

## Time of swathing lupins infested with radish

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Wild radish can be a problem in lupin crops in Western Australia. Chemical control often fails, resulting in heavy radish infestations.

Green radish in a mature lupin crop often causes long delays in harvesting, resulting in reduced yields through additional pod shattering.

Swathing or windrowing radish infested lupin crops eliminates delays in harvesting. Total seed losses associated with swathing lupins range between 9 and 12% of the yield potential. Losses associated with direct harvesting lupins range between 5 and 50% of the yield potential(1).

### Methods

A heavily radish infested lupin crop was selected at Chapman Valley Research Station in 1984. Treatment plots were 50 m long and 4.5 m wide. A "versatile" side feed swather was used to conduct the cutting treatments. Treatments were unrandomized and were executed every 2 to 4 days depending on the rate of crop maturity. At each treatment time 10 plants were sampled from 2 replicates to calculate seed moisture content and seed weight. Windrows were harvested using a "melroe" stee1 pick-up front. Plot yields were measured and samples taken to measure seed weight. All weights were adjusted to 12% seed moisture content (MC).

### Results and discussion

A spline analysis was conducted for plot yield (Fig. 1). Maximum yield was achieved at a MC of 68.5%. A close analysis of the crop can identify this stage of maturity (2). A spline and quadratic mode1 were fitted to the threshing and swathing seed weight data respectively (Fig. 2). Maximum seed weight at threshing was at a seed MC of 62.5%. Maximum seed weight at swathing was at 57.5% seed MC, however, this was slightly less than the maximum seed weight at threshing of 0.149 g.

Lupins can be swathed at a seed MC of approximately 65% without loss of yield. At this stage of maturity seed weight increases in the windrow after cutting. The thick stems and pods of lupin plants could easily facilitate additional dry matter accumulation in the seed after cutting.

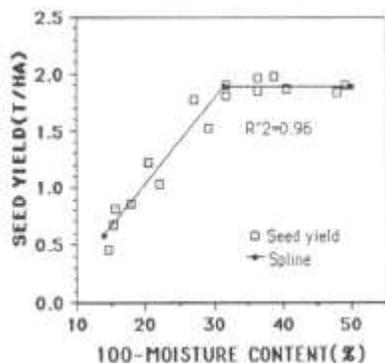


Figure 1. Seed yield of swathed lupins

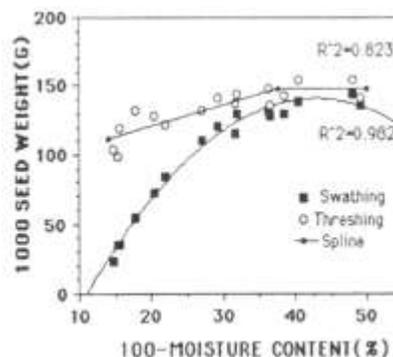


Figure 2. Seed weight of swathed lupin

1. Snowball, R. (1986). Swathing field crops in the south-west. J. Agric. West. Aust. 27: 84-88.

2. Snowball, R., Nelson, P. and Rowe, D.L. (1986). Swathing lupins - a new harvesting Method. WADA, Farmnote No. 22186.