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J. Lowe

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The
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HORTICULTURIST.

PUBLISHED BY THE
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ASSOCIATION
of ONTARIO.



L. Woolverton, M.A., Editor, Grimsby, Ont.

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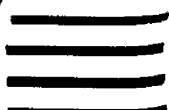
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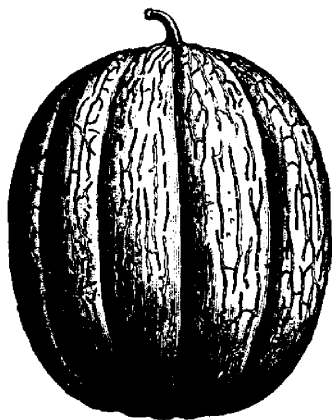
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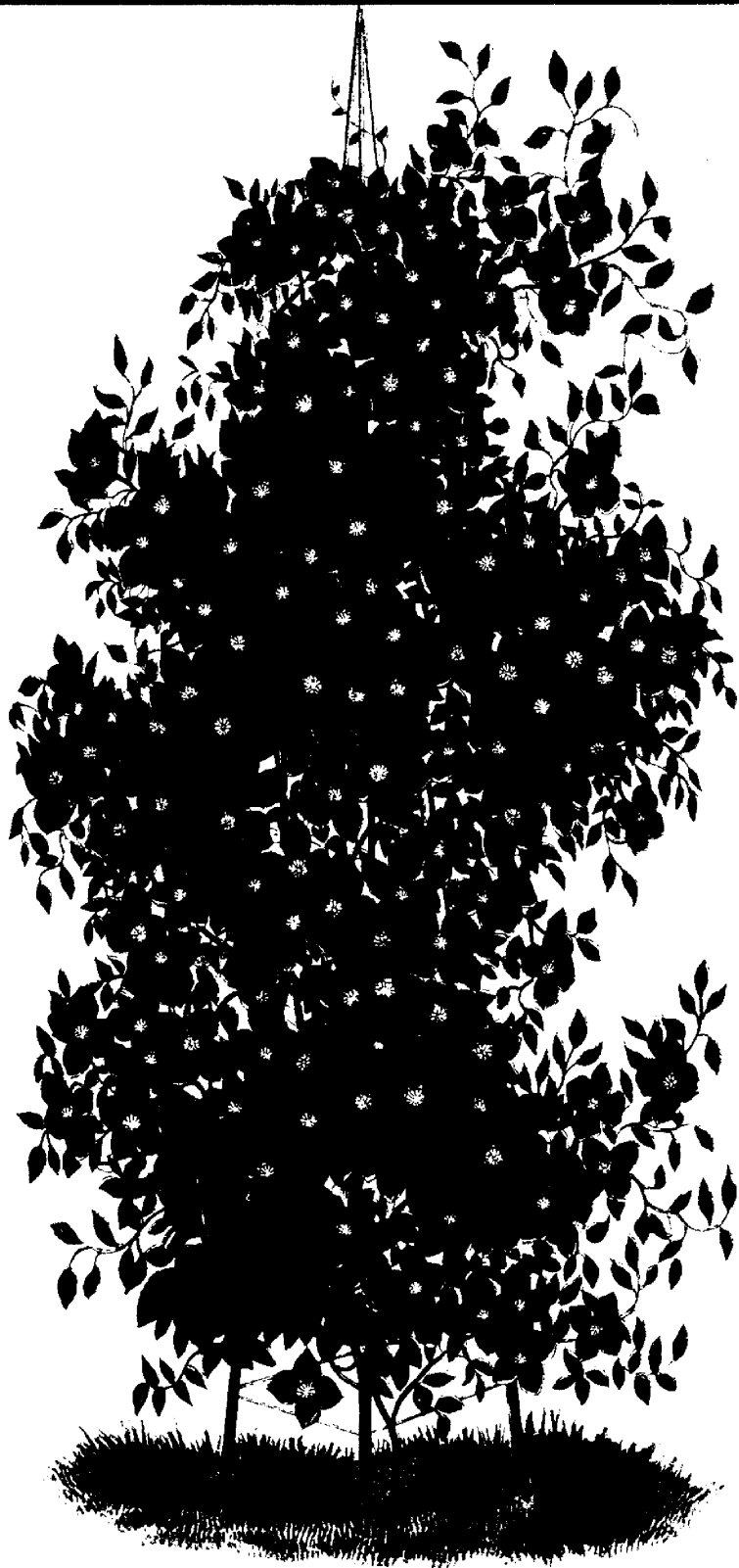


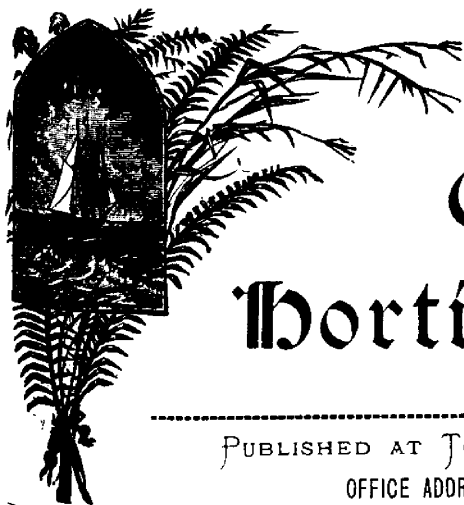
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The Canadian Horticulturist.

PUBLISHED AT TORONTO AND GRIMSBY, ONT.
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VOL. X.]

JULY, 1887.

[No. 7.]

Flowers.

THE CLEMATIS.

THIS beautiful climber has already received considerable attention in this journal. In volume VI. our readers have seen a plate of that beautiful native of Texas, the *Clematis Coccinea*, shewn also in our engraving as No. I. Its flowers are orange scarlet, and though not large, the peculiar shape and profusion of bloom make it a very decided acquisition.

In volume VII. a fine colored plate of *Clematis Jackmani* was given, so called from Mr. Jackman, an English nurseryman who claims it as his hybrid, a cross between the Spanish *Viticella* and the Chinese *lanuginosa*. It is this *Clematis* that we again bring before our readers, shewing what a charming effect may be produced by

training it about on upright trellis on the lawn.

The *Clematis* belongs to the Crow-foot family—a family which includes also the Columbine, the Larkspur, the Pæony, &c.—and about one hundred varieties have been found growing wild in various parts of the world, while hybridization and cultivation has more than doubled this number. It first attracted general attention in the year 1859, when *Clematis Viticella* was introduced into England from Spain, and soon became a general favorite; and out of compliment to the then reigning monarch who delighted in the title of “Virgin Queen,” it was named the Virgin’s Bower. About the same time a native of England, the *C. Vitalba*, was brought into cultivation. It had several common names, as, for instance, “The Traveller’s Joy,” from its being frequently found by travellers,

climbing upon the hedges; and "Old Man's Beard," or "Cigar Plant," from its feathery styles, which were so curious after the flowering season was over.

Clematis flammula, commonly known as the "Sweet-scented Clematis," was next introduced from France, and is still popular, on account of its frag-

In 1863 a fine double white sort was sent over from Japan by Mr. Robert Fortune, and named *C. Fortunei* after this gentleman. Though somewhat fragrant, it is surpassed in this respect by the *Duchess of Edinburgh*, which is now counted the best double white variety, and is deliciously scented.

Of all these varieties, however, none is so deservedly popular, whether for covering lattices, climbing over porches, or poles, twining about a rockery, or trained as a bedding plant, as *Clematis Jackmani*, and since its introduction in 1868, has been a means of stirring up a great rage for the Clematis as an ornamental climber.

Mr. W. E. Wellington says of this variety: "The plant is free in its form of growth, and is an abundant and successional bloomer, producing flowers until frozen up. The flowers are large, of an intense violet-purple, remarkable for its velvety richness;" and speaking of culture he says: "It will grow in almost any soil, but prefers a rich loam. As with all free-blooming plants, if you would obtain good results, you must give it plenty of food to live upon. For that reason I would always mulch freely in the spring and autumn. Neither is it amiss to feed it with liquid manure during the summer. In regard to keeping in the winter, in order to get its best results, I would leave from two to three feet of old wood. This I would lay down and cover with a board, and throw a little soil over it. By this treatment more profusion of bloom will be obtained."

Clematis Crispa (No. 2) is a most beautiful and distinct species, the flowers resembling in shape some of the elegant bell-shaped lilies. The coloring is of the most beautiful lavender blue tint on the surface and margins of petals. The centre of the petals is an opaque white. The flowers are of a thick leathery texture, perfumed with



CLEMATISES.

- (1) *C. Coccinea*, (2) *C. Crispa*, (3) *C. lanuginosa*,
(4) *C. Jackmani*.

rance. *C. Virginiana*, an American species, is also still propagated by florists, being esteemed as one of the best of our native white sorts: but its size and beauty is far eclipsed by *C. lanuginosa*, (No. 3) a Chinese variety, with flowers of a pale lavender color, and measuring from 6 to 8 inches across.

a delicious bergamot flavor. Hardy and very free flowering, continuing from June until frost.

