

Technical and Bibliographic Notes / Notes techniques et bibliographiques

Canadiana.org has attempted to obtain the best copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

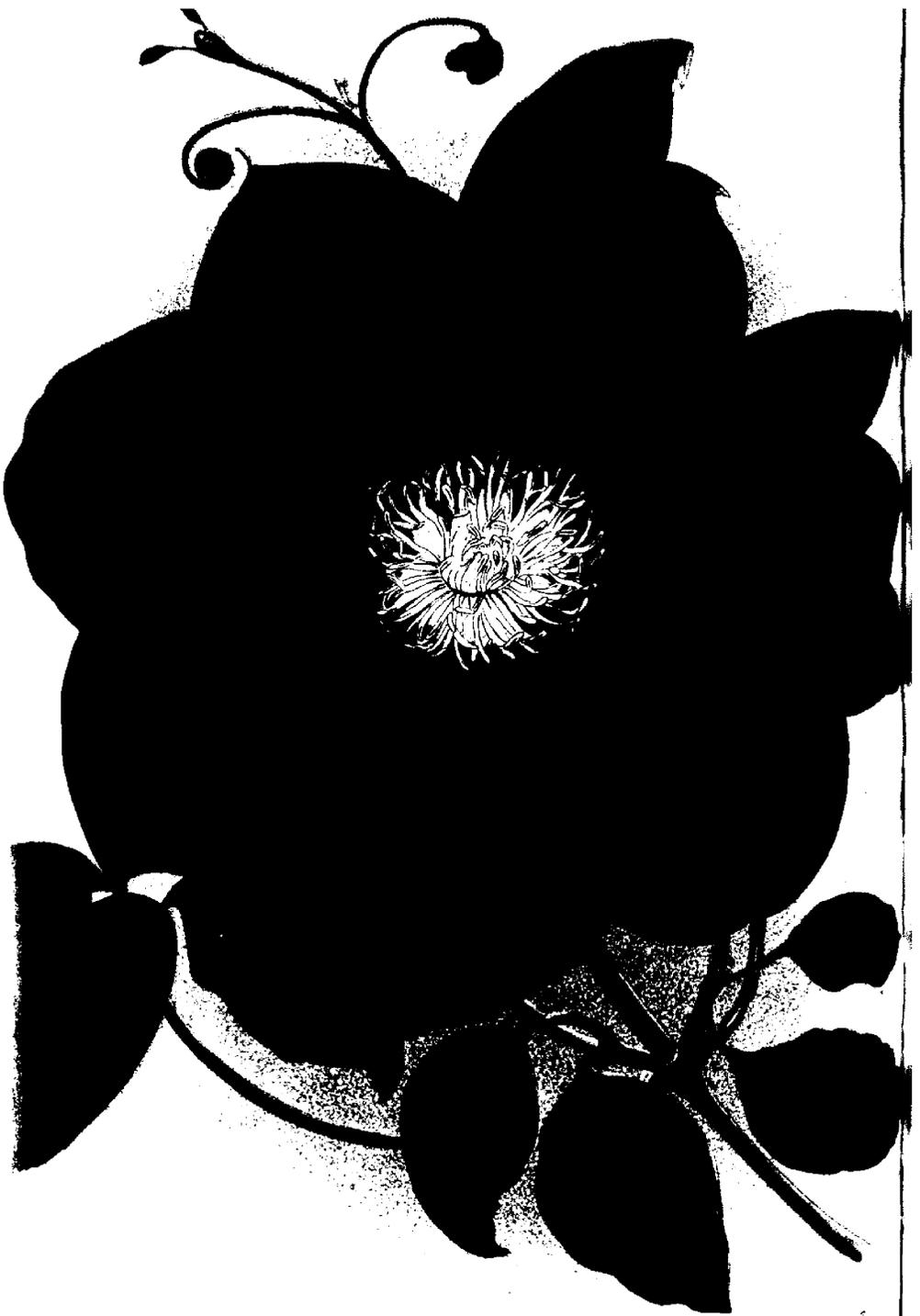
- Coloured covers /
Couverture de couleur
- Covers damaged /
Couverture endommagée
- Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée
- Cover title missing /
Le titre de couverture manque
- Coloured maps /
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur
- Bound with other material /
Relié avec d'autres documents
- Only edition available /
Seule édition disponible
- Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure.

Additional comments /
Commentaires supplémentaires:

Continuous pagination.

Canadiana.org a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /
Qualité inégale de l'impression
- Includes supplementary materials /
Comprend du matériel supplémentaire
- Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées.



JACKMAN'S CLEMATIS.
PAINTED FOR THE CANADIAN HORTICULTURIST.

THE CLEMATIS.

Our readers are doubtless already acquainted with the beautiful Clematis Jackmanni, and if so they will be much pleased to receive a colored plate of it, such as the one that is presented to them in this number. Of all the seedlings that have been raised by hybridizers of this flower we know of none so popular as the one that is here represented. And it deserves its popularity. It has a good constitution, consequently it does not require to be constantly nursed to keep it alive. It is naturally a vigorous grower, having an excellent appetite, hence, if sufficiently supplied with food it will take care of itself. It is also a profuse bloomer. The flowers too are large and showy, and being produced on the wood of the current season's growth, it matters not if the growth of the last season is killed to the ground.

It was about the year 1868 that our Jackman's Clematis was introduced to the attention of florists. Years before, Mr. Robert Fortune had sent to England from China the mauve colored Clematis Lanuginosa. It made quite a sensation when it first flowered in England, but although it produced flowers

of noble size, measuring from five to seven inches in diameter, yet these were put forth so sparingly, that cultivators soon tired of growing a plant that responded so charily to their most assiduous attentions. Besides it was not sufficiently hardy for general open air cultivation, and in consequence of these defects it had fallen into neglect.

Clematis viticella, introduced from Spain in 1569, had been long in cultivation, and although its flowers were small in comparison with those of C. lanuginosa, yet its constitutional vigor was all that could be desired. Happily it occurred to Mr. Jackman to try the experiment of crossing these two species. He chose a variety of C. viticella which had dark reddish purple flowers, and with the pollen from these flowers hybridized the large flowering C. lanuginosa. In this manner he produced a quantity of seedlings, from which he selected a few having the vigorous hardy wiry free flowering habit of C. viticella with the large flower of C. lanuginosa. Of these C. Jackmanni is the most valuable that has come under the writer's notice, and although, since that time, a great many hybrid seedlings have

been introduced, we doubt whether any one of them all is equal in all respects to the Jackmanni.

It is not only as climbing plants that these large flowering Clematis are useful, but there are few things that will equal them as bedding plants. It is said that Mr. Jackman was indebted to a severe wind storm that prostrated a number of poles laden with these Clematis for the suggestion of using them for bedding purposes. For some reason, perhaps press of work, these Clematis covered poles were suffered to remain for some time on the ground, and the vines formed such a bed of foliage, gemmed with brilliant flowers, that Mr. Jackman determined to try the experiment of planting some in a bed, pegging them down as they grew, so that they should not be swept about by the wind. The experiment was highly successful. Different shades of color were planted in some of the beds, their growths pegged down one over the other so that they were completely interlaced, and in the summer the bed was an even sheet of flowers of varying hues that was exceedingly attractive. Other beds were planted with only one variety, these were edged with *Cineraria maritima* or some other suitable subject to give a marginal color that would bring out the beauty of the gorgeous mass of flowers within the bordering. These Clematis are not given to producing any superabundance of wood, each branch gives forth a mass of bloom, so that the bed is just radiant with purple and violet.

If any of our readers are desirous of

trying a bed of the large flowering Clematis, we would suggest that trial be first made by planting only *C. Jackmanni* in a bed of such size as may be convenient, setting the plants about eighteen inches apart each way, and bordering the bed with *Golden Pyrethrum* or *Cerastium tomentosum*. Let the bed be made very rich with well decayed manure, and the growing shoots pegged down often enough to prevent the wind from swaying them about. When the weather becomes very dry water copiously at evening, and if the growth be not sufficiently vigorous, stimulate with manure water. When the bloom begins to show symptoms of decline, prune back the shoots somewhat and induce a fresh start, keeping up sufficient moisture by watering, if needed, and you will be rewarded by continuous bloom until approaching winter lays his frosty finger on pasture and garden.

But with all their gorgeousness of display these showy varieties are scentless, and there may be readers of the *Canadian Horticulturist* who would like to add to their collection of Clematis the sweet-scented *C. flammula*. The late A. J. Downing, in speaking of this variety, says, it is "the very type of delicacy and grace, whose flowers are brodered like pale stars over the whole vine in midsummer, and whose perfume is the most spiritual, impalpable, and yet far spreading of all vegetable odors."

