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Disclaimer

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The International Adaptation Trial 2005

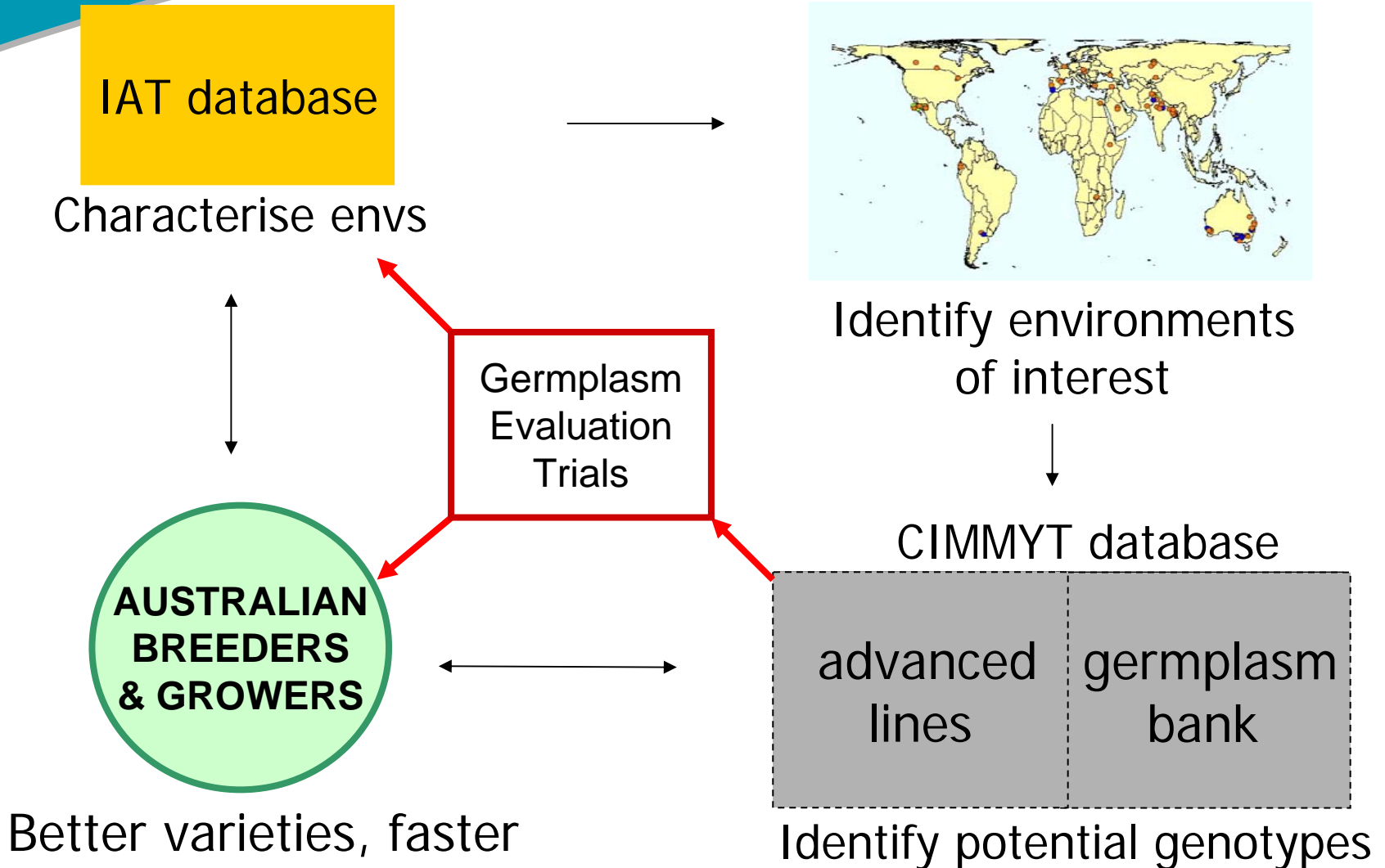
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Scott Chapman

