, they cover the surface with the richest carpet of brilliance and beauty; for trailing upon verandas, or trellises and arbors, there is nothing so effective and pleasing; over mounds of rock-work, with an intermingling of varieties of different colors, they present an appearance of marvelous beauty, and as pot-plants, trained upon wire frames of any desired shape, they have few equals."

In the Middle and Southern States, Clematisses will grow in almost any

situation if the soil is of moderate fertility, and if the roots of other plants do not rob them of their proper share of nutriment. To insure success in northern latitudes, more care is required, however. Mr. Wellington says in this regard: "Our own experience would lead us to say success depends upon high culture. It transplants well, but is a gross feeder; you can scarcely overfeed it. Select a good, rich soil, in the first place, and then annually or oftener supply heavy dressings of rich, well-rotted manure, thoroughly incorporating with the soil. Frequent applications of liquid manure will be found very beneficial, and amply repay time and trouble. The perpetual qualities of the plant are not fully brought out unless kept constantly growing, and to do this it is necessary to supply unflinching nourishment. In the fall, before freezing weather sets in, mulch heavily, from four to six inches deep, with well-rotted compost, spading into the soil in the spring before the plants begin to start. We do not know of any better system of culture than this. It has never failed to produce the most satisfactory results with us. Should the soil become heavy, we would loosen it with an application of sand or sandy loam."

They carry and transplant easily, and with any fair usage the plant is sure to grow. If liberally fed, the plant each year increases in strength and number of its shoots, and consequently the number and size of its brilliant blossoms. They generally flower the first season, and it is not uncommon for them to give grand results when well cared for, growing vigorously and producing a profuse mass of flowers. The introduction of the *C. coccinea*, with its bright scarlet flowers, adds a new and brilliant shade to their already unsurpassed galaxy of colors.—*The American Gardener*.

THE RAREST AMERICAN WILD
PLANT.

Shortia Galacifolia.

The "Venus Fly Trap" (*Dionæa muscipula*) is a plant that is found wild only in a few spots in the United States; but for its peculiar structure has been propagated so much that it is ceasing to be a novelty. There is another species of plant that is more rare than this, and a brief account of its history and a description of the plant itself may not come amiss.

In the year 1839, in examining the dried specimens of a noted English botanist, Dr. Asa Gray came across a plant that had been collected in the mountains of North Carolina over a hundred years ago. It was unlike any other American plant that he had seen, and the species was given the generic name of *Shortia*, in honor of Dr. C. W. Short an accomplished botanist, as well as physician, of Louisville, Ky.

Dr. Gray and other botanists made an extended tour through North Carolina in the year 1841, mainly for the purpose of re-discovering the new plant, but without success. At frequent intervals since that date other botanists have followed the trail of the original discoverers, but in all cases failed to find *Shortia*. It was believed by many that the species must have become extinct.

In 1877 Mr. G. M. Haynes had the good fortune and honor of rediscovering the long sought plant. He found it in MacDowell County, N. C.; and in 1879 Dr. Gray with others made a pilgrimage to the home of the rarest of American wild plants. The locality where it was growing was a space of about ten by thirty feet and contained not over one hundred plants. It is certainly quite remarkable that this plant should be so limited in its range of growth, and also as wonderful that it should be re-dis-

covered so long after it was first found by a wandering botanist.

How quickly a case like this calls to mind the struggle for existence this plant has had! and one is inclined to turn in thought to the unfitness which this plant must have for the battle of life. Had it not been re-discovered it might have become extinct before many years. It would seem as if *Shortia* was, in the evening twilight of its obscure existence, but rescued from death by the saving hand of man.

A few words of description are in order. *Shortia* belongs to the small *Diapensia* Family, so that it is closely allied to the heaths on one side and the primroses on the other. The plant is a low herb with a creeping root stock from which arise evergreen leaves in shining tufts. The specific name *galacifolia* is given it because its leaves have a strong resemblance to those of a species of *galax*, a related genus. The flower stalks arise from among the leaves, each bearing a single flower, which is pure white and about an inch across. The petals are scolloped and somewhat fringed at the margin, and marked with semi-transparent veins. *Shortia* is a pretty little plant, and its great rarity makes it an object of great interest to all lovers of plants.—BYRON D. HALSTEAD, in *Ladies Floral Cabinet*.

A Kansas paper asserts that the people of that State have planted, under the State forestry laws, 93,000 acres in trees. The cotton wood, on account of its rapid growth, has been planted most abundantly. Some 6,000 acres of black walnut have been put out. These 93,000 acres of trees, if well cared for, will in a few years not only add greatly to the beauty of Kansas scenery, but will materially modify the climate of the State. If the good work goes on, the day will come when Kansas will be as free from drouths as are any of the Western States. The constant winds will also be done away with, to a great degree.—*Prairie Farmer*.

LIMA BEANS.

The great value of the Lima Bean, for summer as well as for winter use, is everywhere gaining for its increasing popularity. The principal difficulty in its culture is to produce it early enough, as the plant is very tender and cannot be planted before permanently warm weather sets in.

Mr. B. G. Smith, who has been very successful in the cultivation of this vegetable, communicated to the Massachusetts Horticultural Society his method, which consists in sowing the seed about the middle of April (being careful to place the eye down), in what are known as "cucumber boxes," filled with loam, five seeds in each. The boxes are without bottoms, six inches in height, seven inches square at the top and eight inches square at the lower part, and are made of half-inch stuff. They cost six dollars and a half per hundred, and his have already been in use ten years. He was the first to use them to forward Lima Beans, and finds them invaluable for this purpose. When the Beans are planted the boxes are placed in the cold graperly. When the plants are about two feet high, the ground is prepared and the poles are set out, and a hole large enough to receive the box is made at the foot of each. A box is then lifted on a shovel, placed in the hole and the shovel withdrawn. The box is then removed by lifting up; the object of making the top an inch smaller than the bottom being to permit this.

It is not advisable to set out the young plants before the first of June, but this is as early as the seed can be planted out doors, and by forwarding in this way five weeks can be gained, and the beans can be had fresh from the garden from the middle of August to the middle of October.

The Lima Bean is a tropical plant and requires a long season. Any surplus can be dried for winter use, and when

soaked can hardly be distinguished from fresh beans. In saving seed the earliest beans should be carefully selected.—*American Garden.*

STONE'S HARDY BLACKBERRY

Is a chance seedling which originated near Rockford, Illinois. In the spring of 1874, I obtained a few roots of a friend who had been cultivating them in his garden four years with excellent success. I bought some genuine Snyder roots, the same spring, and set them both here in Wisconsin, side by side, and have given them the same cultivation, every year since, without any winter protection to either. Have set some of each variety every year since 1874, and after growing this new variety eight years, by the side of the Snyder, I can better describe it by comparing it with the Snyder, which is conceded to be the hardiest variety under *general* cultivation. During the eight years I have had them side by side, the Hardy has always passed through the winter in better condition than the Snyder, which was twice killed to the ground, while the Hardy was injured only on the end of the branches. The crop of the Snyder for those two years was a failure, but that of the Hardy was good.

It is the universal opinion of the many who visit my grounds and see the two varieties side by side in their prime that the Hardy is the most productive and better in quality than the Snyder.

It is an upright and vigorous grower; the wood is stocky, short jointed, ripens early, turns dark red, and is very hardy. The berry is black and glossy when ripe, and has a delicious flavor. It commences to ripen its fruit about five days later than the Snyder, and continues bearing ten days longer; the fruit is well protected by the thick, healthy foliage.—I. N. S.

FLOWERS FOR INVALIDS.

A lady writing about the pleasure that flowers give to invalids, tells the following anecdote to illustrate her words :

"Several years ago, when I was a young housekeeper, I was startled one Sunday morning by the request, from a working blacksmith, for some grapes for his sick wife. We had no greenhouse or vinery. Our little bit of garden was most unassuming, and I could not think what made the man come to me.

