

bad to grow any grain crop, that is, to let them grow exactly as "C" recommends, to the middle of June, and then either mow or plough them in. Then let the ground be well harrowed, or use the cultivator, or both; and then sow the ground with buckwheat. This can all be attended to after all the root crops are sown. The ground being sown with buckwheat, the farmer is free from any further tax on his time during the busy season. After the crop is removed, and without delay, run over the whole with the cultivator till every weed or thistle (should there be any) is cut off. This will excite all the seed that is shelled out to grow, and then it will not be troublesome the next year. Late in the fall the ground may be deeply ploughed, to be sown with barley and seeded down with clover in the spring. Use the cultivator in the spring, but not the plough, and then the same ground will not be brought again to the surface. The serious tax on the farmer's time and pocket in hiving out the thistles from his young grain crops might be overcome in the following manner. Two neighbouring farmers had, one a field of spring wheat, the other, oats. The ground was ploughed in the fall, and both fields thoroughly infested with thistles. It was in 1866, when the Thistle Act came into operation, and there was danger of being fined. The farmer with the wheat, just before it came in ear, took a sword, in the form of an old light scythe, cutting a piece of the blade off at the butt end and straightening the same for a handle, then walking through his wheat, working right and left, he cleared a space of some ten or twelve feet. The thistles at this time were just a head and shoulders above the grain, so that he did not injure his crop at all. A few days afterwards, the wheat having grown, there was not one thistle to be seen in the field. They were fairly checkmated; but being cut off too high, none of them were killed. The farmer with his oats adopted the following plan, which was a compulsory one. When his thistles were half a yard high, his oats were only about half as much; and seeing that if something was not done he would have a crop of thistles at the expense of his oats, he had them mowed as a crop, cutting them off just at the top of his oats and about half way down the stalk of the thistle. Now, speaking in general terms, these thistles all died, they never rallied again. Either, or both, of these plans might be useful in the forthcoming season; for to spud them all out is nearly impossible, as I have seen them so thick that I could not do an acre in a week by spudding.

In conclusion, I would once more refer to the system proposed by "Vectis" and "C" in contrast with the panacea, or clover system, for the entire subjugation of that pest, the Canada Thistle, which, "Vectis" says, is becoming alarming even on the farms of some of the best farmers. After proposing his infallible remedy—five ploughings—at the beginning of the next paragraph (page 167) are these strange words, "It is very sel-

dom that farmers either can or will make a good fallow." Now, Sir, here is a desperate disease, known and felt by thousands, and here is the one and only remedy put forth by "Vectis," and tantalizing to a degree it must be to be told that it can do them no good, as they cannot apply it. "Or if you could, we think it would pay you." There is one point the writers both agree in, that if their systems are acted on, it must be both hot and dry. The next thing the country is entitled to know from these writers is, what plan have they to propose to meet the exigency of wet and cold, as their work is but just half done.

For the clover system I ask fair play, a foul season, a foul field, and no favour.

PUBLICOLA.

NOTE BY EDITOR.—Without attempting here to discuss this important question or pass an opinion, we cannot forbear remarking that the smothering system of "Publicola" may undoubtedly clean a field of one crop of the thistle, but what becomes of the countless myriads of seeds with which the soil is filled? What is to hinder their germinating and renewing all the trouble as soon as the clover field is ploughed under and another, say a grain crop, sown? The great benefit of a fallow and repeated stirring of the ground is that fresh seeds each time are started into life and the plants killed by the next operation before they have matured, and thus the source of the mischief—the seed of the evil—is combated and exterminated.

Grafting Potatoes.

The potato grafting question, says our English cotemporary, the *Agricultural Gazette*, is progressing. "It has passed through the stage of assertion, it has had to bear the brunt of ridicule, (this stage is probably not yet complete), and now it is passing through the examination period. By and by, if after due examination, it shall be accepted, we shall have people crying out that they knew all about it years ago, that it is not new, that their grandfathers practised it, and so on."

When a standard periodical, like the *Agricultural Gazette*, speaks of a fact in this manner, we may be sure that it has reliable grounds to go on, and that the question it treats of is neither a myth, nor a humbug; and the subject may very properly be again considered in these columns.

The intention of the operation is to cause a variation, a hybridization between two kinds of potatoes, by compelling the mixture of the juices and sap of two kinds, and thus to alter the nature of the root, to sink a bad quality and bring forth a good one, and even by such a mixture to produce an absolutely new variety; for the grafting a potato, unlike the grafting of an ordinary tree scion on a tree or woody stock, does not produce a continuance of the branches and body of one kind of tree, on the roots of another, but so mixes and amalgamates the sap that the produce is a joint variety, which is capable of

continuing its kind by the future planting of the so produced tubers.

The mode of conducting the operation we reproduce from the same authority, somewhat shortened, however. Take any two sound potatoes of different varieties, whose good qualities you wish to retain, cut out all the eyes of one of them entirely, with a common pocket knife; then cut out a piece of the potato in the form of a wedge, and substitute for the bit so removed, a piece having a good eye or two, nicely sprouted, about half an inch long; then tie firmly together with a piece of bast matted, or string, having first run a couple of ladies' hair-pins clear through both potatoes. These hair-pins will prevent the tie from slipping off the potatoes, as well as assist in holding both parts together. The fit must be a good one, and the bark or rind of each must meet as in any other mode of grafting. The operation must be performed quickly, and the grafted set must be planted as soon as possible, as the sap would dry up if exposed for any length of time to the air. The trench should be opened and manured ready to receive the grafted tubers, and they should be placed therein and covered up quickly with the soil. Rounds may be grafted with Kidneys, or vice versa, or Rounds may be grafted one on the other. Let it be perfectly understood that not every one can graft potatoes successfully, and because you fail don't blame the system. The operation should be performed by a person who thoroughly understands grafting fruit trees, then there is a chance of success; but even he may fail.

Another system is to take two potato plants growing close together, of different kinds; when the plants are well sprouted, remove the earth, and take care that you have only a single stem from each potato; bring the stems close together, graft the stems by inarching, binding the stems together with a soft elastic bandage, and covering the bandage with wet clay, or grafting wax spread on cloth, so as it may be removed when the stems have united. The result (if the operation is successful) is, that the tubers on each plant will show a great variation from each other, and also a great variation from the original kind; and as these variations, in the present state of knowledge on the subject, will be entirely chance work, you have to select from the produce, and try the tubers the second year, before the benefits, or otherwise, can be ascertained.

Another method is to take a large quill, cut it off square, and with the edges of it force it into the body of the potato at the eye, in such a manner as to withdraw the eye and a small portion of the tuber. Then make a similar hole over the eye of another tuber, withdraw the piece, and substitute the abstracted eyes, the one for the other, taking especial care that the rind of each eye fits the rind of the tuber, and makes a nice even joint. Then with a knife, or other instrument, cut away all the eyes from the rest of the tuber, leaving the grafted eyes, of course,