Richard Trethowan
Tom Payne
Jose Crossa

The Goal

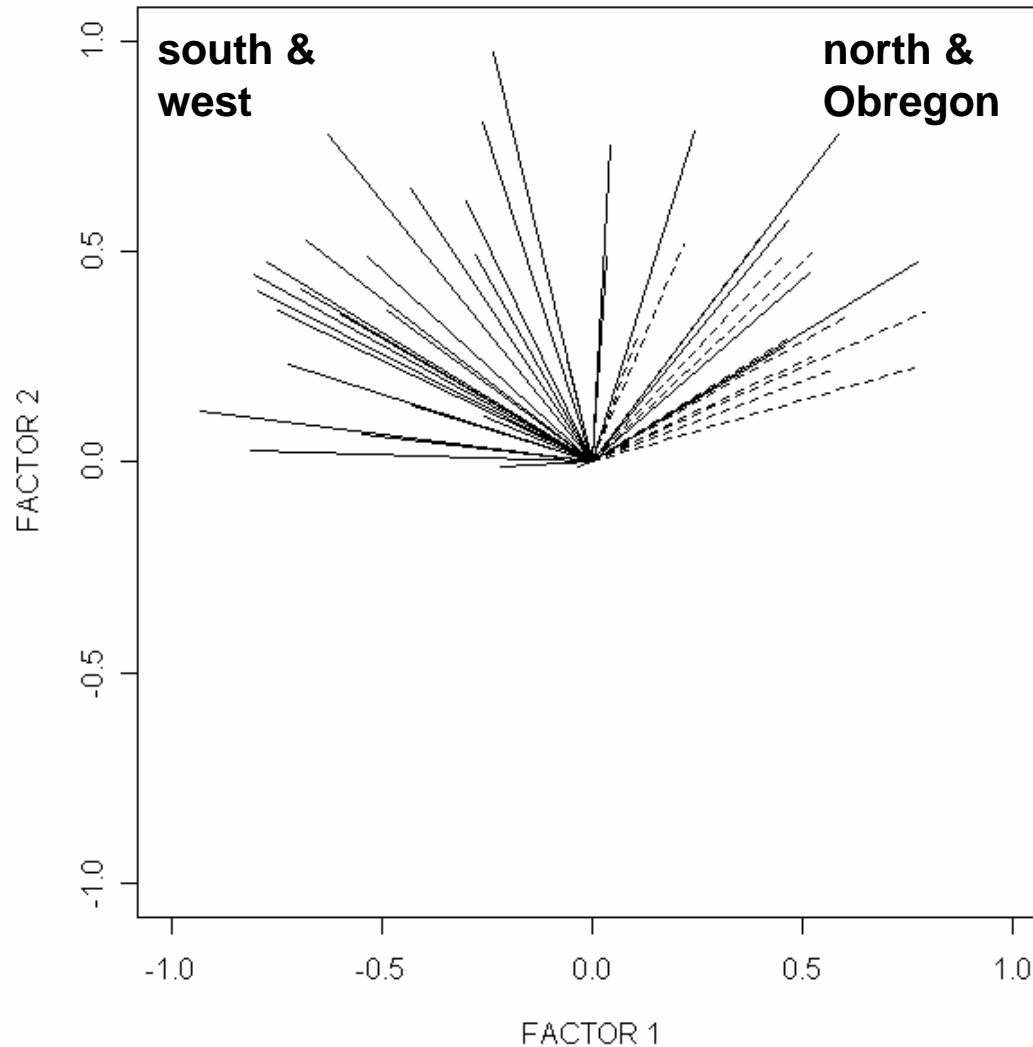
- Better varieties to Australian growers, faster
- Evaluate Australian and CIMMYT germplasm in Australia and global wheat production regions
 - understand Australian germplasm on a global scale
 - link Australian production environments to global wheat production regions
- Probe and reference genotype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