"However, I told him that I believed a friend of ours had some early grapes, and if I could get some, his wife should have them in the afternoon. My husband walked out with me to our friend's house. Some grapes were most willingly given for the invalid, and some flowers for ourselves.

"I gathered two or three pretty and sweet flowers—I remember that a carnation and two sweet peas formed part—tied them together, and we took them with the fruit to the sick woman.

"We were taken up to her bedroom. There she lay, pale and emaciated, with an ominous flush on her cheeks. We handed her the longed-for grapes. She said 'much obliged.'

"But when I held out to her the few flowers I had brought, she snatched them so eagerly that I was startled and awed to see the delight they gave to one who was evidently so near the confines of the Unknown.

"I called again in a day or two, and saw the flowers carefully preserved and looking bright in a doctor's medicine bottle close by her bedside. That scene taught me a lesson I have never forgotten, and I hope it is not without its use also."
Floral Cabinet.

THE THREE BEST DOUBLE FLOWERING GERANIUMS for bedding purposes are Bishop Wood, Summit of Perfection and Henry Cannell. All these are of dwarf, compact habit, very floriferous, and produce their flowers in large trusses. They stand out hot, dry summer weather without sustaining the least injury.

NOTES ON BEETS.

Having grown an assortment of Beets for exhibition, I avail myself of the experience gained in growing them (added to previous experience as a gardener of thirty years' service), to note their respective characteristics and value.

The *Blood Turnip Beet* is the favorite standard variety in nearly all private gardens, and as a market Beet. There are many sub-varieties, the earliest of which, introduced about ten years ago, is the *Dark Red Egyptian*. This, when young, is of excellent quality, but needs successive planting if relied upon for all-summer supply, and is of little value under any circumstances for winter use. Previous to the advent of the Egyptian Beet, the *Early Bassano* was the favorite, and a very fine Beet it is. But even had not the Egyptian come to supplant it, *Bastian's Early Blood Turnip Beet* would have done so, I think. Bastian's Beet is rather obscured by the Egyptian, and is not widely grown, but is nevertheless a valuable variety, and has the merit of keeping its tenderness through the summer, not needing successive plantings. *Hatch's Early Turnip Beet* is a variety popular around Boston, while *Simon's Early Turnip Beet* is in use near Philadelphia. But, undoubtedly, the best of this class for general use is *Dewing's*, which is very thorough-bred, with small neck, smooth root, and symmetrical form. I do not know how it could be bettered.

The half-long varieties are quite extensively grown, and are in no particular inferior to any others, though more popular, so far as my experience extends, in private gardens than among marketmen. They, as well as the long-rooted sorts, are rather better keepers through the winter than any of the Turnip-shaped; yet all kinds need to be kept packed in sand to retain their plumpness and flavor, and when so packed I find

Dewing's Turnip Beet to keep well until the new crop is ready. The longer sorts, however, are more productive, and a small bed will therefore give a larger supply, which is often very desirable to those whose garden is small. Among the half-long kinds none are better than the *Common Half-long* and *Bastian's Half-long*. The latter is quite distinct, and of a fine, dark color. The *Deep Red Castelnaudary* and *Rough-skinned* belong to the half-long class, but do not seem to have become popular. *Pine-apple* is also a half-long of great merit, with very dark red foliage and roots.

The long-rooted Beets have rather gone out of fashion, except with old-fashioned gardeners; yet we never had a better Beet than the old *Long Smooth Dark Blood Beet*. It is still a favorite with many, and, if the strain of this Beet has been kept pure and well selected, it is especially to be recommended to those who grow for exhibition. And, by the way, nothing looks nicer at a fair than a well grown and well displayed show of Beets. It always attracts attention, and deserves it.

It will not do, in an article like this, to omit the Field Beets; but the list, if I were to choose it, would not be long. *Lane's Improved Sugar Beet* and the *Yellow, Qvoid Mangold* seem to me the best, though for shallow soils the *Red* or *Yellow Globes* may be preferred. The *Long Red Mangold* is a nuisance, in my opinion, both in the field and in the cellar, sprawling around, "all over everything," and as crooked as the old lady's fire-wood, which she said was "so crooked that it could not lie still." Yet many grow it without complaint.

The *Chard Beets* do not seem to be very popular, and some seedsmen do not offer them at all. But since the Beet *Anthomyia* fly, with its nasty, white little grubs feeding upon the

leaves, have put an end to Beet Greens, I cannot but advise the planting of Chards, the thick mid-ribs, or chards, of which are an excellent summer substitute for Asparagus, and are, when well grown, as tender and as rapidly reproduced as Spinach. A good variety is the *Swiss Chard*; but, on the authority of that most excellent authority, my own and the public's friend, Mr. C. G. Pringle, I recommend, as still better, *Beck's Improved Sea-kale Beet*, which is quite a curiosity among Beets, the leaf stalks being very broad and thick, and about a foot long, exceedingly tender and fine flavored. I do not think our gardening friends can afford to neglect these varieties if they mean to have "all the delicacies of the season."—Dr. T. H. Hoskins, in *American Gardener*.

DO NOT WASTE BONES.

The bones of fish, bones of fowls, the large and small pieces of bones which are purchased with beef steak and mutton, constitute the very best food for fruit trees and grape vines, if the fragments are only placed where the roots can lay hold of them. Instead of allowing pieces of bones to be cast into the backyard, as food for stray dogs and strange cats, domestics should be directed to deposit every thing of the sort in a small tub provided with a lid. As soon as only a few pounds have accumulated, we take the tub to some grape vine or fruit tree, dig a hole three or more feet long, a foot or two wide, and not less than a foot deep, into which the bones are dumped, spread over the bottom of the excavation, and covered with the soil. The more the fragments can be spread around, the better. But they should be buried so deep that a plow or spade will not reach them. The roots of growing vines or fruit trees will soon find the valuable mine of rich fertility, and will feed on the elements

that will greatly promote the growth of healthy wood, and the development of fair and luscious fruit.

Many horticulturists and farmers purchase bone-dust costing not less than two cents a pound, simply to enrich the soil around and beneath their trees and vines. Fragments of bones are just as valuable as ground bone, although their elements of fertility will not be found available in so short a time as if the large pieces were reduced to small atoms. Nevertheless, if large bones be buried three or four feet from a grapevine, the countless numbers of mouths at the end of roots will soon dissolve, take up, and appropriate every particle. When cast out of the kitchen door, bones are like a nuisance; whereas, if properly buried, they become a source of valuable fertility. Let every person who owns a grapevine or fruit tree save all the bones that pass through the kitchen, and bury them where such worthless material will be turned to some profit.—*Western Farmer.*

CLEMATIS COCCINEA.

Among the new and beautiful plants of recent introduction, we know of none of more value, as a climbing plant, than the *Clematis Coccinea*. Its flowers are from 1 to 1½ inches long, bell-shaped, and of the most intense coral scarlet, shining as if polished, and are produced from the axil of each leaf, on strong, wiry foot-stalks 3 to 4 inches long, standing out boldly from the foliage. The leaves are of a rich, deep, shining green, deeply lobed and of a thick texture. The plant is like the old and well-known species *Crispa*, herbaceous, dying down to the ground each year. Its first flowers appear in July, and are produced in great abundance until the plant is cut down by frost. It is very desirable as a pot plant, particularly in localities subject to early frosts.—*Ladies' Floral Cabinet.*

THE UTILITY OF HIGHWAY TREE PLANTING.

[A paper read at the summer meeting of the State Horticultural Society at Benton Harbor, by Henry G. Reynolds, of Old Mission.]

