

LENTIL MANAGEMENT IN MID CANTERBURY

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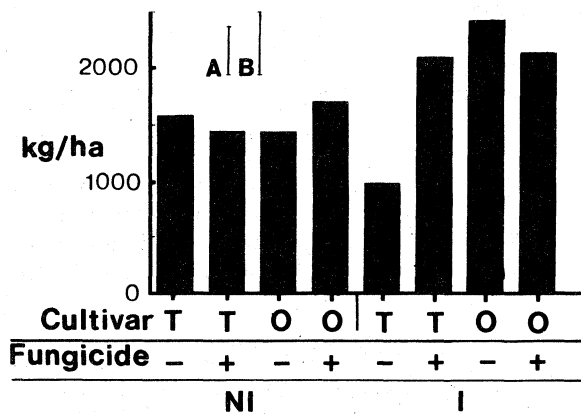
INTRODUCTION

Lentils are a relatively important grain-legume crop in Mid Canterbury. Yield is important, but, as lentils for human consumption are graded on appearance, the seed must have an even colour with no shrivelling or discolouration. *Ascochyta* blight (*Ascochyta fabae* f.sp. *lentis*) is one of the major causes of downgrading. Irrigation can increase yields, but may enhance the spread of *ascochyta* blight.

METHODS

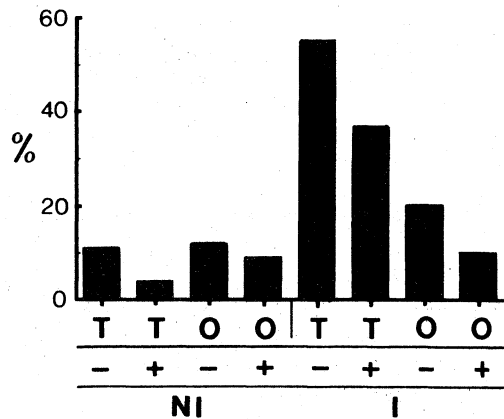
Trials were conducted at Winchmore Research Station, on stony Lismore silt loam soil. Cultivars Titore and Olympic were sown on 19 September 1987. These were either border strip irrigated (at 12% gravimetric soil moisture in the top 150 mm), or not irrigated (minimum soil moisture 7%). Either no fungicide was applied or three applications of chlorothalonil (Bravo at 1.5 l/ha.) were made. Measurements included seed yield and disease levels in the seed.

RESULTS AND DISCUSSION



LSD (5%): A = within irrigation comparisons and irrigation interactions, B = other comparisons.

Figure 1a: Lentil seed yield



1b: % seed infected with ascochyta blight

In Titore, the ascochyta susceptible cultivar, a combination of irrigation and fungicide was necessary to increase yields, but failed to prevent a massive increase in disease. In Olympic, the ascochyta resistant cultivar, yield was increased by irrigation but there was only a small increase in disease level with or without

fungicide. Seed infected with the ascochyta blight was discoloured and shrivelled with reduced value.

Unirrigated yields were still reasonable in this relatively dry season. Irrigation should therefore only be applied to cultivars resistant to ascochyta blight.