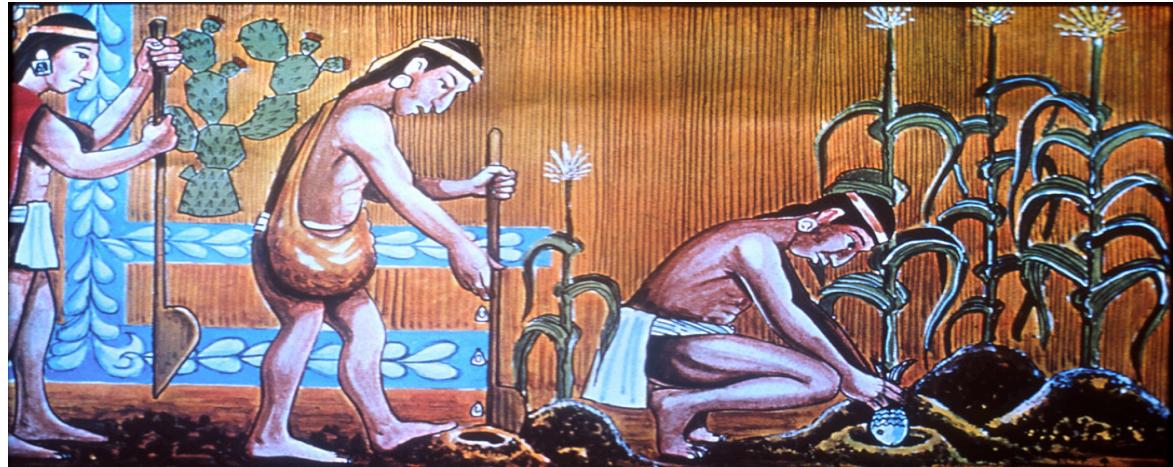




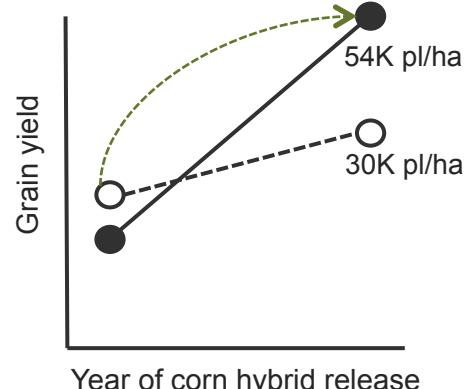
Systems agronomy for maize and sorghum in the Northern Region

Daniel Rodriguez

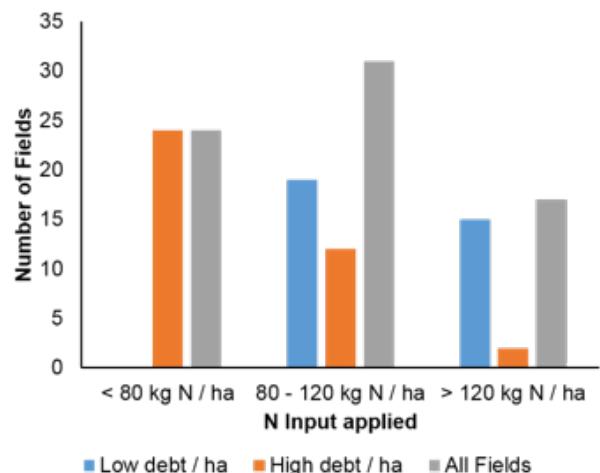
B George-Jaeggli, J McLean, P deVoil, J Eyre



A system for agronomy

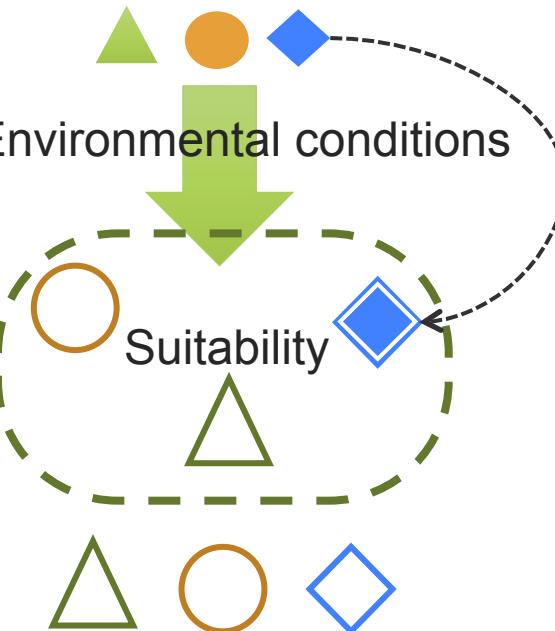


Adapted from Fischer, (2015)



Roxburgh & Rodriguez, (2017)

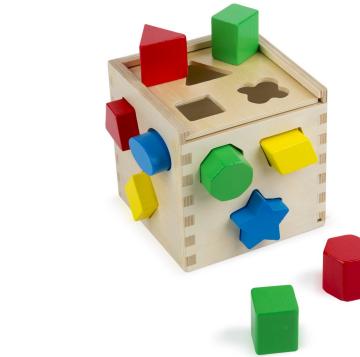
Crop design (GxM)



