

A close-up, low-angle shot of wheat and barley stalks, showing the intricate details of the grain heads and the golden-brown color of the stalks. The lighting is warm, highlighting the texture of the grain.

Wheat and barley

**REPORT**

# *Target*

## *Focus on*

- **Drought tolerance - yield under water limitation**
- **Target 2 to 4 drought prone environments**
- **Specify traits to maximise heritability**
- **Breeding ideotype in target environments should be conserved**



# Wheat prices whipped up by wind damage

## COMMODITIES

By Chris Flood

Wheat's record-breaking run continued yesterday amid fears over damage to the harvest in Australia and reports of strong demand from key importing nations.

French November milling wheat futures hit €300 a tonne, before easing back to trade 1.6 per cent higher at €289.50 a tonne.

In Chicago, the September wheat contract jumped 79 cents, or 9.8 per cent, to \$8.86 a bushel, a record, before easing back to trade 23 cents higher at \$8.30 a bushel. The most active CBOT December wheat contract rose by its 30 cent daily trading limit to \$8.35½ a bushel.

Hot winds have damaged the crop in Western Australia which produces about 40 per cent of the country's wheat output. "The hot, windy day caused huge damage," said Kim Chance, Western Australia's Minister of Agriculture and Food. "I would say commodity traders trying to get a handle on

slipped on profit-taking, with the September contract down 3½ cents to \$8.89 a bushel.

Crude oil prices traded in a narrow range before the latest weekly US inventories data, due for release today, which were expected to show a decline in crude and petrol stocks.

In late trade, ICE October Brent rose 42 cents to \$74.34 a barrel while Nymex October West Texas Intermediate added 65 cents at \$75.73 a barrel.

Freight rates continued their record-breaking run with the Baltic Exchange's Dry Freight index rising 2.3 per cent to 8,090 points.

Robin Bhar of UBS said freight rates provided a good forward indicator of demand for base metals.

"Although we expect industrial metals to drift lower amid slower global growth, positive trends in freight rates suggest a collapse in [metals] prices is unlikely," said Mr Bhar.

Gold eased 0.1 per cent to \$682.20 a troy ounce.

## *What is the likely genetic control of target traits?*

- 1. Expect range of heritabilities**
- 2. Additive and epistatic effects**
- 3. Highest priority to locate QTL to a region suitable for selection (10-20 cM)**

## *What sources of variation?*

- 1. Elite germplasm**
- 2. Land races**
- 3. Wild relatives**

# conclusions

- 1. Sufficient populations available for marker development. However, insufficient information to develop a comprehensive list.**



# conclusions

**2. Undertake an international survey of available populations with focus on drought.**

**Selected populations should be phenotyped for distinct and target specific drought resistance traits.**



# conclusions

**3. New work required to position wheat and barley for future projects that will develop through the availability of physical maps.**

**Test options for new population structures to support high resolution mapping and positional cloning.**



# conclusions

*What can be achieved in 2-3 years?*

- 1. Global survey of available populations**
- 2. Initial drought phenotyping of choice populations**
- 3. New work to test options for new population structures, on a limited and exploratory scale**



# conclusions

## *Engagement of breeders*

- 1. Adoption of GCP outcomes by informed breeders - key criterion for project success**
- 2. Greater involvement of wheat and barley breeders**
  - Target CIMMYT and ICARDA and key NARS**
- 3. Establish breeders forum –**
  - International Wheat and Barley Genetics Symposia in 2008**



# conclusions



## *Bottlenecks in Application*

1. Relevant to breeding objectives
2. Capability of breeder to adopt – time, infrastructure, expertise, funding
3. Quality and format of available information
4. Relevance of germplasm

## Phases of adoption

5. Provision of support - Genotyping services
6. High quality and reliable information
7. Trust

# conclusions

## *GM applications*

**GM delivery pathways should be considered alongside conventional applications where scientifically appropriate**