Not the least valuable among the labors of the Michigan Legislature is a modification of our highway laws, which will within a few years go far toward making every country road throughout the State, a delight to the eyes, a pleasure to the weary traveller, a source of pride to every citizen. This modification of the laws is of two parts, by the first of which our former law relative to cattle at large, has been made an active reality, so that henceforth our lands are to be condemned for public use as common highways, not as common pig yard or cattle pen, unless we locally decide to make them such. This measure, by which our highway will be cleared of all animals not under control, prepares the way for the second step, viz., the gradual planting on each side of every highway a row of trees, to be from eight to ten feet from the fence, and, as near as may be, sixty feet from tree to tree. This will, within a score of years, line every public road in the State with handsome trees, and make Michigan well worth travelling far to see.

There was some opposition to the passage of this law, based upon the idea that large trees along the roadside exerted an unfavorable influence upon the road bed by preventing the drying effect of sun and wind, and thus keeping the road muddy and ensuring deep ruts. If such were to be the result of the law, it certainly was a blunder; and as pictures of mud and deep ruts rise before the imagination, it is true that with them are generally associated the deep shade of the forest. Is this then what we are coming to? No, emphatically not. Who of us in this part of the State cannot call to mind long stretches of road buried in the

deepest forest, where the track is always good? Between Lansing and Owosso, a distance of about 25 miles, the only uniformly good stretch of road is a distance of two miles through a dense forest. On the light soils of a large part of our State, nothing assists more to keep the track in good condition than moisture, and on all such there is no danger from too heavy roadside planting.

But how about our heavier soils? On them certainly, the clearing away of the forests improves the track by making it drier. But, proving that a forest is bad, no more proves a single line of trees to be so, than the drowning of a man in the ocean proves that a foot bath is dangerous.

Let us reflect a little on the process of drying or evaporation; this is an absorption by the air of the moisture contained in those substances with which it comes in contact, and its rapidity varies according to the degree of saturation of this air. Without wind this soon reaches a point that produces equilibrium and so checks evaporation entirely, except as upper strata may gradually absorb part of the moisture of the lower.

A wind however soon changes all this, and by commingling the different strata of air, constantly brings new portions of unsaturated air into contact with the moist surface, and so dries it much more rapidly than still air can. It is an error to say that the sun "drinks up water;" except through heating the air and thereby increasing its capacity for holding the vapor of water, it does not help at all in the process of evaporation. It is the air that is thus made thirsty by the action of the sun, and it is the air which drinks up the water from the surface of the earth or of the ocean. Thus we see that it is of comparatively little

moment whether or not we shade our road bed, if we do not at the same time shut off the winds from blowing upon it. There is no danger of our doing this to an injurious degree if we take care to trim so as to have no branches within eight or ten feet of the ground. Such trees, standing 60 feet apart, will serve to modify the violence of heavy winds, but they will produce none of the effects of a dense thicket, which, by shutting off all wind, almost prevents evaporation, and so keeps the ground beneath it moist at all times. Many muddy roads are inexcusably so, because nothing has been done toward shaping them so as to shed water from their surface. A road on heavy soil, to be good at all times, should be rounded off from the sides toward the centre with a good open ditch at the sides. Where this has been thoroughly done there will be very little cause to complain of the effect of roadside tree planting. No farmer need be reminded of the influence of isolated trees in his fields, which is rather to dry up than to keep moist the soil about them, and by thus drying out to stunt the growth of smaller vegetation near them.

The practice of perfect road-making is wholly unknown in this country as compared with England, Germany, France and Switzerland, and yet in those countries nothing is more common than to see long lines of trees on each side of roads, the surface of which is as smooth and free from ruts or standing water as a parlor floor.

PROFIT IN GRAPE GROWING.—The average yield of Concord is 15 to 20 pounds to the vine, or say about 12,000 pounds to the acre, which, at four cents per pound, about the average price, brings \$480 per acre, deducting for picking, packages, &c., even at this low price there is a net yearly profit of at least \$250 to \$300 per acre. Who says grapes don't pay?—*Fruit Recorder.*

PROFITABLE GROWING OF QUINCES.

W. J. Fowler, in the *Rural New Yorker*, writes to that paper as follows :

"Having just received returns from a small plantation of quinces, I am satisfied that no portion of my land, whether in grain or other fruit crops, pays so well, either for the land occupied or the time and money expended. I have comparatively few trees in full bearing, but from those which fully occupied the ground I sold fruit at the rate of fully \$500 per acre, and this, too, though quinces have, the past fall, sold lower, proportionately, than other fruit. I am satisfied that this is not likely to happen again, and that the price of quinces, profitable as quince growing proves, in the right localities and properly conducted, is likely to rule high for years to come. The quince is a more difficult fruit to grow than the pear, despite the blight which affects the latter. There are large areas where pears thrive well where the quince entirely fails. The last winter killed or rendered nearly worthless thousands of trees in this section. The drouth has also seriously affected many young orchards, causing the leaves to fall long before frost, and the few specimens that the trees bore were in consequence small and poor. It will be impossible for such trees to mature buds for next year's fruiting, so that whatever the season the crop is sure to be a small one.

"My success with quinces I attribute to the accident that most of my trees and all those now in bearing were set in low, mucky ground, and with such shelter that their own fallen leaves and those of an adjoining apple orchard made a good annual mulch. The trouble in growing quinces has been lack of hardness in our severe winters. It is not the trunk and top that are tender, but the root. I have always noticed

that trees in exposed situations were killed in years when the frost penetrated deeply. In a mucky, rather wet soil, covered with a mulch of leaves, the frost has rarely penetrated to the roots of my older quince trees. Since I have learned this requirement of the quince I have taken some pains to gather leaves and put them under my quince trees, doing this easily, as they are on the bank of a small brook, which is full of leaves every fall. This winter I shall add a little well-rotted stable manure, as there is no crop to which I can apply it where it will do more good. I am not afraid of making the soil too rich for quinces, as the heavier manuring I give, within reasonable limits, the larger and fairer will be the fruit. I am not sure that a vigorous growth will not also prevent to some extent the evils of twig blight and the red rust on the fruit, which was less prevalent on my trees the past summer than on many that I have seen.

"Another help to success is a liberal application of salt every spring, and occasionally during the growing season. It is not good policy to empty brine from old pork barrels under the quince tree. Too much is liable to be thus given, and the tree may be killed. The salt is not a manure for the tree, but valuable mainly in keeping the soil cool and moist. About one quart to a tree, sown as far around, at least as the branches extend, is sufficient at one time. The salt also has an effect in making the fertility of the soil more available. The mulch should be kept up all summer, and occasionally renewed to keep out grass and weeds. Salt will help this result, and will also hasten the decomposition of the mulch into fine manure. No cultivation is needed or should be allowed save with the hoe, and that on the surface, lest the roots be injured. Plowing among

quince trees, breaking the tender roots and leaving the soil harder than before, is a frequent cause of failure. Mulching and salt will keep the soil in just the right condition."

CULTURE OF THE TUBEROSE.

BY E. W. BUSWELL, DORSET, MASS.

As the time is upon us for starting in growth tuberose bulbs, for bloom in the holidays, it is thought a few hints, prompted by practical experience, may be acceptable to your readers. This flower, the *Polianthes Tuberosa*, of the botanists, may be, and is cultivated with passable success by being planted out with gladiolus, and other similar roots; but as it is susceptible of being forced so as to give from thirty to forty flowers, why should we content ourselves with half our bulbs blossoming, and they producing only half a dozen small flowers each?

To bring it to its highest condition, a few general principles are to be kept in view. First, the bulbs should be well grown and strong, having nursed but few offsets in their previous growth. Second, they should never feel a colder temperature than forty five degrees Fahrenheit (even in their quiet state), otherwise the bulbs are weakened, which will be shown by the blighting of the flower-buds. Third, (and this applies with more or less force to all vegetation), never allow them to make growth of foliage without having well-established roots. To this end, keep the bulbs, while in a quiet state, in a uniformly dry and warm atmosphere. Fourth, they are *gross feeders*, and being natives of a warm climate, can hardly be pushed too hard after they have begun their growth. This may be considered fundamentally essential to success.

