

The International Adaptation Trial Achievements for 2006

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The Goal

- Better varieties to Australian growers, faster
- Evaluate Australian and CIMMYT germplasm in Australia and global wheat production regions
 - understand Australian germplasm on a global scale
 - link Australian production environments to global wheat production regions
- Probe and reference genotype sets
 - isolines, related lines
 - **broadly adapted reference lines**

- AUSIAT2006
 - entries
 - locations: Australian and Internationally
- Current Results
 - general points
 - maturity
 - site correlations
 - grain size and protein
- New staff
- AUSIAT2007

Seed Distribution – changes in entries

2005

WYLAH

ROSELLA

TUI

BABAX

CHEN/AE.SQ//WEAVER

BJY/COC//PRL/BOW/3/ATTILA

GEN*2//BUC/FLK/3/2*PASTOR

TOB/ERA//TOB/CNO67/3/PLO/4/VEE#5/5/KAU
Z/6/URES/JUN//KAUZ/7/URES/JUN//KAUZ

2006

WENTWORTH

YOUNG

WORRAKATTA/PASTOR

BERKUT

SERI*3//RL6010/4*YR/3/PASTOR/4/BAV92

VOROBAY

SOKOLL

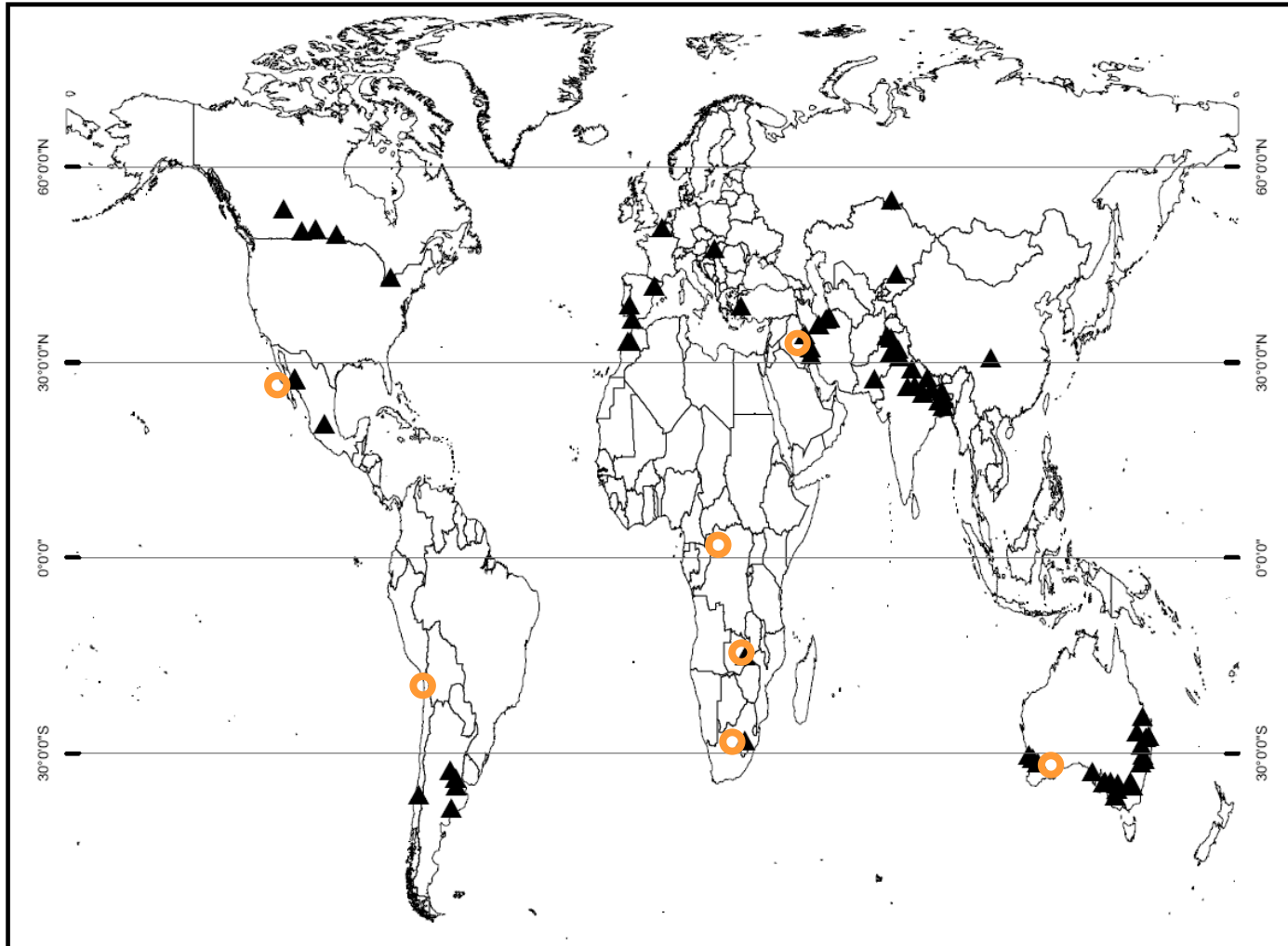
SUNCO/2*PASTOR

Seed Distribution - locations



International Locations

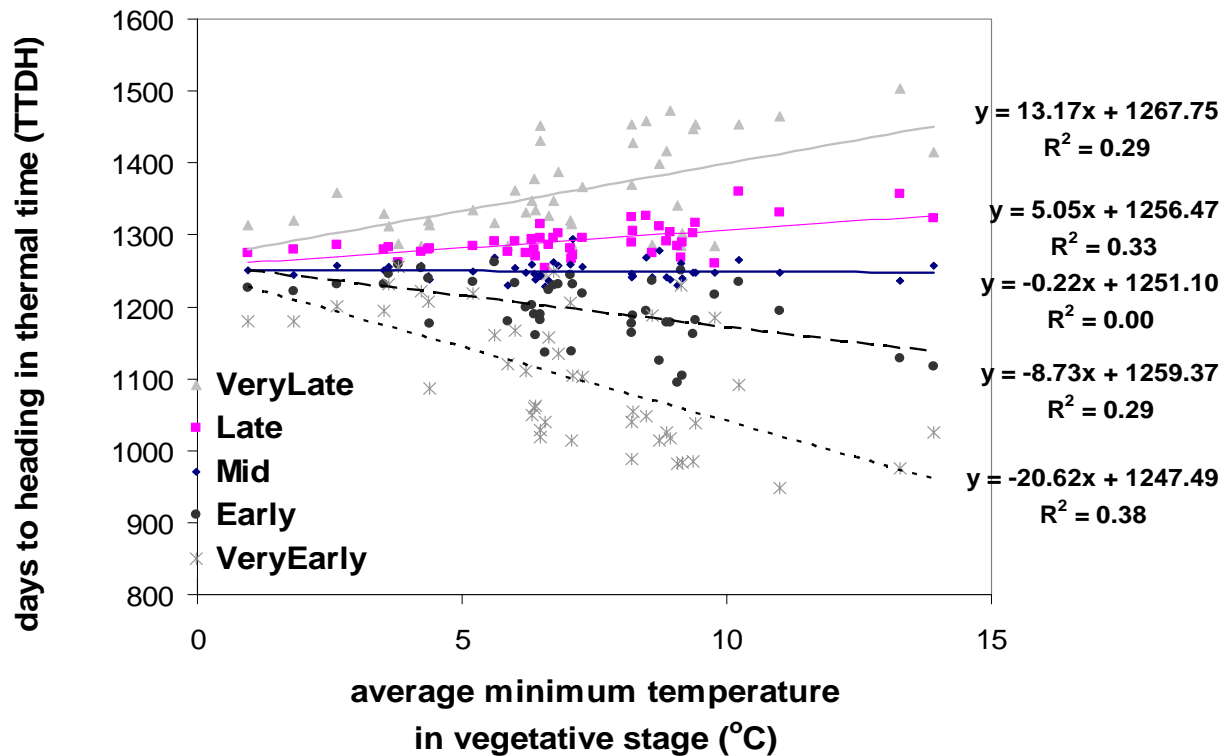
