

2016 GRDC Grains Research Update, Perth



Why are farmers sowing early / dry sowing?
Andrew Fletcher, CSIRO

Key messages

- WA farmers are sowing earlier and dry sowing more than ever before.
- 1 in 5 are sowing some crop area before ANZAC day
- Half are dry sowing some crop area.
- This is because of the need to establish large cropping programs in a timely manner.

Introduction

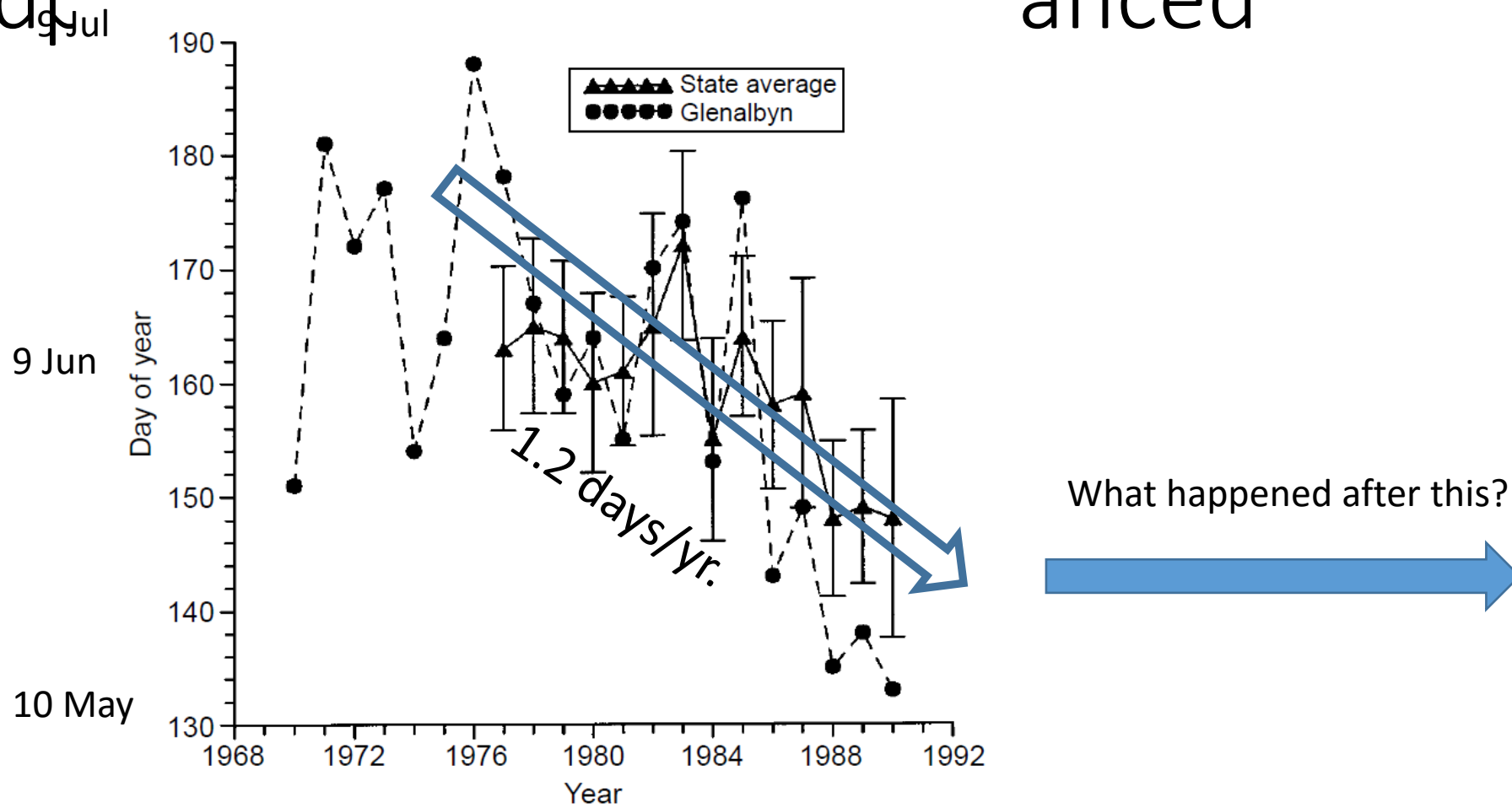
- Optimum sowing date is a balance between
 - Sowing too late
 - Heat stress, terminal drought, insufficient growth before flowering
 - Sowing too early
 - Poor establishment, frost
- Most of our agronomy packages are set up on mid may sowing
- Not every crop can be sown at the optimum
- Traditional rules of thumb
 - Sow into a moist seed bed (wet sowing)
 - Don't sow before ANZAC day