The plan of culture given below I have adopted as best calculated to govern the supply of heat and food, but

it may be varied to suit other circumstances, keeping in view the foregoing general principles.

Divest the bulb of its scales, and with a knife remove all embryo bulbs. Follow this up, during the growth, by splitting them off as soon as they appear above ground. Prepare seven-inch pots by filling one-third with old cow manure gathered in the pasture, broken fine, or its equivalent, and fill up with good, rich compost of equal parts of loam, sand, and well-rotted manure, in which plunge the bulbs nearly to their tips. Of course a space is to be left for watering when growth has commenced. If a hot-bed or other bottom heat is at command, plunge the pots to the rim and cover the plants from the light, for by this, root growth is induced in advance of foliage, *thus securing strength*. Give only sufficient water to preserve moisture until foliage appears, then remove the shade and gradually increase the watering until the blossom stalk begins to spin up, when a full supply should be given. Liquid manure twice a week will not be too high feed for them. But little further care is necessary, except to divest them of offsets, as before directed, until the approach of cold nights, when they should be removed to the conservatory, or other warm quarters. By shading from the sunlight when in full bloom, they, like all other delicate flowers, may be prolonged in their season of beauty. Bloom may be expected in about four months from the time of potting, and such bloom as will well repay all extra care or trouble.

ABUTILON BOULE DE NEIGE is as yet the best white-flowering abutilon in cultivation. It is of dwarf, compact growth, and an abundant bloomer, thus rendering it one of the most desirable of the whole tribe for the decoration of the greenhouse or window garden.

PROTECTING FRUIT TREES FROM MICE.

Please tell me the best means for preserving fruit trees from the ravages of mice. I have suffered from this annoyance more or less every winter, without being able to check their operations, and if you could inform me of a good preventive, I would feel grateful.

ANSWER.—Men are very apt to smile at the studies of the naturalist, as though it were beneath man's dignity to busy himself with noting the habits of such very insignificant things as mice or insects; forgetting that it is in this way we are enabled successfully to protect ourselves from their depredations. Every farmer needs in some sense to be a naturalist, for he is continually exposed to losses from numerous tiny creatures that find their way to his fields, barns and orchard. It is just in this way we find a perfect method of preventing the ravages of mice among young trees. A little study of their habits shows that they will not live where they have nothing with which to protect themselves or in or under which they can build their nests. If then we remove from the orchard everything that can afford them a shelter, we will get rid of the mice. If the orchard be thoroughly and cleanly tilled no grass or weeds allowed to grow in it, no old stumps, logs or the like left for mice to hide under, the links of the fence well cleaned of sods, &c., for the compost heap, there will not a mouse stay in the orchard, not a tree shew the scratch of a tooth. Nor is this all—the trees will be healthier and grow more vigorously, and the cleanings from the fence links, when well rotted, will be an excellent dressing for the trees. We have known of various expedients being resorted to, such as painting the butt of the trees with coal tar, placing a sheet iron hoop around them, or a heap of tan bark.

VALUE OF FRUIT.

It is a fact that fruit is a great regulator of the human system. It will keep the blood in order, the bowels regular, tone up the stomach, and is positively a specific in many diseases. It is said of a doctor who became largely interested in peach growing, that he recommended peaches to his patients on all occasions. The story was told to illustrate the man's meanness; but if he was mean it was a meanness that benefited his patients. If men were wise they would spend two days in a vineyard or orchard to every five minutes in a drug-store when anything is the matter with them. If you have dyspepsia, eat fruit. Did you ever think what a doctor gives for dyspepsia? He gives an acid. Fruit will furnish a better acid than the drug-store will. Do you know what the doctors dose you with when your liver is out of order? With acids. Then why not supply the remedy yourself from your own garden? Why continue to have your medicine done up in such a repulsive mixture when nature furnishes it in so palatable a shape. Every home should have at least one grape vine. Once in possession it would be almost above price.—*Western Farmer.*

WASTE OF LAND IN FENCES.

If a farm of 160 acres is divided by fences into fields of ten acres each, there are five miles of fence. If each fence row is one rod wide, no less than ten acres of land are occupied by them. This is equal to $6\frac{1}{2}$ per cent. of the farm, and the loss of use of the land is exactly equal to a charge of $6\frac{1}{2}$ per cent. on the whole value of the farm. But nearly every fence row in the country is made a nursery for weeds which stock the whole farm, and make an immense amount of labor necessary to keep them from smothering the crops. Much

damage always results to the crops from these weeds, and if these expenses are added to the first one, the whole will easily sum up to 20 per cent., or a tax of one-fifth of the value of the farm. To remedy this we would have fewer fences, or we would clean and sow down the fence rows to grass or clover, and mow them twice a year. Ten acres of clover or timothy would at least supply a farm with seed and a few tons of hay every year. We would, in short, consider the fence rows as a valuable part of the farm and use them as such.—*Dixie Farmer.*

CARE OF PLANTS IN WINTER.

All roots of ornamental and flowering plants that are kept dry over the winter should be thoroughly ripened during the autumn. If frost overtakes them they should be dug up with earth adhering to them and placed in a light cellar, or other place secure from frost to thoroughly ripen up and dry. Then keep in a cool, dry place until they are wanted for starting in the spring. This will apply to cannas, caladiums, dahlias, gladiolus, and all other plants of that class.

Tuberose, begónias, and that class requiring to be kept simply dormant for a time, should have the water gradually withheld, in the autumn, and be gradually allowed to get dry, after the close of the flowering season. About February they may be again started by shaking the soil from the roots and re-potting.

Tender shrubs, like fuschia, oleander, orange, tender roses, and all that class may be successfully wintered in a light cellar that does not absolutely freeze. They should have but little water, only sufficient to compensate for the actual loss by evaporation. In fact the soil should always be kept dry rather than moist, the moisture never approaching

the state of wetness during the winter rest.

SEEDLING POTATOES

For years past nothing in the way of novelties has met with readier sale than new potatoes. The usual price when first introduced is one dollar the pound, and in one case at least as high as four dollars per pound were paid last season. Farmers might just as well raise their own potatoes from seeds, and thus at very much less expense provide new and valuable kinds for themselves.

March 15th, planted seeds of the English Magnum Bonum in a flower pot 10 inches in diameter. The seeds germinated as readily as tomato seeds would, so that by April 9th, they were ready to be transplanted to little pots three inches in diameter. On May 20th, a small plot of soil was prepared and enriched with concentrated potato fertilizer at the rate of 500 pounds to the acre. The plants were thumped out of the little pots, being very careful to preserve the ball of earth and roots intact, and set a foot apart in rows—the rows three feet apart. No check to the growth was sustained, and, if we would secure tubers of the largest size the first season from seed, this is all important. If from becoming pot-bound or too dry, the little tubers cease to grow, that is the end of their enlargement. New tubers have to form, while those first formed become knobby or sprout again and decay. Potato seeds may be sown out of doors in the Spring when settled weather has arrived. But they make comparatively little growth of vine, and the average of tubers will be no larger than small marbles. Besides, potato beetles have to be watched very closely or the tender little plants will soon be destroyed. Even a few hours of neglect may destroy every one.—*Rural New Yorker.*

THE PRENTISS GRAPE.

We have recently had an opportunity of testing the quality of this white grape more fully than ever before, and confess that it stands the test well. In quality it will rank among the best of hardy out-door white grapes. It is a medium bunch, and a medium sized berry; in color (like all white grapes) of a greenish white with a slight tinge of amber. The bunch is very compact, nearly as compact as the Delaware, the berries adhere well to the stem; the skin is tough, the pulp soft, with a sweet, aromatic flavor. We should think it would keep well and ship well.

