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Agriculture and Food



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Tolerance to ion toxicities enhances grain yield in acid soils prone to flooding and terminal drought

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Barker

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Three key messages

- **Ion toxicities in transiently WL acid soils reduce root and shoot growth of intolerant wheat genotypes**
- **Drought accentuates the adverse effect of ion toxicities on root growth**
- **Wheat genotypes with enhanced tolerance to ion toxicities produce greater grain yield than intolerant genotypes in acid soils prone to transient WL and terminal drought. A deep root system to allow uptake of water in acidic soils with a dry surface layer is contingent on tolerance to multiple ion toxicities.**



Slide 2

ZR1

The first sentence in the 3rd point is the same as the first point

Zed, 29/01/2015

Ion toxicities are induced in transiently WL acid soils



Variation for tolerance to Al,



Mn



and Fe exists within Australian wheat



The growth and grain yield of tolerant wheat genotypes is less affected in waterlogged acid soils

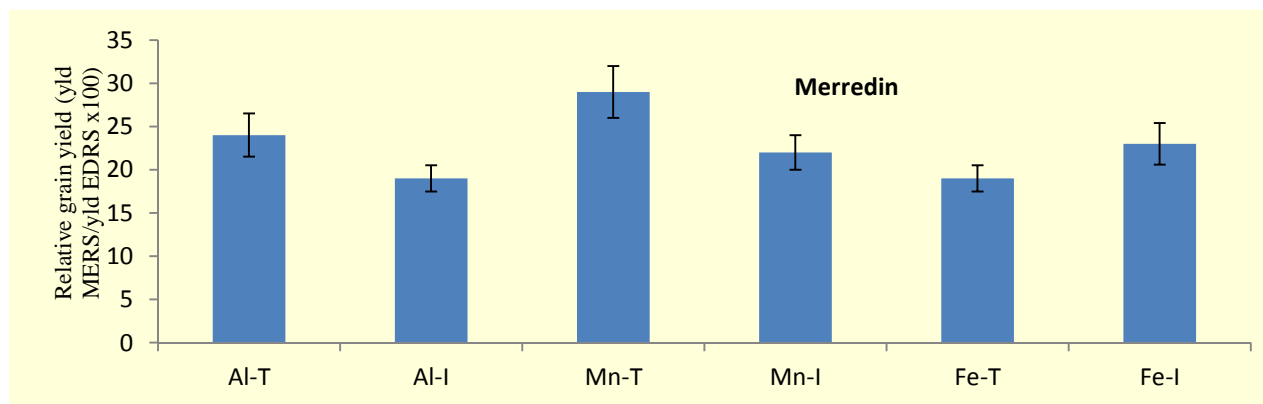


Al-I vs. Al-T

Mn-I vs. Mn-T

Fe-I vs. Fe-T

Tolerance to ion toxicities enhances yield in drought-prone acidic soils





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Wheat genotypes with enhanced tolerance to individual ion toxicities produce greater grain yield (5-10%) than intolerant genotypes in acid soils prone to transient waterlogging and terminal drought.





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Questions?

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Slide 10

ZR3

deleet fax, nobody is using that these days

Zed, 29/01/2015