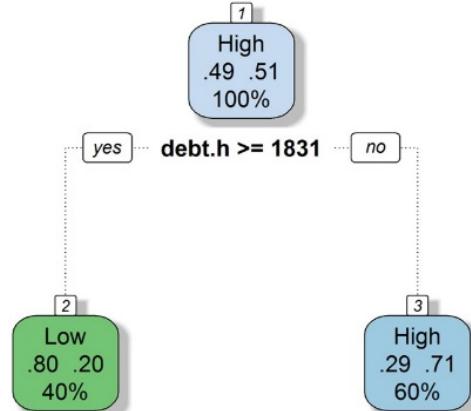
Farm diversity

- Local conditions
- Farmer
- Machinery
- Farm activities
- Farm debt
- Markets & value chains

Adapted from Giller et al., (2015)



Debt/ha effect on Yield



Roxburgh & Rodriguez, (2017)

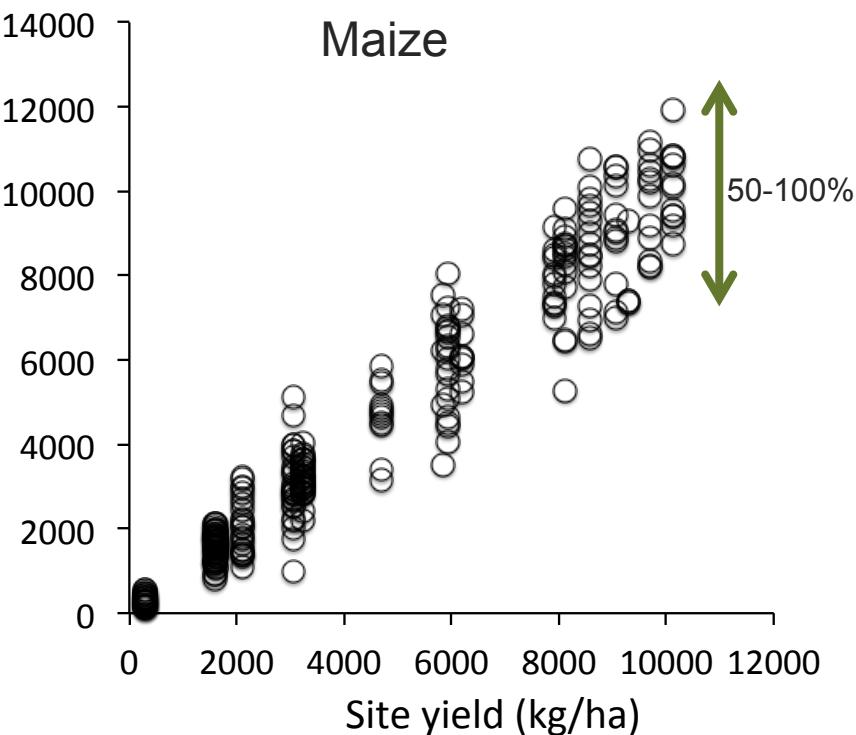
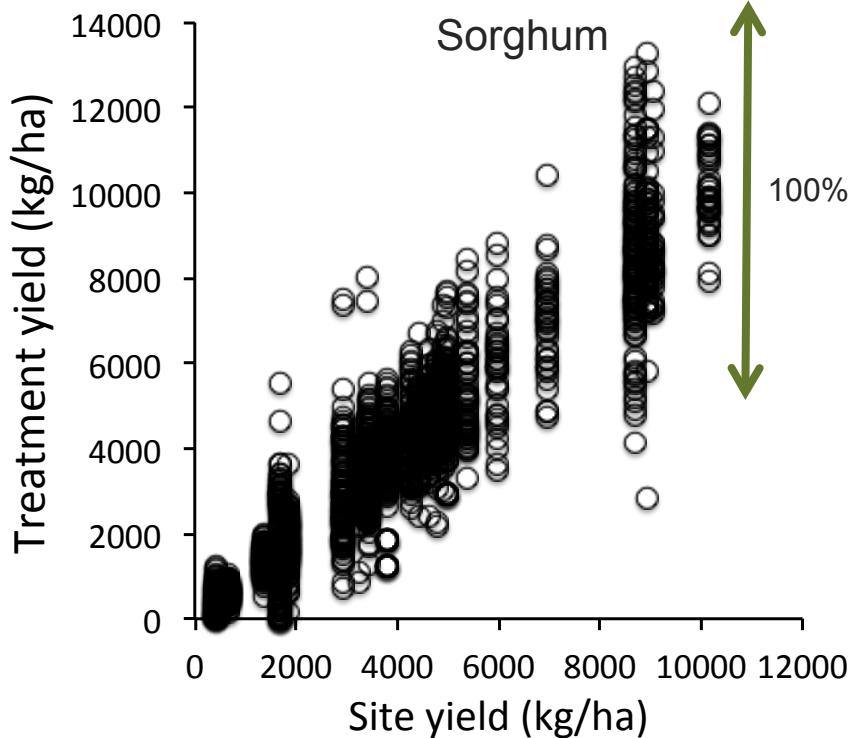
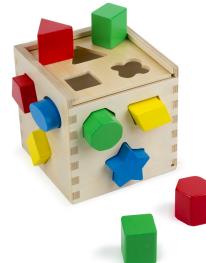
Field agronomy