Vision for integrating wheat data



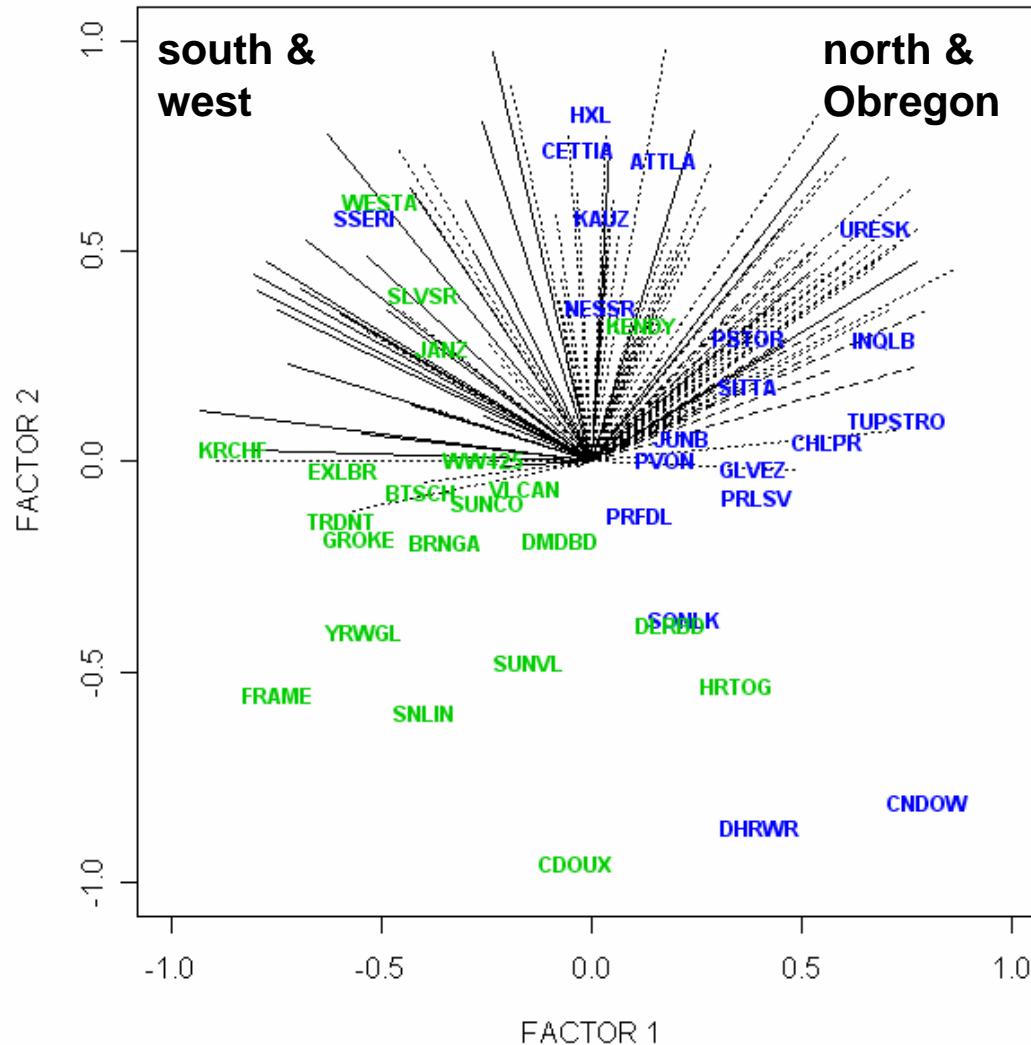
Environment Correlation Australia & Obregon