- ▲ Analysed
- New



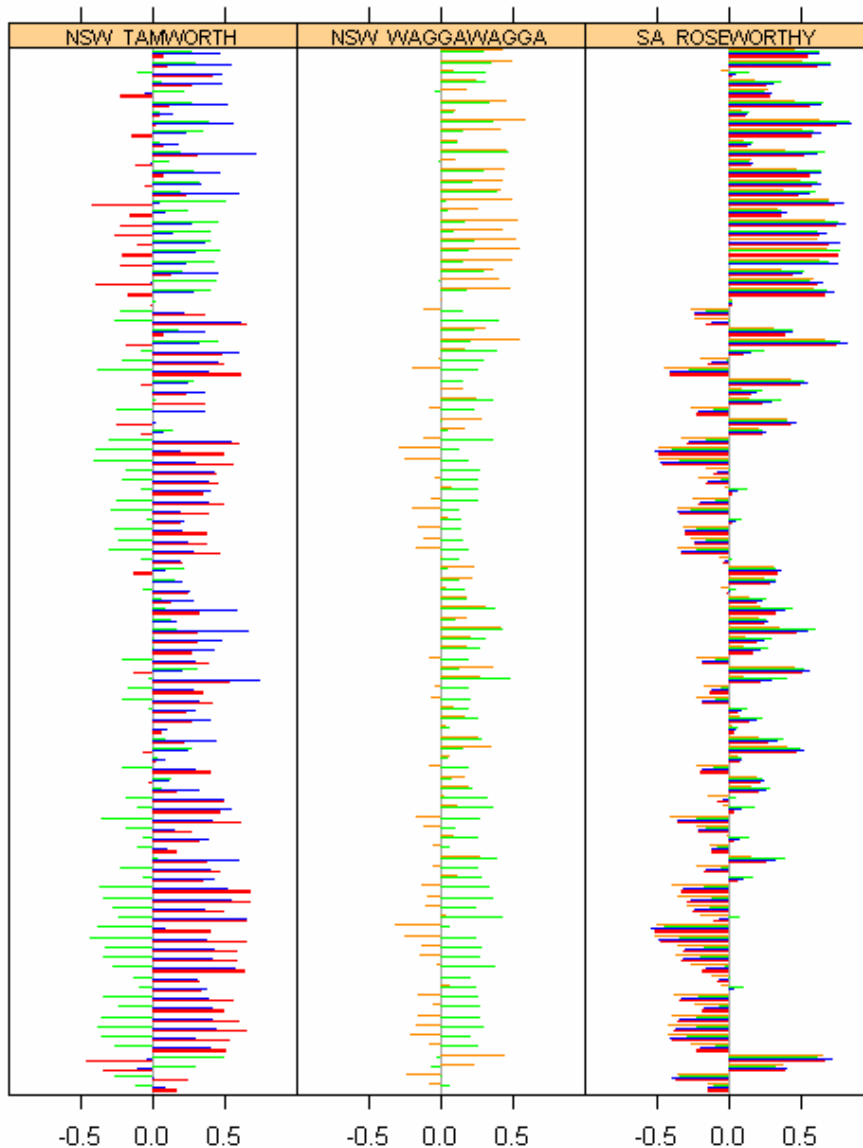
Current results

- CIMMYT and Australian lines have different adaptation patterns
 - CIMMYT lines tend to be earlier maturing
 - Australian lines vary in maturity
 - Australian lines best adapted to southern and western Australian locations
 - in Australia, CIMMYT lines perform best in the northern region
 - Australian northern environments are highly correlated with CIMMYT and their representative environments
- Data in GWIS and on CAGE website

Genotype groups for flowering



Australia links to the world!