NARCISSUS.—At a recent exhibition of the New York Horticultural Society last month one hundred and sixteen varieties of narcissus were on exhibition. This is a much neglected flower, yet a beautiful and attractive one, and valuable for forcing for in-door decoration. This is the largest display of the kind ever made in America.

POSTAGE ON PLANTS TO THE UNITED STATES.

We clip the following *scold* from the *Fruit Recorder* :

When will our Government remedy the unjust and discriminate law of plant postage between the United States and Canada? They can send plants up to 4 pounds all over this country at rate of half a cent per ounce, while we have to pay *ten cents* on every package sent over the line, and no package can weigh *over eight ounces*, that goes to Canada. The Government should have this injustice towards a large class of nurserymen in this country remedied."

Just so, friend Purdy, you do live under the most unjust government in the world!! It is a shame that in this enlightened age citizens of the United States cannot send plants to any part of that great country by mail for half a cent an ounce up to four pounds. The Canadian lives under a much more liberal government (!) for he can send them to all parts of Canada at that rate. But hold, friend Purdy, are you not grieving over imaginary wrongs? You seem to think that Canadians can send plants at half a cent per ounce to any part of the United States. Let us read from the *Canadian Official Postal Guide*: "There is no provision for the transmission of seeds and bulbs between Canada and the United states by mail except when sent as samples, the limit of weight for each packet is *eight ounces*, the rate *ten cents*." No, friend Purdy, the injustice of your government does not consist in allowing us to send our plants into your country at a less postal rate than you can send them into ours, but in not treating you as liberally in this matter within your own borders as our government treats us. And scolding won't mend the matter. Your only remedy is to leave that land of benighted and unjust law, and come under our better, more liberal and more just government.

FLORIDA IN WINTER.

(Continued from page 125.)

The sail up the river St. Johns from Palatka is full of interest to the stranger. The scene is ever shifting. At times the river is very narrow and tortuous, so that in half an hour's sail the steamer has returned to within a few rods of her former place; then suddenly the river spreads out into a small lake of shallow water several miles in expanse. In some parts the country seems to be a flat, low prairie, covered with coarse grasses; soon this feature is changed, and we pass through heavily wooded rolling land, where we frequently see groves of orange trees, some already bearing fruit and some but recently planted. It was during this trip from Palatka to Enterprise that we saw more of the animated nature of this peculiar country than we had met before. Alligators of varying sizes were basking on the banks, which, as the steamer approached, would crawl off and hide themselves in the water. White cranes were frequently seen flying about or standing upon some tree overhanging the river. Blue heron, seen the dead leaf stalks not yet fallen, giving a very shaggy appearance to many of these, to us, singular trees.

At Enterprise we found there was an orange grove attached to the hotel where the guests could go and help themselves to oranges as freely as they chose. You will not be surprised to learn that it was well patronized. We spent a day here in strolling about, sauntering into the woods near by, and studying the strange vegetation, and visiting also some of the adjacent gark-fishers, water turkeys, grey-headed eagles, hawks, and numerous flocks of blackbirds, gave interest and life to the scene. Ducks of several kinds and water-hens were swimming upon the water. In the low land the cypress, water-oak and tall-growing



VIEW ON THE ST. JOHNS.

palmetto were prominent, while the higher ground was usually covered with pines and scrub palmetto.

The accompanying view on the St. Johns is a very good representation of scenes on this part of the river. On the right is a group of palmetto, as they appear at a little distance, and on the trunk of the one at the left can be dens. Although it was only the 8th of March we found ripe mulberries in abundance and butterflies of many *genera* flitting about. Mocking birds were numerous, filling the air with their ever varying song, so that one might easily suppose that there was a concert of many songsters being held in the trees. Strawberries were ripening on the vines. The wild flowers were not very abundant; probably it is yet too early for them. The mistletoe abounds on the oak trees here. The soil is much the same as that we have found hitherto; sand, sand. In one of the gardens we unexpectedly came upon a monument with an inscription in Latin, which told the passer-by that here lies a whooping-crane that was

killed by a stroke of lightning. We afterwards learned that the grounds belonged to an eccentric bachelor.

On our return we stopped at Green Cove Spring, a view of which is given in the accompanying cut. The reader will see that one of the trees is laden with the Florida moss, which abounds in every place we visited. It gives a peculiar aspect to all the scenery here, hanging from the branches of the trees like a long gray beard. There was something mournful and sombre in its effect to us that we could not wholly throw off. The spring is, like many others in this strange land, at the bottom of a depression in the general level of the country, many of which are impregnated with sulphur, and thought to be curative when used for bathing. There is nothing special to be said of the plants and trees we found here. A charming walk along the river bank leads down to Magnolia, and one who has the leisure may find much to interest in looking up the many picturesque views to be found about the river. At Magnolia we visited the



A. BLANC, PHILA.

GREEN SPRING COVE.

vegetable garden attached to the hotel. Like the one we saw at Palatka it was formed by throwing the earth into beds, so that the walks were trenches. The vegetables were lettuce, cabbage and cauliflower, tomato plants about ten inches high, and potatoes almost ready to blossom, a few peas and some nice looking beets. It would seem as though the celery is kept in the garden all winter and used as wanted. Water melons and musk melons were just coming up.

Florida is an interesting country to visit in the winter, especially to those who have never seen this sub-tropical vegetation; but our northern land in summer is to me far more beautiful, and our pears, plums, peaches, &c., far more delicious than the oranges and bananas of Florida. Many persons are so pleased with the winter temperature here, and so captivated by the wonderful accounts of the large sums of money realized by the fortunate owners of orange groves, and so overwhelmed by the generosity of gentlemen willing to part with some of the best orange pro-

ducing land in the State for a consideration, that they are induced to invest; these in turn persuade others, so that Florida is likely to enjoy a very considerable increase of population and have her resources wonderfully developed in the near future. Those who make haste slowly, who do not attempt to grow products unsuited to the soil and climate, and can be content to labor and to wait, will reap in due time a remunerative reward.

CHERRY CULTURE IN COUNTY OF GREY.

I have read the Annual Report for the year 1883. It is very good. I see on page 165 that Mr. Roy says we cannot grow cherries around Owen Sound at all, save in exceptional cases. I reside about four and a half miles from Owen Sound, and have grown them over thirty years, and nothing can grow better nor bear heavier crops; but the plum trees are badly killed. All the trees and plants I received from the Association are doing well. The Burnet grape is doing well, and indeed

all the grapes. I have ten or twelve varieties. My peach trees are fresh to the topmost bud, but there will not be much fruit on them. They were loaded with fruit last year.

Yours truly,

WILLIAM BROWN.

SPARROWS AND PARASITIC PLANTS.

EDITOR CANADIAN HORTICULTURIST:

SIR,—I was pleased to see in the April number of the *Horticulturist* an article in favor of my old acquaintance, the English sparrow. It appears that that enlightened body, the Fruit Growers' (fruit eaters') Association of Ontario, have decided that the sparrow must go; but suppose if, like the Hon. Mr. Mowat, he will not go, what then? Do they intend to resort to bribery by offering that ubiquitous individual, the small boy, a cent a head for all the sparrows he can catch and two cents apiece for every sparrow's egg, and so get rid of him? If so I hope they will adopt the necessary measures to get rid of the tent caterpillars at the same time. There are but few sparrows hereabout, although there are a good many in the town of Owen Sound, a place which one of the Salvation Army correspondent's in the *War Cry* calls "the Devil's headquarters in Ontario," and perhaps he is not so very far wrong either, and the Salvation Army boast that they have captured one of the worst men in the place, so they hope to succeed in driving him out altogether—the devil, I mean, not the sparrows. My principal object in writing is to call your attention to the following extract from *Colin Clout's Calendar*, by Grant Allan:—

But there are other and still more abandoned parasites like yellow-bird's nest, which have no leaves at all, and cannot provide themselves with food in any way. Yellow-bird's nest is a very rare plant in England—a degraded relation of

the heaths, which has taken entirely to living on the roots of trees, sucking up their juices by its network of succulent rootlets. Its leaves have consequently shrunk by disuse into mere pale yellowish scales, not unlike those which one sees on the young shoots of blanched asparagus. Now, yellow-rattle and its kind deserve notice as showing the first step of this downward course; the initial stage through which the ancestors of the mistletoe must once have passed, and the ancestors of the yellow-bird's nest must ages ago have left behind them. The plants are not in any way related to one another; on the contrary they are extremely unlike as far as pedigree goes, but they have all three independently acquired the same parasitic habits, and they all exhibit different stages in the same periods of degenerescence."