Keep in mind

- Dry sowing and early sowing are often the same thing
- **BUT not ALWAYS!**

Farmer sowing dates and amount of dry sowing

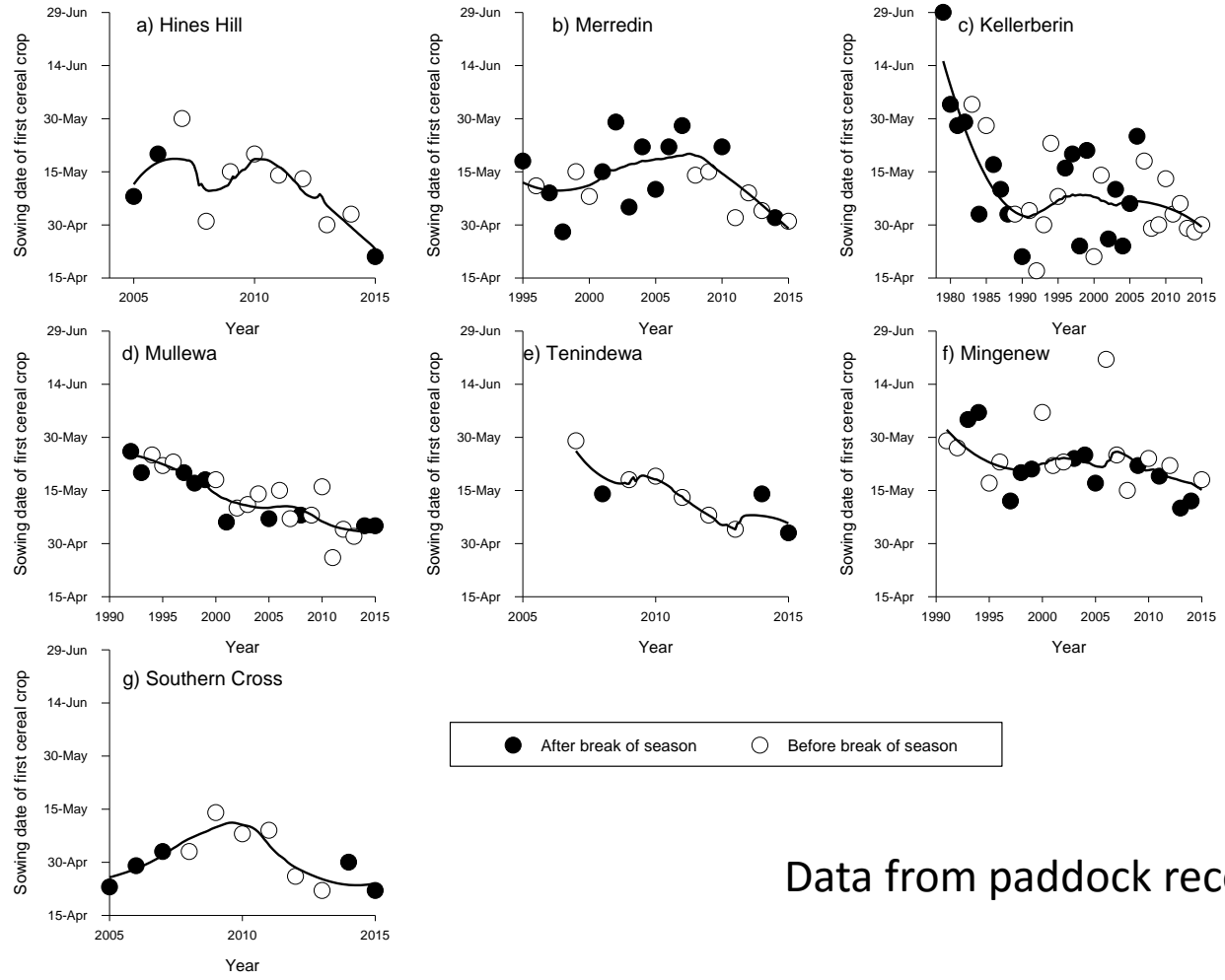
Midpoint of sowing date advanced



Stephens and Lyons (1998)

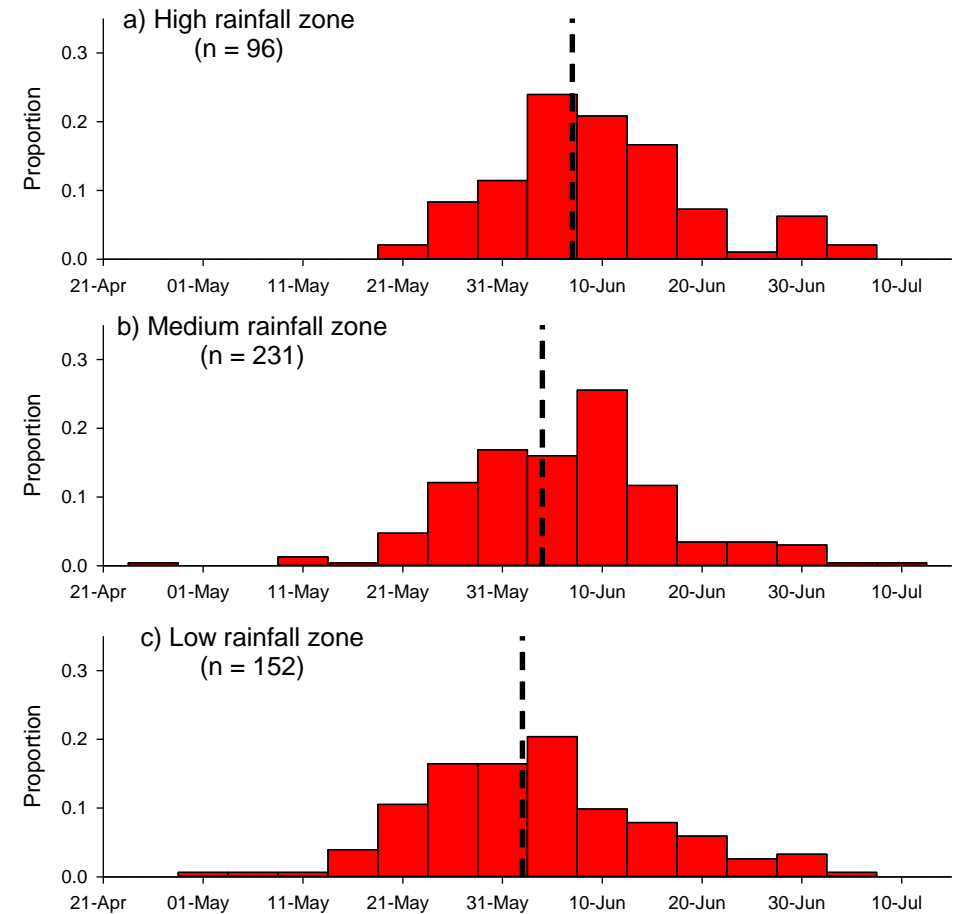
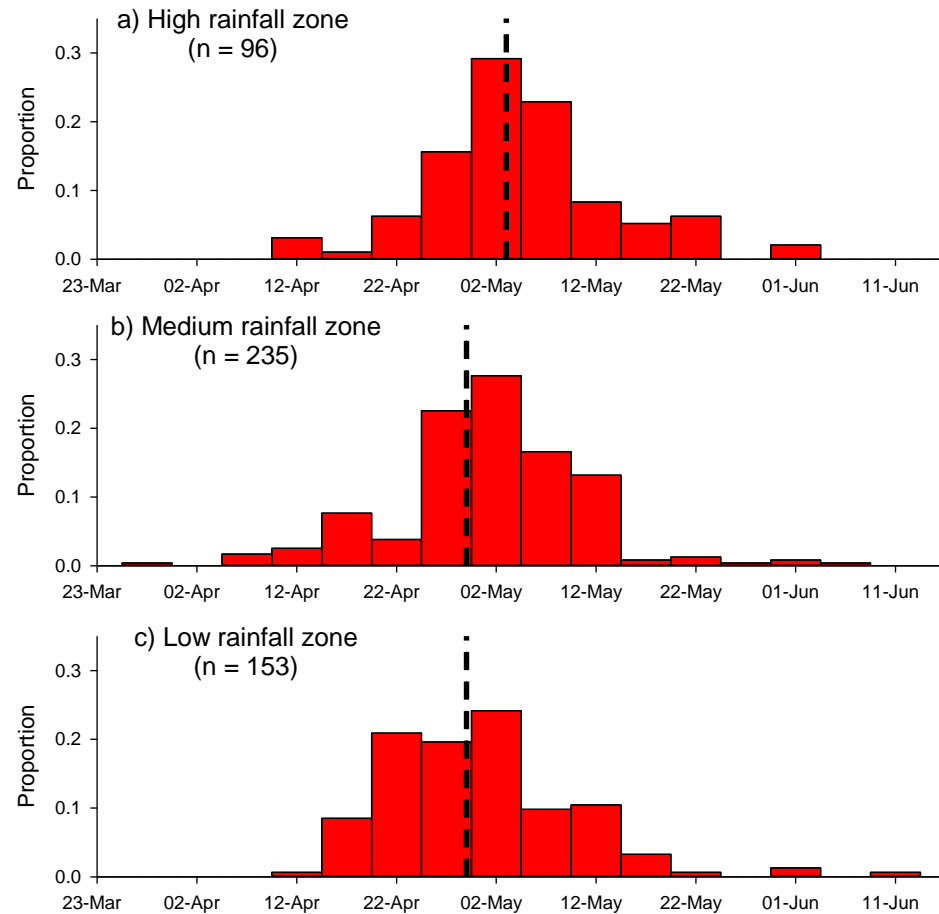
This trend has continued