2001 - 2004



Germplasm Adaptation

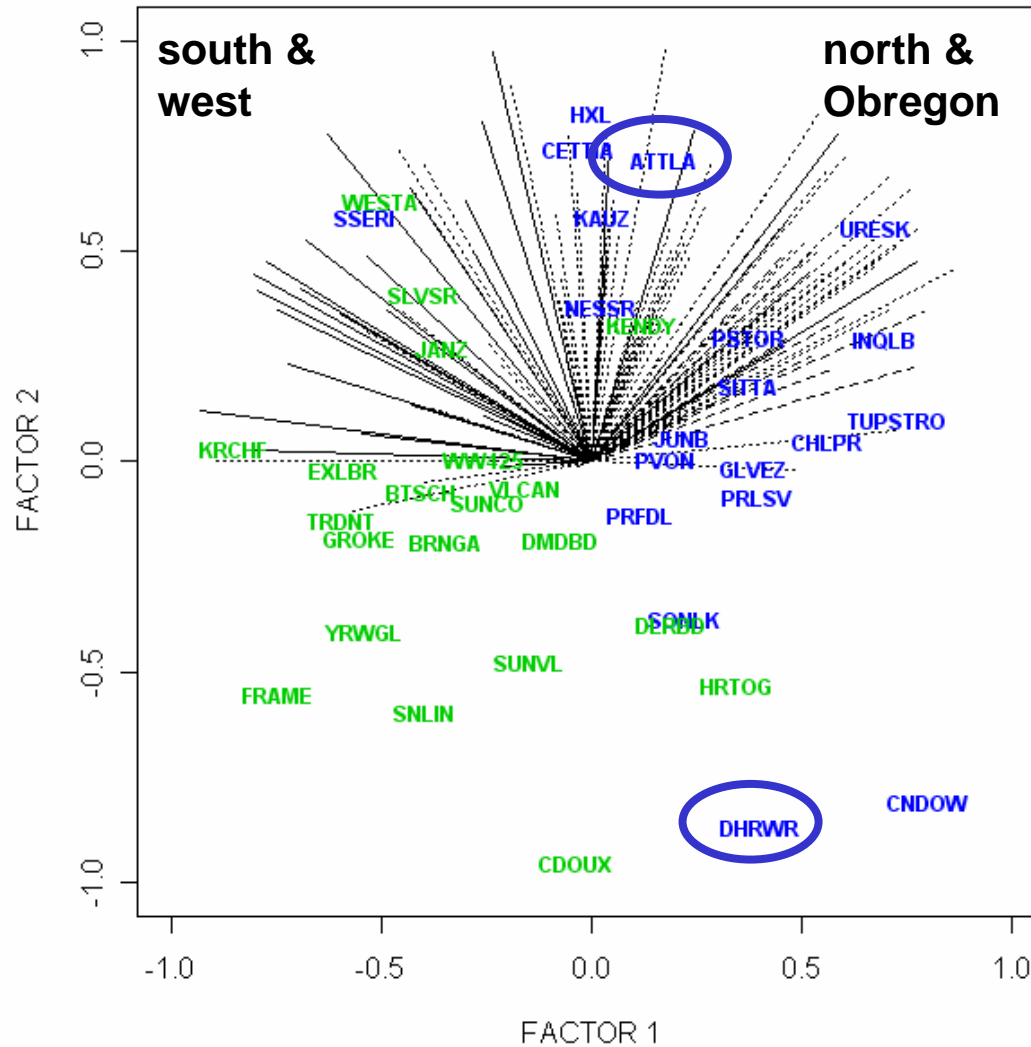
2001 - 2004



