Media Release

FUTURE FARM INDUSTRIES CRC

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10 December 2009

Barley gives other cereals a run for its money in the salt tolerance stakes

An old barley variety selected for its salt tolerance from a Californian barley variety has surprised researchers by outperforming other cereals in a recent salinity field trail in Western Australia.

Future Farm Industries CRC researcher Dr Ed Barrett-Lennard (DAFWA) said the barley had more biomass that other cereal varieties being tested, which has raised its profile as a potentially profitable salt tolerant crop.

“Farmers and researchers have long known that barley is more salt tolerant than wheat, but witnessing the performance of the salt-tolerant barley variety know as CM 72 coupled with measuring soil salinity through the growing season has been a revelation,” Dr Barrett-Lennard said.

The field trial has provided researchers with a clearer picture of which traits are desirable for making salt-tolerant cereals more productive, particularly having a shorter growing season.

“By having a short growing season of around 100 days, crops have finished growing before salinity levels start rising to dangerous concentrations during the latter half of Spring,” Dr Barrett-Lennard explained.

“In our trials the yields of the longer-season cereals were noticeably lower.”

Even at the relatively benign end of the salinity range, measurements revealed that by early October salt concentrations in the top 100-250 mm of soil has risen to about 70 percent the salinity of seawater.

This occurred as water was extracted from the soil leaving the remaining soil moisture more saline.

“The past two years have provided an interesting set of insights for us about the methods we used to screen plants for salt tolerance,” Dr Barrett-Lennard stated.

“Over the last few years, researchers have tended to conduct salt tolerance screenings in easily controlled glasshouses. Although this does have its advantages, our more recent work suggests there is a risk that this approach does not mimic the real world.

“We are now of the belief that glasshouse screening needs to be tightly linked with field screenings.”

Dr Barrett-Lennard’s research is part of the Future Farm Industries CRC’s *Salt Tolerant Cereals* projects with its field research funded by the Grains Research Development Corporation and DAFWA and led by Dr Tim Colmer (UWA).

A more in depth article about barley’s potential as a salt tolerant cereal is featured in the December edition of Future Farm Industries CRC’s *Focus on Perennials* magazine.

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