



## CLIMA Media Release

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### **EASTERN WHEATBELT WISH LIST**

Eastern wheatbelt farmers have a wish list, but understand there are no silver bullets wrapped up in the one pulse crop or pasture legume.

According to agronomist Travis Hollins, who recently led a visit to the Centre for Legumes in Mediterranean Agriculture (CLIMA) by 20 farmers from Beacon and Wialki, the most pressing wishes are for cold and disease tolerant chickpeas and lupins suited to local soil types.

“Lupins have averaged only 600 to 800kg in the last 10 years. The superior anthracnose resistance in the new Albus variety, Andromeda, is not beneficial in our low rainfall district due to low disease pressure and its yields can’t outdo the anthracnose susceptible, Kiev mutant, due to Andromeda’s late maturity.

“We’re becoming more confident with chickpeas on our heavier soils, especially with the new varieties Sonali, Rupali and Genesis all looking promising,” Mr Hollins said.

During the visit to CLIMA at the University of WA (UWA), growers met with several researchers, who demonstrated some of their work.

Dr Ping Si, working in collaboration with the Grains Research and Development Corporation (GRDC) National Pulse Program, the WA Department of Agriculture and Food (DAFWA) and the WA Herbicide Resistance Initiative at UWA, is trying to unlock the mysteries of how and why some herbicides affect certain pulses.

“While chickpea and narrow-leafed lupin are priorities in the new GRDC supported project, field peas, lentils and faba beans will also be screened for herbicide tolerance,” Dr Si said.

This project follows previous GRDC supported research to induce and identify lupin mutants highly tolerant to metribuzin in the anthracnose resistant variety Tanjil.

The grower group also heard how Pearl, or mutabilis lupins, could in the near future boost WA’s lupin industry, which is the world’s largest.

Dr Jon Clements said that because of Pearl lupin’s high protein (43 per cent) and oil (18 per cent), increasing interest in lupin protein isolates and higher protein feed markets, they may have a role to play.

“Currently, with GRDC funding, we’ve bred low alkaloid, early flowering genotypes with reasonable agronomic attributes and we expect a first variety can be produced by 2008.”

With low overnight eastern wheatbelt temperatures in spring interfering with early pod set in chickpea and cutting yield by up to 15 per cent, Dr Heather Clarke said that while important to avoid cool conditions at flowering, delaying sowing pushed pod development into October, when terminal drought conditions led to poor and unstable yields.

“Effectively, this double jeopardy prompted GRDC funded research at CLIMA to develop more robust varieties that flower earlier and set pods while moisture is abundant,” she explained to the farmers.

The outcome of this work was the release of desi chickpea varieties Sonali and Rupali, which set pods up to two weeks earlier.

Working with ascochyta blight and budworm resistant Middle East wild germplasm, which also has tolerance to cold and drought, Dr Clarke is crossing chickpea and its distant relatives using the latest biotechnology techniques.

“When breeders look for useful resistance or tolerance traits, they may want to cross two species, but when these are genetically diverse it can be difficult,” she said.

“Collaborating with Canadian and Indian researchers, with GRDC support, we’re using the latest methods to rescue hybrids by growing them in the laboratory until they can be grown in the glasshouse.

“Resulting progeny can then be used in chickpea breeding programs,” Dr Clarke said.

*Image: Eastern wheatbelt farmers outside a glasshouse at UWA with CLIMA scientists Dr Jon Clements (left), Dr Heather Clarke (far right) and Dr Debbie Thackray.*

**ENDS**

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