Now, it has occurred to me to ask you if this English yellow-bird's nest may not be identical with the disease called yellows in peaches, and if so, would the knowledge of this fact be of any use in leading to the discovery of a remedy without resorting to the extreme measure of grubbing up and burning the infected peach trees, root and branch. The yellow-rattle is another parasite very destructive to the grasses. If once it gets into a meadow nothing seems to be of any use to get rid of it. As a rule one ought not to speak evil of plants behind their backs, but, for a hungry, persistent, deliberate, designing, importunate parasite, your yellow-rattle really has no fellow. There is not a single redeeming point about it; it is ugly, useless and uninteresting, and it makes a wretched living by fastening on the roots of grasses and draining them dry with its horrid clinging suckers. See here, if you pull up a tuft of meadow foxtail carefully, you find the rattle actually engaged in sucking its life blood at this very moment. Rinse the two stocks together in the basin where the brook runs clear from the culvert for a foot or

two to make a drinking place for the cattle, and when the soil is washed away you will be able to see the actual mouths by which it fastens itself to the rootlets of its host. Rattle dwarfs the grasses terribly and makes a hard, dry stringy fodder itself into the bargain. The rattles are a whole group of half-developed parasites well on the way to the worst state of degradation, though not yet so utterly degenerate as the leafless toothworts or the scaley broomropes. They can still grow feebly, if left to themselves, for when you sow the seeds alone in a flower-pot, by way of experiment, the young seedlings will rise to an inch or two, put forth a few scrubby leaves and blossom poorly with a couple of straggling flowers or so. But when you let them have some nice vigorous grass plants in the same pot, they fix upon them immediately and grow to a foot in height, with a comparatively fine spike of pale primrose flowers which children sometimes know as cockscombs. Eyebright has just the same trick, and so have the two red-rattles, cow-wheel, and others of their kind. There are some parasites, like mistletoe, whose parasitism has become so deeply ingrained that their seeds will not even sprout except on the body of a proper host, and those have adapted themselves to their peculiar habits by acquiring very sticky berries which fall on a bough and are gummed there by their own bird-lime. Even such a hardened offender as the mistletoe, however, has partially green leaves which assimilate food on their own account.

SCARLET GERANIUMS, ASPARAGUS, &c.

Among all our old-fashioned garden flowers not one is brighter or prettier than those common pelargoniums from the Cape, which we all know as *scarlet geraniums*. They are not exactly of the genuine botanical geranium type, it is

true, but they are quite near enough to it for even unlearned eyes to perceive immediately the close relationship between them. I suppose every body knows the little wild herb-robot of our English roadsides, its petty lace-like foliage turns so bright a red on dry walls or sandy hedge-banks that even the most casual passer-by can hardly fail to have learned its name. Herbrobert is the true geranium, and it has many familiar allies in Britain and in the rest of Europe, including that large and brilliant kind, the blood geranium, which studs the limestone rocks of the Mediterranean and the Atlantic shores from Sorrento and Cadiz to our own Cornish, Welsh and Cambrian cliffs.

Most English lilies flower in spring or very early summer, but asparagus is an exception to the general rule. Asparagus is a wild plant of the British south coast by origin, and though it is now becoming rather rare on our own shores, I have still picked a few sprigs of late grass on the rocky islets at Kyname Cove in Cornwall, and at some other isolated places along the English seaboard from Devonshire to Wales. Its life history is a curious and interesting one, for it forms a rare example in our own country of a green, leafless plant, with branches closely simulating foliage both in appearance and function. The primitive wild asparagus is a wiry herb with matted perennial root-stock, in which it stores up food-stuffs during each summer for the supply of its succulent green shoots in the succeeding spring. Under tillage we have made it increase from its present primitive stature of two feet or less to an average height of four or five, and at the same time its spring shoots, which are slender and rather stringy in its native sands. Many Alpine plants still linger in isolated spots of Britain. For example, the beautiful lady's slipper, by far the most striking of all the

northern orchids, was once found in several parts of this country, but it now lingers only near Settle in Yorkshire, and on a single estate in Durham, where it is carefully preserved by the owner as if it were pheasants or fallow-deer. The same thing is true of many other British plants. The seakale came originally from the coast of Devonshire and was naturalized in English gardens about a century and a half ago. Nevertheless it is found growing wild on the beach on the south side of Anticosti; so also is the weed called lamb's-quarter, and a variety of wild pea. Wild gooseberries (red) of as good quality as those found in our gardens, rather small, resembling Houghton's American seedling, are found in large patches growing on the shingle but inside the bank above the reach of ordinary spring tides. Possibly if some of the plants could be brought here it might be found capable of resisting the attacks of mildew. I will try to get a specimen next summer. My son-in-law, Mr. E. Pope, is still in charge of the S. W. Point Lighthouse. Have you any varieties mildew-proof?

SARAWAK.

Edgewater Farm, Sarawak,
21st April, 1884.

RECENT FROSTS IN EASTERN ONTARIO.

The 25th and 26th May, and previous days were unusually close and warm for the season, stimulating vegetation to a remarkable degree; the leaves on the forest trees were fast expanding, and the young growth as usual at such seasons was very tender. On the afternoon of Tuesday, the 27th, the wind veered round gradually towards the north, and the thermometer took a marked dip. The sky during the night was clear, and on Wednesday morning it was noticed vegetation was looking

quite sickly. The frost of the previous night was very light, the glass only sinking to 32°, the morning was cloudy, and it was hoped the cold snap would pass off without any serious consequences, but the wind blew a partial gale all day; and its blighting effects were becoming evident, the Mercury indicating 40° to 42°. Clearing weather towards the night of Wednesday caused increasing cold, and on Thursday morning the glass had settled down to 28°, this was the lowest temperature reached; there was a light frost again in some localities on Thursday night, but the ice formed was of the thinnest.

The warm weather in the early part of May had encouraged planters to put in their crops, consequently beans, potatoes and corn were well through the ground, tomato plants had been very generally set out, grape vines had in many instances, especially the Champion, grown nine inches, and were showing the flower buds on the new shoots. All the annuals above mentioned were cut to the ground, a few beans and tomatoes here and there were left standing, but the majority were destroyed. The grape vine shoots were not all killed; frequently of two which had sprung from neighboring eyes, one was taken and the other left, in very few vineyards were all destroyed, though one case is reported. The damage to vines will probably in exposed situations reduce the crop about Ottawa from one half to two thirds, though some will not suffer so much, while others will come off worse. I do not notice that any one variety has escaped better than another, but those which had grown the longest shoots are probably the most injured. Taking a drive into the country on Saturday, the 31st, it was found many of the forest trees had suffered; the black ash leaves were quite destroyed; the butternuts were badly frozen, and as these were in bloom it is feared the nut

crop will be a short one, except where the trees are protected by the overhanging limbs of other varieties; the leaf of the butternut is not a quarter grown, beeches and maples also show signs of the frost, but not in so marked a degree. The Russian and English Mulberry whose leaves were just opening are badly nipped. Strange to say, the apple trees just coming into bloom and the plums whose blossoms had fallen, do not appear to have materially suffered. Peas as a rule are a hardy crop, and all appear to have stood very well except Arnolds hybrid known as Bliss's "American Wonder" which has come very badly out of the conflict.

Clover and growing cereals are reported to me as damaged, but I noticed little of this on my way through the country, and presume the injury sustained was on low land. Potatoes will of course come on again, but those unprotected will not yield so early a crop as was expected. The most singular incident of the cold term is reported to me by a gentleman who lives near this city, he states that he has picked up five humming birds which were killed by the frost. These beautiful little strangers have been visiting the spring flowers for the past ten days.

All attempts on my part to discover the course of the frost waves, or why a tree or a plant of the same variety was killed in close proximity to another, has proved abortive.

It is believed when accounts from other localities come to hand it will be found the Ottawa district will have suffered less than places further west and south. This is the first spring frost of any consequence which has visited this section during the past seventeen years.

P. E. BUCKE,

Vice-Pres. F. G. Ass. of Ont.

Ottawa, 2nd June, 1884.

LESSONS OF THE FROST OF MAY 29TH, 1884.