CLEMATIS LA FRANCE.

THIS is the name of a new variety of Clematis that is the produce of a cross between *C. lanuginosa* and *C. Jackmani*, and which has been described in a late number of the *Revue Horticole*. It was originated by M. Gegn, horticulturist, of Angers, France. The journal above mentioned says that it is truly a plant of unusual merits, and which once more puts beyond doubt the influence of artificial pollenizing, and shews what can be done in this manner. In effect, *Clematis La France*, hybrid of *C. lanuginosa* and *C. Jackmani*, possesses the general characters of both these plants. It has the habit of growth of *C. lanuginosa*, that is to say, that it blooms continually, like the last, and that it has its vitality and its general appearance; as for the flowers, by their dimensions, their form, their nature, they recall those of *C. lanuginosa*, are more abundant and have taken the beautiful deep violet color of *C. Jackmani*. — *Vick's Magazine for November*.

CARE AND CULTIVATION OF LILIES.

BY H. SIMMERS, TORONTO, ONT.

AMONG all the varieties of bulbs the lily is probably the one most difficult for the amateur to rear. The bulb itself being of a soft, spongy material it does not stand the ordinary handling that other bulbs can stand; therefore the more beautiful varieties, such as appeared in the colored plate of the June issue, are not usually tried by the amateurs, but with the few suggestions that I will give they will find it comparatively easy. Another reason also is that the more beautiful varieties do not propagate so easily, and for this reason are, as a rule, sold at much higher

prices. With, however, some of the commoner varieties, such as the *Lilium candidum*, there is very little difference in propagation, as they increase almost as quickly as ordinary bulbs.

As the colored plate of June issue showed us three beautiful varieties, I will confine myself to these in this issue, and will speak of other varieties in another issue. The variety which will at all times attract the amateur most is the *Lilium Auratum*, called



LILIAM AURATUM, AS GROWN ON THE LAWN.

Golden-rayed Japan, also "The Queen of Lilies." This variety has been so very often tried without success that the amateur has given up in despair, mainly I believe on account of not handling them properly. The proper mode of planting these in the open air is to select a sandy-loam soil in a perfectly open aspect, planting the bulb six inches below the surface, then, if you have a good sound bulb, it is sure to bloom. The reason for planting in a sandy soil is that they are not so

liable to rot as if planted in heavy soil, the tender shoot thrown from the bulb not being able to penetrate the coarse, heavy soil as well as the sandy soil. Again, the reason for planting the bulb six inches below the surface, is that it will remain in the ground all winter without being covered, whereas many amateurs plant them about two inches below the surface, and cover with straw during winter, but in my experience, and I have tried both ways, I find the deep planting is preferable. Another very good plan to raise *Lilium Auratum*, and one that the amateur would probably prefer, is to plant the bulb in a pot, in months of January, February or March, keep in the cellar and treat similar to the Easter Lily, as previously explained in one of the back issues of the *Horticulturist*, with the exception that not so much water is used, only keeping it constantly moist. *L. Lancifolium roseum* and *Lancifolium album* are treated in a similar manner to the *L. Auratum*, but are not so easily grown in pots. In Holland, where acres of lily bulbs are grown, the soil is exceedingly sandy, being however well enriched with manure.

THE ROSE OF ENGLAND.

Sir,—The enclosed lines were written in my manuscript book now over thirty years ago, by one of my lady friends; and as it has never, I think, seen printers ink, I thought it might not be unacceptable to some of my fellow English colonists who are readers of the *Canadian Horticulturist*. This is my apology for sending them.

Yours &c., J. BISSILL.
Meaford, Ont.

HAIL beautiful rosebud! Queen of the flowers,
The glory of England, the pride of her bowers,
The brightest and fairest of Flora's gay host.
The cotters delight, his glory and boast
To plant it with care round his happy home,
There to blossom and die, with no wish to roam
From the peaceful haunts where his children play,
Breathing its perfumes the livelong day.

It blooms in the bowers of the lady fair,
Scenting with odorous sweetness the air,
Tis dear to her heart, and she owns with a smile,
Tis the favourite flower of this favoured Isle.

How varied its dyes from the rich red glow
To the spotless rosebud as white as snow,
Which young maidens gather in girlish pride
To garland the brow of their sister bride.

* * * * *
In childhood I loved it, and tended with care
The flower of old England, the rosebud so fair.

Then say! are the flowers of England more fair
Than all the gay flowerets that perfume the air,
Unfolding their leaflets in gorgeous array,
Neath the tropical skies of a summer's day?
Oh no! for the same Great Being made all—
The scentless, the scented, the great and the small,
And fixed the abode where each gem may shine;
So we all love the flowers of our own native clime.

Then, of all the dear homes of this beautiful earth,
Happy England for me, the land of my birth;
Then Britannia's bright rosebud I hail with a smile,
The Flower of my country, the pride of our Isle!

MILDEW ON ROSES.—An exchange recommends sulphate of potassium as effectual; half-an-ounce to a gallon of water.

THE ROSE is the most highly prized, and, next to the Geranium, the most generally cultivated flowering plant. These remarks apply to amateur cultivation. Professional florists make rose-growing a very prominent part of their business, and immense quantities of flowers are raised during the winter season for cutting. The statement is made by a competent authority that in 1885 "the trade sold twenty-four million cut Roses." This indicates, to some extent, the popularity of this particular flower.—*Vick's Magazine for June*.

THE JARDIN ANGLAIS, GENEVA.

BY JAS. CROIL, EDITOR PRESBYTERIAN RECORD, MONTREAL.

THIS is, to Geneva, what the Thames Embankment is to London—a large emplacement reclaimed from the water, and converted into a beautiful garden. As nearly as I can learn, this was done some thirty-five years ago; a time at which a large sum of money, levied on the municipality, was expended in improving the city: and it was certainly done in good taste. I am sorry I cannot give such a description of the garden as I could wish, for I am not a

botanist, nor a florist, and, besides, you must remember it is winter, and winter in Geneva means death to flowers. The Jardin Anglais is so called because it is laid out after the manner of English landscape gardening, which, as you know, is much more free and easy than the French style, with its stiff and painfully regular mathematical lines. It is 1,200 feet long, and about 325 feet wide. It lies at the foot of Lake Lemman, on the south side, just where the "arrowy Rhine" leaves it on its journey to the sea and the sunny south. On the one side it is bounded by the waters of the lake, as blue as indigo; on the other by a wide and handsome street of very lofty houses. It is well stocked with trees and shrubs, and further adorned with broad winding gravel walks and elaborate flower borders. The first thing that attracts attention upon entering it is the

NATIONAL MONUMENT,

erected by the citizens of Geneva, to commemorate the reunion of the Canton of Geneva with Swiss Confederation, effected on the 12th of September, 1814. This consists of two colossal female figures in bronze, clasping each other around the waist in a most friendly fashion. Both are draped in flowing robes. Geneva has a castle for her crown, wears a corslet of chain armour, and holds in her right hand a drawn sword. Helvetia, representing the Confederacy, has her brow adorned with a laurel wreath, her bosom is bared and her sword is sheathed. Each has buckled on to her right and left arm a shield, emblazoned with the arms of the city and the canton respectively. The city arms have a large key and a crowned eagle, above which are spreading rays, as of the rising sun, in the centre of which are the mystic letters I.H.S., and the motto of the city, "*Post tenebras lux*." The other has the Maltese

cross, with this motto: "*Un pour tous et tous pour un*." Near the centre of the garden there is a beautiful fountain in bronze. On either side of it bronze busts on marble pedestals to F. Diday, 1802-1879, and Alexandre Calaine, 1810-1864. That is all that is said about these gentlemen, who, doubtless, were notable men in their day. Besides the covered band-stand, where sweet music is discoursed in summer, there are a number of "Kiosques,"* useful and ornamental, refreshment rooms, &c. In one of these there is a very interesting relief of

MONT BLANC

in wood, twenty-six feet long. This monarch of mountains is not visible from the garden, but from the opposite side of the lake, of a clear evening, about the set of sun, Mont Blanc is seen to advantage, though 60 miles off. Indeed, it is the grandest "sight" in Geneva. From the garden, however, you have a fine view of the long Jura range—at this time of the year covered with snow—also of the lovely lake, which stretches away to the north-east upwards of fifty miles. The bay immediately in front of the garden is protected by substantial stone breakwaters, and presents a very lively appearance with steamers, lateen-rigged schooners, yachts and row-boats in great variety flitting about. Along with this I am sending you rude sketches of

THREE TREES

in the garden, which attracted my attention especially. No. 1 is a very fine specimen of the *Welling-tonia gigantea*—the best I have ever seen. It is in perfect health, and the foliage, even at this inclement season, is luxuriant. Not trusting my unaided eye, I had the gardener to help me measure it. It stands fifty feet in its

* Pavilions.