2014/15 & 2015/16 data set

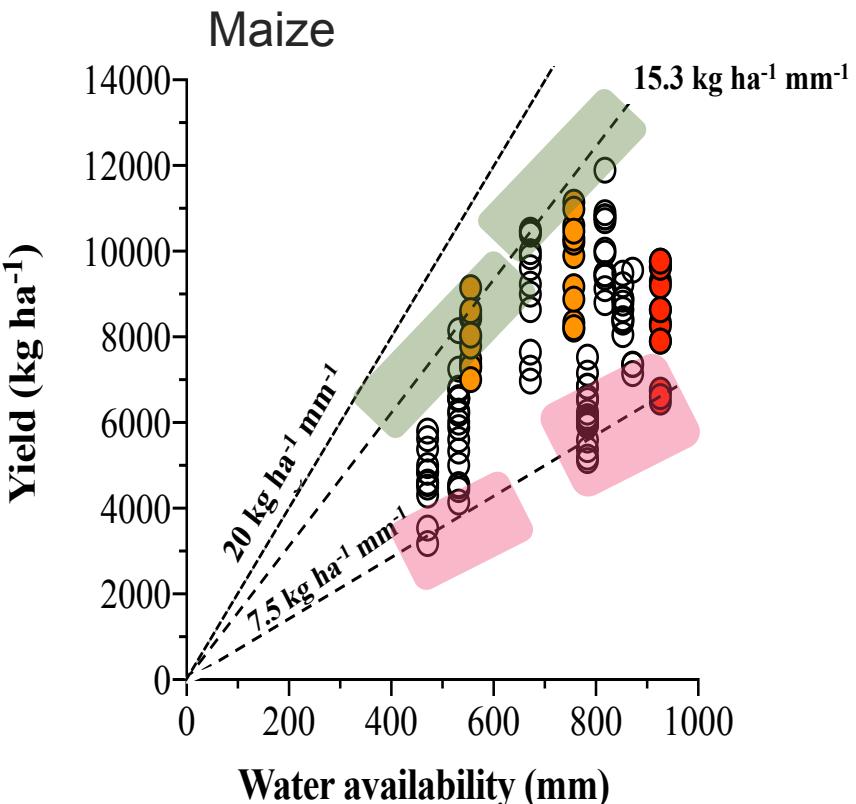
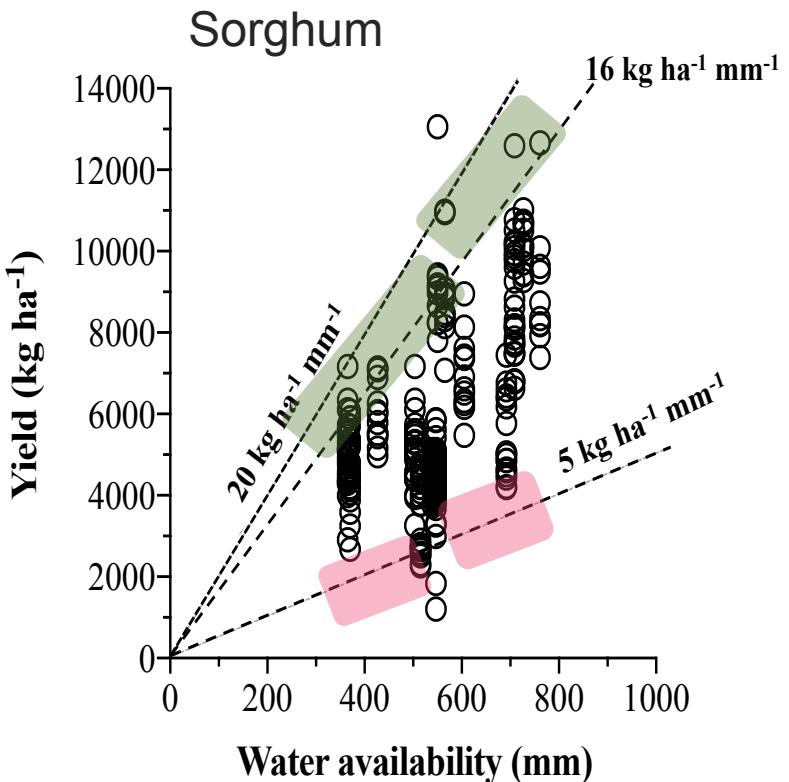
- 14 sites in Queensland and NSW
- Densities 40, 50, 60, 70, 80k p/ha
- Solid and single skip (3 sites)
- Most commercial hybrids
- 3 - 4 replications
- ~2000 sorghum plots
- ~1500 maize plots