This frost was forming for three days and fell at length with unusual severity at a period after heat when vegetation was in an unusual state of forwardness and beauty. Most of the fruits were badly injured, and the young growth cut, and the tender leaves of even forest trees and others totally destroyed, and this over a very large extent of country, from the Far West to New York in the east. The damages to our crops may be estimated by millions. Here we would say, by way of apology, that we do not at all times love to dwell upon our losses for popular topics or to float our failures before the world for examples, but still in some instances, it may be well to look fairly and squarely at them and ask ourselves instructive and suggestive questions in order to learn of usefulness and possibly remedy. In this case, as in most others of this class, there are a few leading ideas that may be taken as texts from which to arrive at progressive lessons of value in the future. And although one cannot with exact precision tell why it is that our otherwise delightful and prepossessing country should be so subject to such destructive influences as these are, and to spread disappointment and death over so vast and beautiful fields and orchards just at a period of the greatest possible promise of fruitfulness, and when vegetation is making such astonishing developments of young and rampant growth, yet we can understand some things that in our circumstances may contribute to the subtlety of the influences and the fatality of the visitations. We know not the distant chambers of the north, where lie the winds concealed or their power to break forth just at this particular season when we might least expect them, but we do know that they come. Perhaps these influences have always ex-

isted as the remains of ancient time, and perhaps they always will exist, but the facts are patent to all that we are made to suffer more and more as the years roll by. We would not therefore at present, with our limited means and space at command, attempt to answer the question, "can we control these influences?" No, no; but we would rather come at once to a few common and practical thoughts, and let them act as

LESSONS OF INSTRUCTION

for our future guidance in life and the management of those interests upon which our national life so much depends. We would remark, therefore, firstly, that by continually stripping the country of its admirable forest growth of timber, we are surely subjecting it more and more, as this destruction advances, to heavy and disastrous spring frosts, as well as destructive winter winds. How these frosts occur, and the reasons of them, must be sought in our location, being, as it is, immediately south of tremendous and never-ending ice fields and mountains of snow in the far untraversed north. The biting cold of this region is at anytime likely to come over us, as the shifting winds from the north so effectually drive it southward, producing at once a chilliness that is felt, and a coldness that is deathly in its fall in the shape of frosty whiteness on our fields and orchards, whenever there is no mitigating influence to prevent it. Now, we maintain that the presence of neighboring trees would be a friendly protection in such cases, and that they would largely counteract the influences of frost, at least on the soil below them, and these cold winds driving over them would be thus deprived of their sting and venom. If this theory be correct, as we honestly think it is, then the natural inference, and the great lesson for us to learn, is

the necessity of planting more trees over our country for ornament and defence against sudden cold to which we find ourselves so liable from year to year. Again, we would learn, secondly, the wisdom of mixed culture and varied production in our horticulture in this country.

In this case it is to be observed that our strawberry crop, for instance, was just at that period of its growth when it could receive the largest possible injury should a severe frost fall upon it. But the frost did fall upon it, and the sad and disappointing results are that half the promise was hopelessly destroyed. But, by way of contrast,

THE RASPBERRY CROP,

was in a different and much more backward state of development where it would receive the least damaging effect should a frost fall upon it. The consequence is in this case that the raspberries are little or nothing injured by this severe visitation. Here the lesson of wisdom is to cultivate more raspberries and such other crops as we know will be least influenced by a frost at this season should one occur, which is almost sure to be the case as it appears now to be a *standing national institution*.

The various sorts of raspberries and blackberries in their varied times of ripening and their varied qualities would form a very interesting succession of fine and excellent fruit which would greatly balance against the danger of injury of frost at this season of the year. We cannot do wholly without the strawberry, but I think it would be wisdom to depend less upon them where the conditions are so unfavorable. Thirdly, the question of warders or protectors and in many instances the selection of choice and favored spots or localities might be possible and even practical. These

warders may consist of planting evergreens, as our beautiful towering pines, &c., in the fruit grounds or about them for protection against frosts, or the supporting of fires or smudges, &c., in the fruit grounds during the time of expected frost, might do much good. Or the forming of pools or reservoirs of water on the fruit lot by their influence might very much lessen the severe effects of frost upon the plants. But above all we would advise fruit growers and say to them "be careful in your selection of your locations." Look anxiously for the fairer spots in sheltered locations near large bodies of water or forest. Those favored spots of earth that we have in abundance in several parts of the Province and that are known to ensure good crops almost every year should be diligently looked after and secured for fruit culture. We know that near our beautiful fresh water lakes, on certain sides of their shores, are favored places that should be wholly devoted to the interests of fruit culture. Fruit growers should seize upon them in colonies and by means of improved processes of culture should have these favored places developed to the fullest possible extent of their capacity and by this means a good supply of fruit keep up. I freely offer you these suggestions on this subject; they may not be wholly thrown away upon you.

Truly, B. GORT.

Arkona, June 10th, 1884.

PRODUCTIVENESS OF CLINTON VINES.

At the bottom of my garden, with an eastern aspect, I have four vines trained so as to form an arbor eleven feet over head. In October, 1882, I took off what I considered a large crop, about 250 lbs. Last year I determined to weigh the fruit as gathered. It amounted to 335 lbs., not including

what the "small boy" stole. The length of the trellis is not more than 42 feet. A large proportion of the bunches measured nine and ten inches in length, the system of pruning adopted being principally long-rod.

WM. R. HUGHES.

32 Metcalfe Street.

FRUIT-GROWING AT COLPOY'S BAY.

DEAR SIR,—It may be of interest to know how I have succeeded with the young fruit trees planted last year. The weather was most favorable to me all through the year. I had fine cool weather for planting, with wet following soon after, and again the summer was moist and cool.

The trees, especially the plums and pears, made a good start for the most part, and are thriving well. The warm weather during the last fortnight in March this year, succeeded by the severe frosts in the early part of April, the thermometer going down very often to 7° above zero, seriously affected all my plums, peaches, nectarines, apricots and quinces, and killed some. That this was the cause and not the severity of the winter, I can unhesitatingly aver, as when I went through my orchard on the 28th of March, these trees were exhibiting beautiful bright red shoots, strong and healthy, and at the end of the very next week the shoots, shortly before so fresh and bright, were disfigured and blackened. Not one plum, peach or quince tree escaped entirely scatheless, but nearly all the plum trees have completely recovered, only here and there showing some dead leaf buds and ends of shoots withered away.

I lost six dwarf Vicars, but I should state that they were in every case affected badly by my pruning, though I only pruned them slightly. The very next day they turned black, and the blackness seemed to spread through the

whole tree and I gave the six Vicars up for dead. However, I looked at them to-day—it is about a fortnight ago that I pruned them—and am now in hopes they may after all pull through. Strange to say every other variety pruned in exactly the same way took no harm, though pruned near the same time, some the very same day; moreover all these Vicars were strong, vigorous-looking young trees. Can you explain this? Is it on account of the Vicars being thrifty growers? But, strange to say, the Clapp's Favorite and Flemish Beauty, which also made very thrifty growth last year, were not affected by my pruning. Peaches were all doing well till the early rising of the sap in March, as in the case of the plum trees, exposed them to being nipped off by the frosts in April.

My soil is a warm, sandy and gravelly loam, where the apples, plums and peaches are, but a gravelly clay loam where my pears are. In both cases there is a limestone bottom.

In my old orchard consisting of 300 trees, about 150 planted 8 years ago, the apples, excepting Snows and Duchesses, do not show much signs of fruit. My four Flemish Beauties and two out of three Clapp's Favorites, promise to be laden with fruit; three Bartletts, two Bloodgoods, one Louise Bonne and one Clapp's Favorite, promise to bear fairly.

There are three Duchess d' Angoulême, 8 years planted, and about twenty feet high, that have never borne and show no signs of it yet. Would you do anything to make them bear?

E. A. C.

NOTE BY THE EDITOR. — Duchess pear trees of that size and age would be bearing fruit in the County of Lincoln. Why do they not bear at Colpoys Bay? Are they yet growing so very fast that

they do not form blossom buds, or are the flower-buds killed by the cold of winter so that they never open? Or do the trees bloom but fail to set their fruit? Will our esteemed correspondent throw what light he can on this subject? It may be that when we have learned the cause of their failing to fruit some remedy can be suggested.

HARDY ROSES.

The following list of the best hardy roses as continuous bloomers, for outdoor culture, and of the best hardy roses adapted to general cultivation, is recommended by the committee appointed by the Massachusetts Horticultural Society to prepare the same.

Continuous Bloomers—Alfred Colomb, Annie Wood, Boieldieu, Caroline de Sansal, Fisher Holmes, Francois Michelon, Gen. Jacqueminot, Marie Baumann, Mme. Victor Verdier, Mons. E. Y. Teas, Pierre Notting, Rev. J. B. M. Camm, Xavier Olibo, *Charles Darwin, *Countess of Oxford, *Dr. Sewell, *Marguerite de St. Amande, *President Thiers.

The last five (marked with stars) are fine, constant bloomers, but liable to mildew.

Hardy Roses for General Cultivation—Alfred Colomb, Anna de Diesbach, Annie Wood, Baron de Bonstetten, Baroness Rothschild, Charles Lefebvre, Duke of Edinburgh, Etienne Levet, Fisher Holmes, Francois Michelon, Gen. Jacqueminot, John Hopper, Jules Margotten, La Rosière, Marie Baumann, Marquise de Castellane, Maurice Bernardin, Mme. Gabriel Luizet, Mme. Hippolyte Jamain, Mme. Victor Verdier, Mons. Boncenne, Mons. E. Y. Teas, Paul Neyron, Rev. J. B. M. Camm, Thomas Mills, *Louis Van Houtte, *Mlle. Marie Rady, *Pierre Notting.

The last three (marked with stars)

are difficult and uncertain, but so remarkably fine that the Committee could not refrain from mentioning them.