stockings, and its lower branches cover an area of seventy-eight feet in circumference. By actual measurement, its girth at the base of the trunk is thirteen feet four inches. My informant assured me it was planted here, by himself, in 1862, when it was a sapling of three feet. Its growth must have been not far short of two feet per annum. No. 2, the *Cedar of Lebanon*, is much younger. Its height may be about twenty-five feet. It has evidently outgrown itself in this rich nursery of made ground, and seems to have difficulty in preserving the centre of gravity. It has a profusion of light green foliage hanging in long tresses down to the very ground. Having an eye to the practical, I judge that No. 1 would certainly make the best stick of timber; but No. 2 commands our respect and admiration as the lineal descendant and representative of a very old and aristocratic family. As for No. 3, he—or she, perhaps—is quite a stranger to me; though doubtless you who are supposed to be well up in the business would recognize it at a glance. It is a flowering tree, about twenty-five feet high; an evergreen leaf, not unlike the walnut, but hard and glistening. Descending from the upper branches are chunky cones like small pine-apples; these, the gardener tells me, are the flower germs which, when they open in spring, cover the tree with blossoms "*tres magnifiques*," and fill the air with sweet perfume. It is a very handsome to look at even now. The Spruce family are well represented, single and double; also larch of various kinds, in fine feather. You can meditate *sub tegmine fagi* red and green. Birch, pine, lime and plane tree have also a place in the garden. The last named is of a kind very common on the continent, which has the habit of casting its bark frequently, giving the trunk and branches a very

SINGULAR MOTTLED APPEARANCE.

It grows very rapidly, and is said to stand the London fog and smoke better than any other of the park trees. Here they prune it severely, by which it assumes the shape of an umbrella, affording excellent shade, without unduly obstructing the view. We have avenues of them here, miles long, which must be beautiful in the hot summer weather. The linden, or lime, is also a great favorite all through the Continent. The principal street in Berlin is the "*Unter den Linden*"—the promenade under the limes. We had three notable trees of this kind at Lucerne called the "*Drei Linden*," upon the summit of one of the lively green hills from which there is one of the finest views of Alpine scenery imaginable. Among the shrubs in the Jardin Anglais are the Arbor Vitæ of different kinds. The holly, plain and variegated, covered just now with crimson berries of sombre hue; the Portugal Laurel, Bay and Box; and the Laurier Thun, a beautiful dark-leaved bush resembling *Pyrus japonica*, which flowers all winter, and is now at its best. There is not a rhododendron in the garden, though it is a native of this country, and abounds in the mountains in a wild state. The arcaria, so common nowadays in Scotland, is not to be found here. Doubtless they have beautiful roses and dahlias, fuschias and heather in their season, for these seem to be favorites all over Switzerland, as are also Chrysanthemums, in many colors, Gladioli, China Asters and Carnations, with many others that I cannot name.

LAWNS.

IN lawns that have been raised from grass seed sown the past spring, many weeds will appear. The perennial ones should be weeded by hand. The holes made by removal of roots can have a little earth put in. The creeping

grasses will soon cover the surface. Lawns that have been cut very close for several years, will suffer much from creeping weeds, which get all the sunlight on their foliage they require to keep them healthy. Unfortunately there is no way to get rid of these but by letting the grass grow for a season, which smothers out the weeds. A good help, however, is to sow in the fall, seeds of some low growing tuft grass, which mowing does not weaken much. The Sheep Fescue is a good one for this purpose. We are inclined to think that even for the main grass in lawn making it has some good points. So far the Kentucky blue grass has had no competitor. The good point in a first-class lawn grass is that it shall grow so stocky as to crowd out all competitors.—*The Gardener's Monthly*.

WEEDS.

J. HOTES PANTON, M.A., F.G.S., PROFESSOR OF NATURAL HISTORY AND GEOLOGY.

ANY plant out of place is really a weed, even if it does possess considerable beauty. Some plants are so frequently out of place that they have been always known as weeds, such as the thistle, chickweed, bindweed, etc.

In Ontario we have somewhere 150 species of plants commonly known as weeds, and of these nearly 100 have been introduced from Europe. Every year adds a few more foreigners, and if farmers are not more vigilant in watching against these unpleasant invaders our Province will soon be overrun.

There is no doubt that weeds are on the increase in Ontario, both in number and species. This may be accounted for by the comparative indifference of many farmers to the growth of weeds on the roadside, as well as to the practice which now prevails of procuring a change of seed from other districts. The productive power of these pernicious plants will be better understood when the reader examines the results

of observations on their seed-bearing capabilities.

In each case following the seeds are from a single plant : purslane, 500,000 ; burdock, 400,328 ; cockle, 3,200 ; mustard, 31,000 ; Canadian thistle, 42,000 ; ox-eye daisy, 9,600 ; chess, 3,500 ; mallow 16,500. When we consider this productive power and the vitality some possess, together with the peculiar mode by which many are distributed, the surprise is that we are not more overrun than we are, especially when unfortunately located near careless or indifferent farmers.

Weeds are largely distributed by the following means :—

1. Along with grain obtained from other districts.
2. Animals carrying seeds attached to their bodies.
3. By the wind, where seeds are supplied with structures which enable them to be blown about.
4. Threshing machines carrying seeds from farm to farm.
5. Renting farm for a short time to men who are indifferent to the condition in which they leave the place, better or worse, and usually worse than they found it.
6. Manure from city stables.

With such odds against him a farmer who desires to keep his fields clean must be vigilant, industrious and painstaking. However, if he observes the following hints he will succeed in destroying weeds :—

1. Cultivate the land thoroughly.
2. Watch the roadsides and fence-corners.
3. Never allow the weeds to seed.
4. If possible, never allow weeds to have the benefit of sunlight ; this can be effected by constant and thorough cultivation, and will soon result in a clean farm.
5. Secure the co-operation of fellow-farmers.

A knowledge of the nature of weeds becomes of importance in destroying them. Annuals live but a year, bear many seeds, and when young are weak and tender, such as shepherd's purse, mustard, cockle, pennycress, wild oats, chess, ragweed, chickweed, sow thistle.

Biennials continue two years and usually have a tap-root. Unless these plants are cut below the surface, cutting increases their vigour. Wild carrot, blueweed, burdock and mullein are perennials.

Simple perennials continue from year and will reappear til the root is utterly destroyed, of which are the ox-eye daisy, mallow, chicory, bind-weed, sorrel and camphor.

Creeping perennials are more or less jointed in the roots, each joint capable of growing if separated. Continued cultivation and smothering from light are necessary to kill these, among which are Canadian thistle, couch grass, toad-flax, milkweed and sow thistle (perennial).—*Bulletin X, Agricultural College, Guelph.*

Fruits.

FRUIT PACKAGES.

It is stated that thirty-five of the fruit growers of Berrien Co., Michigan, have signed an agreement to use the full quart box for all fruits, except red raspberries, and to pack in twenty-four quart cases. We have also some enquiries from Canadian growers, who seem to favor its adoption here.

We question whether it would pay to make the change, now that a basket holding less than a quart has been so long in use in Canada. It is thoroughly understood among buyers and consumers that the basket does not hold a quart, and probably a larger size would not sell at a proportionate advance in price.

What we do want is a

STANDARD SIZE,

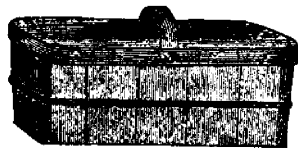
and an agreement among fruit growers upon this should be made as soon as possible, looking to our legislature for confirmation of the same; for as things are now there is a constant temptation to cheat the buyer, by using a basket a shade smaller than the customary one, so that the difference may escape his notice and bring the same price. This trick is allied to that of concealing all the small, mean berries in the middle of the basket and topping out with the biggest ones. It may succeed for a few shipments, but as soon the name of such a shipper becomes known in the market, his packages are viewed with suspicion.

For raspberries and blackcaps the same package is suitable which has been advised for the strawberry, but with closer corners. The pint size is recommended for them by some, but we have never received any advantages from their use. The expense is greater, and buyers at wholesale are seldom willing to pay more for a crate of berries, containing 48 half baskets, than for the same crate containing 24 of the usual size.

The most generally

USEFUL BASKET

we have in Canada is the twelve-quart peach basket. It costs so little, and is



12-QT. PEACH BASKET.

so convenient to handle, that it is being adopted for carrying almost every kind of fruit that is at all firm in texture. How beautiful is one of these baskets filled with Early Crawford peaches, and neatly covered with car-

dinal leno! No wonder the dealers write, "They sell like hot cakes."

This basket, the cut of which has been kindly loaned us by Mr. W. B. Chisholm, of Oakville, is now largely used for cherries, currants, gooseberries, apples, pears, and plums, as well as for peaches. Of course, if cherries are very soft, they had better be turned out into strawberry baskets and so packed; but if firm, they will be most marketable in the twelve-quart basket.

The condition of cherries depend very much upon the picker. The first impulse with many pickers is to grab the fruit itself by handfuls, with the idea that it would take too long to handle them by the stems. But really it does not take any longer for a skilful hand. A trained picker, with a good ladder, basket and hook, will gather from 60 to 100 quarts a day, and never handle the cherries except by the stems. Thus gathered they will present a clean, fresh appearance, when placed upon the market.