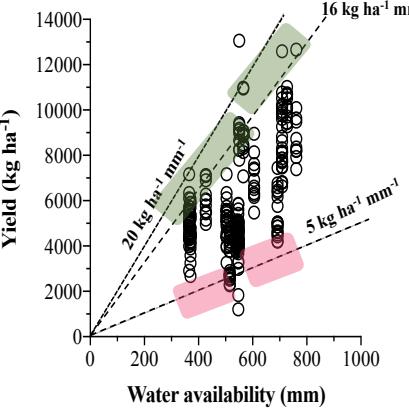
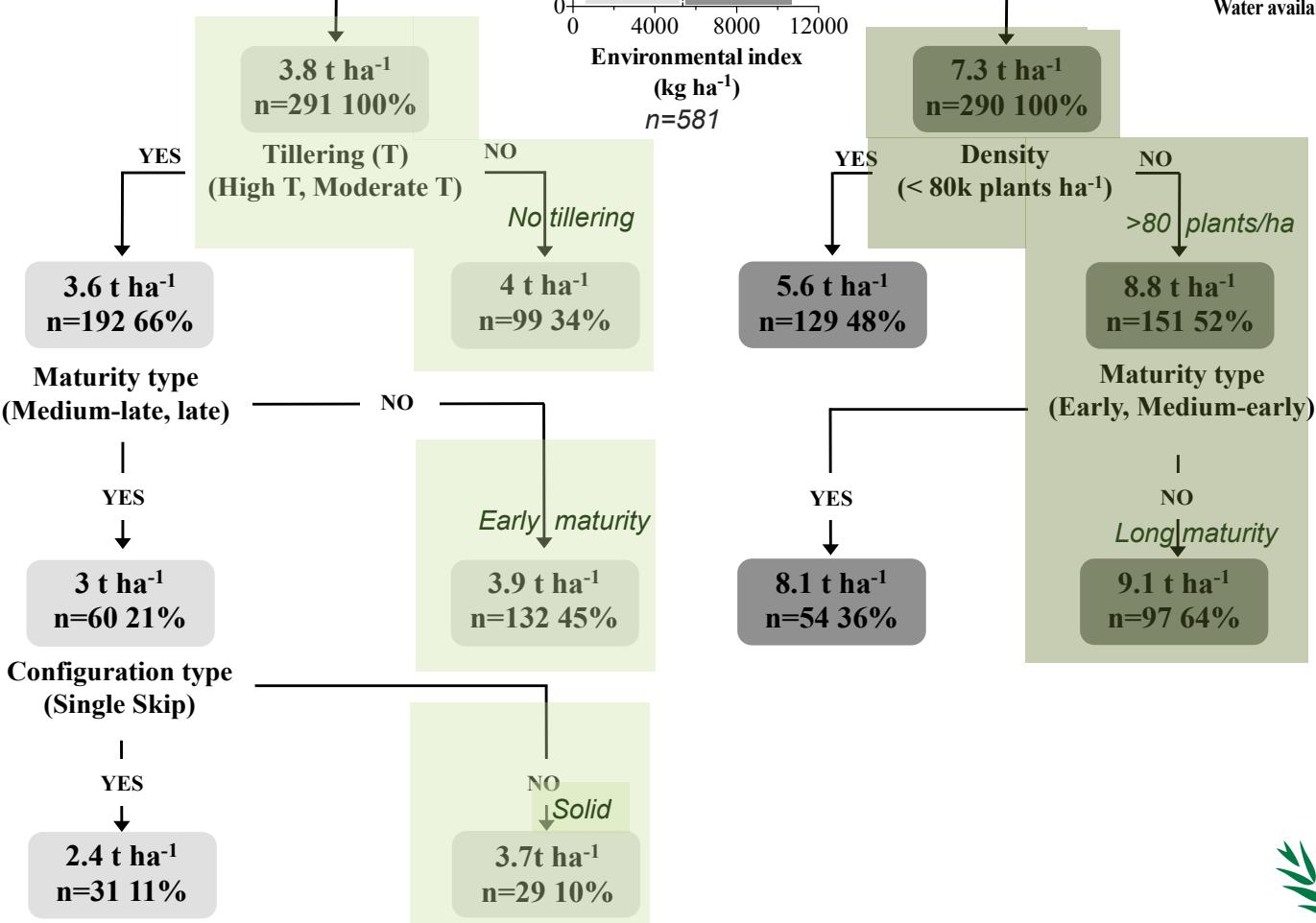
Yield gaps



