



Farmers strike issues

MEXICAN grain growers trying to run their farms under conservation farming practices are none too happy about a traditional right of the country's herdsmen to run their stock on farmers' crop stubble country. Under the long-standing statute,

Mexican stockmen – known as vaquero – are allowed to graze their sheep and cattle herds on privately owned stubble paddocks or irrigation banks without requiring the permission of the farm owners. While the herdsmen are obliged to stop their stock straying onto the

fields where crops are growing, they have open slather on fallow and stubble country. Farmer groups have lobbied to have the right rescinded, but so far to no avail. For those trying to run conservation agriculture or zero-till systems where they want to leave crop residues on the ground,

the problem is the grazing mobs move in and remove the crop residues. In addition to compaction issues caused by stock trampling the ground, another problem is that the manure they bring in often contains weed seeds that germinate in the fields. – Story and picture: NEIL LYON.

By NEIL LYON

THE Yaqui Valley in north-west Mexico is an oasis of irrigated agriculture surrounded by a vast desert – an environment which is surprisingly ideal for breeding and developing wheat varieties suited to Australian conditions.

Many of Australia's wheat varieties have been developed by the Mexico-based international research organisation CIMMYT, in the Yaqui Valley.

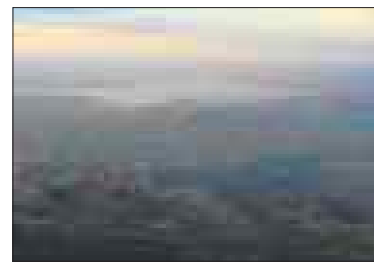
Key to the research is one of CIMMYT's largest research stations, the Norman E. Borlaug Experimental Station (CENEB), which sits in the middle of the valley's 220,000-hectare irrigation scheme, where the average annual rainfall is only 250-300 millimetres.

CIMMYT Board of Trustees chairman and South Australian farmer Andrew Barr said the advantage of the station for developing Australian-suited varieties was it was in an irrigated desert where researchers could tightly control water and growing conditions. Mr Barr said in earlier years, researchers used to fully irrigate the trial crops, which masked genetic variation for some of the stresses that were important in different parts of the world, particularly Australia, "where we know way too much about drought and heat stress".

But in the past 10 years, CIMMYT has purposefully refocused its trials to target a range of different sowing times and moisture regimes.

"They still have early sown, full irrigation with 7 or 8 tonnes/hectare yield potential. But now they also sow late crops with water, which forces the wheat to develop in late spring/summer heat stress. It is not drought stressed – just heat stressed," he said. "They also have early sowing, but instead of a full irrigation system, they put in drip lines and modify the water to get 4t/

Wheat thrives in Mexico



ABOVE AND RIGHT: The Alvaro Obregon Dam supplies water to the 220,000 hectares of irrigation farming in Mexico's Yaqui Valley.

LEFT: Australian wheat scientist and former CIMMYT director of wheat research Tony Fischer in a wheat trial at Obregon, Mexico, with CIMMYT scientist Ivan Ortiz-Monasterio.

ha, and also modify it to get 2t/ha. So now at the one station we have trials that yield 8t/ha, 4t/ha and 2t/ha; have drought and heat; heat alone; or full potential crops."

Mr Barr said it was more difficult to run such a range of different climatic scenarios, including testing for drought, under Australian conditions.

"In Australia the irony is that rain always gets in the way of a good drought from a breeder's perspective.

"You have a drought every four or five years, but in the Australian environment it becomes difficult for a breeder because you make progress in a drought year but the next one is a bumper crop, whereas in

Mexico there is no rain to get in the way. "CIMMYT can generate the different conditions year-in, year-out."

The dry climate and capacity to control crop development through irrigation have also seen farmers in the Yaqui Valley modify the type of crops they produce.

Mexican wheat specialist and CIMMYT Conservation Agriculture Program principal scientist Ivan Ortiz-Monasterio said where the valley was once a major bread wheat-producing area, today the emphasis is on durum wheat supplying both the domestic market and lucrative niche markets around the world.

"Where we have a comparative advan-

tage in terms of producing very high-quality durum is because we have a very dry climate and irrigation. The type of durum people have access to in Europe, for instance, varies a lot from year to year because it is rainfed. The variation in quality is a hassle for the industry. But here we can produce very consistent quality year after year. With good fertiliser management we can produce the same quality year after year and the industry loves that."

Unusually, durum yields in the Yaqui Valley are higher than bread wheat yields – sometimes 0.5t/ha more. And over the past two years, thanks to the introduction of a new variety, Cirmio, irrigated durum

yields have risen from an average of 5-6t/ha to 6-7t/ha. "That is something that hasn't happened over the past 35 years," Mr Ortiz-Monasterio said.

He said with such a focus on wheat production in the valley, the World Bank and Mexican government had been trying to diversify production.

"They ask why the farmers are using so much valuable water to grow wheat and not higher value crops. It is a good question, but if you start to grow vegetable crops, you start to saturate markets we have access to very quickly. Wheat is a very easy crop to manage. And farmers have been making very good money."

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