JOHN B. MOORE,
Chairman of Committee.

April 5th, 1884.

THE NEW ORLEANS EXPOSITION.

The United States Congress has authorized a loan of one million of dollars to the International Exposition to be held all next winter at New Orleans. This Exposition promises to be the largest exhibition of the industrial resources and products of the world ever held in this country. The main building covers 33 acres, affording 1,656,300 square feet of ground, or 1,215,000 feet of exhibiting space, a larger area than that of the main building and machinery hall combined at Philadelphia in 1876.

All the Southern States have applied for space, except Kentucky, and a bill is now before the Legislature of that State, providing for a grand display of its resources there. Twenty Northern and Western States and Territories have already secured space, and others are making arrangements to be represented. Fourteen foreign Governments have declared their intention to take part in the display, and a large area has been applied for by foreign firms and individuals.

The applications from American exhibitors alone already call for more space than was occupied by similar exhibits at Philadelphia. The Live Stock Department will transcend anything of the kind ever seen in this country. In the Horticultural Department the premiums will amount to over \$20,000, besides gold, silver and bronze medals.

Arrangements have been made for experimental gardens, in which growing crops, such as cotton, sugar, jute, tobacco, etc., will be shown. Quantities of evergreens from nurseries North and South will embellish the grounds. Mexico has appropriated \$200,000 for

the Exposition, and many of the States of that Republic have appropriated \$5,000 each, to display their special resources, while all the Central American States are taking great interest in the show. Never has there been seen so vast and varied a display of manufactured goods as that which will delight and instruct visitors to the Crescent City next winter, while the exhibition of minerals from foreign countries and our mining States and Territories will be the most extensive ever witnessed.

Is Canada not to be represented at this Exhibition? Surely Canada can not afford to let such an opportunity for advertising her productions to go unimproved.

GAS TAR v. MEALY BUG.

Seeing a little controversy lately on gas tar as a remedy for mealy bug, I venture to give my experience of its use on vines infested with that pest. In my case it proved successful. About nine years ago, on taking charge of a garden, I found four vineries infested with bug, two very badly, the fruit then hanging being literally full of the pest and quite unfit for table. As soon as I could clear all the fruit off I had the houses well cleaned, working turpentine into all the crevices of the woodwork and trellis; the Vines were washed and scrubbed and then painted with the usual clay mixture, but my enemy showed itself in force again next season. I then tried the following recipe for its destruction, viz., petroleum and spirits of wine; this was used on the Vines in one house and killed them nearly to the ground level; they, however, broke strongly from below and soon made headway. Now, I thought I had at least got rid of the pest, but not so; it showed itself again in numbers, which I contrived to keep in check and from spoiling the bunches by constant watching and the use of Fir-

tree oil, but could never eradicate it entirely. When first I heard of the gas tar cure I was afraid to use it, bearing in mind my former misfortune; but after seeing a friend use it successfully I determined on taking my present charge, and finding one of the vineries well stocked with my old enemy, to give it a fair trial. I merely removed the loose bark, and did not wash the rods in any way; I then applied the tar at the rate of one part to six of clay, working it well into all crevices with a stiff brush, over the eyes as well as the canes. The result is no injury to the Vines, but an almost entire annihilation of the enemy, only one here and there having been seen this summer. It is, however, a desperate battle when none escape, and I feel confident by following the dressing up this winter, I shall see the last of the pest. I might add that except where mealy bug is present, I never dress Vines with any mixture whatever; I prefer to give the rods a good washing with soap and water, cleanliness in my opinion being more conducive to good health and robust growth than stopping the pores up with clay, soot, and other unsightly mixtures.—C. J. WHITE.

I gave the tar and clay-dressing a trial on some Vines in an early house that were badly infested with bug. They were merely washed, the loose bark removed, and then painted with the mixture, using one part gas tar to three parts clay and water, keeping the mixture well stirred. The mixture was well worked in with an ordinary paint-brush over every part of the rods, including the eyes, without any injury to the Vines, which started well and have borne a good crop of fruit. Finding the Vines broke strongly and appeared none the worse for the application, we treated the other two vineries the same, except that we did not wash the Vines or in any way clean them before apply-

ing the mixture, and I am glad to be able to state that there has been but very little bug seen in either of the houses this season. Indeed, I never before saw the Vines so clear of the pests as they are at the present time. I intend to give them a similar dressing this winter, which I believe will entirely eradicate the bug. I should state that in previous years the Vines had been washed and dressed in the usual way and paraffin had been freely used when cleaning the houses.—S. T. H., in *The Garden*.

SWEET CORN.

N. Y. AGRICULTURAL EXPERIMENT STATION,
GENEVA, N. Y., April 12, 1884.

In 1883 we grew at the Station twenty-six varieties of sweet corn. As the matter of earliness in this garden crop is an important one, we kept record of the appearance of silks in each variety, as indicating to a certain extent the corresponding periods of maturity. It would have been preferable to have noted the period when the ears were in condition to use on the table, but this we could not do as it was important that we should not destroy any portion of our crop.

The seed was planted on May 16, and the figures indicate the number of days from this date to the appearance of the silking of the first plant in each lot.

	Silked in days from planting.	Date.
Early Marblehead	56	July 11
Easily Narragansett.....	61	" 16
Pratt's Early	61	" 16
Early Minnesota	62	" 17
Tom Thumb	62	" 17
Dolly Dutton	64	" 19
Crosby's Early	68	" 23
Wyoming	68	" 23
Early Orange	69	" 24
Darling's Early	69	" 24
Golden	70	" 25
Rochester	70	" 25
Early Dwarf	71	" 26
Moore's Early Concord.....	72	" 27
Squantum	72	" 27
Black Mexican.....	76	" 31

	Silked in days from planting.	Date.
Early Eight-rowed	78	Aug. 2
Amber Cream	78	" 2
Asylum	79	" 3
Excelsior	79	" 3
Triumph	81	" 5
Hickox	82	" 6
Egyptian	84	" 8
Stowell's Evergreen.....	84	" 8
Ne Plus Ultra	85	" 9
Mammoth	86	" 10

In regard to quality, we can only express our own taste: some people prefer a corn less sweet than do others. The Ne Plus Ultra is exceptionally fine, but is late; Crosby's Early, to our taste, is the best of the earliest, although Early Marblehead is very good. The Golden Sweet we have not eaten of our own raising, but such as we have tried elsewhere has been peculiarly rich in flavor. The Black Mexican is white while in edible condition, but is apt to cook slightly blue-tinged so as to cause the appearance on the table to be unattractive. Its quality, however, is very sweet.

E. LEWIS STURTEVANT,
Director.

DISEASED RASPBERRY CANES.

We have received from Mr. Robert Stark of Woodstock samples of raspberry canes which were nearly covered with patches that shewed evident traces of injury from some cause, resulting in decay to the affected parts. Mr. Stark writes as follows: "I send you a slip from some black caps, I think Gregg, grown here, which have been planted for six years and fruited well for two years. Since then they have gradually become afflicted with the disease which has at last killed them completely. Do you know the cause, and is there any remedy? Your kind answer will oblige in next number of the *Fruit Growers' Association Journal*."

The editor apologizes to Mr. Stark for the non-appearance of an earlier reply. The letter of inquiry came to

hand on the 18th of April. In order that the *Horticulturist* may be mailed on the first of each month, it is necessary that the matter be in type by the 15th of the preceding month, so that the May number was already in the hands of the printer when his letter was received. Besides this, the months of April and May are so crowded with business matters that your editor is compelled to make up the June number before his busy season comes on, so that it was impossible to give this subject the attention which its importance demanded in time for the June number.

As to the cause of this disease we can not speak with confidence. It would be necessary to see the canes when first shewing symptoms of the attack, and probably again during the progress of the malady. It seems, from the appearance presented in the dry state, to have been attacked by some fungoid plant, such as the raspberry rust, which has fed upon the tissues of the cane and sucked out its life. Perhaps Mr. Stark may be able to find some growing canes similarly affected and send them to our President for examination under his powerful microscope, by which the cause of the trouble may be conclusively revealed.

A NEW FINE-FOLIAGED SHRUB.

(*Prunus Pissardi*.)

It seems a pity to let the present planting season pass without directing attention to this, the most distinct and beautiful of shrubs or trees with colored leaves, which have originated in gardens or have been introduced to cultivation for many years. Mons. Carrière truly remarks that it is certainly the most remarkable plant which has been introduced for some years. Besides its being a novelty (always a recommendation in itself), it is interesting from two points of view, as a fruit tree as well as a "foliage" plant. The leaves are an in-

tense red, and remain on the plant some time after those of most of its allies have fallen. To M. Pissard, the head gardener to the Shah of Persia, is due the credit of sending *Prunus Pissardi* to France, from whence it has been widely distributed. From the details published by M. Carrière it appears that this new Plum comes from Tauris, an important Persian town, situated about 270 miles from Teheran. It seems it far from common in Persia, where it is much sought after on account of the color of its leaves, and more particularly for its fruits, which are a deep red, even as soon as formed. For this reason the latter are valued at Teheran even before being ripe, and are eaten with salt, and also used for table decoration.