The tidiest way of addressing these baskets is with a slip of paper, on which is printed boldly the name of the consignor, and of the consignee, placed under the leno covering; but where they go to many different consignees, a tag tied on the handle is the simplest method.

For pears, apples, and tomatoes, a handy box is manufactured by A. C.



BUSHEL BOX FOR APPLES, PEARS, TOMATOES, ETC.

Rice & Co., Sarnia, in either one-third, one-half or one bushel size, which is

very servicable, especially for choice fruit which is going to distant markets. Tomatoes come up in this kind of a box from Illinois into Toronto market, and some seem to think that very choice apples for foreign shipments might be put up in it.

For

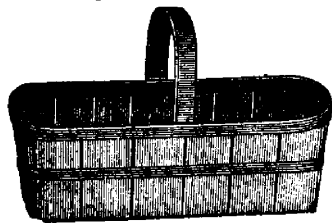
MARKETING GRAPES

various shapes and sizes of baskets and boxes have been made, each claiming the precedence, but now that this fruit is grown so extensively and the market price is so low, it scarcely pays to pack them in small baskets or boxes. For very choice assorted lots for table use,



10-LB. GRAPE BASKET.

it does perhaps pay the grower to use the ten pound grape basket, but for the bulk of the crop nothing can supercede the the sixteen-quart grape basket, which



16-QT. GRAPE BASKET.

holds about twenty pounds of grapes. Covered with blue leno, it shows off the fruit to the very best advantage.

All these baskets are sold with the fruit, and are seldom returned to the shipper. We notice that the Delaware and Maryland peach growers still use an expensive basket, and are insisting upon their return. They have even resolved in convention to ship only to such commission merchants as will agree either to return the baskets, or to forfeit five cents for each one that is missing. All this brings endless trouble on the wholesaler and retailer.

We believe our custom in Canada of using cheap baskets, which may be sold with the fruit, to be the one most likely to facilitate trade, and the wide distributions of our fruits into numerous and distant markets.

The question of

FRUIT TRANSPORTATION

will occupy the attention of Canadian fruit growers in the near future. We are pleased to learn that the express companies are preparing new and more convenient shelved cars for the more careful carriage of our tender fruits, and so long as they are able to carry our fruit at a low rate, and handle it with care, all right; but the trouble is that their time for handling it at many points is limited, and the fruit products of our country are so rapidly increasing in quantity, that the agents are overcrowded with work and handle our fruits in a very rough manner, by no means commensurate with the high rate of their charges. It is a question whether it would not be wise to petition the railway companies and provide special fruit cars for the height of the fruit season, which could be left at different points along the line for filling, and be gathered up by some special evening freight train, and delivered in the cities to which they are consigned in time for early morning markets at freight rates.

We highly appreciate the great service rendered us by the express companies for ordinary occasions, but extraordinary occasions require also some extraordinary provisions.

FRUITS ON COMMISSION.

WITH the amateur fruit grower and gardener the question of how to dispose of his fruit is not very important. He grows just what he can use or sell in a near town or village. But when one enters upon the business of fruit

growing on a large scale, as many are doing, the question of how to sell the crop quickly, safely, and with profit, becomes most important.

No doubt it is well, as far as possible, to be one's own salesman, and make contracts in advance in various towns with reliable men, but many of us find that our time is too much taken up with gathering and shipping to leave us any time for making sales and collecting payments. We must then engage others to do this work for us.

Out of this necessity have arisen many commission houses, notably in Toronto and Montreal, and as several of them are beginning to advertise in our columns, we take this opportunity of referring to them and their work. As very little capital is necessary to the commission agent, many take it up who are not responsible, and frequently the over-confident shipper finds himself minus both fruit and money. We shall endeavour to guard against such in our advertisement columns. The best houses now make returns each week, or every fortnight at the longest.

The usual commission charged for making sales and collecting the money is 10 per cent. on small fruits, and 5 per cent on larger fruits when shipped by the car load. When the agent secures us good prices we do not grudge the 10 per cent on small lots, but when prices are low the commission and express charges seem to swallow up our already too small margin of profit.

The Delaware peach growers have formed a very sensible organization from which possibly Canadian fruit growers might take a hint. It is a fruit growers'

BUREAU OF INFORMATION

and distribution, for the disposal of peaches and other fruits, for the purpose of avoiding gluts in particular markets. The following, according to

the *Weekly Press* (Phil.), is the mode of operation:—

"An Executive Committee was selected and authorized to appoint a chief distributor, who may be an officer of the Pennsylvania Railroad, stationed at Clayton, Del., or other headquarters of the Delaware Division. The duties of this officer, as scheduled, is to oversee the loading of cars all along the Delaware Division so that 300 baskets are packed in each car, to notify shippers all along the line when the quota of each city is filled, and then immediately stop shipments to that market.

The chairmen of the different produce exchanges and a selected number of commission houses in each city are to be the gaugers, and are to guarantee early in each day the sale of a certain number of carloads of fruit. Growers are to be admitted to the privilege of this bureau by paying a certain scheduling fee, according to the number of trees they own.

"Owners of 3,000 trees are to pay annually \$5, 5,000 trees \$8, and all over that number of trees \$10. Growers and buyers alike say that the bureau, properly managed, will prevent the dreaded glut."

Some such organization would be of great service to us in Canada, even when we make a business of shipping on commission.

PACKING AND SHIPPING FRUIT.

SIR,—Regarding the packing and shipping of fruit we will cheerfully furnish any information in our power, that will in any way benefit or instruct the fruit growers, as to the best and most profitable method of marketing their fruit. In the first place we will take strawberries, raspberries, etc. We would strongly recommend the use of the

24-QUART BASKET CRATE
in marketing these fruits. This pack-

age is well liked by the trade, as it is much more convenient to handle than the large wooden crates, and is also greatly in demand for the requirements of the retailer, who, as a rule, prefers it to any other package. The best made basket crate, we have yet seen, has a wooden partition across the centre, and the ends are also of wood. This makes a much stronger and better crate than the one previously in use, and is better adapted for shipping and reshipping, and we believe it does not cost any more money. As this crate is not returnable it does away with all the trouble of returning empties, which everyone will admit has been a source of great annoyance in past seasons; to the commission men on account of the difficulty in collecting them in, and getting them returned from outside points; and to the grower on account of the trouble experienced with the express company in having them returned to them promptly and correctly. We believe this crate is made in Thorold, but we do not know by whom.

PACKING

In the fruit pick the berries nice and clean, and fill the baskets well—we would request you to pay particular attention to the filling of the baskets, as this is about the most important point to be considered in the shipping of berries. Fruit frequently reaches market and, when opened up for sale, the baskets show up very slackly filled. This is owing to their settling down while on the train, and can be avoided by shaking them well down when filling the baskets. We often receive packages of mixed fruit—for instance—so many boxes red currants, so many boxes black currants, and perhaps two or three other kinds of fruit. We do not know the grower's object in putting their fruit up in this way, but we are satisfied that it is of no benefit to them,

inasmuch as a package containing one straight kind of fruit will, nine times out of ten, sell quicker, and to better advantage, than if it contained two or three different kinds.

Gooseberries, cherries, red and black currants, plums, peaches, etc., should always be shipped in 12-quart baskets. Fill the baskets well and shake them down to prevent settling after, and make the fruit a fair sample throughout. We hear of numerous

COMPLAINTS

every season from buyers, stating that fruit that they bought was nicely topped up with fine fruit on top and nothing but trash underneath; and they frequently refuse to pay for it on that account, and thus the commission men have to stand the brunt. A grower in doing this may receive benefit in a few instances, but in the long run it will operate against him, because buyers are now getting too keen to be bitten twice on the same brand of fruit, so that we would strongly urge all growers in marketing their fruit to make it a good fair sample throughout, which would decidedly be in the best interests of all concerned. Cover your baskets nicely with cardinal or blue leno. Use whichever color is best adapted to make the fruit you are shipping look attractive; and always keep a supply of both kinds on hand. Early apples and pears may be shipped in baskets when first coming in, but as soon as they commence to move freely, we think it would be best to pack in barrels and ship by freight, and save the expense of baskets, and covering, and express charges.

Always write your full name and post office address plainly and distinctly on every shipping tag or label, and then see that they are securely fastened to each package, so as to avoid loss and confusion when they reach markets.

We believe a great many growers think that

HOLIDAYS

are good days to ship on. This is a mistake, and whenever possible avoid shipping on such days; also on late trains, as fruit thus shipped, as a rule, has to be cleared out to peddlers or held over until the following day, when it never looks as nice and will not sell to as good advantage as if fresh received.

We omitted to state above that grapes should be in 16-quart baskets. Fill baskets well and mark the weight plainly on the handles. Yours respectfully,

MCWILLIAMS & EVERIST.

"DROPPING" OF THE WEALTHY APPLE.

