

This type of infertility has not been reported in New Zealand and no trouble is expected. The assay results indicate, however, that care should be taken to ensure that subterranean clover does not become completely dominant in sheep pastures.

Ketosis in Pregnant Ewes (Sleepy Sickness).—A further trial of the dicalcic phosphate, potassium iodide, linseed meal salt-lick was conducted at Shannon to compare its efficiency in preventing sleepy sickness with licks from which either the dicalcic phosphate or the potassium iodide had been omitted. Unfortunately the experiment was inconclusive because of the variation in pasture in the experimental paddocks and the considerable differences in lick intakes in the various groups.

Sheep Nutrition Projects

Comparison of Various Pastures for Ewes and Lambs.—The trials with special pasture mixtures in 1-acre paddocks have been continued at Manutuke. The good rainfall in the November–January period was particularly favourable to clover growth and in some paddocks this became too rank and could be controlled only by cutting for hay. In general the short-rotation-rye-grass – white-clover mixture continues to prove very satisfactory. The clover, which is more vigorous than in perennial-rye-grass – white-clover mixtures, provides excellent summer and autumn grazing. Even when the short-rotation rye-grass is allowed to seed, re-establishment in autumn is not always very good. Few short-rotation plants appear to live through the Poverty Bay summers in sheep paddocks. A mixture consisting of 25 lb. of short-rotation rye-grass, 10 lb. of perennial rye-grass, and 3 lb. each of Montgomery red, broad red, and white clovers sown in April, 1948, has provided magnificent pasture in the first year. In the paddock sown in 1946 with Italian rye-grass and Montgomery red and broad leaf red clovers the clovers became too rank and provided comparatively poor feed during the autumn. The paddock sown with cocksfoot and white clover in 1946 provided excellent grazing up till the end of December, but from then lambs neglected the cocksfoot, which became tufty, and the clover tended to become over grazed. All special-purpose pastures were stocked at the rate of seven ewes and seven lambs per acre from 10th September to 13th December. The daily rates of gain were from 0.5 lb. to 0.63 lb., and the Southdown Romney cross lambs killed at the end of the period had an average carcass weight of 41.4 lb.

From 18th January the paddocks were stocked with eight weaned lambs per acre. The January rains promoted such excellent growth that from 1st February the rate of stocking was increased to sixteen lambs per acre, and this was maintained up till 8th April in all paddocks in which the clover growth was good. Up to 31st March the rate of gain in the various paddocks has ranged from 0.17 lb. to 0.47 lb. per day and the average rate of gain for all lambs in the paddocks carrying a good growth of white clover has been 0.37 lb. per day. Pasture measurements from 13th July, 1948, to 31st March, 1949, have given the following results:—

	Pounds of Dry Matter Per Acre.
Short-rotation rye-grass, cocksfoot, Montgomery red and broad red and white clover sown 1946	12,843
Perennial rye-grass and white clover sown 1946	10,535
Long-rotation rye-grass and white clover sown 1947	12,945
Short-rotation rye-grass and white clover sown 1947	12,258
Old permanent pasture	9,388

Supposed Rachitogenic Factor in Green Oats.—Attempts to confirm presence of the supposed rachitogenic (rickets-producing) factor in green oats have been continued along several lines, as follows:—

(1) *Feeding Experiments on Rats with Dried Oats.*—All attempts to produce rickets in rats by feeding diets including dried green oats, extracted and unextracted, have proved unsuccessful. It is thought that the amount of available phosphorous in the green