Year
2001
2002
2003
2004

Sth America

Oceania

Nth America

Middle East

Europe

Asia

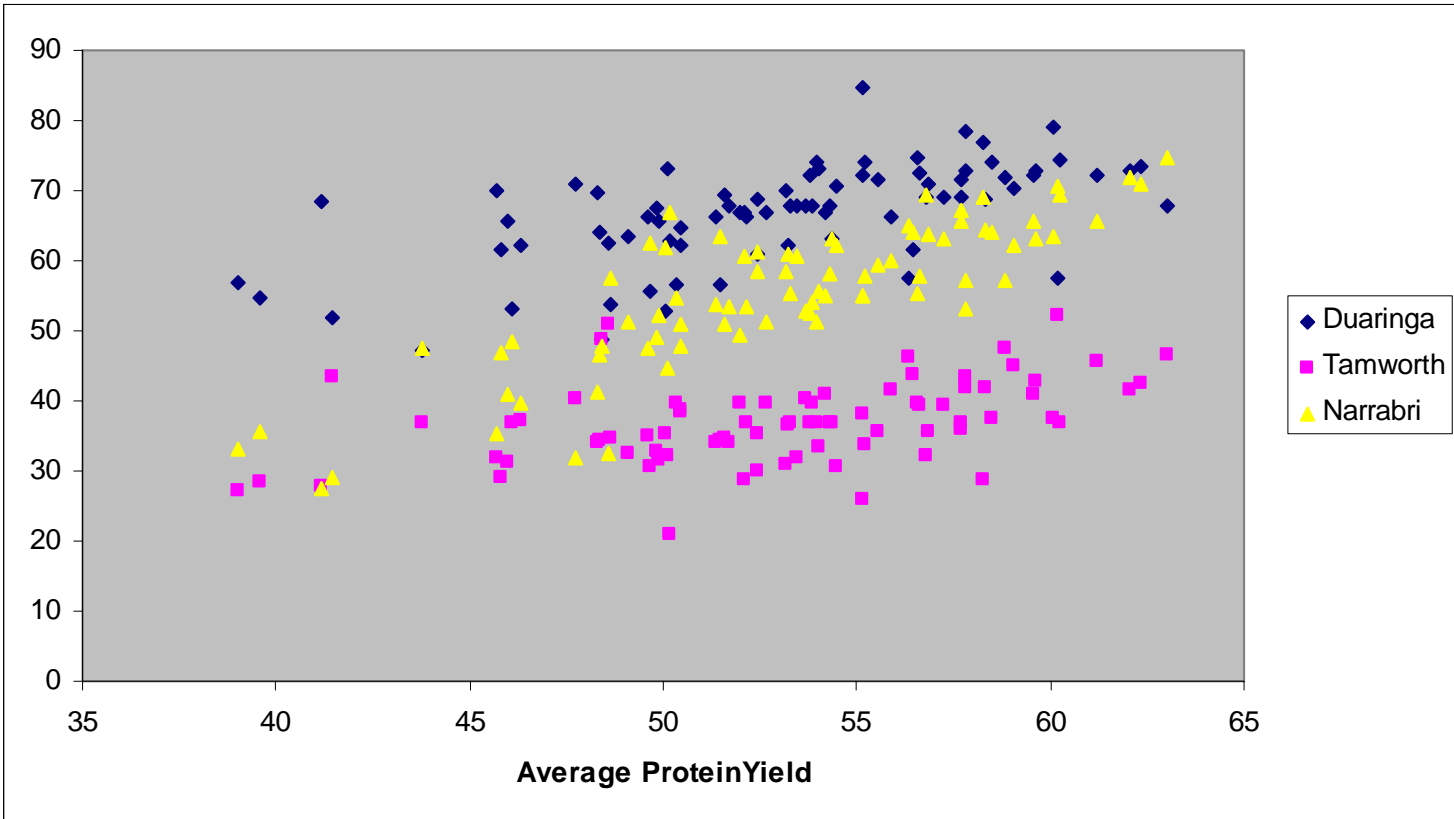
Africa

Site Correlations

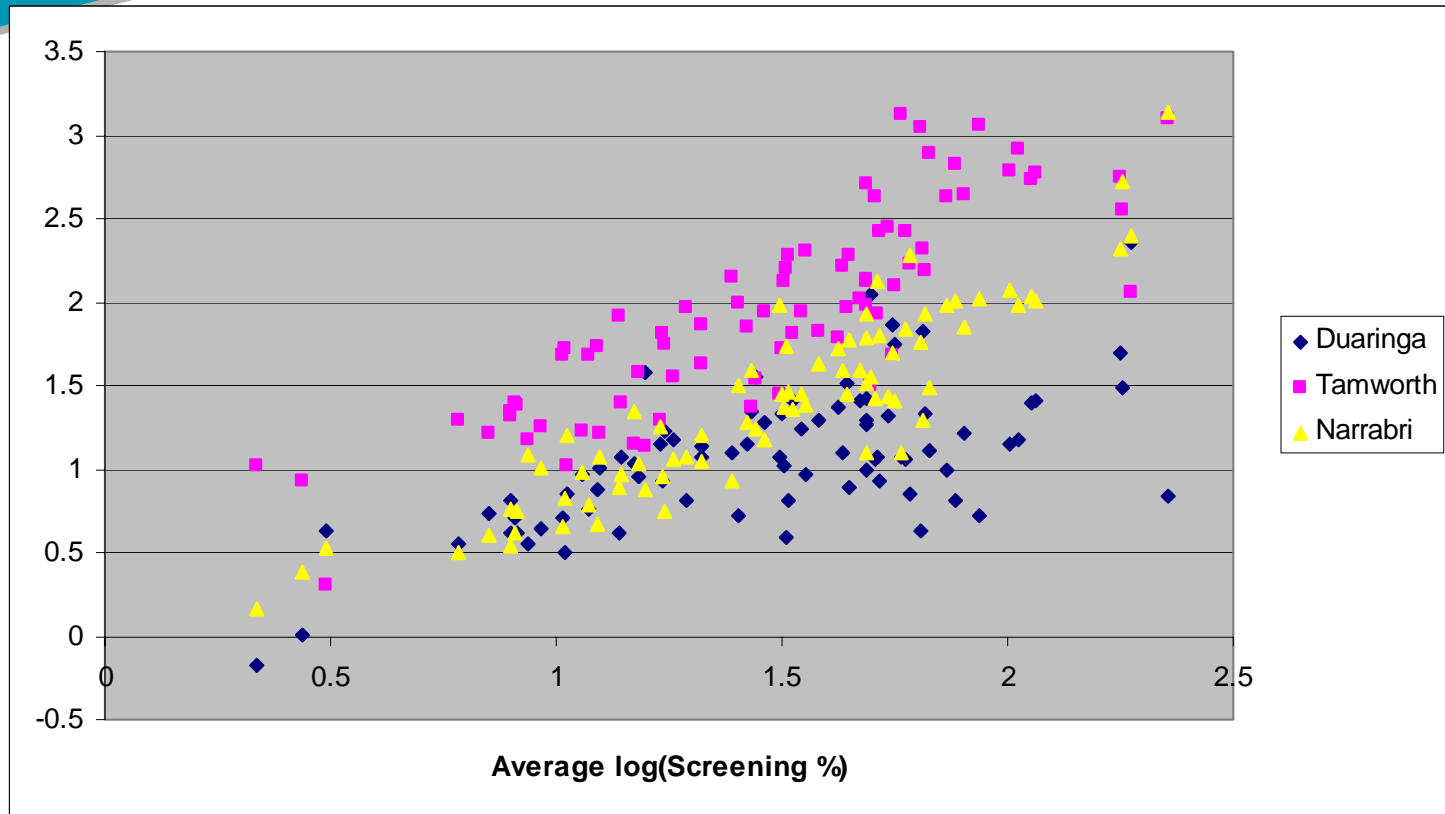
GxE Grain Size & Protein

- thousand grain weight
- %screenings
- protein% from NIR
- processed: Duaringa, Narrabri and Tamworth
- to be processed: Wagga, Robinvale, Goomalling, Morawa, North Yuma

