

thickness, it can be got in large quantities for less than the best inch fence boards. The ends can be bevelled at \$1 a thousand feet or less. I own saw mills, and am quite aware of the cost of each kind, and also the cost of sawing. Hemlock 2 by 6 would probably be really better to use than pine, and quite as cheap, and can be obtained where pine cannot be had. The hauling in all cases is the same, but the morticing posts can be done at the barn in wet weather, if proper provision be made beforehand.

C.

Good and Bad Neighbours in the Field.

An interesting article has recently appeared from the pen of Cuthbert Johnson, on the reciprocal influence of plants grown in proximity, with especial reference to the advantage of growing Swede turnips and mangolds together. The following is an abridgement of the article :

It was an early observation of the cultivators of the soil that there are good and bad neighbours even in the vegetable world. The Roman farmers noticed the vigour with which the vine vegetated when planted near to the elm. They were wont to call that tree the husband of the vine, and it has been supposed that the elm was, in fact, first introduced into England by the then masters of our islands when they made their vineyards.

They were all well aware, although there is a "frindship" between some plants, there is "enmity" between others. Cato, one of the very early Roman authors, noticed that the vine is at "enmity" with the cabbage. And these facts were observed by more than one author of the sixteenth century.

Modern cultivators have noticed other acts of a similar kind, as that the acacia tree is a bad neighbour; the gardener makes the same remark as to the cabbage tribe; the agriculturist is well aware how well the corn flower (*Centaurea cyanus*) flourishes amid his cereal crops, and in no other place, and how the poppy almost always attends his crops of peas. He further notices how very vigorously the plants of wheat and rye flourish amid his tares.

These observations have, within the last year or two, led in a few places to some very practical and successful trials with our root crops. These experiments are hardly so well known to the agriculturists of this country as is desirable. They are not only valuable in themselves, but they appear to open a field of research, which in all probability will lead to other important results. I allude to the growth together, in the same rows, of the Swede turnip, and the mangold. We are aware of the difficulty with which for some time back the Swede has been cultivated in many portions of Great Britain, and this to such an extent that in considerable districts its cultivation has been abandoned. It is, therefore, most important that it has been found again to flourish on many soils when sown in conjunction with the mangold, and this not only in the best turnip

soils, but on the poor exhausted gravels of Bedfordshire—a county where the rainfall certainly does not aid the dryness of the soil, for the average annual fall of rain is there the least of all the English counties, being only about 20 inches—(it was only about 15 inches in 1870.) The mode of cultivation is thus described by Mr. John Purser, of Willington, near Bedford:—"Drill early in April four pounds of mangolds per acre, and another drill follows running one hole only, which is about a pint of Swedes, in the same rows. When we set them out we leave as nearly as we can three, some only two, mangolds to one turnip. The Swedes grow very large, and very sound and healthy. Before we adopted this plan our land refused for years to grow a turnip at all. We put them into pits or clamps by the second week in October, and they came out in the spring as sound and healthy as the mangolds. Very many other farmers near here are doing the same, and with equal success. We certainly grow a greater weight per acre than we ever have done with turnips only."

It being then established that the growth of certain plants is accelerated by having particular neighbours, we naturally inquire into the reason for this interesting fact. It is probable that it arises from some emanation either from the roots or the leaves of a plant which is grateful to its neighbour.

The writer of the article, after a lengthened examination of the subject, draws the following conclusion:—"If, then, the chemical composition of the Swede turnip and the mangold is so similar—if they appear to absorb the same constituents from the soil, or the atmosphere—we are naturally inclined to the opinion that mangold emits from its roots or its leaves something that is peculiarly grateful to the Swede. But whatever may be our ignorance of the true explanation of the fact, this want of knowledge does not diminish the importance of the discovery. And, moreover, the advantage of planting as immediate neighbours the mangold and the Swede will, in all very reasonable certainty, be derived from cultivating other plants in close juxta position. For instance, we are all aware that, like the Swede turnip, red clover, formerly so valuable in our rotations, is in many districts grown with increasing difficulty, or its cultivation only attempted at long intervals. Now, is there not a reasonable hope that, like the Swede turnip, its growth may be restored by growing it in conjunction with some other plant? Has any reader remarked a hint from dame Nature to this purpose? Is not the potato disease to be got rid of by planting the sets with some other roots for its neighbour? Here again we are taking only another reading from dame Nature's book. She does not shower the seeds of any one, but of many grasses over our soils, and she crowds together the trees of our primeval forests of various kinds, only reducing them to a single variety or two where the mean temperature becomes so low that only the Scotch fir or the birch can exist.

A recent publication of Mr. W. Patterson, of Dundee, Scotland, of a series of experiments with potatoes, carried on through many years, gives, as results, deterioration in size of tuber, and greater liability to disease when the same seed is grown a second season on the same ground.

Oiled Paper Sashes.

Make as many frames as you require to cover your beds, of strips of inch and a quarter pine; have the strips inch and three quarters wide, and if you are not carpenter enough to put them together with mortice and tenon at the corners, halve them together, using wrought nails which will go through and just clench. The frames should be six feet long and three wide, with a piece of the same as the outside put across the middle of the frame. This, if not morticed and tenoned together, had better be merely fitted in between the sides, and nailed with long out nails; its use is more to keep the frames apart than anything else. Now get good stout twine; put in tacks all round the frame, six inches apart; wind the twine round the tacks from side to side, until the frame is full that way; then go from tack to tack, from end to end, but as you pass the ball of twine down across the first twines, take a turn each time round the cross strings you will thus have a netting of six inches square over the whole. This will be quite strong enough, but you may put the strings closer if you don't think it sufficient. When you have finished, make fast the twine and drive in all the tacks level with the surface of the frame. Get some strong white paper; old newspapers will do well if the paper is thick; damp them a little (only just damp); paste them together, and stick them over the frame, well pasting the wood frames first with well boiled thick flour paste; be sure the paste is thick and well boiled. Let the paper come all round the edges of the frames; then put them by to dry. When dry, if the work has been well done, the paper will be smooth and as tight as a drum-head. Don't damp the paper too much, in the first place, or it will crack and break in the drying. Now, get some well boiled Linseed oil, get some dryers put into it, and dissolved in it; then with a paint brush go over the whole frames, wood, paper, string and all; give them a good coat on both sides, and put the frames by to dry; they will be dry in a day or two and will be as serviceable as the best glass while they last, which with care will be from two to three years, and they can be fresh covered or patched at any time. Of course dogs and poultry must be kept off them, and they must be carefully used, but for service they are really better than glass, as the plants grown under them never scald with the sun. If thought better, the strings may be put on both sides of the paper, but it is scarcely necessary.

With these frames, on beds prepared as before mentioned, everything from a turnip plant to a melon can be raised in perfection; and after the beds are done with for turnips, melons and cucumbers can be raised in any quantity, with the advantage that as the cold weather comes on in the fall, if the melons are not fully ripe, they may be covered, and thus the very latest be brought to full perfection. These sashes answer as well for hot-beds as for the cold frames. As they are very light, they must be properly weighted in windy weather or exposed situations.

VECTIS.