(first sown cereal crop)



Data from paddock records of 7 leading farmers

Farmer first and last sowing date



(PlanFarm benchmarking survey 2012-2014)

Half of farmers dry sow some crop

Effect of rainfall zone

Rainfall zone	% dry sowers
High	32%
Medium	56%
Low	54%
Total	50%

χ^2 p < 0.001

Effect of Year

Year	% dry sowers
2011	44%
2012	39%
2013	64%
2014	55%
Total	50%

χ^2 p < 0.001

(PlanFarm benchmarking survey)

They dry sow 15-30%

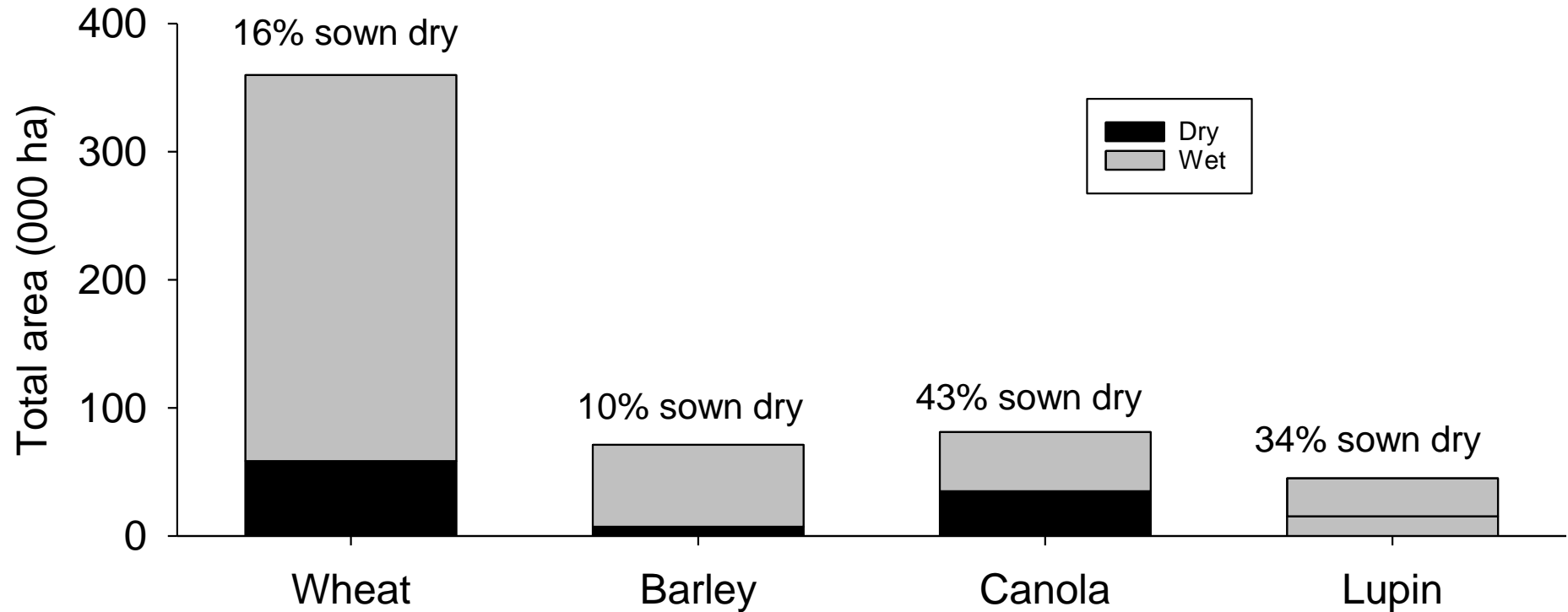
Data is only for farmers who did some dry sowing

Year	High rainfall	Medium rainfall	Low rainfall
2011	19%	22%	26%
2012	27%	32%	32%
2013	22%	25%	29%
2014	16%	19%	22%

$p < 0.001$

(PlanFarm benchmarking survey)

