

## Establishment of subterranean clover under direct drilled cereal crops

B. S. Dear

Agricultural Research Institute, Wagga Wagga, N.S.W. 2650

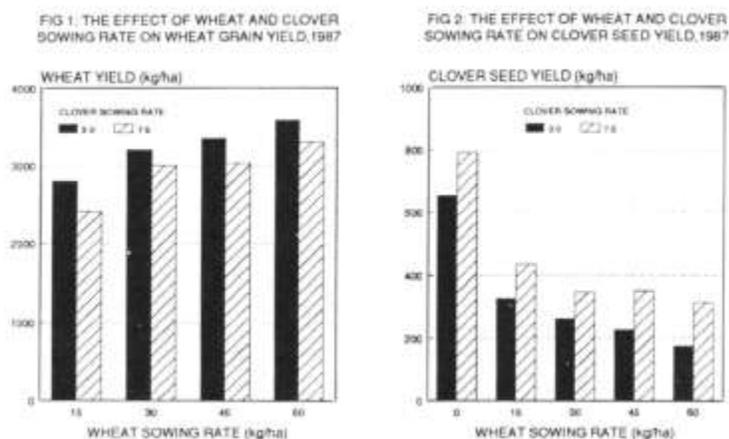
In the sheep-wheat zone of South-eastern Australia subterranean clover is re-established following cropping by undersowing clover in the final cereal crop, a practise called covercropping. While the yield of the wheat may be reduced the seed yield of the legume can also be markedly depressed to an extent which depends on the vigour of the cereal and the seasonal conditions. While covercropping has provided satisfactory results in conventional tillage systems, its efficiency in direct drilled systems, where seedbeds can be more variable, is unknown. This paper reports on the effect of sowing rates of wheat and clover on their seed yields in a direct drilled sowing system.

### Methods

Wheat was direct drilled in mid May at rates of 0, 15, 30, 45 and 60 kg/ha into a red earth soil at Wagga Wagga, the stubble from the previous wheat crop having been removed by burning. Subterranean clover, cv Woogenellup, was then sown onto the surface of the seed bed at rates ranging from 0 to 15 kg/ha and lightly harrowed. Urea at the rate of 40kgN/ha was applied in June to all plots. The experiment was repeated over 3 years (1985-87). A randomised block design was employed with three replications.

### Results and discussion

Some results are presented from the driest year, 1987, in which only 447mm of rain was received with a pronounced dry period in October. Figure 1 shows that in the Wagga environment, profitable wheat yields in excess of 3t/ha can be achieved, from undersown crops. Wheat sown at 60 kg/ha without clover yielded 3.5 t/ha. Increasing the undersown clover seeding rate from 3 to 7.5kg/ha only slightly depressed wheat yields.



While higher wheat seeding rates depress sub clover seed yields (Figure 2) these can be increased by sowing at least 7kg of sub clover seed. The results suggest that direct drilled covercrops will provide satisfactory results providing attention is paid to seeding rates and placement of the clover seed.