

A neat type of water trough set into the corner of the paddock and occupying little space.

is disced as soon as the swedes have been eaten off, usually at the end of September, and is ploughed in October with a double-furrow plough turning a 6in. furrow. It is then disced, harrowed, and rolled, then harrowed and rolled again just before the chou moellier is ridged during the second week in November. Before ridging ½cwt. per acre of potassic superphosphate is broadcast and a further 2½ to 3cwt. of reverted superphosphate is sown with the seed. The seeding is 1½ to 1¾lb. of seed per acre in 28in. ridges. (N.B.: The fertiliser quantities stated were those available before the inception of rationing).

The Purple Resistant turnips are sown during the third week in November, between the sowing of the chou moellier and the swedes, at the rate of slightly under 1lb. of seed per acre with 2½cwt. of reverted superphosphate.

In the third year of the rotation, when the land is sown down, the ground is ploughed at the end of August with the double-furrow plough to a depth of 6in. with a special widening device which allows the chou moellier stalks to be turned under and buried. It is then rolled on the furrow to ensure consolidation and to prevent the formation of a nonconductive air space at the bottom of the furrow. After double discing and then cross discing the ground is limed with 1 ton of carbonate per acre and left lying until the end of September, when it is harrowed twice and rolled. The first week in October the ground is drilled with 1 bag (4 bushels) of machine-dressed Gartons Onward oats and 2½cwt. of superphosphate per acre. The ground is immediately harrowed and rolled and the grass seed sown. The chain harrows and the roller

follow to cover the seed and complete levelling and consolidation. With the grass seed potassic superphosphate at the rate of 2cwt. per acre is sown.

The grass seed mixture sown includes:—

Certified	Mother	peren	nial	гуе-	
grass	**				25lb.
Italian r	yegrass				3 "
Certified	P.P. coc	ksfoot			6 "
Timothy				0.3	2 "
Certified	Montgo	mery r	ed cl	over	3 "
Certified	white o	clover			2"
Alsike	**	**	**		1 "
Total		1.7		10.0	421b.

The oats are ready to harvest about the end of January in a normal year. They are cut with the binder, often with the assistance of a revolving shedder. Eight tons are stacked for horse feed and the balance is threshed out of the stook. If the crop is a good one, 2 acres will yield 8 tons of chaff, but 3 acres may be required if it is a light one. Usually from 120 to 140 bags of oats are threshed; sometimes as many as 175.

The swede and turnip seedings are heavier than is usual in Southland, but on this farm the unusual practice for Southland of thinning and hand hoeing the crops is adopted. This applies also to the chou moellier, Inter-row cultivation with the double scuffler is continued as long as possible.

## Grassland Management

Neither on this farm nor in Southland generally is the northern practice of saving certain autumn-topdressed paddocks for early spring grass adopted. Throughout Southland, however, a practice that is becoming increasingly popular is that of sowing an autumn catch crop of oats, ryecorn, barley, or Italian ryegrass on the oat stubble ground to tide stock over the lean September period. On the farm under review no place can be found for this practice, for a number of reasons: first, because the high stock concentration makes it necessary to get the land under the plough sown out again to permanent pasture as quickly as possible, and second, because with good hay and a heavy crop of hand-thinned swedes, supplemented with bail feeding, stock can be carried satisfactorily through the critical period until the grass comes away fresh and strong. The slight disadvantage of a lower-than-average herd production of butterfat in September is more than counterbalanced by the extra stock that can be carried under this system of management.

The cow paddocks are divided into day and night paddocks, the period of grazing gradually extending, as the spring advances, to 10 days up to a fortnight per paddock. The cows are given the grazing of the youngest paddocks, the sheep being concentrated on one and a half paddocks (a

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