

duction of two distinct species, from one root, is, a priore, equally so.

Wherever chess or darnel abounds among wheat, (let farmers look sharp to it, and profit by the hint!) it will almost invariably be found that the latter is thin on the ground, from one of two causes; either too great sparing of seed, or the plants being thrown out by frost in spring, after an open winter, or otherwise; while the chess which is a coarser and hardier plant, has stood the frost without suffering damage. The seed sown may not have been well cleaned, or chess may be an indigenous plant in the soil, or in some soils, and thus spring up spontaneously, and flourish on the spots unoccupied by the wheat; as do the wild mustard or yellow weed, wild poppy, and other weeds in some countries, which are not sown with the wheat. Experienced farmers are well aware that nature suffers no part of the soil to remain idle, and if a sufficient supply of cultivated plants are not on the ground, she immediately asserts this prerogative, and fills up the vacancies with chess or other noxious weeds, whose seeds are either naturally in the soil, or conveyed there by one means or another. Let due attention therefore be paid, in the first place, to having a sufficiency of wheat plants, for if they are thick enough, such weeds will thereby be kept down or smothered.

If chess be, in all cases, an indigenous plant, which I do not believe, it will be difficult to eradicate, on account of its resemblance to wheat, till they come into ear. Then, however, every effort ought to be made, by pulling it up, or cutting off the ears of the chess with a pair of scissors, or otherwise. Let not the farmer be afraid that his wheat will be trampled down and damaged by going through himself, or by careful workers, overlooked by himself. It is an old saying, "that the tread of the Farmer hurts not the crop," and though the meaning of that saying evidently is, the more he goes among, and examines his crops, the better is he acquainted with their condition and prepared to remedy any deficiency (or by it may be meant, to inculcate the benefit of industry which the Farmer shews who sticks to his occupation, and *has an eye to every thing*.) I think it will be equally applicable in this case. I do not urge on a Canadian Farmer the necessity of going over all his crop in this way,—though that is done in real earnest, (labor being cheap,) by every East Lothian and many

other Scottish Farmers, more than once in the season,—especially as regards cockle, (which they denominate papple); but our Canadian Farmer can allot an acre or two of his wheat, which he knows to be of a good kind, and to be already pretty free from weeds; and as soon as he can distinguish the chess or other intruders from the wheat, let him in earnest set to work with his family or labourers, and carefully pull out every weed he can observe. Let the produce, of this acre be again well examined in cutting or binding, in the shock, and when putting into the barn, but especially when opening out the sheaf for the mill. On all these opportunities, let every weed be carefully picked out; or if chess, &c. cannot be entirely eradicated in this way, let the greatest care be taken to do so effectually, by proper winnowing. Every Farmer ought to have an improved Fanning Mill; and he need not grudge the trouble and expense of putting the produce of his experimental acre two, three, nay four times, through the winnowing machine, introducing each time different sieves, &c. He may even be so careful as also to hand-pick all the plump, sound, and healthy grains, from a bushel or two of seed, at his leisure hours, assisted by his family. This may, and perhaps ought to be the first operation employed, with regard to the acre alluded to, viz: to sow it with pure and healthy seed. In this way wheat has been kept very free of many such weeds as chess, in many parts of Scotland. I myself have seen the fields in whole districts of that country, waving in rich luxuriance with splendid crops of pure Hunter's Wheat and Hopetoun Oats,—the first raised from *one head* of wheat found by Mr. Hunter of Tynefield, in a Berwickshire Moor,—and the latter from *one head* of oats discovered in a neighbor's field, by Mr. Shireff. In the truth of these circumstances, which happened not very many years ago, I can easily be borne out by many gentlemen now in Canada, if such were needful. I mention them here chiefly with the view of shewing how much can be done by care, attention, and patience, and to encourage Canadian Farmers to be more particular than I am told they have been, in having in their possession pure and sound seed. I have shewn the best modes of having it pure. The soundness or freedom of seed from disease, and the means of securing it therefrom, may form the subject of a future communication. Meantime, I shall merely say, let the Farmer sow his *pure*