Cereal vs. non-cereal crops on the southern tablelands of N.S.W.

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Cropping is a possible alternative enterprise to the traditional agricultural activity of animal production on the Southern Tablelands. Information on

the agronomy of crop production in this area is therefore required.

Methods

During 1970 to 1980 I compared wheat, oats, barley, rye, field peas, lupins and rapeseed in trials evaluating the effects of sowing time, grazing, fertilizers, and establishment methods. Sites ranged from low warm regions (e.g. Binalong) to high cold regions (e.g. Adaminaby). Seasonal conditions varied during the period. Trials were generally in paddocks cropped for the first time after a pasture phase. Weed and plant control were generally adequate; disease control was not attempted.

Results and Discussion

This paper is based on grain yields from 18 trials, selected on the basis of ?n autumn-winter sowing time, a standard fertilizer rate (P atc.19 kg ha as superphosphate), and sowing into a prepared seed bed. In any trial in which more than one cultivar was used, the yield of the best cultivar is given.

The main features of the results are:

- The cereals never failed to yield grain.
- Napus rapes failed to yield grain on 6 occasions out of 18 sowings, campestris rapes 4 out of 10, lupins 4 out of 16, and field peas 3 out of 15.
- Only on 8 occasions in the 18 trials did the best non-cereal yield more than 502 of the best cereal. The best relative performance was at Yass in 1978, when Dun field peas at 2.40 t ha ' yielded 83% of Egret wheat.
- Yields⁻¹ (t ha) averaged over the 18 trials are: oats 2.53, barley 2.29, wheat 2.17, rye 1.47, peas 1.24, lupins .87, rape (campestris) .79 and rape (napus) .72.

The results indicate the much better adaptability of the cereals than the non-cereals, an important point when considering cropping on the Southern Tablelands where machinery and cropping skills may be less sophisticated than in more recognized cropping areas. Results from other treatments - different sowing limes, grazing, and direct drilling, not included in this summary of the experiments - indicate the even greater lack of adaptability of the non-cereals. Price advantages of the non-cereals would not have been sufficient to have made them more profitable than wheat, oats, and barley.

Unless price advantages of the non-cereals are sufficient, future improvements in agronomic practice (including crop rotation considerations) and genetic yield potential will have to be greater for the non-cereals than the cereals to encourage widespread adoption of non-cereals in cropping regions of the Southern Tablelands.