T. H. HOSKINS, M. D.

IN the March number of the *Canadian Horticulturist* a correspondent asks if the Wealthy Apple has the defect of dropping off the tree before it is ripe, and it is easily shaken off by winds! To these questions Mr. A. A. Wright, of Renfrew, Ont., replies that he has never been troubled with the Wealthy dropping its fruit prematurely, as the Tetofsky does; neither is it easily shaken off by the wind. Mr. Wright adds: "We find it, so far, one of the very best apples we have for our cold, northern climate;" and he says that he sent several boxes of the Wealthy to the Intercolonial Exposition in London. Notwithstanding this entirely correct statement of Mr. Wright, I have had quite a number of complaints in regard to the Wealthy dropping its fruit, and always from the same parties a complaint that it is a poor keeper. As both of these accusations run counter to my own experience, and as my Wealthy orchard is, I feel sure, the oldest and largest of that variety in New England, I desire to give the result of a careful investigation of the matter.

The Wealthy, in northeastern Vermont, is fully colored, in skin and seed, usually by or before the 20th September. Up to the 1st October it is one of the very best apples to hang on in a high wind that I have ever seen. It never drops its fruit for the reason which causes the Tetofsky to fall, which is that the latter grows in close clusters and has a very short stem, so that, as the fruit enlarges, the growth causes them to crowd one another off. The Wealthy, although a more productive tree than Tetofsky, has its fruit distributed along the branches instead of being clustered on spurs, and its long and strongly attached stem (both to fruit and limb), holds very firmly until the fruit begins to be over-ripe. If gathering is delayed until this period has arrived, the apples begin to lose their firm adhesion to the tree and to fall to the ground—the wormy ones first, but soon also those which are perfect.

Experienced orchardists never allow apples to become over-ripe before harvesting. Early fruit, so left, will not endure transportation, while winter apples will be much impaired in their keeping qualities. But a large number of ordinary farmers and amateur growers are ignorant of this fact, and it is for their benefit that I make this statement. As regards any apple which it is desirable to keep into the winter, it should be gathered as soon as it is fairly colored up and the seeds are brown—two signs which in most cases come nearly together. North of 45° in New England and Canada, if gathered promptly at this period, carefully handled and stored at once in a cool, properly ventilated fruit cellar, it is a true winter apple, keeping well until the first of March or later. I still have them to-day (March 23) in full flavor and firmness of flesh, although we had an unusually long and warm

autumn. If, however, I had let this fruit remain upon the trees until it had begun to drop badly from over-ripeness and had then left it exposed to the alternations of temperature, unavoidable in above-ground storage until hard freezing weather, as is often the custom, it would have been necessary to market the whole crop before Christmas. But stored in a deep cellar with the windows all open every day, cool night, and closed at all other times, they have kept with hardly any loss as above stated.—*Rural New Yorker*.

THE BAGGING OF GRAPES.

THAT the process of enveloping growing clusters of grapes with proper bags for protection against insects, mildew, rot, etc., is one of value, has been proven to the satisfaction of many cultivators. Comparatively a new idea, the season of 1887 will see it applied far and wide, more extensively than ever before. It is one of those simple processes that every amateur, even though he have but a single vine, may readily adopt with advantage. One grower who experimented in bagging his grapes last year, reports that in his case it made just the difference between success and failure.

The course is a most simple one. Common light manilla bags, the size known as two pound bags, are usually employed. These are slipped on over each cluster of the fruit, and secured somewhat loosely by pins or stitches of thread. If the stem of the cluster is brought against one end of the opening a single pin to a bag will answer, if in the middle, to have the paper bear evenly on all sides, then several pins or stitches are needed. A small slit should also be made in the bottom of each bag, to allow escape for any water that may enter into it along the stem. From 500 to 1,000 bags can be put on

in a day by one person, and costing from $\frac{1}{2}$ to 1 cent per pound of fruit.

The advantages of bagging grapes may be summed up as follows: Freedom from the attacks of beetles, grasshoppers, fowls, birds, etc.; prevention of mildew and rot; protection against frosts; improved appearance and development, the bloom more perfect, the berries larger and uniformly fine, and the general appearance more attractive. While the color of red and white grapes may be somewhat lighter for the bagging, black grapes are said to be fully as black and covered with a heavy bloom. There is said to be no material difference in the ripening of bagged or unbagged clusters.

The time to bag the fruit is early in the summer, as soon in fact as it is well set. If it be done before the berries are as large as peas, they will be saved the depredations from the little beetles which some years begin very early their attacks on the fruit.

For family use especially, the satisfaction of having the fruit turn out so much better in general should lead to this course being adopted by all who have vines. There will be ample compensation for the small trouble and expense involved. To what extent bagging will come into use with market growers remains to be seen; perhaps in the more favorable localities for the grape it would be looked upon as a needless outlay, but without question in many others the improvement in the fruit would easily outweigh the cost and trouble of the bagging.—*Ex.*

Hardiness of the Champion.—Rev. Francis Coleman, of Hamilton, says his Champion grape vine, the fruit of which he values for the manufacture of home made wine, has not proved as hardy with him as some other kinds. It had grown up twenty-five feet over a large trellis, and this spring he finds it killed

back to within five or six feet of the ground.

A NEW HAND CULTIVATOR.

WE are always glad to notice any new Canadian invention, especially when it is designed for the use of the gardener, or the fruit grower. And now when many of our readers are very busily engaged in keeping down the weeds in their patches of onions, carrots &c., in their garden, we give place for a cut of a new combined weeder and cultivator invented by Mr. S. H. Mitchell, of St. Mary's, Ont.

The inventor describes his instrument thus:—

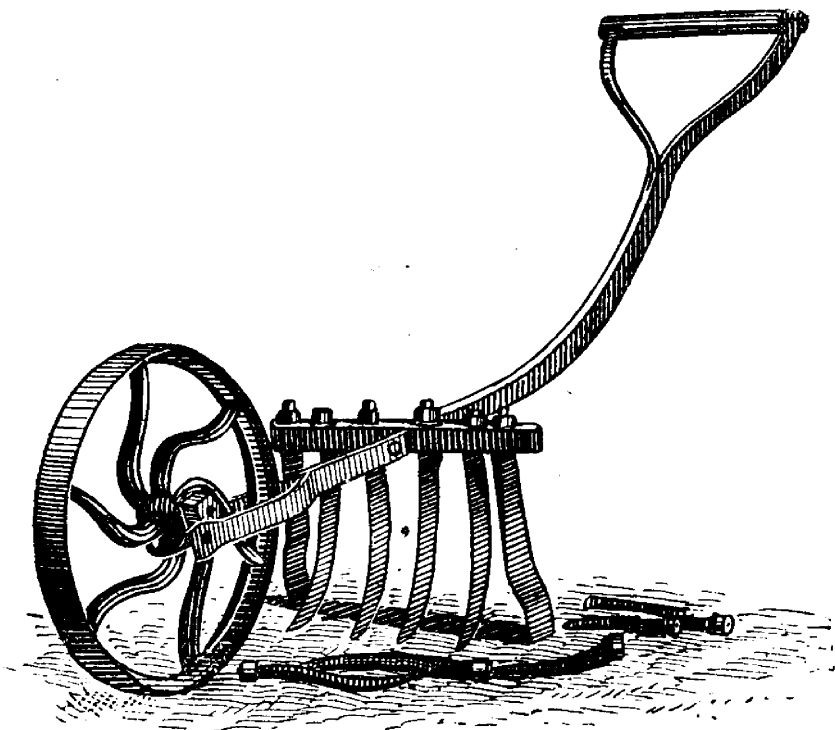
"It has double-edged knife with sides bent inward so as to let the knife pass close to large plants without injuring leaves or stems.

"The double-edged knife will cut backwards as well as forward, so that by successive strokes backward and forward the soil can be moved two or three inches deep if required; or should there be any obstruction in the ground, causing the knife to jump out, the operator can in a moment draw a stroke backward, and cut every weed clean.

"It has cultivator teeth that can be set to cultivate between two rows that are from eight to fifteen inches apart, and by running twice between rows two feet can be cultivated. They are designed for deep cultivation, where the soil has become hard or crusted. The teeth are curved, and have sharp chisel points that cut everything that they pass, the shanks being brought to a knife edge, so that while all the soil is moved, none of it is thrown on the plants or misplaced.

"Teeth can be used with or without knife, or knife and part of teeth can be used, as seen in cut.

"Knife and teeth are all solid steel.



MITCHELL'S HAND-CULTIVATOR.

and frame wrought iron, being both cheap, light and durable.

"The wheel can be adjusted for deep or shallow cultivation.

"The knife or weeder running square across between the rows, it never jumps either to the right or left, so there is no danger of cutting up plants although the knife is passing close by them.

"The knife can be adjusted so as to cut all weeds perfectly clean, and yet very shallow, clipping the weeds just below the surface, leaving the weeds on surface without any roots, thus preventing the possibility of their growing again.

"This hand cultivator has been invented by me after having over twenty years' extensive experience in the mar-

ket gardening, and after trying many kinds made both in Canada and the United States."

