Title The effect of storage conditions on the quality of Australian canola (rapeseed), *Brassica napus* L.

Authors Reuss, R. and Cassells, J.

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Abstract

In 2002-03, 1.6 million tonnes of rape (rapeseed) are expected to be harvested in Australia. Increased production of canola has resulted in more prolonged storage before end use or export. This paper examines the effect of storage conditions and storage period on the quality of two Australian rape cultivars. Samples of the cultivars Oscar and Pinnacle were conditioned to moisture contents of 6, 7 and 8% and stored at 20, 25 and 30 deg C for nine months. There were measurable differences between freshly harvested rape and stored rape. Changes were mostly dependent on the storage conditions, but differences between cultivars and the intake condition of the grain were also important. Generally, the most significant changes occurred at the highest moisture content (m.c.) and storage temperatures. Loss in germination energy reflected the intake quality of rape and storage at high temperatures and moderate m.c. Seed coat colour changes were an indicator of chemical changes during storage. Changes in the UV-visible spectra of rape oil, fatty acid composition, and NIR spectra were also influenced by storage parameters. Free fatty acid accumulation was the most useful indicator of potential storage-induced quality loss. Future work will include data on storage periods less than nine months and detailed analysis of chemical, biological, and chemometric data.