Canola and lupins are preferentially dry sown over wheat and barley

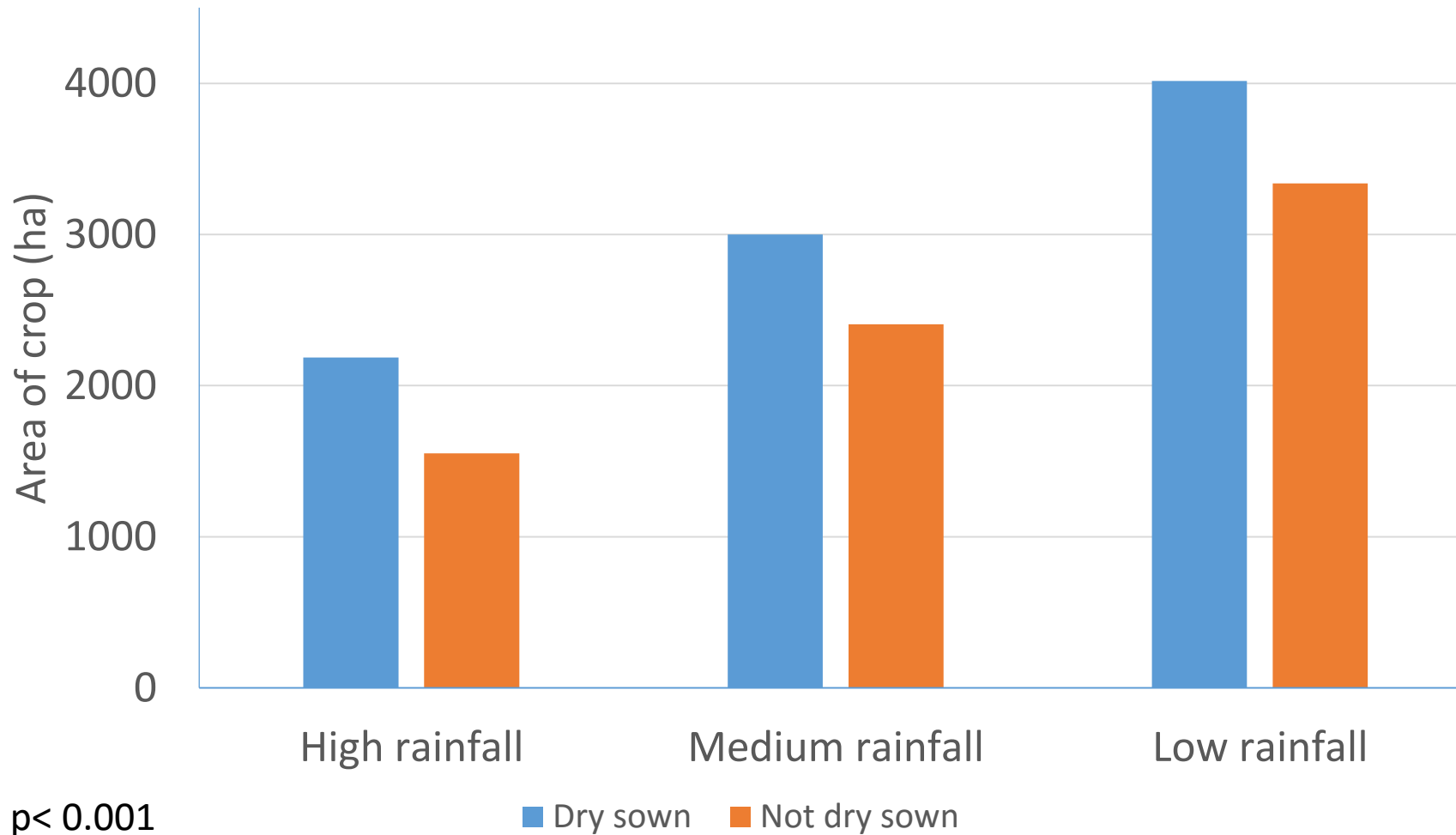


$\chi^2 p < 0.001$

(PlanFarm benchmarking survey)

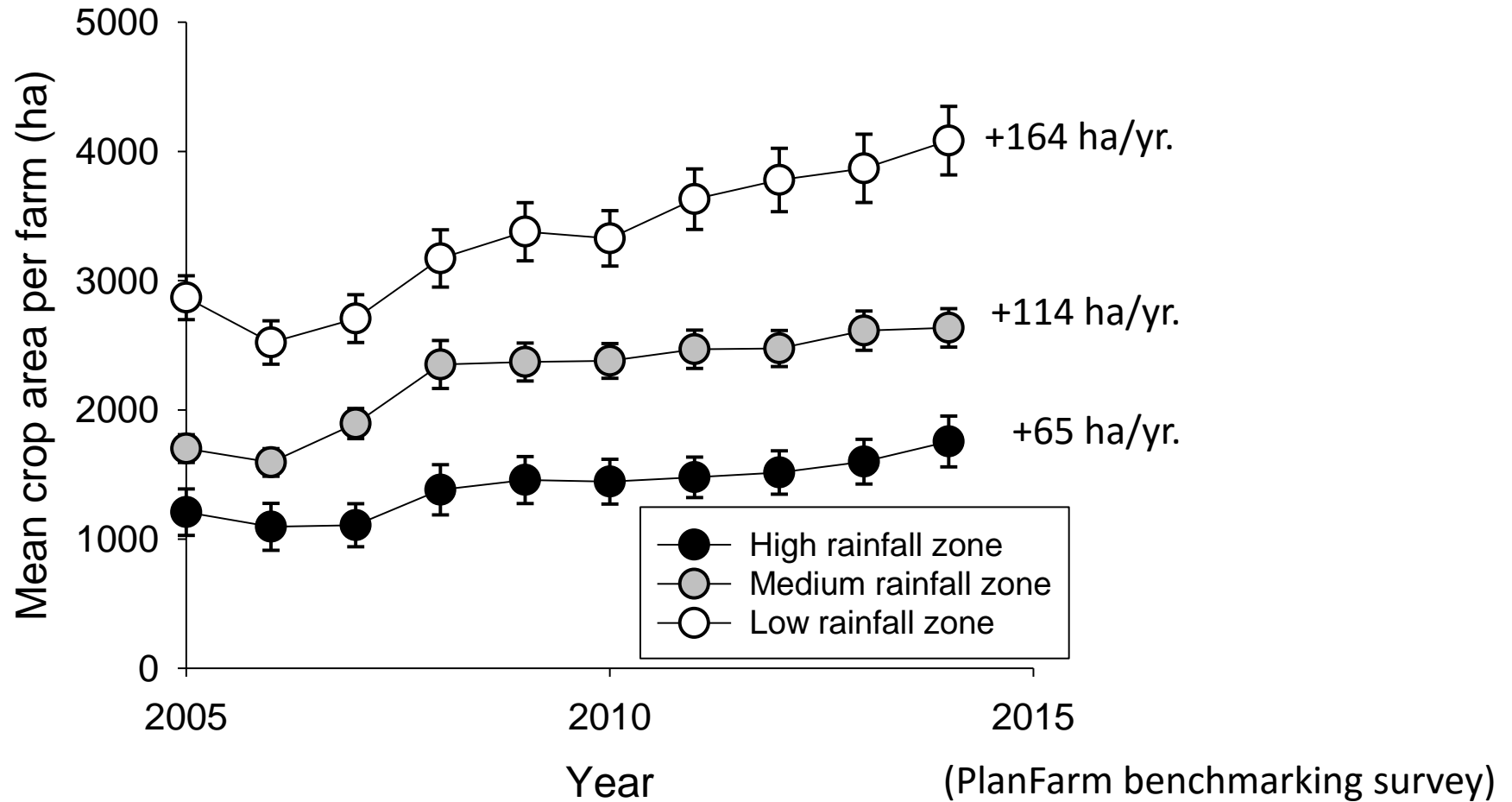
Why are we sowing earlier and doing more dry sowing?