As for the hardiness, vigor, and productiveness of the vine and the healthiness of leaf and fruit, we know nothing from observation, but Mr. T. S. Hubbard publishes numerous testimonials from those who have grown the vines, some of whom are well known to the horticultural public, and they speak highly of its qualities in those respects. It is certainly a cause of congratulation that, whereas a few years since we had no white grape that we could rely on, now we have quite a respectable list of those that are decidedly promising, if not of established reputation.—*American Rural Home*.

DAMSON DYE.

W. T. Harding, of New Jersey, writing to the *Gardener's Monthly* from Staffordshire, England, giving account of a visit to a farmer, says:

"I noticed an additional orchard of damsons, several acres in extent, that had recently been planted, and to my query, Why so many? was informed that they were not intended for culinary purposes, but to supply a new demand of the arts, and for which they were immensely profitable.

"Now, here was something new under the sun, as the sequel will pre-

sently show. As I had hitherto looked upon the domestic damson as one of the most useful and palatable fruits eaten, either in a natural state, preserved, or otherwise prepared, I felt astonished at the assertion. As damson pudding and pie had been one of the gustatory delights of my youthful days, and for which I sometimes feel a yearning now, I was at a loss to know what other art, save that of mastication, could find a use for damsons. But, good reader, be not amazed when the secret is divulged, as it was told to me, they were intended for dyes instead of pies. 'The fact is this,' said my friend, 'I last year sold nearly all my damson crop which realized £50, or \$250, to parties who, in the season, go about the country, buying up all the ripe fruit they can find for dyeing purposes.'—*Rural Home*.

MANAGEMENT OF THE CANES AND BUSHES OF THE SMALL FRUITS.

Two years ago I read in some paper an article from an experienced writer, who pretended to know all about this. He said that only three or four canes should be left to grow and bear fruit from blackberries, raspberries, currants, and gooseberries. This may do very well in a clay or quite rich loam; but it does not answer at all for a poor, sandy, or fine gravelly soil, except in the case of blackberries, and even these had best be left with half-a-dozen canes to grow up together. For years I had left from eight to twelve canes to grow up in bushes of all the above, except the blackberries, and they bore fruit abundantly, and of fully medium size. After reading what this writer had to say on the subject, and being desirous to increase the size of my berries, I adopted his recommendation of only letting three to four canes stand together. The result is that several of the bushes died, and not one bears as

many or as large berries in proportion to the canes left as they did before, so I shall go back after this unfortunate experiment to my former method.

The canes should be pinched off at the height of two or three feet, according to the soil and the sort of raspberry grown; but blackberries may be left three to four feet long. Let the currants and gooseberries grow as high as they will. By keeping the canes so short they do not require staking, and by having so many grow together they shade the ground, and add to its moisture and coolness, which are essential to prevent injury from a hot sun.—A. B. ALLEN, in *Rural New Yorker*.

INSECTS AS TALKERS.

"Two ants," says Buchner, "when they are talking together, stand with their heads opposite to each other, working their sensitive feelers in the liveliest manner, and tapping each other's head." Numerous examples prove that they are able in this way to make mutual communications and even on definite subjects. "I have often," says the English naturalist Jesse, "placed a small green caterpillar in the neighborhood of an ant's nest. It is immediately seized by an ant, which calls in the assistance of a friend after ineffectual efforts to drag the caterpillar into the nest. It can be easily seen that the little creatures hold a conversation by means of their feelers, and this being ended, they repair together to the caterpillar in order to draw it into the nest by their united strength. Further, I have observed the meeting of ants on their way to and from their nests. They stop, touch each other with their feelers, and appear to hold a conversation, which, I have good reason to suppose, refers to the best ground for food." Hague writes a letter to Darwin that he one day killed with

his fingers a number of ants who came every day from a hole in the wall to some plants standing on the chimney-piece. He had tried the effect of brushing them away, but it was of no use, and the consequence of the slaughter was that the ants who were on their way immediately turned back and tried to persuade their companions, who were not yet aware of the danger, to turn back also. A short conversation ensued between the ants, which, however, did not result in an immediate return, for those who had just left the nest convinced themselves of the truth of the report.

THE YEAR'S RAISIN CROP.

Some weeks ago a commercial paper of this city roughly estimated the raisin crop of California, 1881, at 91,000 boxes. The *Riverside* (San Bernardino) *Press*, of a later date, corrects this estimate as follows:

	Boxes.
Produced at Briggs'.....	65,000
" by Blower.....	9,000
" at Rocklin.....	12,000
" in Fresno county....	8,000
" at Riverside.....	27,000
" at Orange.....	10,000
" other places.....	20,000

Total 151,000

The *Press* is located in the heart of a raisin district, and has means of obtaining correct information on the subject. From its figures the value of the raisin crop of the State this year will reach half a million dollars. The progress of this industry has been remarkable. In the reports of 1878 the Assessors made no mention of it. At least none is made in the embodiment of their reports in the report of the State Surveyor-General, dated 1879. It now reaches the grand aggregate of half a million, and this will probably be doubled next year, if no unforeseen accident happens to the Grape crop in

the raisin districts. The one great advantage of the business is that to produce a crop worth \$500,000, not more than 1,200 to 1,500 acres of land is required. In some favored localities, as at the Riverside, as high as \$700 to \$800 per acre has been realized. To produce the aggregate value of \$500,000 in wheat at \$1 per bushel, with the high average of 20 bushels per acre, 25,000 acres of first-class land must be planted and well cultivated. — *San Francisco Chronicle*.

ENGLISH SPARROWS.

At the Michigan horticultural meeting several fruit growers told us that the English sparrows were rapidly bringing grief to the farmers and fruit growers. It was the old story of destructiveness and fighting propensities. And now we notice in an exchange that at Mt. Vernon, Ill., a gentleman had twenty acres in wheat, from which he expected a fourth of a crop, the heads having every appearance of promising such a yield. He resolved to cut it for seed, and sent some persons to gather it. They returned soon after and said that there was not a grain of wheat in the field, the sparrows having eaten the entire crop. — *Prairie Farmer*.

THE HARDEST BLACK CAP RASPBERRY.

—The black raspberry known as the Seneca Black-cap, we have found, from years of experience, to be the hardest—able to withstand the most cold—of any of the named varieties we have seen in cultivation. Its fruit is of medium size and of excellent flavor, and the plant is very productive and adapted to a great range of soils. — *Prairie Farmer*.

LEONNAISE POTATOES.—One quart of cold boiled potatoes cut into dice, three tablespoonfuls of butter, one of chopped onion, one of chopped parsley, salt, pepper. Season the potatoes with the salt and pepper. Fry the onions in the butter, and when they turn yellow add the potatoes. Stir with a fork, being careful not to break them. When hot, add the parsley, and cook two minutes longer. Serve immediately on a hot dish.

THE PEACH BORER.—The perfect insect of the *Agria Exitiosa* or peach borer, somewhat resembling the wasp, lays its eggs in June at the base of the tree, which in a few days hatch, and the grub enters the bark and lives on it till September or later, and then enters on its chrysalis state, preparatory to appearing again the next spring. If your trees are already infested, dig the pests out—make thorough work. If you are not quite sure that you have captured them all, pour boiling water around the roots. If in May of each year you make a mound of earth round each tree, and in October remove it, you will be no longer troubled with the insect. — *Rural New Yorker*.

WILDER.—Another grape that is gaining space in vineyards and in our markets is the Wilder (Rogers No. 4). Mr. McLean, a produce dealer of this city, is receiving considerable quantities of this, as well as of other varieties, from Mr. De Los Tenney, of North Parma, who finds it quite a profitable variety to grow. It is the largest black grape grown in the open air, and makes a fine show in market. It has a thick skin, a soft pulp, considerable aroma, but is a little deficient in sugar. Still the public taste would be very well satisfied with it, and we have no doubt that it will pay to grow it in most localities. Among its other merits it is a long keeper. — *Rural Home*.

