

Free rein in world wheat gene bank

By NEIL LYON

FOR Australian wheat breeding specialist Richard Trethowan, having access to the largest wheat genebank in the world through the International Maize and Wheat Improvement Centre (CIMMYT) in Mexico is akin to giving a child free rein in a lolly shop.

The University of Sydney Plant Breeding Institute professor, who was a wheat breeder at CIMMYT for 13 years, now heads a team of Australian wheat breeders who travel to Mexico every two years to select potential breeding lines for the Australian wheat industry.

It's a trip Australians have been making since the first wheats from CIMMYT were introduced to Australia in 1973.

Today it is a fine-tuned process run under a partnership agreement called CAIGE, which links Australia not only to CIMMYT but to another major wheat centre, the international Centre for Agricultural Research in the Dry Areas in Syria.

On a recent trip to Mexico, which coincided with the Borlaug Summit on Wheat for Food Security, Professor Trethowan and the team chose promising lines with traits they believed the Australian wheat industry needed.

"We are looking firstly for yield. Beyond that we are looking for white grained, short statured types, a range of resistance to diseases, and also diversity," he said.

"We look carefully at the pedigrees of the different lines – we're after pedigrees that are very different to what we have in Australia because that is new diversity.



LEFT: University of Sydney Plant Breeding Institute professor of plant breeding Richard Trethowan inspects a wheat trial at the Norman Borlaug Experimental Station, Obregon, Mexico, with Universities of Sydney and Queensland CAIGE co-ordinator Sandra Micallef, Brisbane, Qld, Australian Grain Technologies senior wheat breeder Meiqin Lu, Narrabri, and Edstar Genetics principal Ian Edwards, Perth.

"If we pick up a rust-resistant line in the field and take it back to Australia and it has the same genes for resistance as the lines we currently have we are not going to make a lot of progress.

"But if we pick up a line that has a very different pedigree and origin there is a much higher probability it will bolster the defence against

rust diseases in Australia."

The lines that make it through the selection process will be brought to Australia where they will be evaluated by breeders and provided to breeding companies to cross with other lines.

Professor Trethowan said the reason CIMMYT didn't release them directly was because of quality issues.

"Here at CIMMYT the focus is on the developing world where they need volume in their wheats," he said.

"Most people there turn CIMMYT wheats into flat bread so they don't need premium quality."

"In Australia we have a segmented export market and distinct quality classes.

"The basic quality you find in the CIMMYT wheats doesn't fit those quality classes, so there needs to be a cycle of breeding that takes advantage of the yield and disease resistant traits of the CIMMYT material and the quality of the Australian material. That is what the plant breeders do in Australia."

Dispute over herdsmen's rights

MEXICAN graingrowers attempting 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 prevent their stock straying onto the fields where crops are growing, they

have open slather on fallow and stubble country.

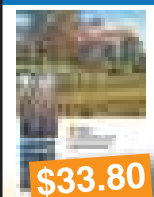
Farmer groups have been lobbying to have the right rescinded, but so far to no avail.

For those trying to run conservation agriculture or zero till systems where they want to leave crop residues on the ground, the problem is that the grazing mobs move in and remove the crop residues.

In addition to compaction issues caused by the stock trampling the ground, another problem is that the manure they bring in often contains weed seeds that germinate in the fields.



ORDER BOOKS ONLINE www.ruralbookshop.com.au



Cattle Yards – Design, Materials And Construction

By Evan Powell and John Lapworth Book code: 2889

Cattle yards is a how-to-do-it guide to locating, planning and building yards for cattle. It covers every aspect of building yards, including more than 80 diagrams to explain construction and 21 plans of cattle yards.

\$33.80

rural bookshop



Dinofert Standard Pellets is produced from aerobically composted poultry manure and is the perfect, cost affordable soil conditioner solution for post-harvest applications in vineyards, or as a pre-plant application in vegetable and broad-acre winter cereal crops.

- ✓ Natural slow release fertiliser that improves soil organic matter content.
- ✓ Soil enriching goodness such as beneficial soil bacteria, yeast, humus, amino acids and all the nutrients essential for plant life.
- ✓ Increase soil water holding capacity and soil structure.
- ✓ Enhances soils cation exchange capacity which facilitates greater nutrient retention.
- ✓ Heat treated to kill weed seeds and harmful pathogens.
- ✓ Easier to spread than raw manure
- ✓ Can be applied through spinners, vicon type applicators, planters, droppers, air seeders and bulk spreaders.

Available at your local agribusiness

Contact us to find where to buy

(02) 4773 4291



www.dinofert.com.au