Farms that dry sow have larger cropped areas

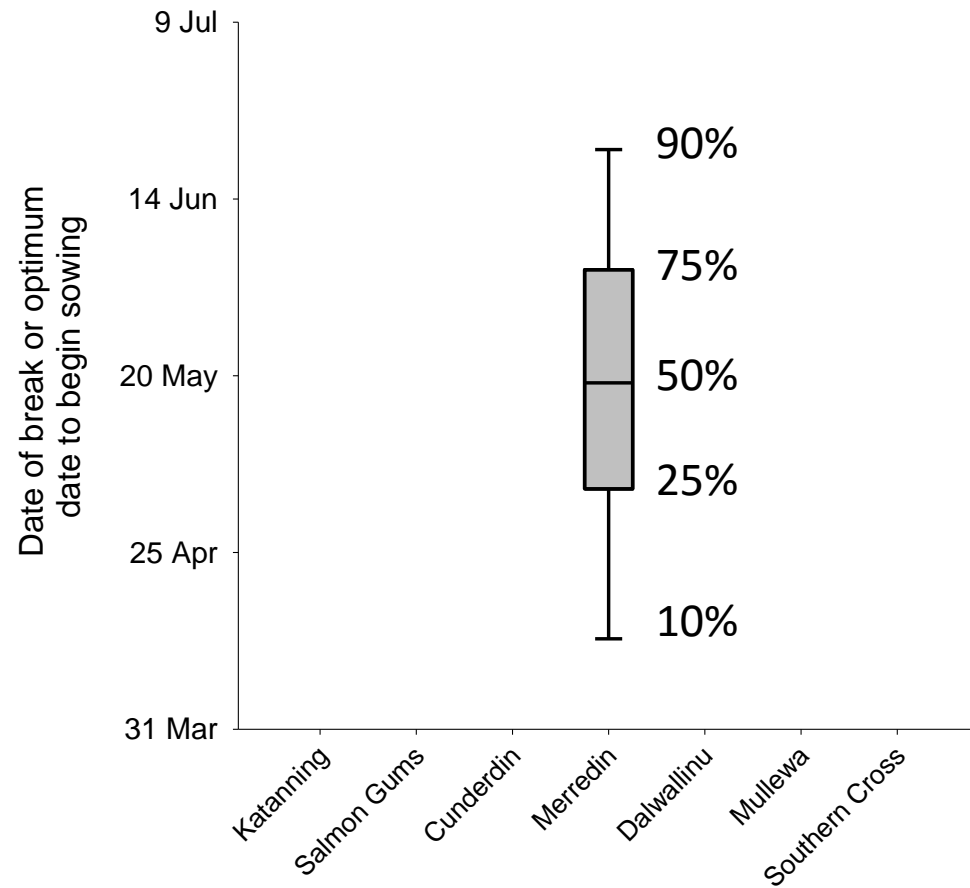


(PlanFarm benchmarking survey)

