

SEEDING RATES FOR PASTURES ON PLOUGHABLE LAND IN AUCKLAND



[Desgranges Studios Ltd. photos.]

Left—Pasture seeded with mixture which included $\frac{1}{2}$ lb. of subterranean clover per acre, 3 years after sowing. Right—Pasture seeded with mixture which included 3lb. of subterranean clover per acre, 3 years after sowing.

In most of the trials the area surrounding the trial was sown with perennial ryegrass as the predominant species; consequently, because of its palatability, the short-rotation ryegrass in the plots was punished by stock and its chance of recovery in the next season diminished. In the first year greatest production was obtained where short-rotation ryegrass was sown alone with white clover at 25lb. to 35lb. per acre. In the mixtures of perennial ryegrass and short-rotation ryegrass the proportions of each which it is advisable to use depend on the recovery of short-rotation ryegrass. If short-rotation ryegrass fails to recover, sowings of it should not exceed 10lb. per acre, and probably a mixture containing 25lb. of perennial ryegrass and 5lb. of short-rotation ryegrass will be most satisfactory. Where the short-rotation ryegrass recovers very well a sowing of 15lb. of short-rotation ryegrass and 15lb. of perennial ryegrass will be most satisfactory. Between the extremes a sowing of 20lb. of perennial ryegrass and 10lb. of short-rotation ryegrass would be advisable.

To be persistent and to last several years or to be permanent, short-rotation ryegrass requires a fertile soil which is moist in summer yet reasonably well drained in winter, and grazing should not be severe, particularly in late spring and early summer.

Cocksfoot

Cocksfoot at 5, 10, 15, and 20lb. per acre was sown with 15lb. of ryegrass and 2lb. of white clover per acre, and cocksfoot at 10lb. per acre was sown without perennial ryegrass and with perennial ryegrass at 5, 10, 20, and 40lb. per acre and with white clover at 2lb. per acre. Under ordinary pasture management cocksfoot sown without ryegrass

does not produce a satisfactory sward owing to slowness of establishment, and even with small amounts of ryegrass it is suppressed where the soil is fertile or well topdressed. The heavier rates of sowing of cocksfoot had little effect on establishment because of the strong competition from ryegrass. More than 5lb. per acre in the mixture, certainly not more than 10lb., is not advised. Even these sowings may be difficult to justify except in poor country or where the soil dries out. On dry soil 15lb. of cocksfoot may not be too heavy. On poor soil where the moisture supply is reasonably adequate the wisest course would be to buy more fertiliser with the money which might be used on extra cocksfoot seed if a heavy sowing was made, or to take other steps to make conditions more suitable for ryegrass establishment.

Timothy

Timothy was sown at 2, 4, 6, and 8lb. per acre with ryegrass at 15lb. per acre, and timothy at 6lb. per acre was sown without perennial ryegrass and with perennial ryegrass at 5, 10, 20, and 40lb. per acre. All mixtures included 2lb. per acre of white clover. Although conditions on all the trials appeared suitable for timothy establishment, results were the same as with cocksfoot. The ryegrass overwhelmed the timothy, and a poor-producing pasture was obtained from sowing timothy alone. Reports did not indicate that timothy was more severely grazed by stock than other species. Often severe grazing is usual and has been put forward frequently as the cause of a low percentage of this grass found in pastures. A seeding of 4lb. of timothy per acre appeared to give as good establishment as higher rates,

and the same remarks apply to the sowing of this grass as apply to cocksfoot. Even this seeding is hard to justify. Timothy is more suited to fairly damp situations and for wet climates, and differs from cocksfoot in this respect.

Red Clover

Red clover trials were carried out with perennial ryegrass and Italian ryegrass. Sowings of red clover at 2, 4, 6, and 8lb. per acre were made with 20lb. of perennial ryegrass per acre and sowings of 5lb. of red clover per acre with 5, 10, 20, and 40lb. of perennial ryegrass. Six pound per acre of red clover appeared to give as good results as 8lb. with the 20lb. of perennial ryegrass. Amounts less than 6lb. did not give as good a coverage with this plant.

With Italian ryegrass, sowings heavier than 35lb. per acre suppressed the red clover and prevented its development and 6lb. of red clover was required and was definitely superior to sowings of 3lb. For temporary pasture, therefore, 25 to 30lb. of Italian ryegrass plus 5lb. or 6lb. of red clover appear to give the best results. This is in line with recommendations made by Instructors.

White Clover

Sowings of 1, 3, and 5lb. of white clover per acre were made with 20lb. per acre of perennial ryegrass and 2lb. of white clover per acre with 15, 25, and 45lb. of perennial ryegrass per acre. In the 2 or 3 years after establishment the 1lb. seeding has not produced as good a sward as the 2lb. or 3lb. seeding and the 5lb. seeding is not warranted. At least 2lb., which is generally recommended, should be sown.