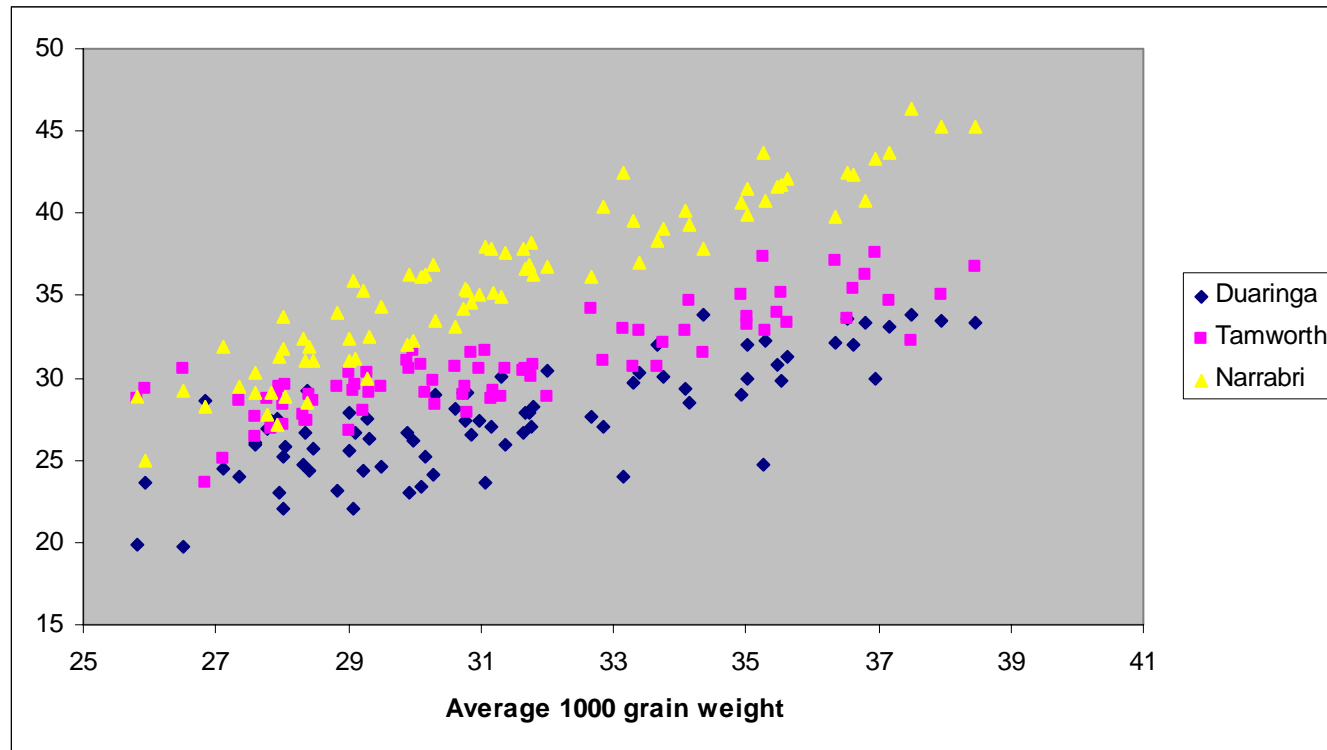
ProteinYield



Log Screening%



1000 grain weight



Introduction to Kathryn Lambkin

- Data technician to assist in collation, management and analysis of data



Lines for 2007

New CIMMYT Entries

- BJY/COC//PRL/BOW/3/FRTL
- FRTL/2*PIFED
- CNO79//PF70354/MUS/3/PASTOR/4/BABAX
- RL6043/4*NAC//PASTOR/3/BABAX
- ATTILA/PASTOR

Any new Australian lines?

Summary

- IAT2006 to 2007
 - new entries CIMMYT & Australian
- GxE Quality
 - physical characteristics (seed size, hardness)
- Window-on-wheat
 - concept development
 - e.g. user site selection based on genetic correlations?
 - implementation
 - linkage with ICIS (CIMMYT), GWIS, CAGE?
- Integrating IAT, GET and NVT
 - co-location
 - linkage via check entries

Acknowledgements

- Grains Research and Development Corporation
- International and Australian collaborators who grew the trial (and returned data!)