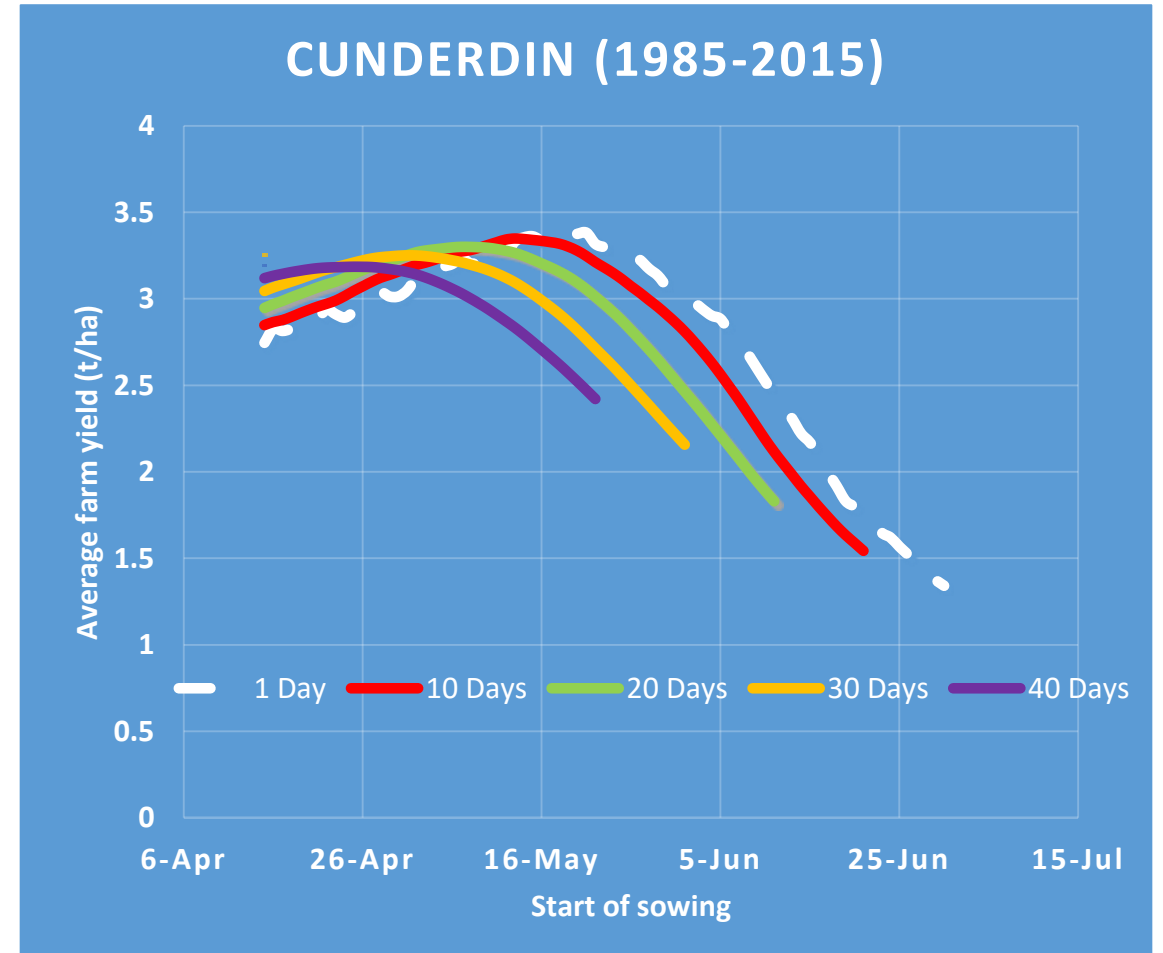
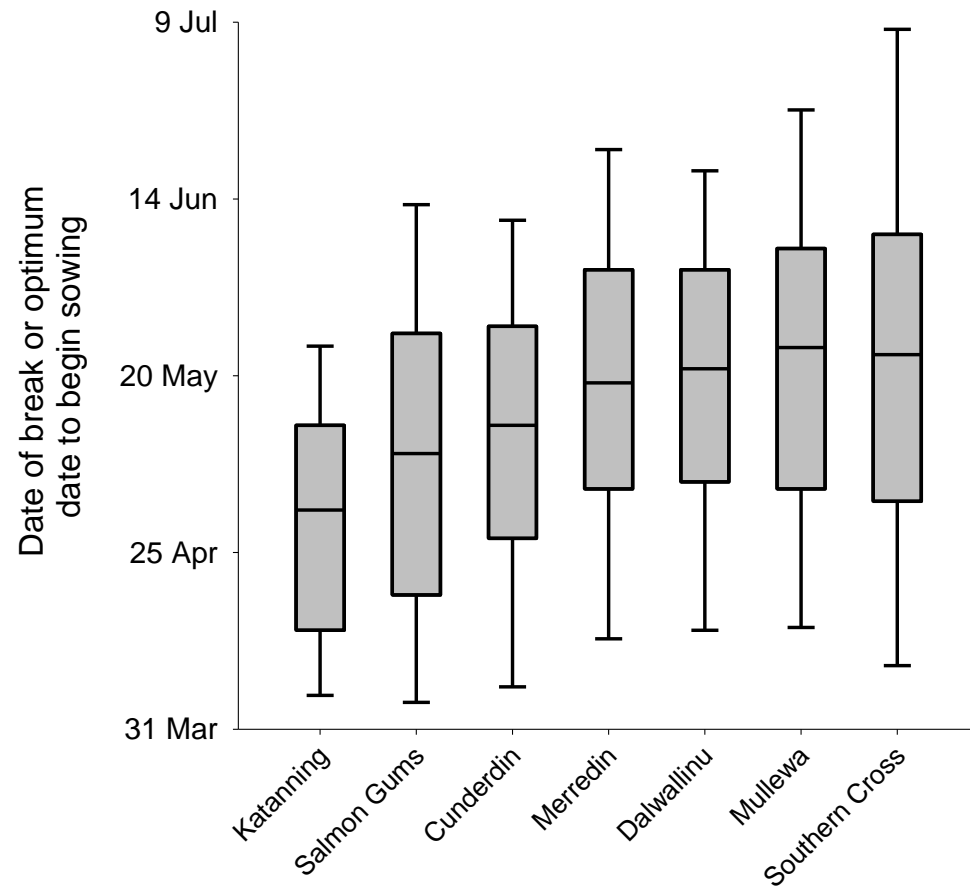
Crop areas per farm are increasing



