



CLIMA Media Release

CURING COLOURED BEANS 17.11.05

Faba bean discolouration is hindering Australia's export position in the human food market, but a Centre for Legumes in Mediterranean Agriculture (CLIMA) supported project has discovered it can be slowed using improved storage methods.

Discolouration is a major problem, with 25 per cent of faba beans downgraded.

Environmental staining and storage discolouration causes them to lose their colour, resulting in losses of up to \$50 per tonne.

Discolouration was affected by a combination of storage temperature, time in storage, seed moisture content, light exposure and faba bean genotype.

Addressing a CLIMA seminar, School of Plant Biology PhD student at the University of Western Australia, Nasar Abbas said his Australian Research Council linkage project with Chemistry Centre WA and Department of Agriculture, had discovered how to slow seed darkening in faba beans.

"We tested faba beans by packing them in bags with minimal gas permeability and flushed the bags with various gases.

"We stored them in carbon dioxide, nitrogen, oxygen and ethylene and also vacuum packed a bag. They were then stored at 30 degrees celsius in complete darkness.

"Our results revealed nitrogen slows seed darkening, but oxygen accelerates it," he said.

"When faba beans were stored in higher temperatures and/or with high seed moisture content, seed darkening increased.

"Light exposure was a major factor but discolouration also differed due to genotype, with the Manifest variety more susceptible to discolour due to light," Mr Abbas said.

CLIMA Director, Professor Kadambot Siddique said if faba beans were harvested when seed moisture content reached 13-15 per cent and stored at less than 25 degrees celsius in aerated silos, seed discolouration could be minimised, potentially reclaiming \$50 per tonne for growers.

Caption: As part of his CLIMA supported project, UWA PhD student, Nasar Abbas, analyses data from the different chemical compounds in faba beans that cause discolouration.

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