Not having as yet given this Cultivator a trial, we cannot give any opinion as to its merits and compared with other hand cultivators. It certainly gives us a favorable impression.

INSECTICIDES.

PYRETHRUM, also known as Persian insect powder or Dalmatian insect powder, is a Persian plant. Within the past few years, however, a large amount of it has been grown in California where it flourishes well. The powder is made by drying and pulverizing the flowers. Californians have

adopted the name of Bubach for this product.

This powder is very peculiar in its action. It is not poisonous to vertebrate animals and may be even eaten with impunity, but a little of the dust blown upon an insect of almost any kind is sure and speedy death. This fact of being non-poisonous to man renders its free use possible in the house or on any plant or vegetable out of doors.

In using it as an insecticide the general mode of application is by a small bellows. So deadly is it that thus thrown into the air of a closed room filled with flies a half hour or so will find about every fly dead. The operator can force the powder through the air in a minute or two, step out into the pure air, closing the door, and in a short time return to find the room well rid of the pests. The only trouble thus using it in the house is that the dust will settle upon everything in the room. If it be placed on papers or plates and placed about the room the flies will get at it the same as other preparations for the purpose and be destroyed, but this is rather a slow process.

Pyrethrum will destroy bees, wasps, ants, most of the beetles and some of the true bugs (hemiptera) plant lice, mosquitoes, etc., but some of the bugs and beetles withstand its influence.

Pyrethrum may also be used with water. Prof. Cook finds that a tablespoonful in two gallons of water will destroy insects when sprayed on plants infested by them. He also recommends it for use on horses in fly time. For this purpose put a small spoonful into a bottle of warm water and take it to the field with the team, or in the wagon, if driving, and once in two or three hours apply it by a sponge on the legs, under the lower jaw, about the loin and sides or wherever the flies are troublesome. We have tried it on

potato bugs, striped cucumber bugs, etc., but without any very good results. Paris green is certainly preferable for potato bugs. But taken all in all we are satisfied that pyrethrum is the safest and most useful insecticide that we have for general insect destruction. For the spraying of large trees to get rid of web worms, etc., however, London purple or some other of the arsenical preparations are most useful. Soft soap, a pint to the painful of soft water, will also kill aphids on fruit trees, cherry and pear slugs, etc. Shower it with a force pump and hose.—*The Farmer*.

STRIPED BEETLE ON CUCUMBERS, SQUASHES AND MELONS (*Diabrotica vittata*).—This is a well-known, small, destructive insect which makes its appearance as soon as the leaves begin to expand, and a number of broods are produced during the course of the season. It is to the young plants that the insect is most injurious, and the great secret in dealing with it is to begin the treatment positively in advance of the insect's appearance.

Remedy.—To two quarts of plaster, wood ashes, or flour of bone, add one tablespoonful of kerosene, rubbing the mixture between the hand until the oil is well distributed. Sift or hand sprinkle this over the plants as soon as the first leaves appear, repeating it a few times until all are through the ground, and also later if this be required.

BLACK SQUASH BUG (*Anasa tristis* De Geer).—About the last of June, throughout the north, these troublesome bugs appear on squash-vines, and lay their patches of eggs, which soon develop into troublesome broods. A most striking characteristic of the insect is its offensive odor when handled or crushed. As the eggs are not all

laid at the one time, the young appear in successive broods.

Remedies.—(1) Use plaster and kerosene same as above. (2) Trap by laying shingles about the hills, the bugs, after feeding in the night, may be found collected on the under side of such. Proceeding to the patch early in the morning with a pail containing some kerosene, the shingle should be gently raised and the insects jarred or brushed into the kerosene, returning the shingles again for successive catches later.—*Popular Gardening.*

FERTILIZERS.

USE OF GYPSUM.—Gypsum should never be used on wet land, especially when it contains stagnant water. Its tendency is to make such land wetter and colder than before. Phosphate treated with sulphuric acid is warmth giving. It helps to decompose the soil with which it comes in contact, and thus increases the supply of plant food even beyond what itself furnishes. Gypsum also does the same, though in a different way. It is quite likely that the tendency of gypsum to absorb moisture from the air in the form of a dew takes considerable ammonia from the air, and that some of this is retained by the soil for plant food. In many kinds of farm work, especially plowing and cultivating, there is great advantage from getting out early and working while the dew is on the grass or soil. As soon as it is covered it is safe from loss, but if left till midday most of the dew will be dried off, and whatever ammonia it contains will be restored to the air. There is this sound reason for the old saying that the best time to hoe cabbages is very early in the morning, while the dew is on them and on the loosened soil. Frequent applications of gypsum to increase the dewfall will add to the benefit.—*New York Herald.*

BARN manure contains six pounds of

phosphoric acid to the ton; ten pounds of potash and eleven pounds of nitrogen. A ton of hen house manure will contain forty-eight pounds of phosphoric acid, forty one pounds of potash and sixty-seven pounds of nitrogen.

NITRATE of soda is found in large deposits in Peru, Chili, and a few other warm countries. It is mined and shipped to this country and England in large quantities. When crystalized it contains 14 to 16 per cent. of nitrogen. It comes more or less mixed with common salt (chloride of sodium) like the German potash salts. It acts quicker than any other nitrogenous manure, and is specially valuable on clay lands. The value of any of these commercial fertilizers to the farmer must be determined by himself by actual experiment. On some soils, potash manures are greatly needed, and are therefore valuable; on others, though apparently needed, they make no return, while perhaps nitrogenous manures might be specially useful on these. In trying anything of the sort, get it in small quantity at first, always of a reliable dealer, and you can soon tell whether it will be profitable to you to use it.—*Ohio Farmer.*

Open Letters.

THE CHERRY.—SIR: I received the Russian cherry O. K. I waited to see it in leaf before sending receipt of same. It is doing well, and many thanks to the Association for the present. Wish-
ing you every success,

I remain, yours truly,

P. B. C.

Midnapore, N. W. T.

WATER-LILY.—SIR: A lily quite as large a *N. tuberosa*, but of a rich cream colour, is offered for sale in great abundance at the various stations on the

Yarmouth and Digby Railway, Nova Scotia.

T. H. RAND, Woodstock College.

PINK WATER LILY.—SIR: In the June number of the *Horticulturist* there is a request to those who know where the Pink Water Lily may be found in Canada. We can boast of this beauty here, and, on reference to Mrs. Traill's charming work, "Studies in Plant Life of Canada," find its habitat is at Lakefield. Perhaps I may be pardoned a quotation from the above work when describing it. "It is of such an exquisite color that it can only be compared with the

"Hues of the rich unfolding morn
That ere the glorious sun be born,
By some soft touch invisible,
Around his path are taught to swell."
—Kemble.

This is called *Nymphaea odorata* var. *rosea* and is found abundantly in many of the small lakes in the northern counties of Ontario, particularly in the Muskoka District.

AN AMATEUR.

London, Ont.

A STRAWBERRY WEEVIL.

The Editor Canadian Horticulturist.

SIR: I enclose a number of little beetles, or weevils, that are destroying my strawberry blossoms.

I take several horticultural journals, &c., but have never seen anything about such an insect. I see slight traces of them in all the strawberry patches in this neighbourhood, but not to amount to anything.

They have destroyed fully two-thirds of my crop. They shew a particular liking for the Sharpless; in fact, the Chas. Downing are comparatively uninjured. In some instances, every fruit stalk is stripped, and not more than six berries on an average are left on a stem.

They always destroy them before blooming: any bud that manages to open is out of danger. They cut them off from one-eighth to one-sixteenth of

an inch from the bud. I have tried Hellebore and Pyrethrum powder, putting both on very thickly in a dry state, but they do not seem to notice it; in fact I have found them snugly nested among the stems entirely covered with the dust, and apparently not affected by it. If I can find no remedy, I must give up trying to grow strawberries. It is certainly a local pest at present, but it may spread if nothing is found to check it. I will further add that I have found occasionally a wild strawberry plant attacked by it, but very seldom. I shall be greatly obliged if you can do anything to help me in this matter, and if you can find out what the enclosed beetles are; also if any remedy is known for destroying them.

Very truly yours,

LONDON HALL,

Cowansville, Prov. Que., June 6, 1887.

[The insect evidently belongs to the Curculionidae, but is quite a new species to us. We have sent samples to an eminent entomologist and will give his reply as soon as received.—Ed.]

FRUIT PROSPECTS.

The Editor Canadian Horticulturist.

SIR: THE PROSPECTS for a crop of fruit in this country at the present time is first-class, especially of small fruits and peaches. Cherries will be about half a crop. All other fruits promise fair at present. The curl seems to have mostly left the peach leaves, but the leaves seem to be dropping badly. Perhaps some one could give a reason. The Marlborough raspberries I got last year seem to grow well this year, and I am expecting good results from them.

Forest, Ont.

J. M. REMINGTON.

Pinch off the canes of your grapevines, leaving three or four leaves beyond the last cluster. The plant will not expend its energies in running out a long cane to be cut back next winter, but will make large fruit and strong buds for next year's growth.