RASPBERRY PROFITS.—Mr. Parry, who has long been a very successful grower of the raspberry, gave the New Jersey Horticultural Society a statement of some of the large profits obtained when the fruit sold at high prices. He said the best American varieties, with fair treatment, will yield as many bushels per acre as corn, and generally bring five times as much in market, and, when once planted, remain for several years. A neighbor of his sent to market a one-horse wagon load of red raspberries, and received \$220 for the lot. A lady living near him rented out her farm, reserving a portion for a raspberry and blackberry plantation, from which she sold one year 43,000 quarts of berries, worth, at 8 cents a quart, \$3,440, which was more than the tenant made from all the other crops on the farm. — *Country Gentleman*.

WEEDS.

I like these plants that you call weeds—
Sedge, hardhack, mullein, yarrow—
That knit their roots, and sift their seeds
Where any grassy wheel-track leads
Through country by-ways narrow.

They fringe the rugged hillside farms,
Grown old with cultivation,
With such wild wreath of rustic charms
As bloomed in Nature's matron arms
The first day of creation.

They show how Mother Earth loves best
To deck her tired-out places;
By flowery lips, in hours of rest,
Against hard work she will protest
With homely airs and graces.

You plow the arbutus from her hills;
Hew down her mountain-laurel;
Their place, as beat she can, she fills
With humbler blossoms; so she wills
To close with you her quarrel.

She yielded to your axe, with pain,
Her free, primeval glory;
She brought you crops of golden grain;
You say, "How dull she grows I how plain!"—
The old, mean, selfish story.

Her wildwood soil you may subdue,
Tortured by hoe and harrow;
But leave her for a year or two,
And see—she stands and laughs at you
With hardhack, mullein, yarrow.

Dear Earth, the world is hard to please!
Yet heaven's breath gently passes
Into the life of flowers like these;
And I lie down at blessed ease
Among thy weeds and grasses.

LUCY LARCOM.

DOMESTIC RECIPES.

(From the Ladies' Floral Cabinet.)

LEMON PIE.—Yolks of three eggs beaten well, to which add one full cup of sugar, the juice and part of the grated rind of one lemon, and one tablespoon of flour. When the crust is ready, add to the other ingredients enough sweet milk or cream as will be necessary to fill the pie-*tin*, and bake in a hot oven. As soon as the custard is fairly set and the crust done, spread over the top the whites of the eggs, previously beaten stiff with a little sugar, and return to the oven to brown a trifle.—A. L. T.

PICKLED PEACHES.—For peaches enough to fill a three-gallon crock, take two quarts of strong cider vinegar, four pounds of brown sugar, plenty of stick cinnamon. Rub the peaches until all the fuzz is off, stick four cloves in each peach, unless the peaches are small, then three will be suffi-

cient. Boil the vinegar, sugar and cinnamon, and when it has been skimmed put in half the peaches and boil them till they feel a little soft, then take them out carefully, put them in the crock and boil the rest, then put them in the crock, and boil down the vinegar till there is just enough to cover them. Put a plate over them to keep them from swimming, and when cool paste brown paper over the crock to keep out little flies, and keep from the air till cool weather.—G. C. F.

HIDGOM.—Not quite as many green peppers as green tomatoes, and about one-quarter as many white onions. Chop the tomatoes very fine, salt them and let them stand twelve or twenty-four hours, then squeeze out every particle of juice; put them in a porcelain kettle with cold water enough to cover them and heat scalding hot; when cool enough, squeeze every particle of water out. Chop the peppers and onions separately, and boil separately in salted water until nearly soft, then squeeze the juice out and mix with the tomatoes thoroughly. Now boil all together in vinegar and water until soft, then they may stand a day or two, or more if convenient, or they may be squeezed out immediately. Put the amount of sugar you wish to use, plenty of white mustard seed (one-half pound to one peck of tomatoes), a little cloves and cinnamon in some strong vinegar, heat it and pour it over the hidgom, and when it is all boiling hot, it is done and ready to put away, in crocks or large-mouthed bottles. If put into bottles corked, and sealing wax poured over the corks, it will keep the year round. There should be vinegar enough to make it thoroughly moist and a little juicy.—A. L. T.

DAHLIA COCCINEA.—As single flowering dahlias are attracting considerable attention at the present time, I would call attention to *D. coccinea*, a very distinct and profuse-flowering species; the flowers are freely produced from June until frost, and are of a deep crimson color, with a bright yellow disc. The plant grows from two-and-a-half to three feet in height and requires a treatment similar to that given other dahlias.—*Rural New Yorker*.

INDEX.

	PAGE.		PAGE.
Abutilon, Boule de Nieve	282	Blood's Black Grape	32
Adriondac Grape	31	Bones, do not waste the	278
Adventures of an Acorn	72	Book Notices 24, 46, 95, 119, 143,	263
Agawak Grape	31	Boys, a chance for	138
Agriculturist Strawberry	155	Boyden's No. 30 Strawberry	156
Agawam Blackberry	250	Brandywine Raspberry	212, 250
Allen's Hybrid Grape	31	Brighton Grape	32
Alexander Peach	111	Brigg's Red May Peach	111
Almond, The	182	Bright Flowers	120
Alvey Grape	32	Brinckle's Orange Raspberry	261
Amsden Peach	111	Buhach	76
Amber Queen Grape	112	Burnet Grape	15, 112, 220, 248, 266
Among the Raspberries	260	Butternut, The	180
Anna Grape	32	Cabbage Butterfly	76, 235, 246
Ancient Briton Blackberry	250	Cabbage Fly	235, 246
Apple Marmalade	23	Cabbage Worm	246
Apples, black spots on	54	Cabbage Maggot	235, 246
Apple Pancakes	96	California Flowers and Fruits	135
Apple Fritters	120	Canadian Fruits	190
Apples, packing of	205	Canadian Horticulturist for 1883	241
Apples, how to handle	255	Canadian Apples in the English Market	127
Apples, American, in England	215	Canker-Worm	22, 184, 239
Apples, marketing of	220	Calla Lily	41, 93, 179
Apple Jelly	238	Cap Raspberries	19, 173
Apple Sauce	240	Captain Jack Strawberry	155
Apple Tree, planting of	168	Carbolic Soap for Insects	118
Aphis, black	173, 236	Caroline Raspberry	113, 212, 237
Arsenic for Canker Worms	239	Cardinal Flower	141
Asparagus, culture of	61, 225	Carnation	141
Asters	241	Catawba Grape	32
Barry Grape	32	Cauliflowers	200, 273
Baked Tomatoes	96	Cauliflower Culture	273
Balsam, The	169	Cedars of Lebanon	10
Bacteria	239	Celery Growing	58, 92, 137
Beaconsfield Grape	22	Celery	92, 137, 163
Beautiful Wood Nymph	27	Cedar Trees	133
Bean Pickles	264	Centennial Black Raspberry	114, 261
Begonias	41	Catwago Strawberry	156
Bees vs. Grapes	138, 249	Champion Grape	22, 32
Berberis Purpurea	163	Chinese Primrose	49
Beet-Root Pickles	264	Chrysanthemum	97
Beets, Notes on	277	Cherries	147
Bidwell Strawberry	20, 114, 139, 152	Charles Downing Strawberry	155
Black Raspberries .. 19, 173, 251, 254,	287	Chestnut, sweet	181
Black Spots on Apples	54	Chestnut, European	181
Blackberries .. 95, 210, 250, 254, 255,	276	Chinese Peonias	185, 268
Black Defiance Strawberry	155	Cherry-Tree Aphis	236
Blackberry Culture	210	Christine Raspberry	261
Blackberries for Profit	250, 254	Chloride of Lime	264
Black Walnut	170, 180	Chicken Cholera	272
Black Aphis	173, 236	Cineraria	73
Black Knot	214	Clapp's Favorite Pear	26, 111