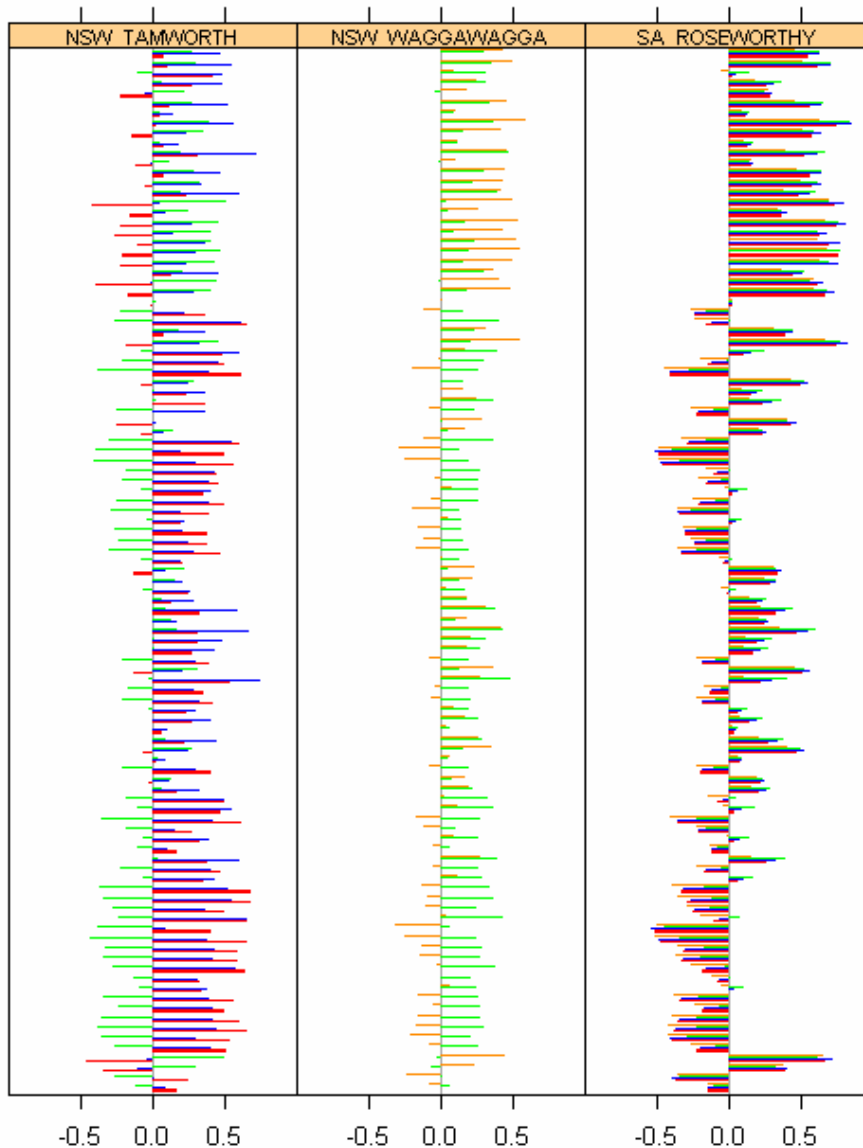
AUSTRALIA
CIMMYT

Germplasm Adaptation

2001 - 2004



Australia links to the world!