P. Pissardi is a much-branched shrub, with ascending twigs and black, shining bark. The leaves vary in intensity of coloring according to the time of year, but are never dull. The pure white flowers are similar to those of the *Myrobalan* section, and open early in March. The somewhat small fruits, although not of superior quality, are thoroughly eatable when quite ripe. M. Carrière recommends its cultivation in pots like *Spiræas* and other woody things, as the plant branches freely and bears cutting well. It is thoroughly hardy in this country. A correspondent at Forfar writes to say that it grows vigorously in the nurseries there. During a recent visit to the Waltham Cross Nurseries of Messrs. W. Paul & Son, I was particularly struck with the brilliant coloring of *P. Pissardi*, and it only requires to be seen once to have its merits as a hardy fine-foliaged plant fully recognized. Since publishing his original description, M. Carrière has sown seeds of *P. Pissardi* and the *Myrobalan* Plum under the same conditions. The results were in both cases the same, so it is settled definitely enough that the former does not produce seedlings with colored

leaves, and that it will be necessary to work on the Plum stock. In all probability *P. Pissardi* is a variety of *P. cerasifera*.—GEORGE NICHOLSON, *in the Garden*.

NOTE BY THE EDITOR.—This beautiful, new, deep red foliage plant has proved to be perfectly hardy in the Editor's grounds at St. Catharines. It has not yet borne fruit, although some of the larger specimens had a considerable number of blossoms the past spring. From its habit of flowering when of so small a size, it is to be inferred that it is of shrubby habit.

PANSY CULTURE.

The requisites are young plants, rich mould, and a regular degree of moisture. Those about to begin the culture of the pansy should procure a three-light frame, a few dozen well-selected plants, a cartload of good loam, some rotten leaf-mould, sand, and thoroughly rotten cow manure. The bed should be prepared as early as the ground and weather permit. It should be away from the full glare of the sun, and, if the soil is poor, wet, sodden, heavy or sandy, these evils must be counteracted by striking the medium. The plants should be placed a foot apart, and six inches from the edge of the bed, and should have a good watering after planting, and the surface of the bed must be often stirred. In dry weather it must be watered with a fine rose every evening, not merely wetting the surface, but *thoroughly*. The beauty of the bed will be over by July, and if it is necessary to replant, young plants should be prepared from cuttings; or by dividing the old plants and adding manure a good bloom may be obtained in autumn. Though the pansy suffers very little from frost, it should be well protected

in very severe weather. In April the frame should be reversed from south to north, thus avoiding the full glare of the sun, which is very important. To keep up a good variety, the best seed should be selected, and each color should be marked separately.—*Discussions of the Massachusetts Horticultural Society.*

IMPORTANCE OF ECONOMIZING AND PRESERVING OUR FORESTS.

BY WILLIAM SAUNDERS.

(From the *Transaction of the Royal Society of Canada.*)

At first sight, forests appear to the settler in a wooded country as obstacles to advancing civilization, to be removed as rapidly as possible, and with unwearied zeal and persistence in the use of axe and fire the encumbrances are soon disposed of. The stock of fertility accumulated by the long continued annual fall and decay of the leaves is utilized in the growth of cereals for man's sustenance, and in his zeal to get rid of the trees, the owner seldom reflects on the inestimable value of woods in providing shelter against storms, in equalizing temperature and moisture, and in purifying the atmosphere.

Perhaps the most obvious modification of climate by forests is in arresting wind, subduing its power in a greater degree than a solid barrier would, the limbs entangling and killing its force in a marked degree. Even a single tree has a wake of calm stretching away to a considerable distance, while a forest of deciduous trees absolutely arrests the wind near the earth. A windy climate is generally an unhealthy one, as indicated by the marked increase in mortality during and following the long continued prevalence of cold winds.

Forests also equalize violent alternations of heat and cold; the temperature is lower in summer and higher in winter in the forest than in the adja-

cent open ground. During the heated term the umbrageous foliage protects the soil from the direct action of the sun's rays, while every leaf by the evaporation of moisture from its surface acts as a refrigerator on the air immediately adjacent. In winter the heat which has been absorbed by the water with which the soil is charged also by the earth is slowly given up, and, added to the minute quantity of heat given forth by the living trees themselves, forms a reservoir of warmer air, which is slowly displaced in severe weather and mitigates its severity; indeed the forest is a treasurer of the elements of climate, hoarding excesses and distributing in times of need.

Forests also exercise a governing and conservative influence on the humidity of the atmosphere. The roots of trees act in a measure like conduits, admitting the rain water into the sub-soil, while over this lies a stratum of humus, highly absorbent, and on the surface a layer of decaying trees, the whole acting something like an enormous sponge holding a vast quantity of surface water reserved for the heated season. Then, when the need for it is most urgent, it is elevated to the upper surface and distributed to the parched air by evaporation from the leaves, as already stated.

Forests also influence rainfall; trees indeed are most singularly complicated condensers, their limbs, boughs and leaves being a sort of natural machinery, wonderfully adapted to the purpose of grasping upon the atmosphere and causing those dynamic changes which induce precipitation of moisture.

Trees purify the soil. The pollution constantly going on about our dwellings charges the soil with organic matter, which the roots of trees search out, follow and feed upon, and alter it as completely as if it were burnt, and elevate it into the upper air in forms of beauty.

Data for the investigation of the influence of forests on the all-important question of rainfall, must be looked for in the eastern part of the world, where deforestation has been greatest, and where large districts have thus been entirely altered in their character and capabilities.

When the Jews first settled in Palestine it was a proverbially fertile country, a land flowing with milk and honey, and favored with a pleasant climate. Then the mountain ranges of the country were densely covered with forests, in which the stately cedar of Lebanon held a prominent place. The gradually increasing population of Palestine enjoyed comfort and abundance during many centuries, but a gradual devastation of the forests, which was finally completed by their enemies, produced a wonderful change. The hills of Galilee, once rich pasturing grounds for large herds of cattle, are now sterile; the Jordan has become an insignificant stream, and several beautiful smaller rivers mentioned in the Bible, appear now as stony runs, which carry off the surplus water resulting from the melting of snow in spring, but are completely dry during the greater part of the year. Some few valleys enriched by the soil which has been washed down from the hills, have retained a portion of their fertility, but the country as a whole is arid and desolate and not capable of sustaining one-fourth of the population it contained in the time of Solomon.

Under the reign of the Moorish Caliphs, the Iberian peninsula resembled a vast garden, yielding grain and fruit in the greatest abundance. Then the sierras and mountain slopes were covered with a luxuriant growth of timber, which was afterwards wantonly destroyed under the rule of the Christian kings, while large herds of half-wild goats and sheep prevented the

spontaneous growth of trees which would otherwise have taken place on the neglected lands. Now nearly all the plateau lands of Spain are desert-like and unfit for agriculture, because of the scarcity of rain.

Portions of Sicily, Greece, Italy, France, and other European countries, have suffered in like manner, and the plains and hillsides, once luxuriant with verdure, yield now but scanty crops, or are converted into arid wastes. In France the government has adopted a regular system of forest planting, which is proving a great success and which in course of time will doubtless remedy the evils complained of, repay the expenses incurred and yield a revenue to the public treasury.

Germany, which had also suffered from deforestation, was one of the first European nations to set to work energetically and systematically to remedy it by extensive planting. The work was begun nearly two hundred years ago, and during this period the country has been brought from the condition of a wood famine to a state in which there is now grown annually more wood than the country needs to use. It is estimated that with the systematic planting now regularly carried out, Germany can cut from ten to fifteen billions of feet of lumber from its thirty-five millions of acres of wood lands yearly, for all time to come, a product from which the State is said to receive a net revenue of nearly forty millions of dollars per annum. Besides all this, while in many other countries the climate and soil have deteriorated to an alarming extent, Germany has gained in fertility, and tracts of formerly worthless land have been brought under successful culture, and the climate, if it has not improved, as some claim, at least has not deteriorated.

Other countries are following the example of Germany, and systematic

forest-planting is now being faithfully carried out, not only in Europe, but in India and Australia.

In our own country, although we have not yet felt any ill effects from the partial removal of our woods, yet the timber supply is being so rapidly exhausted, that the question of replanting must before long engage the serious attention of our people. At the present rate of consumption and destruction, it is estimated that the twentieth century will see the greater portion of the American continent well nigh denuded of its forests. The disastrous consequences of a dearth of timber in Canada would be difficult to describe; it would interfere sadly with the further settlement of our country and paralyze our industries.