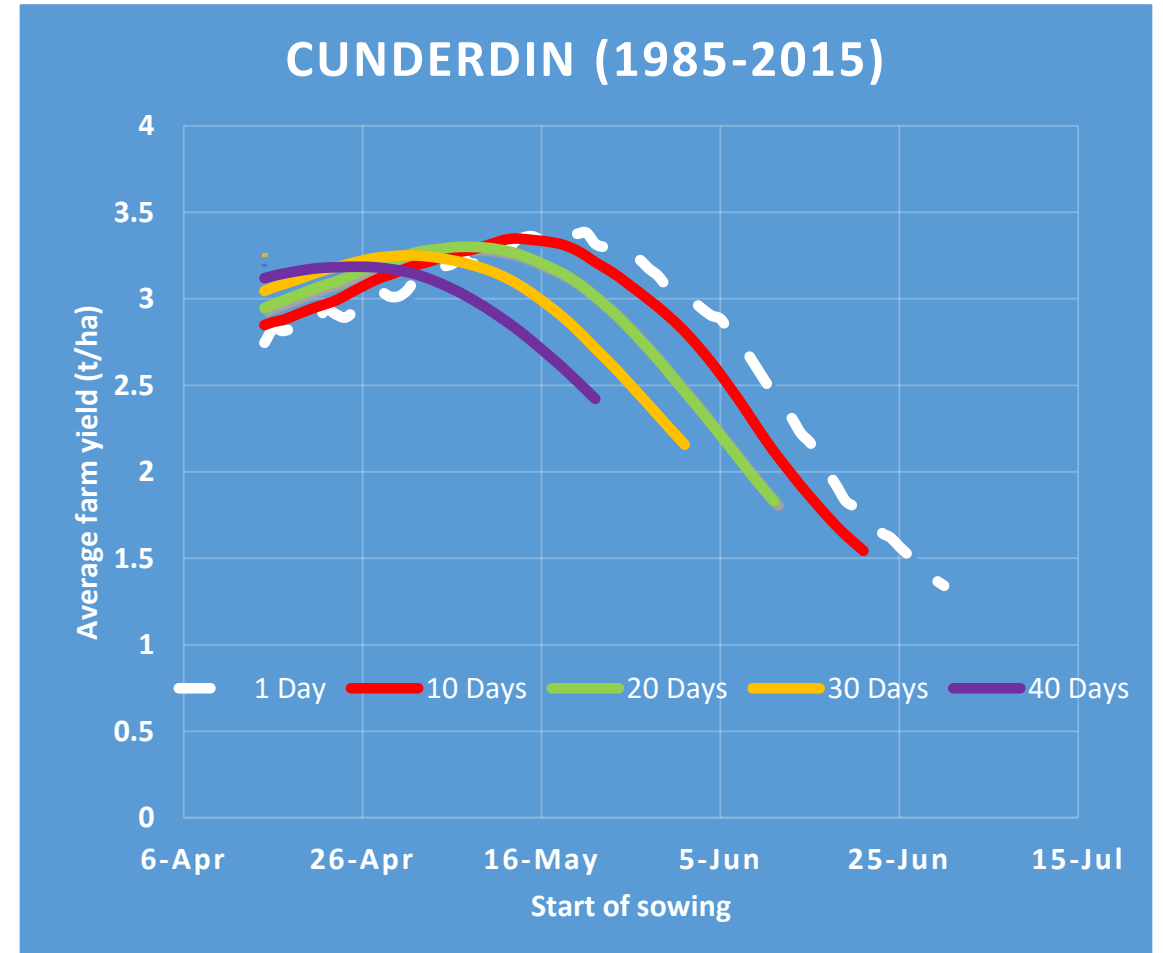
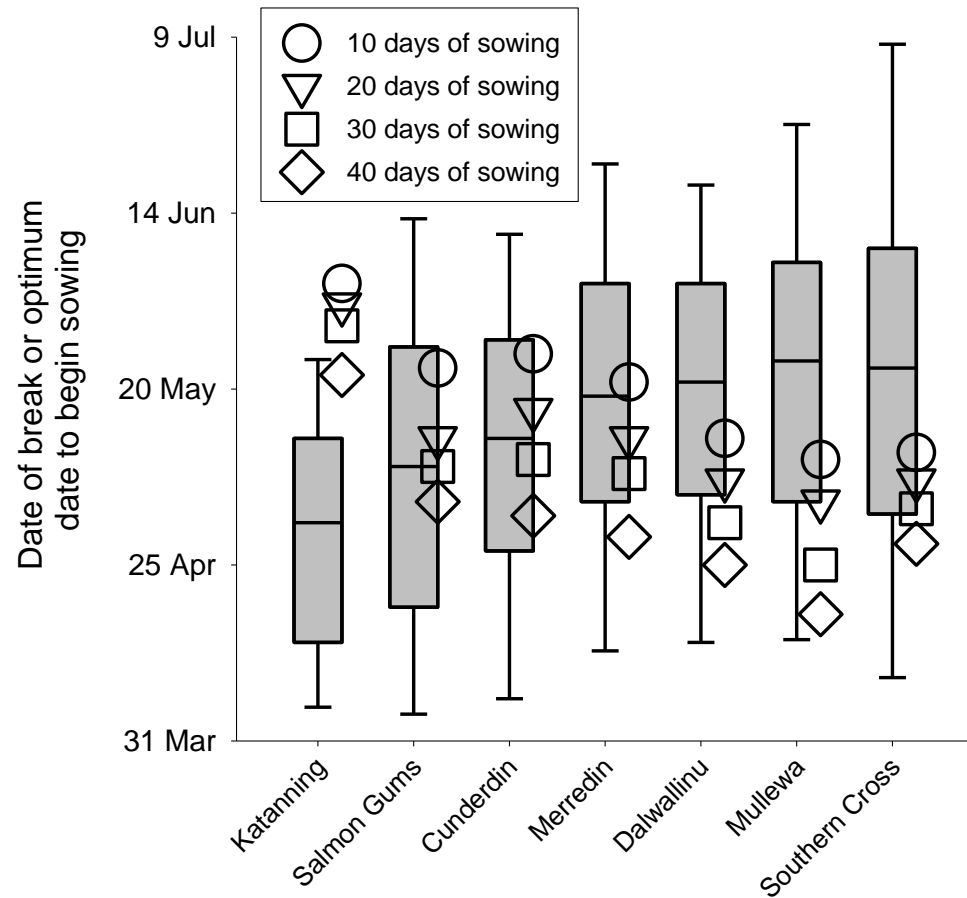
Dry sowing helps to get the program in on time