	PAGE.		PAGE.
Clinton Grape	32	European Walnut	180
Climbing Plants	65	European Chestnut	181
Clarke Raspberry	113, 211	Everlasting Flowers	25
Clematis, The	274	Evergreen Hedge	45
Clematis Coccinea	279	Evaporation of Fruit	101
Concord Grape	32	Exhibition at Toronto	217
Codlin Moth Trap	55	Explorations in Russia	247
Conkling Peach	112	Fameuse Apple	110
Coe's Golden Drop Plum	154	Family Supplies of Fruit	70
Colonel Cheney Strawberry	155	Farmers and Small Fruits	17
Continuous Daylight	191	Farmers Who Dislike Fruit Growing ..	115
Coal Ashes	240	Fashion vs. Taste	160
Concentrated Fertilizers	260	Farmers' Fruit Garden	161
Corwin's Collections	21	Farmers' Education	213
Crab-Apple Marmalade	19	Feemster Favorite Grape	113
Creveling Grape	32	Ferns	185
Cranberry Rolls	96	Fences	192
Crescent Seedling Strawberry	107, 155	Fertilizers for House Plants	261
Crawford's Early Peach	112	Finch's Prolific Strawberry	20
Crystal City Strawberry	155	Flemish Beauty Pear	15
Curculio, The	14, 164	Flowers, the use of	48
Currant Jelly	18	Floricultural, the Lily	168
Currant Preserves	19	Florence Raspberry	173
Currants	137	Flowering Peas	217
Cucumber Pickles	229	Flowers for Invalids	277
Cuyahoga Grape	32	Fly Poison	264
Cumberland Strawberry	40, 45, 48, 155	Forest-Trees, cultivation of	63
Cuthbert Raspberry	43, 46, 113, 212, 250, 261	Foster Peach	112
Cydonia Japonica	163	Forest Rose Strawberry	155
Damson Dye	285	Forestry, relation to Agriculture	202
Dahlia Coccinea	288	Fruit-Dryers	48
Deacon Day	192	Fruit in Algoma	101, 125
Delaware Grape	32	Fruit Trees, wash for	117
Dempsey Potato	15	Fruits of Manchuria	149
Deutzia Crenata	163	Fruits at Aylmer	171
Deutzia Gracilis	163	Fruits in Muskoka	172
Diadem Raspberry	15	Fruit-Tree Culture	190
Diana Grape	32	Fruit on the Table	226
Domestic Recipes .. 96, 120, 192, 238, 239, 264, 288		Fruit at Toronto Exhibition	217
Downing Gooseberry	15	Fruit-Garden	240
Downer's Prolific Strawberry	155	Fruit at the Provincial Exhibition	243
Dried Foods	123	Fruit-house	264
Duchess Grape	33	Fruit Season of 1882	268
Duchess Strawberry	155	Fruit, the value of	283
Duncan Strawberry	155	Frederick Clapp Pear	110
Early Canada Peach	111	Fuchsias	41
Early Canada Strawberry	114	Gas-Tar Water for Insects	69
Early Dawn Grape	33	Galand June Peach	111
Early Victor Grape	33, 112	Gaertner Grape	112
Education, Notes on Farmers'	213	Geraniums	41, 277
Egg-Plant, how to keep	226	Geraniums, best double	277
El dorado Grape	33	General Hand Plum	154
Electro-Horticulture	60	General Sherman Strawberry	155
Elm Trees	131	Gladiolus	1, 101
English Sparrow, 52, 108, 126, 170, 247, 286		Glass' Plum	15, 26
Eumelan Grape	26, 33	Glendale Strawberry	114, 155
		Glossy Cone Strawberry	155
		Glucose Honey	239

	PAGE.		PAGE.
Gooseberry Jelly	18	Insects .. 8, 27, 76, 118, 173, 183, 184, 235	236, 246, 280, 287
Governor Garland Peach	111	Insect Powder	164
Gooseberry, The	124	Iona Grape	33
Golden Defiance Strawberry	7, 155	Israella Grape	33
Good-Luck	179	Ives Seedling Grape	33
Gooseberries at Campbellford	198	Janesville Grape	33
Gooseberries, new seedling	218	James Vick Strawberry	251
Golden Banded Lily	209	James Vick	144
Golden Beauty Plum	237	Jefferson Grape	34, 107
Grape-growing	2, 11, 27, 187	Jefferis Apple	110
Grapovine Flea Beetle	9	Jersey Queen Strawberry	114
Grape, The	15	Jenny Lind Strawberry	156
Grapes, packing	20	Jonathan Apple	110
Grapevines	127	Jottings in the Eastern District	244
Grapes, ripening	148	Jucunda Strawberry	156
Grapes, new sorts	165	Keeping Apples	72
Grapes, protecting from birds	172	Keeping Grapes, on the vines	216
Grapes, relative value	174	Kentucky Strawberry	114, 156
Grapes, new white	178	Kieffer's Hybrid Pear	110, 222
Grapes, preserving for winter	206	Kirkwood Strawberry	20, 156
Grapes, keeping on vines	216	Knox Blackberry	255
Grape Leaves for Pickles	224	Laburnum, forcing the	23
Grapes, White	235	Lackawana Cauliflower	23
Grapes for Profit	251	Lady Grape	34
Grafting the Grape	119	Lady Washington Grape	34, 112
Green Grapevine Sphinx	27	Ladies Sweet Apple	110
Green Prolific Strawberry	156	Lady Charlotte Grape	112
Great American Strawberry	155	Lawns	271
Gregg Raspberry .. 174, 212, 250, 254,	261	Lemon Jumbles	96
Green Cabbage Worm	246	Lemon Dumplings	120
Green Peas	257	Lemon Ice	192
Grimes Golden Pippin	14, 26	Lemon Pie	288
Gypsy Strawberry	156	Lettuce	68
Letter from Hon. M. P. Wilder	246	Lindley Grape	34, 112, 201
Hanging Baskets	153	Linden Grape	112
Handling Apples	255	Lima Beans	276
Hartford Prolific Grape	33	Lilies	168
Hardy Shrubs	162	Lilium Auratum	168, 209
Hawthornes, The	151	Lost Rubies Raspberry .. 94, 114, 127,	212
Herbert Grape	33, 112	Lombard Plum	154
Henry Davis' Strawberry	156	Longworth's Prolific Strawberry	156
Herstine Raspberry	211, 261	Longfellow Strawberry	156
Highland Grape	33	Lyonnais Potatoes	287
Highland Hardy Raspberry	212, 250	Marvin Strawberry	20
Hibiscus purp. pleno	163	Martha Grape	34
Hickory-Nut	180	Mammoth Pearl Potato	48
Higdom	288	Massasoit Grape	34
Hoosic Pear	110	Mayflower Tomato	91
Hopkins Raspberry	114, 173	Magog Red Streak Apple	109
Horticultural Gossip	148	May Beauty Peach	111
Hovey's Seedling Strawberry	156	Manchester Strawberry	114, 152, 156, 194, 233, 254
Hoosier Mammoth Raspberry	173	Matilda Strawberry	156
Horticultural Notes	168	Market for Ontario Apples	194
House Plants	191		
Honey Pudding	239		
Hybrid Tea Roses	229		
Hydrangea Paniculata	162		
Imperial Gage Plum	154		
Insects, Protection from	175		

