

tice upon which the opinion of practical men would be of the utmost value at the present time. I am inclined to the latter view, unless the season is sufficiently mild to stimulate the early germination of the charlock. To wait for this event in a wintry February or March, when land is lying ready for the seed, is certainly vexatious.

The consequence, too often, is that dry weather sets in, and the corn is caught by the drought, instead of rapidly growing and shading the ground. Early sown spring grain will also be better able to stand harrowing, supposing the charlock to spring up among it.

#### SPRAYING.

Last year the subject of spraying came up a little late for successful trial. Judging from the numerous reports published, it appears that the system was fairly successful. It ought to be carried out when the charlock is young, and we should all be prepared to conduct further trials. Mr. Strawson deserves thanks for the enterprising manner in which he has carried out experiments, often in the face of many difficulties and some disappointments. It seems as if the best results have been secured by the use of hand distributors, while the extensive system of spraying over wide areas with horse labour has been known to be patchy or uneven in its effects. We must, however, hope that the methods for attacking charlock in big fields will be speedily perfected. It is something to know that sulphate of copper solutions will kill charlock, and not hurt the grain. This is, in fact, the thing which was doubted, but it appears that the upright and smooth blades of the corn do not retain the solution, while the rougher and horizontal charlock leaves retain it to their destruction. This is a great discovery, and it only needs to be developed in order to be adopted.

A further practical difficulty lies in the distance from water in the case of high-lying tracts of corn. Water carts, each with two horses, and perhaps three in number, would be a tax upon the resources of most farms during a busy season of the year, if required day after day. The questions are: How many acres might be successfully completed in a day? How often should the spraying be repeated—that is, once or twice? If 30 or 40 acres could be covered in a day, the inconvenience would be slight; but if it required to be repeated, and if only 10 or 20 acres could

be properly done, the game might appear to some large farmers not worth the candle. Fifty pounds is so soon lost by delays in sowing roots, or in securing hay, that the question requires to be mentally balanced before deciding upon adopting an heroic method even to destroy charlock.

If charlock could be treated by methods within the routine of ordinary management it would be best, but, unfortunately, up to now we have scarcely been able to cope with the pest in a reliable manner. The spraying of charlock ought now to be brought forward as a practical alternative, worthy of the deepest consideration. Mr. Strawson, last season, showed a most admirable patience and sincere desire to arrive at the truth; and it is to be hoped that in a few weeks we shall again hear of him and his excellent distributors. One thing more is worth attention—namely, that when the sprayer has distributed the solution the grain has been noticed to show a deeper green, thereby indicating that, so far from being injured, it seemed to look better after the treatment.

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#### CLOVER AND PHOSPHATE.

*To the Editor of FARMING:*

IN *FARMING* for January 16th Mr. T. C. Wallace, writing on clover and phosphates, assumes that clover exhausts the soil of its phosphates. This error pervades not only this letter but nearly all that Mr. Wallace writes, and I am surprised that this mistake is not more frequently pointed out in the agricultural press.

He appreciates the value of clover as a source of nitrogen and humus, and he cannot surely deny that it also renders available large quantities of phosphates and potash that would otherwise remain unavailable, so that for all practical purposes clover may be said to add to the soil not only nitrogen and humus but also phosphates and potash. I venture to say further that the practice of the best farmers as well as the teachings of the Experiment Stations recognize it as the cheapest source of these plant foods, and in fact the only economical source for the growing of coarse grains and fodders, always assuming that these are fed on the farm and the whole of the manure returned to the soil.

In Ontario, where the glacial clays cover the bed rock to the depth of from 2 to 200 feet, ever