Dry sowing helps to get the program in on time

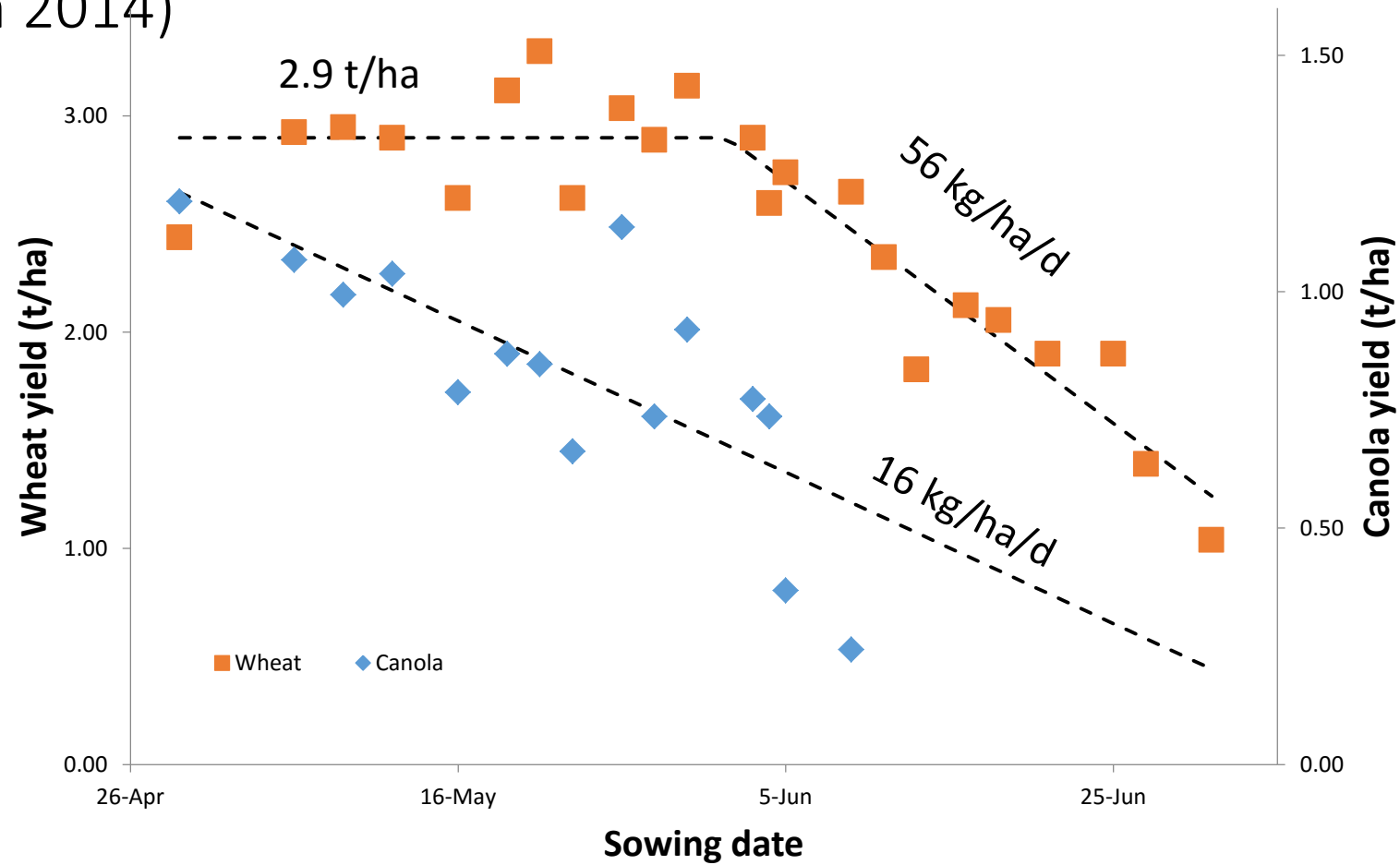


Dry sowing helps to get the program in on time



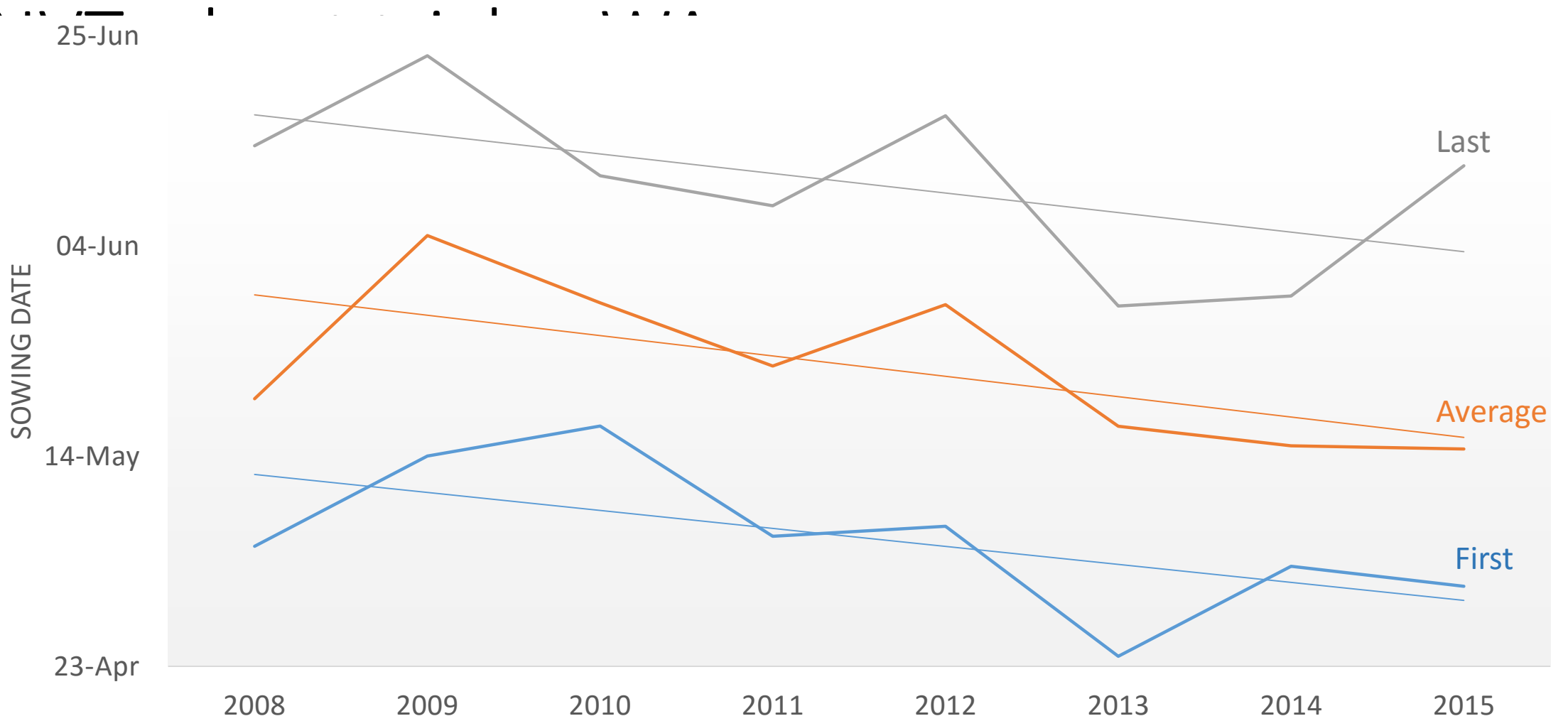
Yield benefits of early sowing

(Cunderdin 2014)



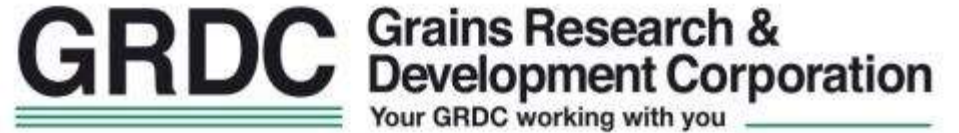
Conclusions

- WA farmers are sowing earlier and dry sowing more
 - In spite of variable sowing opportunities
 - Risks of poor establishment and frost
- To get larger cropping programs sown on time
 - Yield benefits are probably secondary
- Agronomy packages need to be tailored to this new management



Acknowledgements

- GRDC funded this research



- WAN 00021

- 7 Anonymous farmers who provided sowing date records

Early sowing and frost forum this afternoon

GRDC Grains Research Update



Questions?

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