

YIELD VARIABILITY BETWEEN COMMERCIAL SUNFLOWER CROPS IN
SOUTH QUEENSLAND, AUSTRALIA

J.G. TWYFORD & J.E. OBST, QUEENSLAND GRAINGROWERS ASSOCIATION,
TOOWOOMBA, QLD. 4350. AUSTRALIA.

A survey of 1983 spring planted sunflower crops in south Queensland was undertaken by the Queensland Graingrowers Association to study reasons for wide variability in grain and oil yields obtained by growers in a year with good soil moisture. The questionnaire required growers to give details of dates of planting, plant establishment, approximate dates of flowering and harvest, climatic conditions, seed and oil yield, bee activity, presence and control of rutherghlen bug and individual grower's comments on yield expectation.

Some excellent dryland yields were recorded with the top 30% of growers averaging 1.85, 1.65, 1.49 tonnes per hectare in the three regions of Inner Downs, Dalby and Warra/Chinchilla respectively. Great yield variability, both within and between farm, was observed with average mean yield across the three regions being 1.45, 1.13 and 1.04 tonnes per hectare respectively. Comparatively, there was less oil percent variability both between farms and regions, with high oil percent being achieved in the western areas as well as the Inner Downs. Top farm average yield was 49.6% which was achieved on the Inner Downs and the top individual delivery was 52.4%. A majority of growers indicated that crop yields failed to reach their expectation and this reflects on problems with agronomy, management difficulties and profitability. Early planting, the use of starter fertilizer including phosphorus, good plant establishment coupled with selecting a seeding rate based on an assumption of good establishment and consideration to crop rotation, are believed to be key factors in better performance.

Wet and overcast conditions at the time of flowering may have influenced attractiveness of some crops to bees. Damage from rutherghlen bug (*Nysius* spp.) appeared only of minor concern.