

bark ten times louder for the delay than they now do, and every one knows the barking is loud enough as it is. This I can tell to my cost, for I am obliged to buy every inch of Rose I grow, on account of my relation to Manetti, and though I went in for John Hopper as early as the middle of December, I could not obtain it for love or money; but I was lucky enough to procure Beauty of Waltham on its own roots.

All the nurserymen graft the new Roses as fast as they can make them grow the first year, and many, if not most of them, grow all their best Roses from cuttings both the first year and until they have a full stock of them; but the real new Roses are difficult to be had on their own roots the first season, and so I lost my chance of John Hopper for another year.

It happens sometimes that when one is cutting-up a new Rose for grafts there are some very small side shoots which are too slender for grafts; but being as good as so much gold they are struck as cuttings, and are soon as good as the grafted plants, and that was the luck by which I was enabled to procure Beauty of Waltham and some others of the same feather. Well, budding Roses is one of the easiest operations to learn; but grafting them is an easier process and a much safer way to make every bud tell for a plant; so there are two best ways of doing this part of the business.

The best way to bud a Rose in summer or winter is not to extract the bark and bud from the shield of soft sappy wood as some do, but to take the thinnest slice of the sapwood along with the bark and bud; then if the edge of the bark does not take at once, the soft woody slice behind the bud is sure to stick to the soft body of the stock and amalgamate with it for the flow of sap into the new bud, and it is on that same principle that a grafted Rose is more safe than a bud put in on the ordinary plan of budding. Grafting Roses is not like grafting Apples and Pears, it is more of an intermediate process between budding and common grafting; the Rose-grafters, merely take a thicker slice of wood behind the bud than is done in budding—say a thicker and a little longer slice, and one bud only; then the stock needs only a like slice to be cut out of it, and the new bud and slice to be nicely fitted to the part without tonguing or wedging: nothing but to tie on the slice. Supposing you took a slice of bark and wood off a branch, and cut across the bottom to take it out fair, would it not be easy to stick on the same slice again, and tie it round with some soft binding? Of course it would; nothing was ever yet easier to learn in this world.

Rose-grafting is quite as easy, only you take the slice from a different branch, which is all the difference. But clever practitioners do it still easier. They cut off the head of the Rose stock, and leave only a little stump out of the pot; from the top of this stump they slice off about $1\frac{1}{2}$ inch down, and make a cut across the bottom of the slice which leaves a notch there, and on that notch they rest or fit the bottom end of the graft slice, then cut the top end of the slice square with the top of the stock, tie, and clay; sometimes they do not clay at all, but it is more safe for ordinary people to put on a little clay for all kinds of grafts.

The best way to clay a Rose graft and all pot grafts is, to put a lump of clay in a pot saucer and as much water as will make it into a soft paste, like very thick paint, and with a little brush paint the stock and graft all round, then dust it over with sand, which will keep it from cracking, and all is finished. Gardeners make their own brushes for this work, a bit of soft matting tied on the end of a stick like a pen-holder is all they require. When you hear of people grafting Roses in-doors, the plan is still more easy. There is no pot or mould, only so many Rose stocks lifted out of the ground on purpose, and any of the ways of grafting will do. I am going to graft a great many Roses this next month merely for amusement, and to try two or three ways, the one against the other to find out which is the easiest and most sure. Most of my stocks will be six-inch lengths of any Rose roots that I can lay hold of, for, ultimately, I shall induce the grafts to root on their own account. D. BEATON.

PEAS—GREENHOUSES.

I MUST this week ask to be a seeker of information instead of being, as usual, in my small way, a giver of such; although, probably, the result of my questionings may be useful to other folks besides myself. In one of the reviews of the Great Exhibition just closed the reviewer remarked—there must be surely

some great mist over our eyes about diamonds, that fabulous as was their value it was not warranted by their appearance, that to his mind the imitations of the Koh-i-noor in cut glass were quite as brilliant, and that he questioned very much whether if one of them had been placed in lieu of the veritable gem half the crowd that pressed in to see it would have found it out. Of course this was a most heretical declaration, but I only mention it just to shelter behind while I make one as bad—namely, that there is, to my mind, as great an illusion on the subject of Peas. We have a wonderful variety—Peas as large as bullets, and as sweet as if they were sugared; Peas that grow 6 and 7 feet high, and others that only grow one and a half. But I must—turn me out of your company, oh! ye gourmets—express my entire abhorrence of the whole race of Marrows. I do not think there are any Peas that equal those we have in the first part of the season. Daniel O'Rourke, Sangster's No. 1, &c., I can eat and enjoy them; but when they are over, and these great hulking grenadiers come in, my Pea-eating diminishes in an inverse ratio, and I look forward to the coming-in of the French Bean as a positive relief. Now, what I want to know is, and will some one who does not blush for my want of taste inform me, whether it is not possible to have such Peas through the season, and, if so, what would be the conditions under which one might expect to have them? All through the summer at Paris you have the *petit pois*; and, I suppose, our Victorias, Ne Plus Ultras, &c., would be considered as only fit for the strong stomach of John Bull. As one must be now looking out for seeds for the year, I should be really glad of any information on this subject.