Stricter regulations are needed to prevent the unnecessary destruction of timber by the lumberer, and by the forest fires which often arise from wanton carelessness, and entail immense losses. Some measures looking to the replanting of denuded districts should also be introduced.

In the comparatively treeless portions of our great Northwest Territory, a marked improvement in the climate might be effected by judicious and extensive tree planting; and in all parts of our Dominion endeavors should be made to excite a general interest in this subject, and to create a healthy sentiment in favor of preserving, with greater care, the remnants of the noble forest with which our country was once clothed.

JACQUEMINOT ROSE.—The Jacqueminot rose is one of our most beautiful hybrid perpetuals, being a rich deep, velvety crimson. With winter protection it may be grown in the open ground and will blossom abundantly. Its flowers, however, are not so rich and deep in color as when produced under glass, but are still very beautiful. The are very double and delightfully fragrant.

GRAPES.

The indifference on the subject of small fruits in country places is often surprising. Those who originated and disseminated the Concord, added something of great value to the home resources of this country. People are sure to have grapes who will plant and give even moderate care to a few Concord vines. It is time now to take another step upward, viz.: to teach the people how their dish of grapes may be varied and improved at slight expense. Fondness for good standard varieties is all very well; but the time has passed for any one to assert that the Concord cannot be equalled or improved. Here are the names of a few varieties which, although not the latest novelties, are, every way worthy of attention. I may remind the reader that what I say is true for the latitude of Chester County, Pa., and that in my own experience. The vines were trained and trimmed by the Fuller system. Field cultivation might make some difference in my conclusions.

Worden is a Concord seedling which fills the place of its parent, and reaches a little beyond it in every direction. Bunches and berries are finer, the bloom and flavor better, the vine as hardy and productive. So much does it resemble the parent that I am told many Concord vines have been sold under the other name. There is no longer any reason for planting Concords exclusively or even principally.

Moore's Early, a hardy New England variety, was heralded with a great blast of trumpets; but the public can afford to forgive everything since the grape has proved itself a decided acquisition. The beauty of it is in the single berry, large and fine, the bunch being rather small and loose. Hartford Prolific and Champion (Talman) may now safely be omitted, for this grape easily surpasses them in earliness and general

good qualities. Champion has nothing to recommend it except its rampant growth and productiveness.

Brighton I at first thought a feeble grower; but as wood became more plentiful and nurserymen sent out vigorous vines, it came to be known as an average grower and perfectly hardy. The berries are red or wine-colored, and very sweet, rather smaller than those of the Concord; bunches medium to large. I cannot better illustrate the general verdict than by saying that as a table grape it meets wide approbation. Among twenty odd varieties people will pick the Brighton.

Lady, too, seemed a slow grower at first, but now it is vigorous and hardy. It is a white grape, and liable to be mistaken for Concord by one who did not see its color, but it is rather sweeter. Tested on the table it competes with Brighton for first place. Prentiss thus far is not its equal, but I do not claim to have fairly tested the latter.

Brighton and Lady follow Moore's Early closely in time of ripening, and will easily lap over the time of the Worden. One vine each of these four varieties will cost less than \$2, and will do something to convince the most stubborn that American grape culture is making rapid strides.—*Country Gentleman*.

GRAPES FOR COLD CLIMATES.

If we name the Concord, Moore's Early, Worden and Delaware, we have come to the end of those that can be invariably relied on. The Brighton is most excellent, but sometimes mildews and is an entire failure. The Eumelan is less shown than any other equally good grape; last year they were as good as out-door grapes could be. Of Roger's hybrids, the Massasoit and Wilder are among the best; the Lindley is less productive, but when in perfection is as good as any foreign grape. If the

Francis B. Hayes continues as good as last year, it will be unquestionably the best white grape and will carry the name of the president of the society down to future generations. The Prentiss is not grown as much as it should be. The Pocklington was not ripe when shown at our annual exhibition last year. For New England we must require earliness. The Concord fails to ripen once in four or five years. Dr. Fisher, one of the best cultivators, lost his crop twice in twelve years.—*Mass. Hort. Society's Discussions*.

THE AMAZON LILY.

(*Eucharis Amazonica*)

Of all the white flowers exhibited at our flower shows, none attract more general and deserved attention than this comparatively new plant. It is a native of Granada, belongs to the Amaryllis family, and requires, for winter forcing at least, hot-house treatment. The flowers, which are produced in trusses of from four to eight, are of rare beauty, chaste in form, pure white and deliciously fragrant, and—what gives additional value to the plant—may be produced at any season of the year. In fact, a dozen of plants properly managed will furnish flowers all the year round.

There are two ways of growing this plant. One, says a writer in *Garden-ing Illustrated*, is to pot them without division, the way in which large specimens are obtained; and the other is to divide frequently, growing the large bulbs in single pots. The latter plan answers best for room decoration. They may be grown well either in loam and leaf-mold, or in pure turfy peat. To bloom them freely they require a period of rest after a season of growth. This rest is obtained by moving the plants to a lower temperature, and, as they are evergreen, water must never be withheld so far as to cause the leaves

to suffer. In summer the plants may stand a time in the open air, and such plants throw up strong spikes after being placed in gentle heat again.

By following a system of alternate growing and resting periods, several crops of flowers may be obtained in one season; and by growing a sufficient number of plants to have relays always coming on in succession, plants in bloom may always be had. Bottom-heat, where available, is useful for pushing forward sluggish bloomers. They are very accommodating as to temperature, but during the time of growth they should have a night temperature of at least 60°. As they delight in moisture, the pots must be well drained, and if a little crushed charcoal and sand be mixed with the soil, to increase its porosity, it will be an advantage. Clear soot water should be given occasionally when growing freely or blooming.—*American Garden.*

VARIETY IN ORNAMENTAL PLANTING.

There are no good reasons for the prevailing lack of variety in the trees, shrubs, and other materials employed in making American homes attractive. Among the many hundreds of trees, shrubs, and flowers, that are hardy in nearly every part of this country, and which are now kept for sale in the leading nurseries, there is in the matter of flowers alone, for example, a wonderful variety. There is enough difference among these in their season of coming into bloom, to enable one to make a selection, that would afford a wealth of beauty every week in the North from April to October, and for some months longer at the South. Then the variety that is afforded by different forms, habits, and sizes of such plants, the colors and shapes of the leaves, branches, and the ornamental fruits of some, is very great, and adds to their beauty

and interest. The evergreen trees and shrubs must also be mentioned for the peculiar attractions they contribute throughout the entire year. Then there are the hardy climbers—a most useful and easily managed class of ornamental plants, and the aquatic, bog, and rock-flowering plants and ferns, all of which possess value for special uses. Besides the hardy kinds, possessing permanent value, there is an endless assortment of annual and perennial plants, raised each year from seeds, bulbs, cuttings, or in a green-house or window-garden, that are easily grown, and which serve to render the garden gay for months in the summer, with their characteristically bright flowers. Now all these things are so easily and cheaply procured in the nursery and seed establishments, that no one who has a plot of land surrounding the house should put off for any length of time, the setting out of a sufficient assortment to amply embellish the place throughout the entire year. To make the surroundings of one's home attractive, will pay in dollars and cents, besides contributing to the enjoyment. The writer but recently attended the appraisal of some ornamental trees, twelve years planted, that had to come away on account of the widening of a street. The amount allowed the owner as a remuneration for individual trees was as high as seventy-five dollars each. The same trees when planted perhaps cost one dollar each, and the labor of setting, say one-half as much more. It was their worth for shade and ornament that governed the price. There are few places where the presence or absence of fine trees and shrubs would not similarly effect their valuation if sold. If there are children, judicious investments in beautifying the surroundings, will afford invaluable returns in cultivating in them a love for and an interest in natural objects; inspiring in them a desire for the study of botany and

natural sciences, than which nothing is more pure and satisfying for young minds. There is much complaint of the inclination of the young to leave rural homes for town life. Nothing would be more potent to arrest this tendency, than to spend some money and time in rendering the home attractive by the means that have been suggested. Resolve to set out and properly attend to a suitable selection of trees, shrubs, and flowers. — E. A. LONG, in *American Agriculturist*.

GROWING CABBAGE.

To persons who grow only a few cabbages for private use, there is but little trouble in protecting the plants from the ravages of the worst of all cabbage pests—the maggot.

