

## Sowing time effects on yield, growth and development of rapeseed in Central Western N.S.W.

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Rapeseed is widely accepted as one of the more commercially viable 'break' crops to be included in cereal rotations in N.S.W. However, production is often erratic due to its' sensitivity to sub optimal growing conditions. Results of experiments conducted at the Agricultural Research Centre, Trangie have helped to optimise sowing time, thereby reducing one area of this sensitivity.

### Methods

Two varieties, Span (*Brassica campestris*, spring type) and Zephyr (*Brassica napus*, spring type) were sown at intervals between early April and August for three years (1974-1976) on an alkaline, grey, self mulching clay soil and irrigated to eliminate moisture stress. Regression analysis was used to depict relationships between sowing date and yield, oil %, protein %, date of initial flowering, completion of flowering and maturity, and dry matter production at each of these three events.

### Results and Discussion

The *B. napus* spring type (Zephyr) had the highest yield and a 2% higher oil content.

The optimum time to sow for both types was between late April and mid May. These sowings extended and rescheduled growth and development into periods of cooler temperatures and lower evaporation. The longer vegetative and flowering phases resulted in a higher production of dry matter and greater number of flowers and pods which had a better chance of filling before the arrival of higher temperatures in mid spring. However, sowing both types earlier than late April produced excessive dry matter and height, causing poorer grain fill, uneven ripening and problems at harvest. Also, sowing later than mid May decreased the length of the growing season (by 6 days for each 10 days delay), thereby not providing the plants with sufficient time to fully develop.

Oil content also peaked at sowings made between late April and mid May, but then declined at a rate of 0.5% oil for each 10 days delay. Protein content was inversely related to oil content.

*B. campestris* flowered from 20 to 40 days earlier than *B. napus*. This pattern would be better adapted to the drier portions of the cereal zone when irrigation was not available.

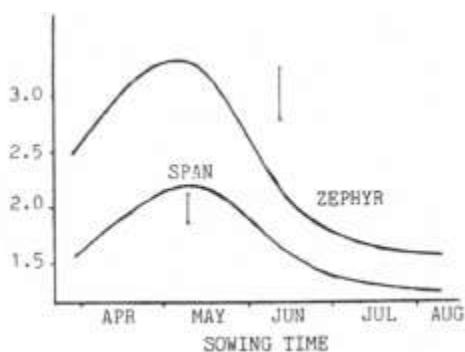


Figure 1 Effect of sowing time on the seed yield (t/ha) of irrigated rapeseed at Trangie in 1976. Vertical bars indicate LSD ( $P < 0.05$ ).