

nitrogenous manures should be used in the manner just specified is determined to a considerable extent by how acutely additional early feed is needed. A further question likely to arise is whether the necessary additional feed could be obtained more cheaply than by the use of a quickly acting nitrogenous fertilizer.

#### Harrowing and Spelling of Pastures.

Harrowing of pastures usually calls for widespread attention in July, when it is particularly advisable to break up and distribute thoroughly droppings on fields which have been heavily stocked during May and June. To bring about thorough distribution a section of chain-harrow attached behind the grass-harrow generally proves of value.

As a means of avoiding early setbacks it is very desirable to have attractive suitable feed available for early-calving cows and for early-lambing ewes. To provide such feed it often is very advisable to shut up in July suitable pastures, preferably ones which are well drained and sheltered and in which rye-grass is prominent. An immediate top-dressing of such pastures with superphosphate, if they have not been top-dressed prior to winter, is likely to be of assistance.

Trampling of wet soft paddocks leads not only to direct loss of valuable plants by burial, but also to the possibility of the establishment of such weeds as thistles, docks, rushes, buttercups, and daisies on the bare surface soil which results from the burial of valuable components of the pasture. Among the main ways of reducing the damage from trampling to a minimum are—(1) The stocking of wet areas as little as possible; (2) the feeding-out of hay, &c., on the drier portions of the farm, which often are the poorer portions that benefit most greatly from the increased fertility that feeding-out gives; (3) the feeding-out of hay, &c., on the poorer pastures which are soon to be put to arable use.

#### Arable Cropping.

As a rule, the sowing of seed in July is inadvisable. Hence if wheat cannot be sown by about mid-June the sowing usually may with advantage be deferred until August, unless the doing of this seems likely to lead to a subsequent embarrassing rush of work.

Every opportunity should be taken to go ahead with cultivation in preparation for the spring sowing of cereals, mainly in the August-September period, but the harm to the tilth of the soil which results from the tillage of heavy wet soils should be avoided.

As a means to more profitable feeding of stock, two crops which, having regard to their merits, are much neglected are lucerne and mangels. The 1935-36 Dominion acreage of mangels was considerably above the average acreage for the ten years ending at the 1935-36 season; definite figures are not yet available relative to the 1936-37 acreage, but reports from seed-merchants suggest an appreciable decline. A decline is directly contrary to the needs of the position unless other feed to replace that yielded by the mangel is being provided, but of this there is no evidence. It has been stated that recent changes in the farm-labour position are adversely affecting the area devoted to arable crops generally, but especially that devoted to the mangel. In this connection it should be remembered that the well-managed highly productive mangel crop can remain distinctly profitable when loaded with labour charges great enough to make many other crops unprofitable. Mangel crops of 60 tons an acre or more are so common that it is clear that when conditions are suitable for mangels a 60-ton-an-acre crop is not an exceptional achievement. When hay is worth £3 a ton, then mangels are worth at least 10s. a ton, so that the value of a 60-ton crop is £30 an acre—a value which after allowing for other charges leaves a substantial sum for labour costs.

The outstanding value of lucerne has been demonstrated convincingly by farm results in many districts. New Zealand experience confirms that of other countries in that it shows what a definite misconception it is to believe