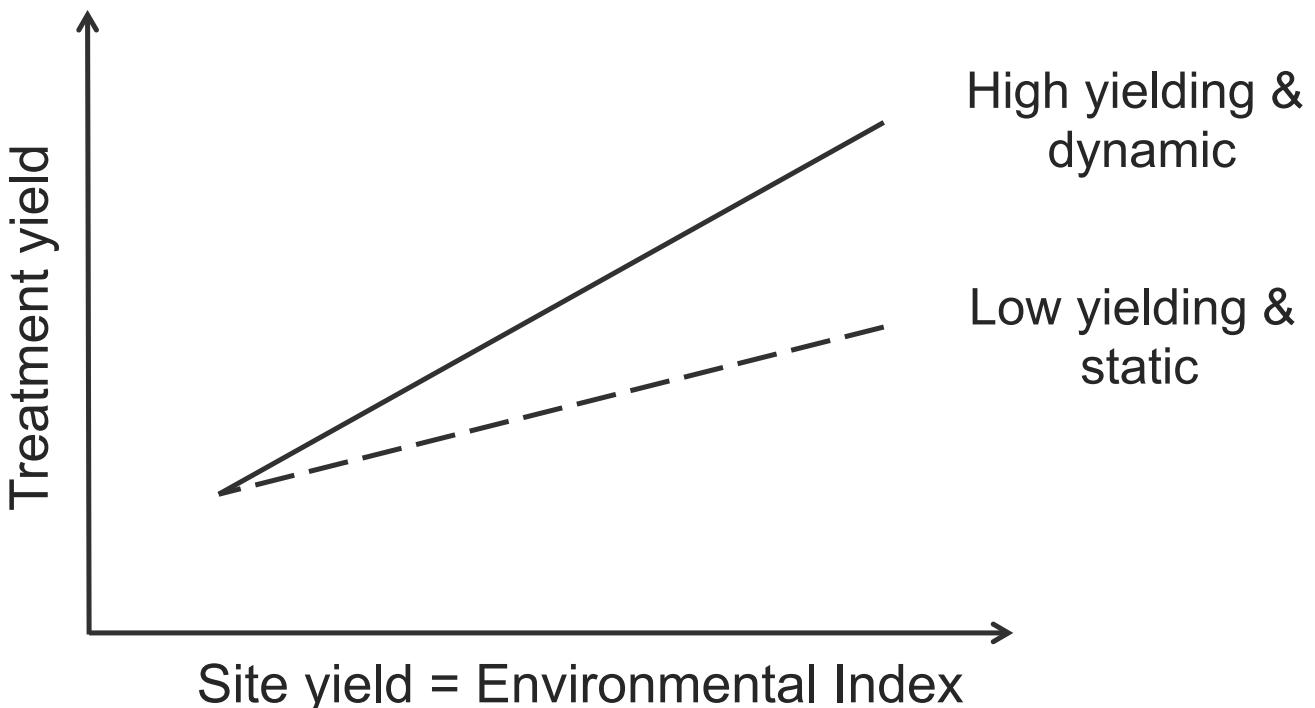
Efficiency gaps



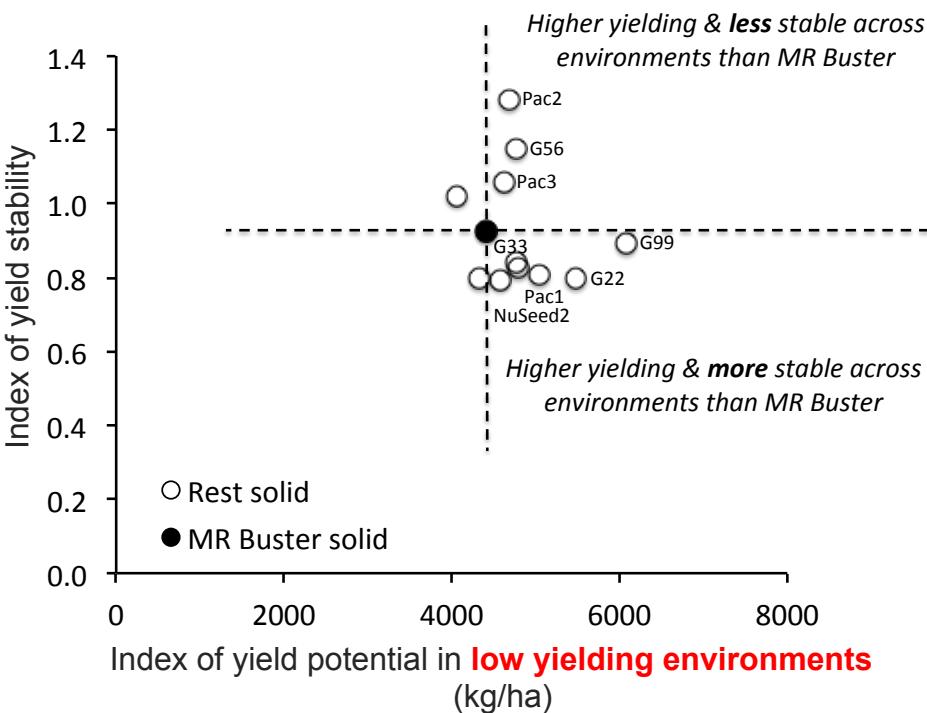
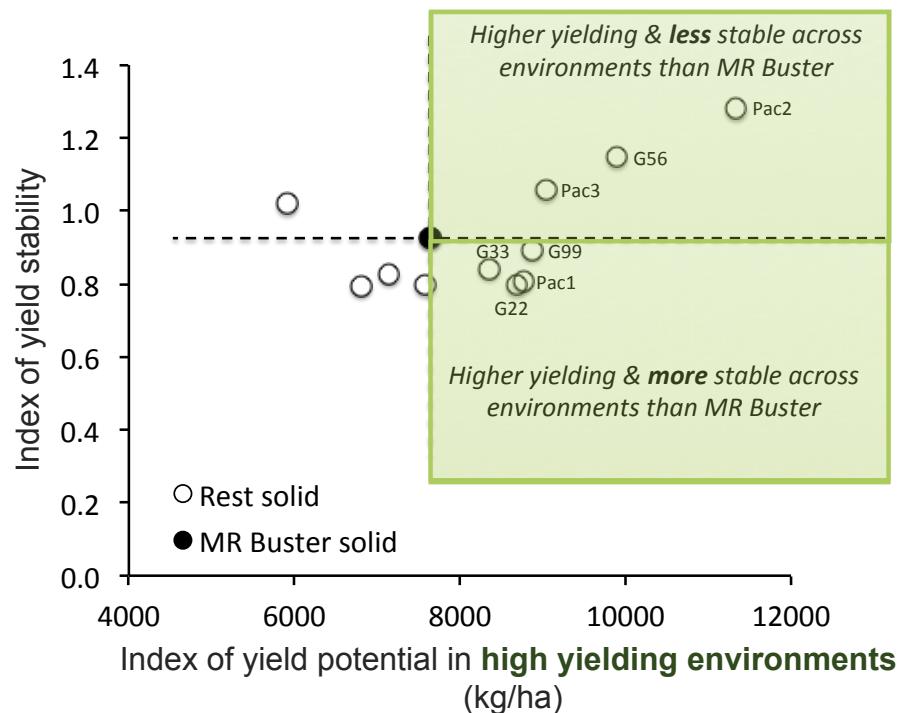
Crop design rules



