

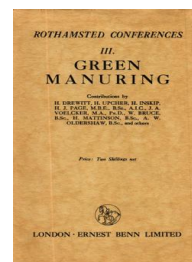
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GREEN MANURING ON CHALK IN S.W. SUSSEX

BY H. DREWITT

As there is sometimes some confusion between catch-cropping and green manuring, it will perhaps be well to draw the distinction between them. By a catch crop I mean one that is sown in advance of the rotation crop of that year, and is fed or carried off before the latter is sown; a crop sown for green manuring is ploughed in as it stands purely for the sake of the manurial value of the decayed residue to the rotation crop.

I do not propose to go into the history of green manuring this afternoon, but only to discuss it as it affects present-day practice of the farmer, whose first consideration must be: Is it going to pay? If he looks at it from any other point of view he is no longer a business man, but a philanthropist—a rôle few of us can afford to occupy to-day.

There are many considerations which affect the cost of growing the crop, apart from weather conditions; one principal item is the cost of seed—*e.g.* mustard seed during the past season has cost at least 64s. per cwt., as against a normal price of 40s., thus increasing the cost of seeding by at least five shillings an acre.

The older form of green manuring was carried out for the benefit of the autumn-sown crops, and nearly always took the form of mustard sown on a bare or bastard fallow, and ploughed in for wheat. In my own district—S.W. Sussex—this practice has largely increased since the war, not so much from the need to bare-fallow the land as from the disinclination to sow roots to feed off with sheep—this is partly due to the high price of store sheep; some very heavy crops of white winter oats have also been grown in this way.

Another and much cheaper way is to sow trefoil in the spring oat crop and plough it in for the benefit of the wheat crop which follows; but sowing the trefoil in the wheat for the oat crop which may follow seems to be of little use: possibly this is due to the shorter time the oat crop is occupying the land. It seems to make little difference to the wheat crop whether the trefoil is grazed in the autumn or not. This form of green manuring is not so popular as it was, owing to the high cost of trefoil seed of late years; it is reckoned the equivalent of 1 cwt. of nitrate of soda per acre, and while nitrate is about 50 per cent. dearer, trefoil seed is at least 100 per cent. up.

In green manuring for spring-sown crops other factors must be taken into account; in the first place the land must be clean when sown, as it will be impossible to undertake any cleaning operations when sowing the rotation crop; the rainfall also must be taken into consideration—if it is not fairly high the green crop will have taken up too large a

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proportion of the available moisture, making it very difficult to get a tilth, or to secure germination after the season is made. The effect on the available labour force of the farm, both power and manual, will also be present to the farmer's mind.

One form of green manuring which has been much extended lately has been the sowing of winter tares to plough in for the benefit of the mangel crop; a light dressing of dung is a great help to both crops, but in a wet spring great difficulty is experienced in burying the tares sufficiently to be out of the way for the subsequent horse-hoeing operations. On the West Sussex County Demonstration Farm at Kingsham winter tares ploughed in in April were found to increase the crop of mangel by about 6 per cent., and when ploughed in in the third week in May an increase of 15 per cent. was obtained. The increasing use of winter tares for this purpose is one reason for their high price during recent years.

For some reason tares ploughed in for wheat seldom give a satisfactory return; this is one of the few forms of green manuring which has often been tried on the chalk, but it is seldom a success, as it leaves the land too light for wheat; and this also applies when they are fed off with sheep.

Rye at one time was sown in the autumn to plough in for the mangel crop: it is easy to make a tilth after the rye, and the mangel crop will generally germinate well; but, when this idea was tried out on the Kingsham Farm, rye was found to depress the crop by about 6 per cent., although the mangel seed germinated better and quicker, and the crop was consequently thinned earlier.

There is yet another aspect of green manuring—that is, the valuable help it affords the flock-master in backward springs and other times of scarcity; he can always put his sheep on to the green crop, which then becomes a catch crop, while the crop he originally relied on for his sheep is making more growth, or being replaced by something else; this is a very valuable insurance. As dung year by year becomes scarcer, owing to the extension of the area of grassland, green manuring would seem to offer a means of increasing the humus in the soil; and in sandy soils I believe that lupins form the easiest and cheapest method of treatment. Whether this is also applicable to the heavier land I cannot say, but if the practice were to become common we might see some of the beauties of the horticultural exhibition extended to the farm—an idea which would be popular with the lady motorist if not with the farmer.

The latest form of green manuring is ploughing in the tops of sugar-beet. Here there is a wide field for investigation on experimental and demonstration farms, not only for manurial values but also for the effect on the mechanical condition of the soil and the insect life therein. Perhaps I may be forgiven if I digress to say how many are the problems upon which the practical farmer growing sugar-beet wants light and leading.