Then, again, I want a little advice on the subject of a greenhouse. My present one is all coming to pieces, and I want to put-up a new one in its place. It is a lean-to, and heated by a flue. Of course I want to put it up as cheaply as I can, and for this reason purpose having the top a fixture, no sashes, but simply bars glazed. I have in my mind the size I want, and most of the details; but I should be glad if some friend to small gardeners would say what is the best plan of ventilating. The house will be about 16 feet long and 10 wide, in a corner, so that the wall forms one end of it. It faces about south-west, so that it receives a good proportion of sun. It needs good ventilation, and that is one point I want information on. Then, with regard to glazing, I remember seeing, some two or three years ago, at the nursery of Mr. Wm. Paul a new system, which seemed to me much more economical than the ordinary one. The glass was laid on putty, and screwed into its place with screws on indiarubber bands. Will he kindly give his experience of the matter, and say how it answers, and whether frost affects it or not, and how it is to be done? I dare say such information is to be had, and has been given before; but then every year makes such changes and introduces so many improvements, that it is just possible one might reap the benefit of some more recent experience.—D., Deal.

CROSSING STRAWBERRIES.

I HAD intended, on seeing in my November part of your Journal the question put by Mr. Darwin about crossing Strawberries, to have replied, mentioning an experiment I had made in that way, but having occasion to go to the country for a time, I postponed doing so. It had gone out of my head till after my return, when I was again reminded of it by seeing two answers to Mr. Darwin's letter in the December part of your Journal. These answers do not exactly meet the question, neither does mine precisely, as I am now to give it. But, as the subject is one of high interest and referring to a tribe of plants among which I have been experimenting for many years, any item of information, however small, may not be without its use to some of your other readers, if it should be valueless, as I fear it may, to Mr. Darwin.

Having many years ago received from my friend Dr. Jameson, of Ecuador, seeds of a large-fruited Strawberry, cultivated at Quito as an importation from Chili, I sowed them and raised a very large-berried brood, but with fruit so insipid that I regarded them as utterly worthless. Having at the same time a very fine but intractable kind of Strawberry in my garden, called "Myatt's Pine," which after a time ceased to bear fruit, I be-thought myself of trying to infuse its delicious aroma into its robust congener from Chili; and I was induced to this the more from observing one valuable property in this latter species

—namely, its stout fruitstalk—so I made the cross and have now cultivated the progeny for two or three years. The insipidity of the Chilian parent is removed, and a considerable share of the Pine flavour communicated. The fruit-stems, too, are stronger than in the Pine. Plants are at Mr. Darwin's service if he wish for them. They are a good deal alike, yet there is one of a peculiar habit, very dwarf, and throwing off few or no runners, the fruit of which is globose, not angular, as is the case with most others of the batch.

It may not be uninteresting to Mr. Darwin and your general readers, to mention a result in crossing which I have not heard of being before detected.

In the spring of last year I made several crosses among Rhododendrons with the pollen of *R. Nuttalli*, the largest-flowered and noblest of its race. Observing the unusual size of the seed-pods of this cross, I took measurements to-day of their dimensions, and beg now to note the respective measurements of these pods as borne by *R. Dalhousiæ*. The largest pod I can find of *R. Dalhousiæ*, not crossed, is $1\frac{1}{4}$ inch long by $1\frac{1}{2}$ in girth.

Of three pods of *R. Dalhousiæ* crossed with *R. Nuttalli*, each is $1\frac{3}{4}$ inch long by 2 inches in girth.

One pod of *R. Dalhousiæ* crossed with *R. longifolium* (rather a robust species, but not nearly so robust as *R. Nuttalli*), measures $1\frac{1}{2}$ inch long by $1\frac{3}{4}$ in girth.

The seeds of the above crossed with *R. Nuttalli*, one of the pods of which, pulled some days ago and opened to-day, appear to be as abundant as they are large, those of one pod nearly half filling an ordinary-sized teaspoon.

Has this result of enlarged fruit or seed-vessels ensuing from crosses effected by larger species than the seed-bearer, been before observed? With me it is too marked to be a matter of chance.—ISAAC ANDERSON-HENRY, *Hay Lodge, Trinity, Edinburgh.*

[Mr. Anderson-Henry enclosed a leaf of the cross-bred Strawberry. It is very peculiar in form, the leaflets being compressedly-circular, or, as botanists term it, oblate-orbicular.—EDS. J. OF H.]

CELERY CULTURE.

As I have been more successful than "HUDDERSFIELD," I will detail my mode of growing Celery.

I sow in pans about the middle of March, and place them in a little heat, close to the glass. When ready for pricking-off, I transfer the plants to a frame in which Asparagus has been forced, and in which the heat is almost exhausted. When there for three or four days, I give the bed a slight watering, if required, and then prick-out the plants and water, keep them close for two or three days, and shade if requisite. When they take hold and commence growing I give plenty of air, hardening them by degrees, and ultimately removing the sashes altogether.

Watch for a favourable opportunity to plant out. If the sun should break out shade with some spruce branches. I never allow the plants to receive a check. That I consider is the most essential point in Celery-growing.