Sth America

Oceania

Nth America

Middle East

Europe

Asia

Africa

Year

2001

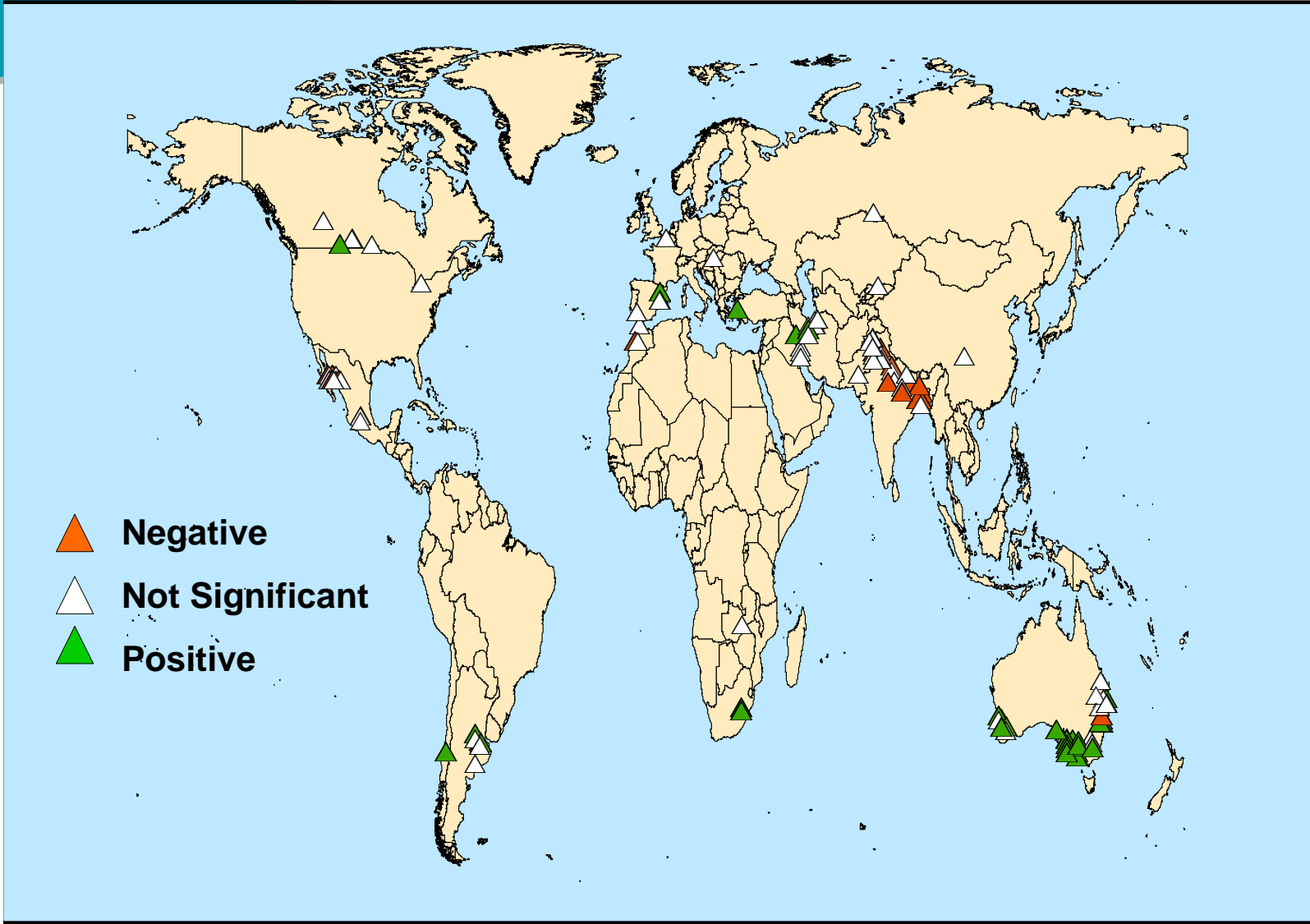
2002

2003

2004

Site Correlations

Site Correlations with Roseworthy



Window-on-wheat

CIMMYT Nurseries
(ESWYT, SAWYT, HRWYT)
1994-2004
723 genotypes
340 locations

IAT Locations
correlated with Roseworthy
13 locations

CIMMYT Nursery subset
723 genotypes
10 locations

CIMMYT germplasm
Top 10% within trials
338 genotypes

Further criteria for potential germplasm?

- Phenotypic information on these or related lines
- Material currently in Australian quarantine
- Genetic information
 - pedigree
 - genetic makeup
- where tested
 - International Adaptation Trial
 - Germplasm Evaluation Trial