Hybrid specific agronomy



Hybrid specific agronomy



- Most hybrids yielded more than MR Buster in the both high and low yielding environments
- Some hybrids had a higher capacity to respond to good conditions than MR Buster
- Other hybrids were higher yielding than MR Buster and also more stable

Agronomy for prolific maize



Non prolific

Main stem prolific

Tiller prolific

Infertile tillers

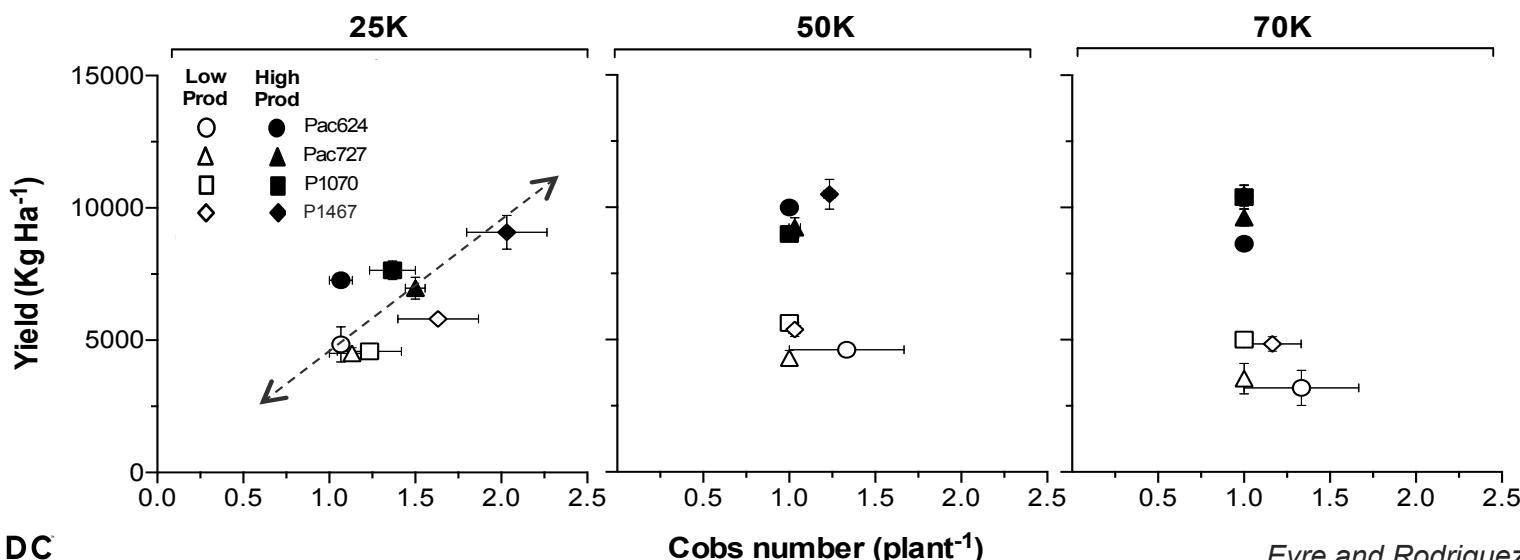
None

P1467

P1467
Pac727
P1414
P1756

Pac606
Pac624
Pac727

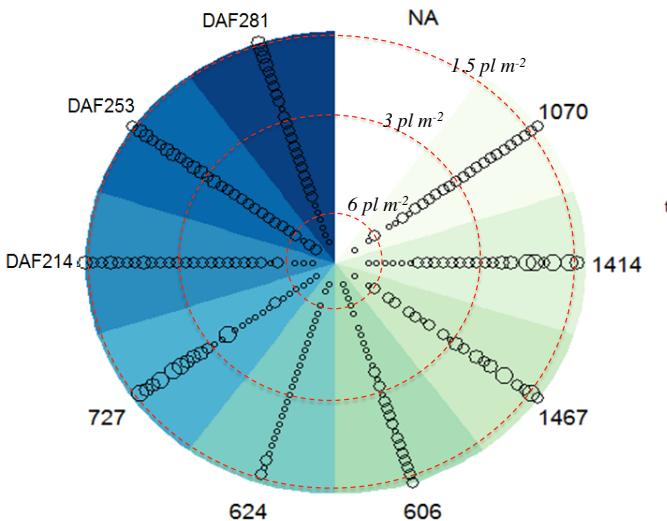
Rodriguez et al., (2016)



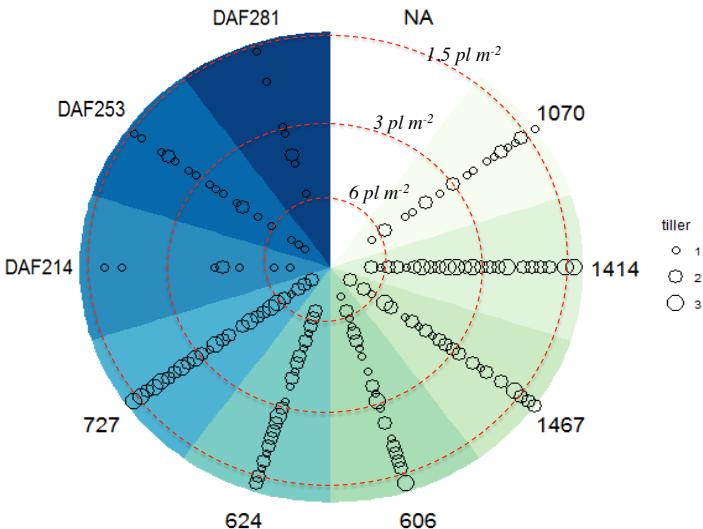
Eyre and Rodriguez, (2017)