For my principal crop I grow from twelve to fourteen hundred, and the man that takes them up for the kitchen tells me that he has not met with half a dozen bolted plants up to this time, and

I an answer for the Celery being as crisp and solid as any one could wish for. It was not so large as it should have been, but that I attribute to the maggot or blotch on the leaf, which was very bad, and equally bad on the five sorts that I grew. I had some quicklime and soot dusted on the leaves, but I was too late in doing it, as the mischief had been done; but it prevented it from becoming any worse.

I plant single rows in a trench, the after-treatment is similar to that of "HUDDERSFIELD'S."

The sorts that I have grown this year are—Cole's Superb Red Solid, Cole's Crystal White, Seymour's Superb White Solid, Bossam's Pink, and Incomparable Dwarf White. The last is, indeed, incomparable, for none of the other sorts can compare with it for crispness and solidness. It is small, but we do not want great clumsy stalks for a gentleman's table. Bossam's Pink comes next to it for quality.—A. S., *Staffordshire.*

I NOTICE in your Journal of this last season many complaints about a failure in the Celery crop. Now, I do not know how it is, except that Ireland possesses a better climate, &c., for growing that favourite vegetable; but this I know, that I never had a better crop, and my man makes no fuss about growing it. The

way he does is as follows:—During the season all the droppings of the cow-house which pass through the grating or gripe are wheeled into the garden, and accumulated there ready to be put in the trenches, when the Celery is about to be planted, in a layer of about 6 inches thick, and mixed a little with the soil.

The seed is sown on a slight hotbed amongst late Cauliflowers about the 1st of March, and after the young plants are well up the lights are taken off, and the plants allowed to spindle-up to about 6 inches. I do not think pricking-out is of much service, as the taller the plants are the sooner they may have their first moulding; and the earlier they are planted and moulded the better Celery is obtained. I make about three mouldings or earthings do. I do not dribble, dribble-up a little now and then, but give a regular good moulding—say of 4 or 5 inches at once. I pull the plants out of the seed-bed without any ball, just keeping what soil remains to the roots, and in this way the man by a glance can see whether any grub or canker worm is on the roots.

I always sow the old kinds, Cole's Crystal White, and Cole's Superb Red, and have no cause to be dissatisfied with them. I have 14 inches of good, clear, solid stalk, 2 inches in circumference, and entirely devoid of stringiness or soft heart. I always choose the stiffest part of the garden for growing Celery in. I do not use either liquid manure or soapsuds, as we here have always plenty of Nature's liquid falling upon the plants.—HIBERNICUS.

DISEASE IN CUCUMBERS.

THE Cucumbers were planted out in pits, heated by hot water, last year, before I came here, and the trellises were nicely covered, the plants looking healthy, moderately strong, and showing abundance of fruit. My predecessor told me how they would go, and well I know it. I could scarcely find one out of fifty from which I could manage to take a piece out that was fit to eat. I have tried a great many sorts, but they all go the same here. They swell till they are about 5 inches long, then they curl up like a ram's horn, and a sort of gum issues from all parts of the fruit. If we let them hang long, they will drop a bit at a time, and smell like a rotten egg. The soil we have used is good fibrous loam, a little decomposed dung, and leaf mould, &c. I keep them neither too wet nor too dry at the roots, and I use the syringe very sparingly overhead, but sprinkle water over the floor and pipes when shutting-up, if open. I generally have the house at 70° by fire heat in the day, and from 60° to 65° by night. I find the Cucumbers just the same in spring and summer on dung-beds. If you know of any preventive I should feel obliged.—A CONSTANT READER.

[Yours is one of those inveterate cases of Cucumber disease which seem to have hitherto baffled all attempts to effect a cure, or suggest a preventive. We have, however, submitted the matter to one of our regular correspondents, who writes us as follows:—

"I am sorry to hear of the Cucumber disease appearing in your correspondent's winter fruit, and I only wish I could with certainty suggest a cure. This, unfortunately, I cannot undertake to do, as I have had no experience of the disease since 1850, when I had it amongst some winter fruit exactly as 'A CONSTANT READER' complains of, and, subsequently, crop after crop of frame fruit became likewise affected, and even those on ridges were similarly attacked, though not so severely, perhaps, as those under glass; but the Cucumber crop of that year might be safely pronounced a failure.

"Of course, the season did not pass over without my trying several experiments, with a view to arrest the evil, but they were so far unsatisfactory that I believe no single plant produced fruit entirely free from disease. Nevertheless, some were more diseased than others, and I was led to the conclusion, that although the disease is a malappropriation of the juices of the plant, which instead of producing fruit, furnished a disgusting-looking glutinous tumour almost at every spine, yet I could not but believe that the disease was also in many respects contagious or infectious; for although I tried plants on soils as widely different from each other as sand from clay, the disease still existed, differing, however, in degree. This and other reasons led me not to attempt Cucumbers in winter the ensuing season, but to try growing them the following spring and summer in a compost the same as that in which they seemed least affected with disease the preceding season. Accordingly