IAT 2005

North Yuna
Morowa
Badgingarra
Wongan Hills
Goomalling (2)
Merredin Light



Duaringa
Cambooya
Croppa Creek
Narrabri
Tamworth

Junee
Wagga

Roseworthy
Minnipa

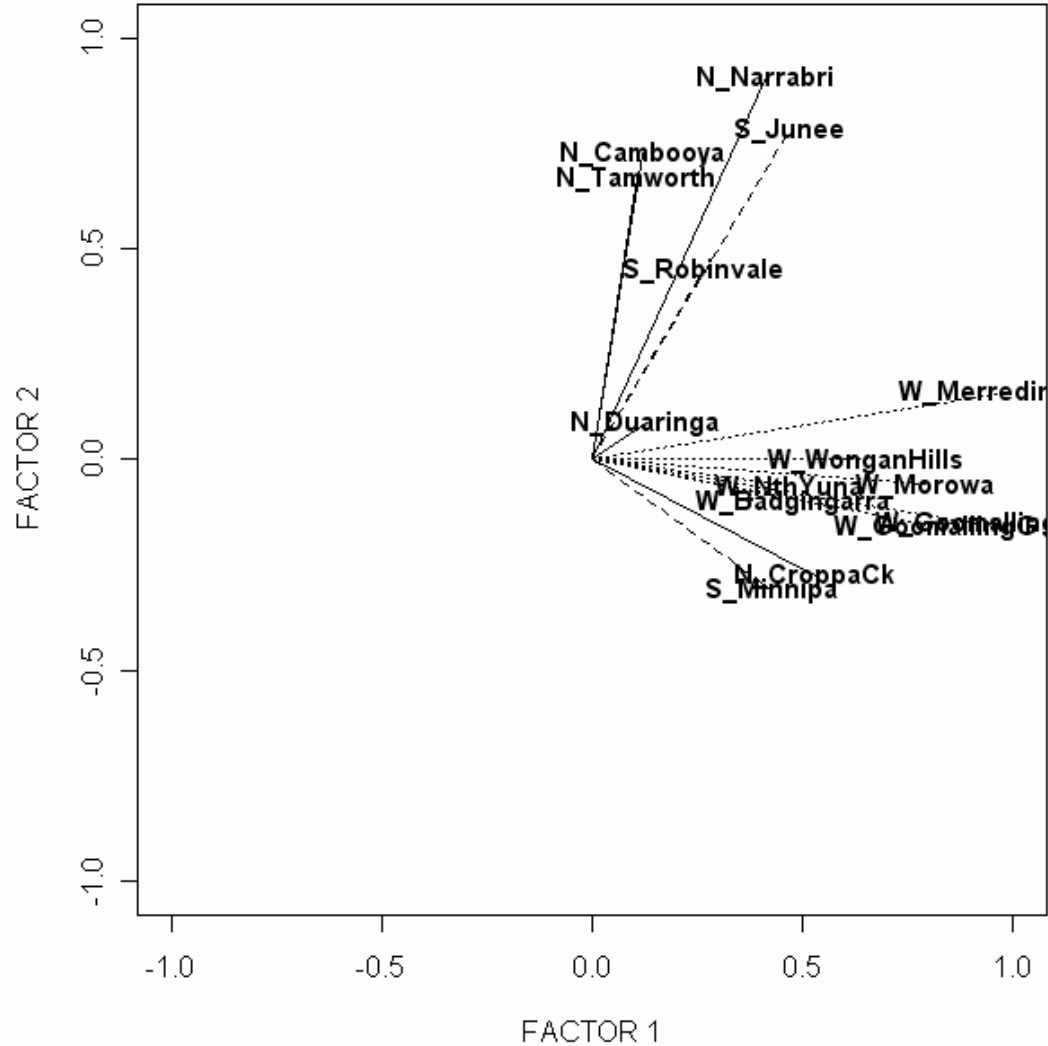
Robinvale

2005AUSIAT best performers

- | | |
|--------------------------------|--------------------------------|
| ★ 1. ATTILA*2/PBW65 | ★ 11. YITPI |
| 2. SUPER SERI #1 | ★ 12. PUGSLEY |
| ★ 3. IRENA/BABAX//PASTOR | ★ 13. PRL/2*PASTOR |
| 4. ATTILA | 14. NESSER DWARF |
| 5. KAUZ DWARF | 15. FRAME |
| ★ 6. WEEBILL1 | 16. SERI DWARF |
| ★ 7. MILAN/KAUZ//BABAX/3/BABAX | 17. TRIDENT |
| ★ 8. PASTOR/BAV92 | ★ 18. PASTOR/3/VEE#5//DOVE/BUC |
| 9. BABAX | ★ 19. VENTURA |
| ★ 10. ANNUELLO | 20. PASTOR |

