THE VALUE OF CEREAL RYE AS A GRAIN FOR FEEDING SHEEP

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Cereal rye (*Secale cereale*) grain can depress feed intake and growth rates in domestic animals because it contains anti-nutritional factors (Radcliffe *et al.* 1983). However most of the research has been with non-ruminants and may not be applicable to sheep in Australia. To determine suitability of rye for ruminants, we compared rye and wheat grains for the maintenance and growth of sheep.

Sixty 1.5-year-old Merino sheep, mean liveweight 59.9 kg (range 48.0 to 68.6 kg), were introduced to wheat grain in the paddock over 19 days. They were then allocated into 6 groups of 10 on the basis of liveweight so that the average liveweight of the 4 maintenance groups was 61.8 kg and of the 2 production groups was 52.4 kg. The groups of sheep were then put into 6 outdoor pens and 3 groups changed from wheat to rye grain rations over 1 week. Those groups offered the maintenance diets were fed oaten hay on each Monday and Thursday and grain on each Tuesday and Friday for 7 weeks. The production groups were fed hay daily and grain *ad libitum* from self feeders after an initial week of daily feeding. All groups received CaCO₃ (1% w/w) and NaCl (1% w/w) with the grain. The daily feeding rates of each ration are shown in Table 1.

The wheat contained 13.2 MJ of ME/kg DM and 18.1% CP, the rye 12.7 MJ and 14.1% CP and the oaten hay 9.6 MJ and 8.6% CP.

There was no significant difference between the liveweights changes of the sheep fed rye and the corresponding sheep fed wheat (Table 1). Sheep with free access to grain (production groups) ate more rye than wheat. The reason is not known, but it is clear that rye did not depress feed intake compared with wheat. The sheep offered the maintenance rations ate all the grain on the day it was fed.

The results indicate that rye and wheat perform equally in maintenance and production rations for sheep. However, as the rye was from a single source and the feeding was only for 7 weeks, farmers should observe their sheep closely when first using rye grain.