Uses of Fruits.

Next in importance to the best modes of cultivation and the selection of the choicest varieties, comes the most approved methods of preparing fruits for use. We would be glad therefore if the ladies, who read this Journal, would make free use of this column for an interchange of ideas on this subject.

STRAWBERRY SHORT CAKE—A HYGIENIC RECIPE.

BY SUBANNA W. DODDS, M. D.

Singularly enough, some of those dishes that are most highly esteemed as "delightful deserts," judging after the manner of the ordinary palate, are just the ones that have given the best results under hygienic treatment. Among these is strawberry shortcake. Made according to the hygienic recipe given below and properly managed in all the little details, it never fails to give good satisfaction.

Fruits—and especially the small fruits—are such delicate products of the soil that, whether served as such or in combination with some cereal product, they require exceedingly careful management at every stage, else a part of their exquisite flavor is lost. This is too often done by over-sweetening, or (in the cooking) by making injudicious combinations, as with butter, spices, etc.

To the unpurverted palate no improvement can be made on the thoroughly ripe raw strawberries. If slightly under-ripe, a trifle of sugar may be tolerated; but do not add thereto either milk or cream. If you do, my word for it, you will in less time than it takes to tell it, have a curdled unsightly mass, fit only for the slop pail.

But was it not the "cake" we were talking about? Well, "our" strawberry cake has no butter in it, neither in the mixing nor after it is baked. "Is it good?" Suppose you try the experiment. One thing, it will not cause a headache, even if you eat two

large pieces—provided you have not already dined too sumptuously before it is served. Now for the making of it.

STRAWBERRY SHORTCAKE. — Three cups sifted Graham flour, three cups sifted white flour, two cups sweet cream, one teaspoonful soda, finely pulverized; two teaspoonfuls cream of tartar, four quarts of fine strawberries, or six ordinary.

If the fruit has been properly gathered and not carted in open trays through a dusty thoroughfare, no washing will be needed; when this has to be done much of the juice is necessarily wasted. When the berries are a little firm, a good plan is to sprinkle lightly with ice water and then with sugar, in order to start the juice. Do this at least an hour before they are wanted; and unless very ripe and soft, it is best to chop them with a knife—a silver one if you have it.

Mix the cake as for "cream biscuits," sifting the soda and cream of tartar several times through the flour. Roll to the thickness of half an inch, prick well with a fork and bake in a moderate oven from thirty to forty minutes; it must be nicely browned, top and bottom. When done, remove from the oven and lean edgewise to cool till you can handle comfortably. Split carefully in halves by first dividing the crust (at its edge) with a knife, and then taking a fork and separating the cake as nearly through the middle as possible. Lay these each on a plate, crust downward, and put on the prepared fruit; then lay one half upon the other, the crusts still downward, and after half an hour serve.

The above quantity of flour will make three cakes the size of a tea-plate. It is best in spreading the fruit not to drench the cake with it, but to leave out a bowlful of berries and pass as you serve; no other sauce is needed. Should you have the ordinary Graham flour

made from red wheat, take less of it by half a cup, and so much more of the white flour. If baking powder is used it will require three teaspoonfuls heaping.—*Philadelphia Weekly Press.*

CIDER IN VARIETY.

SIR: I send you an article from *Vick's Monthly* which you might reprint in the *Horticulturist*, if you think it of sufficient interest to your readers. *Query.*—Is it possible to make non-alcoholic cider either from grapes or any other kind of fruit?

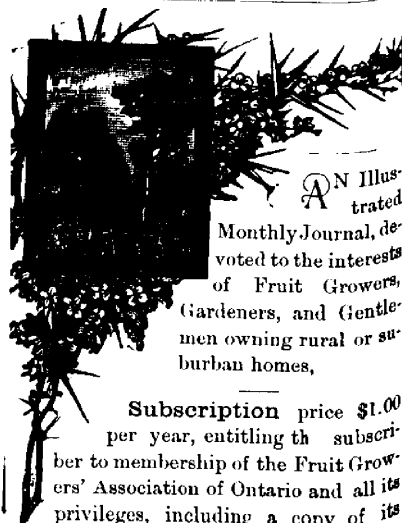
"Every fruit known will make cider. That from pears is of ancient renown as perry, but pear juice is worth more for syrup or fruit honey, as it is rich in sugar. Plum cider is very nice, and grape cider will yet be the American beverage, having the strengthening quality of wine without its alcoholic spirit, and tasting better than anything known in the shape of drinks. There would not be a grape too many in the United States if the juice, freshly drawn from the clusters, undiluted, could be put on sale in our cities. Its delicious, pure refreshment justifies all that poets have sung and writers have raved about the blood of the grape, while for benefit to feeble, consumptive or bilious people its effects outdo hypophosphites or a trip to Italy, or Saratoga waters. In the Erie wine regions and other vineyard belts, when the grapes ripen, sallow, liver-congested people from cities take board where they can drink the 'must' of new wine as it comes from the press, and return built up for the winter's dissipation. Consumptives, especially, can not do better than to try the grape-cure in this form, and the 'vineyard season' may yet be as fashionable as the sea-side in July."

Yours truly,

GRAPE GROWER.

Niagara Falls South.

THE Canadian Horticulturist.



AN Illustrated
Monthly Journal, devoted to the interests of Fruit Growers, Gardeners, and Gentlemen owning rural or suburban homes,

Subscription price \$1.00 per year, entitling the subscriber to membership of the Fruit Growers' Association of Ontario and all its privileges, including a copy of its valuable Annual Report, and a share in its annual distribution of plants and trees.

This Journal is not published in the interests, or for the pecuniary advantage of any one, but its pages are devoted wholly to the progress of Horticultural Science and Art in Canada. We aim at the development of the fruit growing industry in our Province; at the general distribution of knowledge concerning all the newest and best varieties of fruits; and at the education of a refined taste in the art of decorative gardening around the homes of our Canadian people.

With such ends in view we invite the co-operation of the lovers of Horticulture both in extending the membership of the Fruit Growers' Association of Ontario, and in contributing to these pages such items as may be of general interest and profit.

ERRATA.—In the announcement of our Summer Meeting at Collingwood, p. 142, for 28th and 29th read 29th and 30th.

The Annual Strawberry Meeting of the Columbus Horticultural Society was announced for the 7th of June, at the Horticultural Hall, of the Ohio State University, at 2.30 p.m. A basket dinner was to be served at 5 p.m. The programme included papers on such subjects as the following:—The Strawberry, from a Botanical Standpoint, by Prof. W. R. Lazenby; from an Originators Standpoint, by M. Crawford; from an Entomologist's Standpoint, by W. R. Alwood; from an Editor's Standpoint, by J. J. Janney; from a Chemical Standpoint, by Prof. H. A. Weber; from an Experimentor's Standpoint, by W. J. Green, etc., etc. This is surely a pretty full programme for one afternoon and evening.

It is certainly gratifying to notice in so many instances professors in the departments of science interesting themselves in our horticultural societies. Horticulture is a science, and for its successful development requires the services of the botanist, the entomologist, the chemist, the meteorologist and others. The meetings of our Association, in various parts of Canada, afford a fine opportunity for the professional and the practical man to meet, a sort of field day for both to engage in the stimulating exercise of a mutual interchange of thought, study and experience.

THE BUG THAT CAUSES THE BLACK-KNOT!

"Live and Learn" is an old proverb! and therefore we call the careful attention of our veteran horticulturists, and of our students of science to the following important (1) paragraph which is just now going the rounds of our Canadian papers without question.

"CURE FOR BLACK KNOT.—Hon. Allen Francis, U. S. Consul at St. Thomas, favors the *Times* of that city with a sure cure for black-knot—a remedy he has tried with the most beneficial results. His plan is to dig down to the roots of the

affected tree four or five inches, bore an auger hole in the trunk, and fill the hole with flour of sulphur. The sulphur finds its way through the tree and effectually kills the bug which is responsible for the black-knot."

Now we have been of late years under the impression that the black-knot is a fungus—a very low form of vegetable life. Dr. Farlow, Prof. of Cryptogamic Botany at Harvard University, has published a full account of this minute plant, showing that small seeds or spores are produced by it, too small to be seen by the naked eye, and that these carry the parasitic growth from tree to tree. Prof. Panton, at Guelph, too, is teaching the boys in the same line concerning the black-knot. But, gentlemen! we are all wrong it appears, for the Hon. Allen Francis tells us that a bug is responsible for the black-knot. He ought to go further and say what bug. Is it anything like a bed bug, or a squash bug; or does he mean a beetle?

Then about the *sure cure*, viz., flour of sulphur, which finds its way through the tree and kills the bug! It is rather a puzzle why he should dig down four or five inches into the roots of a tree in order to bore an auger hole into the trunk. We always supposed the trunk of a tree was above ground, but we are learning something new every day. The auger hole is to be filled with sulphur, but how is it to find its way to the black-knot? Botanists tell us that plants can only take up substance in either a liquid or a gaseous form, and that chiefly through the delicate rootlets. The chemist tells us that sulphur is insoluble in the state above mentioned. How then does it proceed from cell to cell through the plum tree from this auger hole? We wait for further particulars.