Agronomy for prolific maize

Total number of cobs



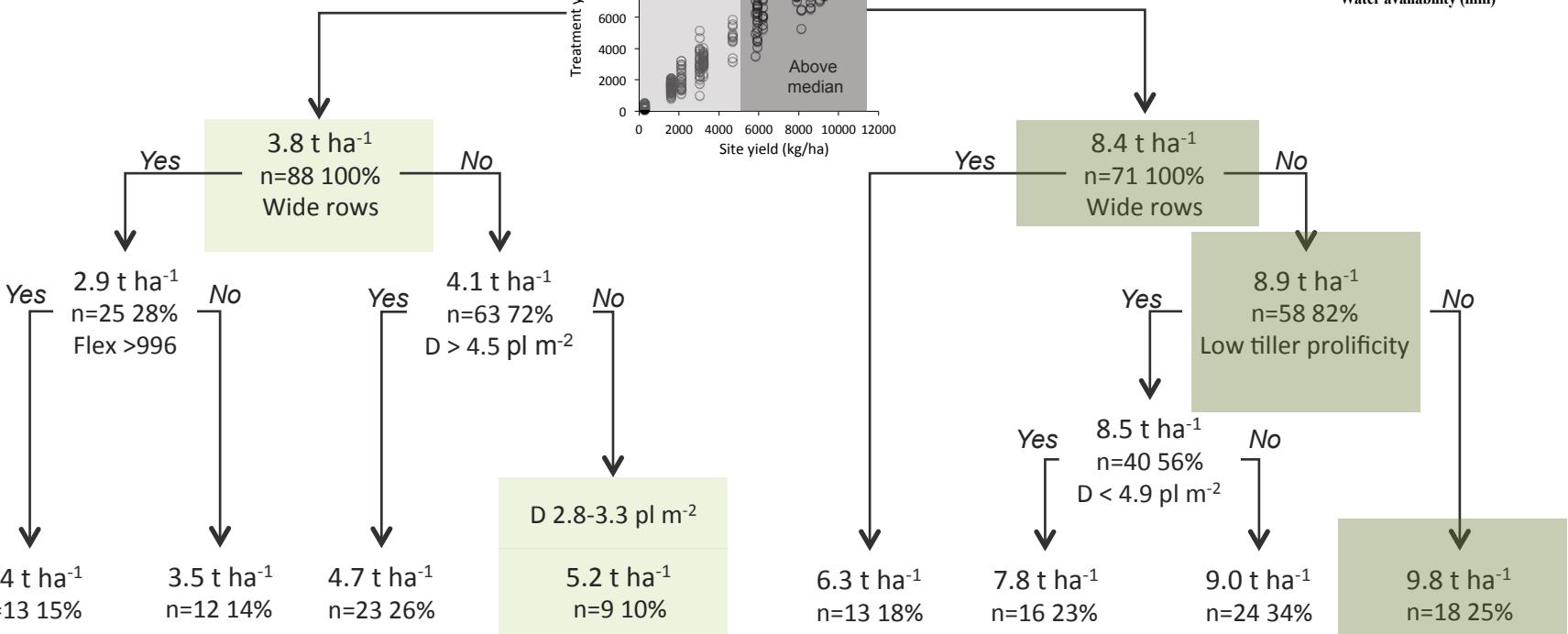
Number of tillers



Hybrid	Main stem prolificity (Potential contribution to yield %)	Tiller prolificity (Potential contribution to yield %)	Infertile tillers	Primary cob flex (Maximum primary cob kernel number)
P1070	31	18	Yes	1016
P1467	29	48	Yes	975
Pac606	6	5	Yes	1022
Pac727	4	37	Yes	674
Pac624	3	2	Yes	769