	PAGE.		PAGE.
Marlboro' Raspberry	212	Fansy, The	140
Marketing Apples	220	Passion for Flowers	188
Marketing Currants	228	Packing Apples	205
Mammoth Cluster Raspberry	261	Patrician Raspberry	261
Management of Small Fruit Canes	285	P. Barry Pear	110
Merrimack Grape	34	Peach Butter	18
Meteorological Register	53	Peaches, hardy	19
Melon Bugs	183	Peach Trees, shortening in	72
Melon Culture	208	Peach-growing, success in	91
Mice, protecting trees from	283	Pears, early	92
Miner's Great Prolific Strawberry	156	Peaches Pickled	120, 288
Mount Vernon Strawberry	20, 152	Persian Chamomile	164
Moore's Early Grape	20, 34	Pecan Nut	181
Mother Apple	110	Peonias	185, 268
Monroe Grape	113	Peas, prolonging season	225
Moonstone Strawberry	114	Peas, green	257
Mountain Mahogany	144	Pear blight	233
Monarch of the West Strawberry	156	Peach Yellows	239
Moore's Arctic Plum	195	Peach-borer	287
Montclair Raspberry	212	Philadelphus Coronarius	163
Moss for Plants	218	Pickled Peaches	120, 288
Morning Glories	264	Pickled Onions	264
Mulberries	58, 75, 189	Pickles	204
Mulching Strawberry Plants	182	Pioneer Sugar Beet Company	238
Muskoka Falls, fruit at	199	Pioneer Strawberry	156
Muslin for Sashes	216	Picotee, The	141
McLaughlin Plum	14	Pine Forests Discovered	72
Native Fruits	109	Pinching Melon Vines	156
Native Wines	62	Plants by Mail	234
Narcissus	207	Plants, care of in Winter	284
Newer Strawberries	20	Plum Preserve	18
New Garden Implement	22	Plums, old and new	153
New Dominion Strawberry	114	Plum, native American	237
Newman's Prolific Strawberry	156	Poetry.... 24, 48, 72, 96, 120, 144, 168, 192, 240, 264,	288
New Rochelle Raspberry	212	Pocklington Grape	34, 236
Niagara Raspberry	113, 266	Pond's Seedling Plum	154
Nicanor Strawberry	156	Potato, new sorts	159
Northern Spy Apple	110	Potatoes, seedling	284
Nut Cake	120	Potato Experiment	216
Nut-bearing Trees	180	Prentiss Grape	40, 285
Oak Trees	131	President Wilder Strawberry	156
Oak-leaved Mount. Ash	270	Pride of Hudson Raspberry	212
Occident Apple	109	Prim's Strawberry	272
Ontario Apple	15, 221	Prouty Strawberry	166
Onion Smut	117	Proportion of Farmers	168
Ontario Potato	166	Protection of Grapes	172
Onions, how to cook	201	Profit of Grape Growing	280
Ontario Raspberry	212	Profitable Quince Growing	251
Orange Syrup	96	Protecting Trees from Mice	283
Orange Crop	108	Provincial Exhibition	243
Orient Strawberry	153	Pruning	104
Ornamental Trees	151	Question Drawer	75
Over-production of Fruit	72	Quince, The	116
Packing Grapes	20	Quince Growing Profitable	281
Paper Bags for Grapes	48, 168, 249	Raspberries, black	19
Palestine of To-day	118	Raspberry, hardy	80, 136
		Raspberries, new	211

	PAGE.		PAGE.
Raspberries for Profit.....	250, 260	Spinach	188
Raspberry Profits.....	287	Spiced Vinegar	264
Radish Fly.....	235	Spotted Pelidnota.....	10
Rarest American Wild Plant.....	275	Springdale Strawberry	156
Raisin Crop of 1881.....	286	Sparrowgrass.....	24
Rebecca Grape	40	Squashes.....	48
Reliance Raspberry.....	46, 212, 250, 261	Strawberries, The newer	20
Reports on Fruit Trees..	14, 26, 56, 57, 100, 124, 199, 245	Strawberries in Iowa	48
Report on New Fruits for 1881.....	82	Strawberries .. 77, 155, 208, 222, 239,	251 254
Relations of Forcstry to Agriculture ..	202	Strawberries for Market	196, 222
Richmond Peach	112	Strawberries, culture of	208
Richland Plum.....	154	Stamp Apple.....	109
Rice a substitute for Potato	173	Stone's Hardy Blackberry.....	276
Rose Bug	8	Striped Bug	269
Roadside Fences	49	Summer Radishes	25
Rockingham Grape	112	Sutton Beauty Apple	109
Rockland Favorite Grape	113	Supasse Melocoton Peach	112
Rochester Grape.....	113, 247	Superb Raspberry	114
Root Pruning	116	Summer Meeting of F. G. A.....	199
Rockyhill Triumph Strawberry.....	156	Sumach, cultivation of	230
Root Pruning of Tomato	183	Sugar Beet Company	238
Roses, Hybrid Tea	229	Sweet Chestnut	181
Roses, pruning of.....	232	Sweet Peas	217
Roses	265	Sweet Corn Pickled.....	120
Roger's Hybrid Grape, No. 44.....	249	Swayzie Pomme Grise.....	15, 26
Russell's Prolific Strawberry.....	156	Syringa Vulgaris	163
Russell's Advance Strawberry.....	156		
Russian Mulberry.....	189	Thinning Fruit	183, 257
Russian Apples.....	269	Thrips, The	27
		Thwack Raspberry	46, 212
Salem Grape	15, 26, 40	Tolman Grape	22
Salt for Asparagus	183	Tomatoes Rotting	106
Salsify.....	184	Tomatoes, root pruning of.....	183
Salsify, how to cook	205	Toronto Exhibition	217
Saunders' Hybrid Raspberry ..	15, 75, 80	Trees, how to plant.....	42
Saving Mother	240	Tree Planting	86, 102, 142, 262
Schizanthus	120	Trees, when to prune	103
Scott's Winter Apple	109	Trees, pruning of	104
Senasqua Grape	40	Trees, utility of	128, 279
Seeding Orchards.....	71	Trees, importance of culture.....	128
Seedling Potatoes.....	284	Trees, how to render them hardy.....	157
Seneca Chief Strawberry	156	Trees, in cities.....	166
Seneca Queen Strawberry	156	Trees, whitewashing of	167
Secret of Good Luck	179	Trees, what to plant for fuel and timber	207
Seckel Pear	193	Transplanting the Raspberry.....	269
Shaffer's Colossal Raspberry ..	80, 114, 189	Triumph de Grand Strawberry.....	156
Sharpless Strawberry	144, 156, 244	Triple Crown Strawberry	156
Sheep and Trees	23	Tulips.....	121
Shelling Peas	96	Tuberose	93, 238, 232
Small Fruits for the Farmer	263	Turner Raspberry ..	46, 113, 212, 250, 261
Small Fruit Canes	285	Tyler Raspberry	254
Smilax	237		
Snyder Blackberry	251	Utility of Tree Planting on the High	
Souhegan Raspberry	114, 174, 231	way	279
Sorghum Sugar	222		
Spiced Grapes	19	Value of Fruit	233
Spiced Currants	18	Vegetable Soup.....	96
Spirea Reevesii	163	Vegetable Oyster	184, 205
Spirea Thunbergia	163	Vermont Giant Grape.....	112

	PAGE.		PAGE.
Vergennes Grape	40	White Grapes	235
Viburnum Plicatum	162	Wilder Grape	20, 40, 287
Victoria Strawberry	156	Wilder, Hon., M.P., letter from	55
Victoria Grape	112	Wild Goose Plum	111, 154
Vick, James	144	William's Early Peach	111
Vick, James, strawberry	251	Wilmington Red Grape	113
Walter Grape	40	Winter Blooming Plants	41
Wash for Fruit Trees	104, 117	Winant Raspberry	46
Waterloo Peach	111	Wines, native	62
Ward's Late Peach	112	Windsor Cherry	111
Washington Plum	154	Windsor Chief Strawberry	156
Warren Strawberry	156	Wine aged by Electricity	269
Walnut, English	180	Winter care of Plants	284
Walnut, Black	170, 180	Withered Flowers	144
Watermelon, The	186	Worden Grape	40, 265
Waste of Land in Fences	283	Wyoming Red Grape	113
Weigela Rosea	162	Yellow Egg Plum	154
Weigela Rosea Nana Var	162	Yellows and Bacteris	239
Western Triumph Blackberry	255	Zinc Labels	232
Weeds	258		
White Ann Arbor Grape	113		