A New Strawberry Pest.—Reading in the *Fruit Growers' Journal*, of the prevail-

ence in Illinois of a small insect of the thrip family in the strawberry blossoms, we have been looking to see if it was also in Canada. Sure enough such an insect is with us. On pressing the blossoms of some Sharpless and Manchester plants, the tiny creatures ran out and in among the pistils in great abundance. Time will tell us how much injury they are capable of inflicting upon the long-suffering fruit grower.

Secretary Garfield at Cornell.—Chas. W. Garfield, Secretary of Michigan Horticultural Society and of the American Promological Society, has consented to give, some time in May, six lectures to the students in agriculture in Cornell University, on the following topics: 1. Some measurements in the field of horticulture. 2. Methods of tuition and ways of securing the most available information. 3. Problems in promology. 4. Tree Lessons. 5. Commercial methods. 6. Relations of horticulture to an advanced system of agriculture.

Question Drawer.

This department is intended as an open one to every reader of the "Horticulturist" to send in either questions or answers. Often a reader will be able to answer a question which has been left unanswered, or only partially answered by us. For convenience of reference the questions are numbered, and any one replying or referring to any question will please mention the number of it.

Grafting Wax.—*What causes grafting wax to lose its characteristic toughness, and become granular, or like putty and worthless? Is it age, or frost?*

[C. E. B., Yarmouth, N.S.]

REPLY FROM PROF. JAMES, Chemist, Agricultural College.—The grafting wax used here is beeswax, resin and tallow in about equal parts, tallow a little in excess. The use of too much resin in the mixture might produce the result you refer to; or if too little tallow—if oil be added, evaporation, or

exposure to heat, might cause granulation. Here the wax is mixed as required. Not knowing the exact mixture used I cannot say more definitely; but I think that *age* rather than *frost* would produce the effect.

Rose-leaf Hopper.—*Please say what is the best cure for white flies on Prairie Roses.*

[R., Toronto]

The fly is a species of leaf-hopper known as *Tettigonia roseæ*, and of the same genus as that which is so troublesome to the leaves of the Delaware and other thin-leaved grape vines. You will find an excellent description of it with remedies in the *Canadian Horticulturist* for 1886, p. 170. The remedies there suggested are whale-oil soap and tobacco water. We have tried puffing pyrethrum powder upwards among the leaves with good success. Another effectual way which we have used, is to set fire to a swab moistened with coal oil on the end of a stick, and pass the flame rapidly over the leaves. This is of course at the risk of singeing the leaves, but it thoroughly routs the leaf-hoppers.

Peach Trees.—*Will peach trees ripen their fruit well in a cold grapeery here?*

[R., Toronto.]

Perhaps some one experienced in indoor peach culture will reply. Mr. P. Barry, of Rochester, has grown the peach in wooden boxes with success. The trees are trained more like bushes than trees, and are moved into a cold dry shed each autumn on the approach of frost, where they are plunged to the rim of the tub or box in the earth. Early in spring abundance of air is admitted, and about the 1st day of May they are placed under glass until about the 15th of June, when they are plunged in an open but sheltered border. By this method Mr. Barry has succeeded in obtaining fruit a little earlier than in the orchard, without

any of the risks from unfavorable changes of the weather.

REPLIES TO PREVIOUS INQUIRIES.

Ants.—The *Popular Gardening* gives the following methods of destroying them: "*Trapping with sponge*. Obtain pieces of large coarse sponge. Dip them in sweetened water and place on old black dishes where the ants abound. When they are black with ants throw them into boiling water, afterwards washing them out and renewing the process till the colony is destroyed.

Poisoning. Place a dish containing a mixture of molasses and Paris green or London purple where the ants have access to it."

Sea-Kale.—I grow it and have lots of it in winter, and I can assure you it is a capital vegetable. I raise it from seed sown in spring, or from pieces of the root, and planted in the same way as horse-radish. In November I dig up the roots and winter them in a cool cellar. And as I want some Kale, fill a box with roots—tops up—and set another box on top to blanch the young growth which are the parts to be used, and bring them into warm quarters anywhere. They are very sensitive to heat, and start into growth quickly.—*Wm. Falconer in P.G.*

Sea-Kale.—**SIR:** In a recent number of the *Canadian Horticulturist*, I saw an enquiry if sea-kale could be grown in Canada. Yes, it does grow here most luxuriantly, is of easy culture, and quite repays the slight tax on time and patience. The plan adopted to raise plants was as follows: The seeds were sown early in autumn (about September), when the young plants appear in spring put them out into their permanent places, three plants in a hill, the hills not less than three feet each way. When the plants are a year old (from the seed sowing) prepare them for

winter in the following manner: cut the large leaves, not too close to the centre, then enrich the surrounding earth with good strawy stable manure (not too close to the stalks), with a liberal portion of salt, sift fine coal ashes or sand over the plants, let them remain undisturbed till spring, when the breaking of the top of the cones of sand or coal, will show the plants are ready to be cut for the table. The kale can be forced by placing barrels over them, the manure outside and the sand inside. When the crop has been used, spread the ashes manure with a liberal supply of salt around the hills, mix well with the surrounding earth, keep free from weeds, this constitutes the summer treatment. By this method you have a most acceptable vegetable which, with asparagus, gives a variety until others are ready.

AN AMATEUR.

Review.

We will gladly give our candid opinion of any books, magazines or catalogues received, especially if they are likely to interest or benefit Canadian fruit growers, but will not insert cut and dried reading notices in favor of any publication whatever.

The Dominion Exhibition.—We have received a copy of the Prize List, just issued, for the Dominion Exhibition, which is this year to be held at Toronto in conjunction with the Annual Industrial Fair, from the fifth to the 17th September next. Any of our readers who may desire a copy can obtain one by dropping a post card to Mr. H. J. Hill, the Secretary, Toronto.

Arboriculture and Agriculture, or Forestry and Farming in Ontario, Toronto, 1886.

A pamphlet written by T. B. White, of Clarksburg, Ont. It is the substance of a paper read at the Centre Grey Farmers' Institute at Thornbury, and boldly calls into question the position

so strongly advocated by Mr. R. W. Phipps and others concerning the beneficial effects of forests, in producing rainfall, on the drainage of land, and on the crops of the farmer.

Circular from W. H. Smith, Commission Merchant, 186 King street East, Toronto.

Mr. Smith states he has been in the business since 1874, and is now doing one of the largest Canadian fruit commission businesses in the city. He refers shippers to the Dominion Bank, Toronto.

Circular from McWilliam & Everist, Fruit Commission Merchants, Toronto, 1887.

This firm herein promises daily advice concerning sales, and account sales weekly, with proceeds. This is the only right method, and if it can only be carried out through the season will save much complaint. But when markets are full, and fruit coming in on every side, this engagement is pretty hard to fulfil.

Circular from the Botanical Division of the U.S. Department of Agriculture, No. 3.

This circular, signed by Norman J. Colman, the Commissioner of Agriculture, Washington, is an evidence of the careful experiments being conducted by the U.S. Government in the interests of fruit growers. It is devoted to the treatment of *Downy Mildew* and the *Black Rot* in the grape.

It appears that sulphate of copper has been shewn to be more advantageous than any other remedy, and the only precaution is not to apply it within fifteen days of vintage. The application should be made some time in or about the end of June.

Among the *liquid* remedies advised are; (1) 1 lb. sulphate of copper dis-

solved in 25 gals. of water; spray the vines with the liquid. (2) 1 lb. sulphate copper dissolved in three or four gals. of warm water; when cold add one pint commercial ammonia; then dilute to 22 gals. when required for use. Apply in the same way. The effect of this preparation, called "Blue Water," is said to be equal to that resulting from the copper mixture of Gironde (see report of F.G.A. 86, p. 23). The price of pure sulphate of copper when bought by the barrel is only about six cents per lb.

No. 2 and also the copper mixture of Gironde is recommended for experiment in destroying the *fusicladium* (apple scab).

Humorous.

A DANGEROUS SEASON.—Why is it dangerous to go out in spring time? Because every flower carries a pistil, the grass has blades, the trees shoot, and the bulrush is out.—*Vox Populi*.

When Gladstone is among the trees on his Hawarden farm, they say he is a first-rate feller.

THE MILK WEED.—*City Belle*—(Pointing to a wild plant by the wayside). "What's that?"

Country Cousin—"That's milk weed."

City Belle—"Oh, yes! what you feed the cows on, I suppose?"

INDIA-RUBBER PLANT.—*The Honorable Tom*—"Haw! this is, I suppose—er—the new tobacco that everybody is growing!"

Elfrida de Smyth—"Oh! dear, no. That's an India-rubber plant!"

The Honorable Tom—"India-rubber! how I'd have bet my money it was real. What—er—wonderful imitations there are now-a-days."

Canadian Horticulturist,

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