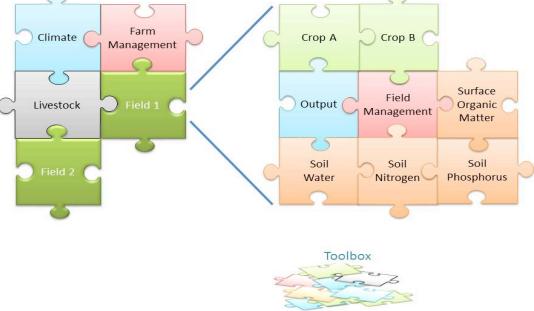


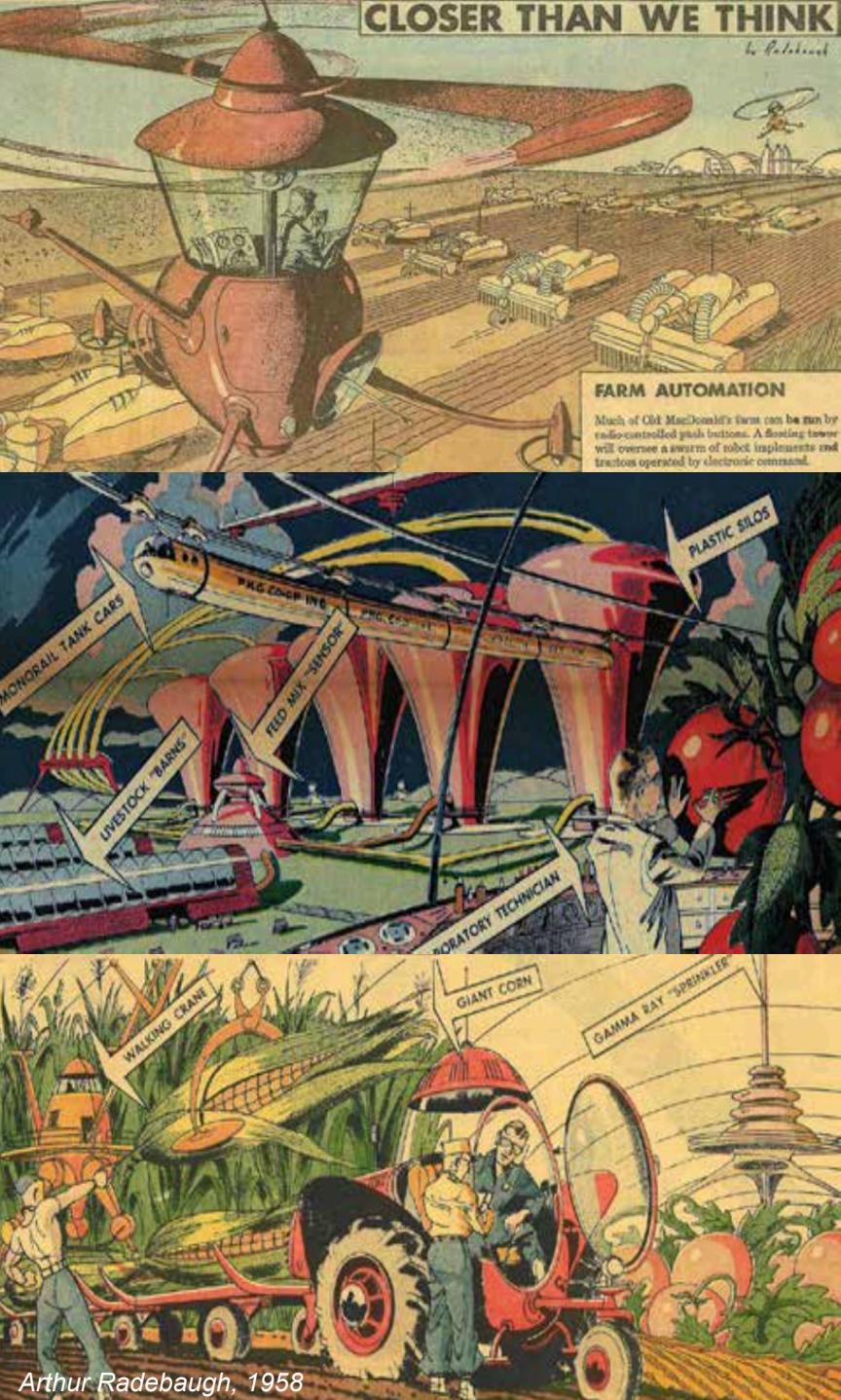
Crop design rules



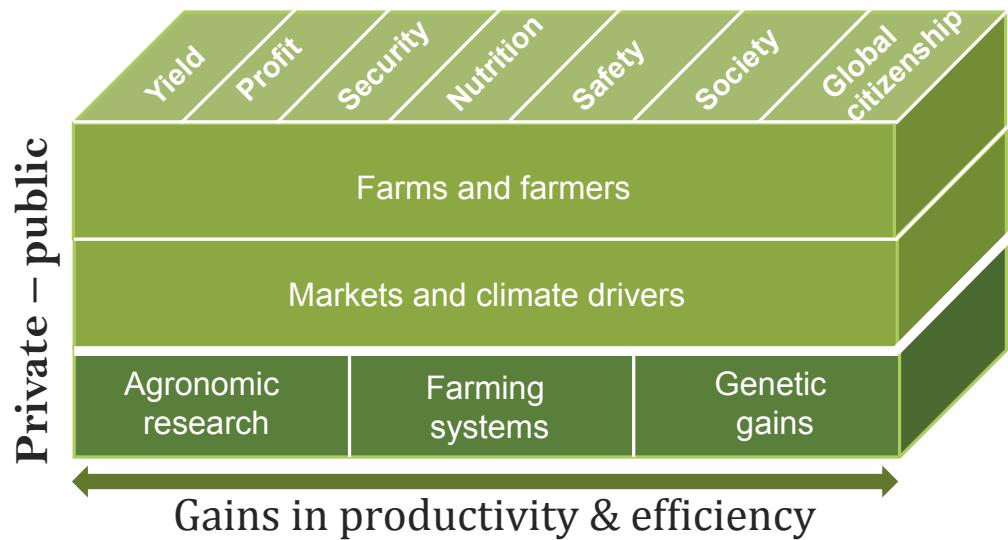
Systems agronomy methods

Systems modelling





Systems agronomy



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