Among the many market gardeners around Detroit, who annually grow from five to twenty thousand each year, very little, if anything, is done to destroy them. So far as I know there is no remedy against the fly itself, or for the prevention of the eggs being laid, which is the time to destroy the insect. When in charge of the garden at the Agricultural College, I had set out about one hundred early cabbage plants, but was told that they would be destroyed by the maggot. Previous to that year, I had grown a great many cabbage for the Detroit market, and had lost a great many hundred plants every year by the maggot. This caused me to examine more closely the cause, and try such remedies as I thought would destroy the larvæ. By close observation for a few years, I found that the fly which was the cause of the trouble, made its appearance from the 10th to the 20th of May—sometimes later, according to lateness of the season—and that was the time to apply the remedies to destroy them. This I communicated to Prof. Cook of the College, and on the 11th of May of that year the professor

made an examination of the plants I had set out, and found a few flies had deposited their eggs, but no larvæ at that time developed enough to do any serious damage. Prof. Cook immediately furnished me with two remedies to be used according to his directions. I divided the row in three parts, using his two remedies on two parts, and a remedy of my own with which I had saved five thousand plants a few years before.

Bi-sulphuret of carbon, and sulphuric acid diluted with 12 parts of soft soap and water, were used on two-thirds, on the other third I used salt. All three remedies proved of great value, for every plant was saved and formed good heads. The mode of using them was as follows: Make a hole one inch deep one inch from the plant, and pour in a quarter of a teaspoonful of carbon, immediately filling up the hole; do the same with the diluted acid, only using a spoonful. Where salt was used I first scraped away the earth from the stem to the depth of half an inch, then dropped around the stem a thimbleful of salt, but did not cover.

Now the real secret of success is to know when and what to apply, and do it in time, for after the larvæ have grown to an eighth of an inch in length, and reach the roots, salt, carbon nor acid will save them. I have tried lifting and replanting, but with poor success, what plants were saved in that way made poor, stunted heads.

Where large quantities of early cabbage—for plants set out the middle of June in this vicinity are not attacked with the fly—are grown, most of them might be saved by hoeing them twice, first about the middle of May, the second hoeing a week or ten days later, each time drawing the earth from the plant with the hoe, and be sure and leave no earth adhering to the stem of the plant above where the hoe has

drawn the soil away. By that means the larvæ is drawn from the plant, and if only two inches away, when hatched, unless they have something to feed on immediately, they will not have vitality enough to reach the plants.—C. A. LEE, in *Michigan Farmer*.

THE WHITE LILY.

By common consent the white lily is one of the most universally beloved of all flowers. Indeed, a large number of plant lovers would not hesitate to place it above the rose—perhaps the only flower which could dispute its sovereignty—as the queen of flowers. In the rude old times it was largely grown, and it has always played an important part both in an artistic and in a symbolical sense. The Rev. Canon Ellacombe, in "Plant Lore of Shakespeare" sums up the merits of the white lily in a few eloquent sentences. He says, "It was certainly largely grown in Europe in the Middle Ages, and was universally acknowledged by artists, sculptors and architects as the emblem of female elegance and purity, and none of us would dispute its claim to such a position. There is no other lily which can surpass it when well grown, in stateliness and elegance, with flowers of the purest white and most graceful shape, and sweet-scented, and crowning the top of the long, leafy stem with such a coronal as no other plant can show." But it is not intended here to discourse on the rare beauties and excellences of this lily, as a volume would not suffice to give even a fair selection of abstracts that might be made concerning it from ancient and modern writers. Since the bedding-out craze has to a very considerable extent abated the gardening public has returned to a better sense of the fitness of things, and the white lily has been restored to a position which it should never even have partially lost.—*The Garden*.

BOOK NOTICES.

RURAL RECORD, a journal for the farm, plantation and fireside, published at Chattanooga, Tennessee, at \$1.00 a year.

RANDOM NOTES ON NATURAL HISTORY, is a monthly of twelve pages, including title page and advertisements, devoted to Zoology, Mineralogy and Botany; published by Southwick & Jencks, Providence, Rhode Island, at 50 cents a year.

REPORT of the Fruit Growers' Association of Nova Scotia, 1881, in which is a paper by the Rev. Robert Burnet on apple growing in Nova Scotia, in relation to the money question, from which it appears that he carries to his new home his interest in fruit culture. A paper on the apple trade with Great Britain, page 29, states that a company has been started in Annapolis for the purpose of exporting apples to Great Britain.

THE SCHOOL SUPPLEMENT for June contains interesting notes of the life of Thomas Carlyle and George Eliot, with likeness of each. It is natural that the writer of such notices should fall into the popular channel of indiscriminating praise, but for ourselves we object that the writings of George Eliot are on the whole, not to be placed in the hands of the young as fit models of thought or diction.

PROCEEDINGS OF THE AMERICAN POMOLOGICAL SOCIETY at its nineteenth session, held in Philadelphia, Sept. 12th, 14th, 1883, with an excellent portrait of its venerable president, the Hon. M. P. Wilder. This document, of some 150 pages, is filled with matter of interest to every intelligent horticulturist. The paper by Prof. J. L. Budd, on fruits for the North West, will be worthy of the attention of planters in Manitoba and Quebec.

OUR OLD APPLE TREE.

What ails this weary heart o' mine
What brings the tear draps to my ee?
'Tis the memory o' Auld lang syne
And my bairnies bonny apple tree.

I had but one in our kail yard
The queen o' all her kind was she,
Planted by Glen-Gowan's Laird
Lang e'er the birth o' John or me.

It had nae braw newfangled name
As "Bietigheimer" or sic like,
But was a tree o' guidly fame
An proudly nodded o'er the dyke.

(The diel ne'r sowed a finer apple
To gar our mother fa' frae grace.
An leave its mark on Adam's thrapple
And a' the Sons o' Adam's race).

Oft do the tears come welling o'er
My furrowed cheeks, while in my sleep
I see my bairnies, as of yore
Happy darlings on that seat.

Under the dear auld apple tree,
Where my guid man, on Sabbath days
Forgether'd wi the weans an' me,
To tell o' wisdom's pleasant ways.

"Now they are women grown, an' men."
Some gae'd east, some wander'd west,
An' some below the mools were lain
Wi my guid man in peaceful rest.

The years o' Pilgrimage gae'en me
Is dawning on three score an' ten,
Still 'neath that bonnie apple tree
I see my bairnies young again!

GRANDMA.

THE SHAMROCKS.

"Here gran'ma here's a present, it has come a distance,
too,
'Tis a little pot of shamrocks and it comes addressed
to you;
Yes, all the way from Ireland, and the card here men-
tions more—
They were gathered at your birthplace on the banks of
Avonmore."

"From Ireland! do you tell me? O, darling, is it
true?
Acushla, let me feel them—and you say 'twas there
they grew?
Why, I can scarce believe it; is it really what you say?
From my birthplace in old Ireland! poor old Ireland
far away.

"I'm old and stiff and feeble, and in darkness, God be
praised,
Yet, Katie, how it starts me, how my poor old heart
is raised,
To feel it here so near me, the soil that gave me birth,
The very clay of Ireland; let me kiss the holy earth.

"These blessed little shamrocks! I can't see them,
yet I know
They bring me back the eyesight of the happy long
ago!
And gleaming through the darkness comes the vision
that I love,
The dark green fields of Ireland and the sunny sky
above.

"I see, as I once saw them, when a girl like you I
stood
Amid the furze and heather; there's the chapel, hill
and wood;
There's the abbey clad with ivy, and the river's wind-
ing shore,
And the boys and girls all playing on the banks of
Avonmore.

"God bless the little shamrocks then, for bringing
back the scene,
The beauty of the sunshine, the brightness of the
green;
Thro' long, long years to see it, and see it all so plain,
Ah, child, I'm sure you're smiling, but I'm feeling
young again.

"And then I'm truly thankful for the blessings that
God's hand
Has brought around me, Katie, in this great and happy
land.
I can't forget the old home, 'midst the comforts of the
new,
My heart is three parts buried where those little sham-
rocks grew."

BUTTER-MILK AND WATER AS AN INSEC-
TICIDE.—To get rid of the cabbage-worm
I have successfully used butter milk and
water the last two years—about one-third
of the former to two-thirds of the latter.
My cabbages were also badly infested with
lice, but two applications freed them com-
pletely. The brown and yellow striped
bug, the great pest to cucumber and water-
melon vines, will do no damage if the
vines are occasionally sprinkled with the
mixture; but I think they require sprink-
ling oftener and with a stronger solution
of butter-milk than the cabbage.—W. C.
C. *Rural New Yorker*.

THE PEA-BUG.—Mr. T. Coryell, of
Whitby, Ont., grows six hundred acres of
peas, which he chiefly sells to American
seedsmen. For the pea-bug coal oil is the
specific, a gallon and a half for sixty
bushels. The seed to be purged of bugs
is spread in the bottom of a bin to the depth
of a few inches. Then with a fine water-
ing can, the spout of which is flattened
and perforated on the under side with fine
holes, the oil is applied. Very little does
for a depth of three inches; the rake soon
covers all the peas with a coating of oil.
Then a second layer is put on and simi-
larly treated. Mr. C. says that his experi-
ments show that not a bug survives the
sixth day, and the vitality of the peas is
not the least impaired by the oil.