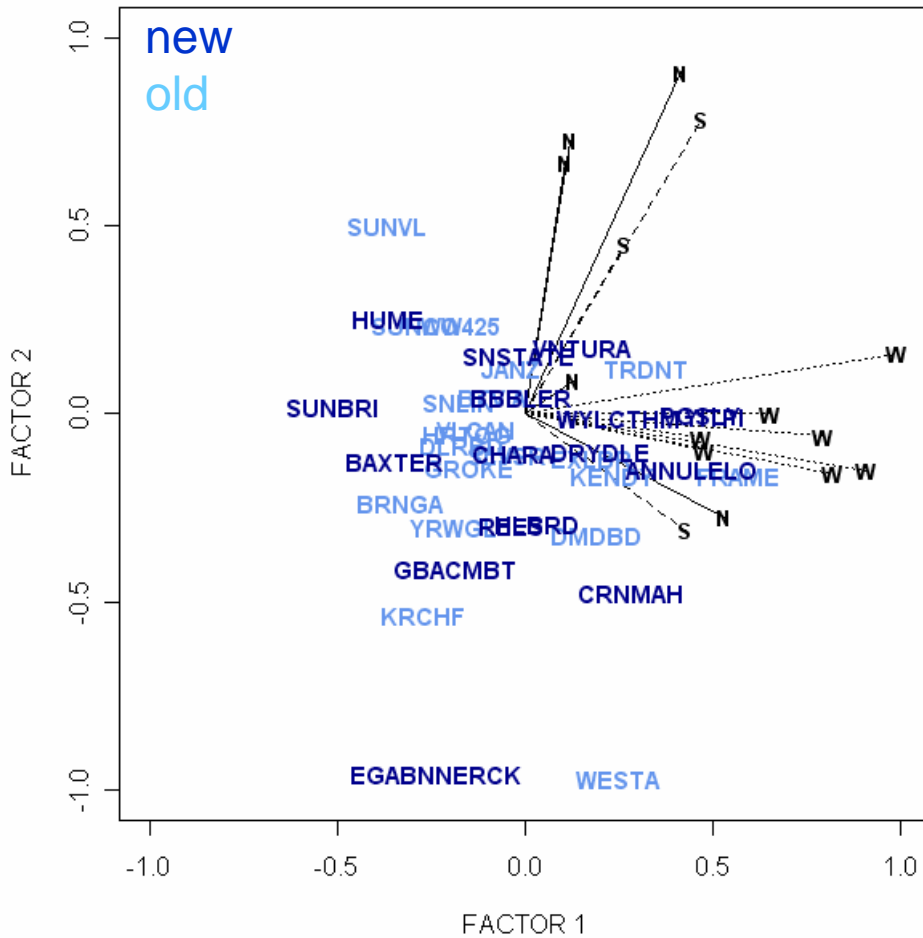
Yield Range: 2.4 – 2.8 t/ha

2005 AUSIAT Sites

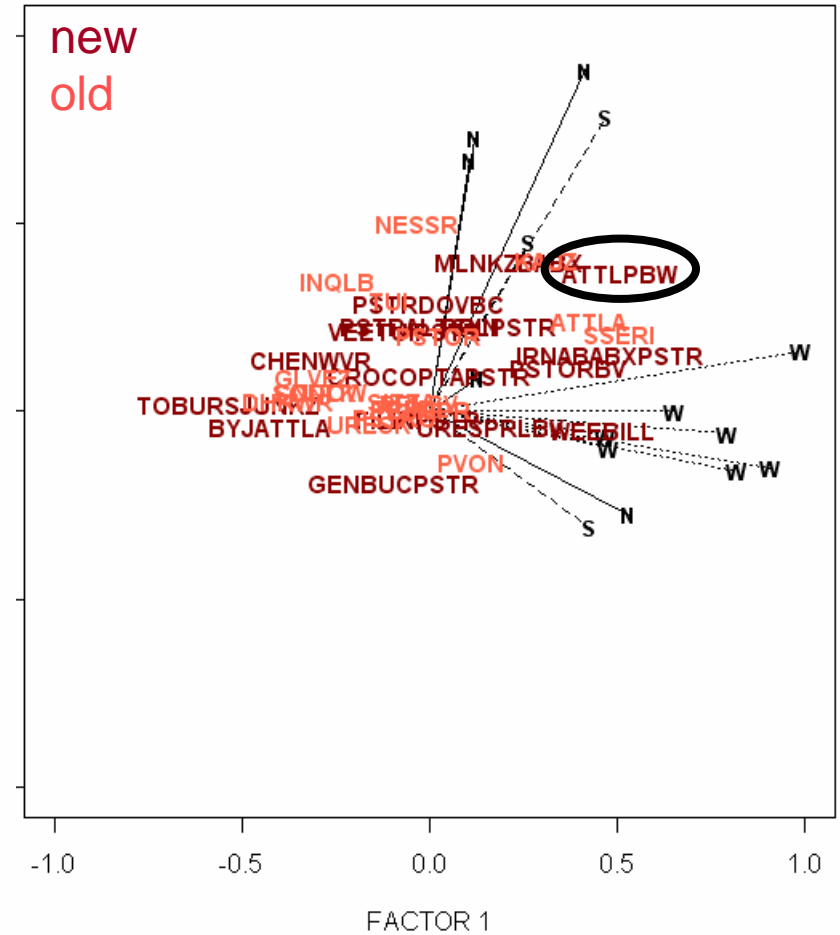


The updating of lines...

AUSTRALIA



CIMMYT



Summary

- Window-on-wheat
 - concept development
 - implementation
- IAT2005 to 2006
 - new entries CIMMYT & Australian
 - fungicide
- GxE Quality
 - physical characteristics (seed size, hardness)
- Integrating IAT, GET and NVT
 - co-location
 - linkage via check entries

Acknowledgements

- Grains Research and Development Corporation
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- GrainBiotech Australia (Chris Moore & Paul Fox)
- QDPI&F (Douglas Lush & John Sheppard)