

Cover Crop Management on the Texas High Plains

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Objectives

1. Determine effects of cover crop species, seeding rates, and termination dates on biomass production and cotton stand establishment to develop optimum cover crop management strategies
2. Determine cotton yield response with wheat or rye cover crops compared to conventional tillage cotton production

Materials and Methods

- Nine Treatments (RCBD):
 - Conventional Tillage
 - Wheat Cover
 - 30 lbs/A and 60 lbs/A
 - Optimum and Late termination dates
 - Rye Cover
 - 30 lbs/A and 60 lbs/A
 - Optimum and Late termination dates



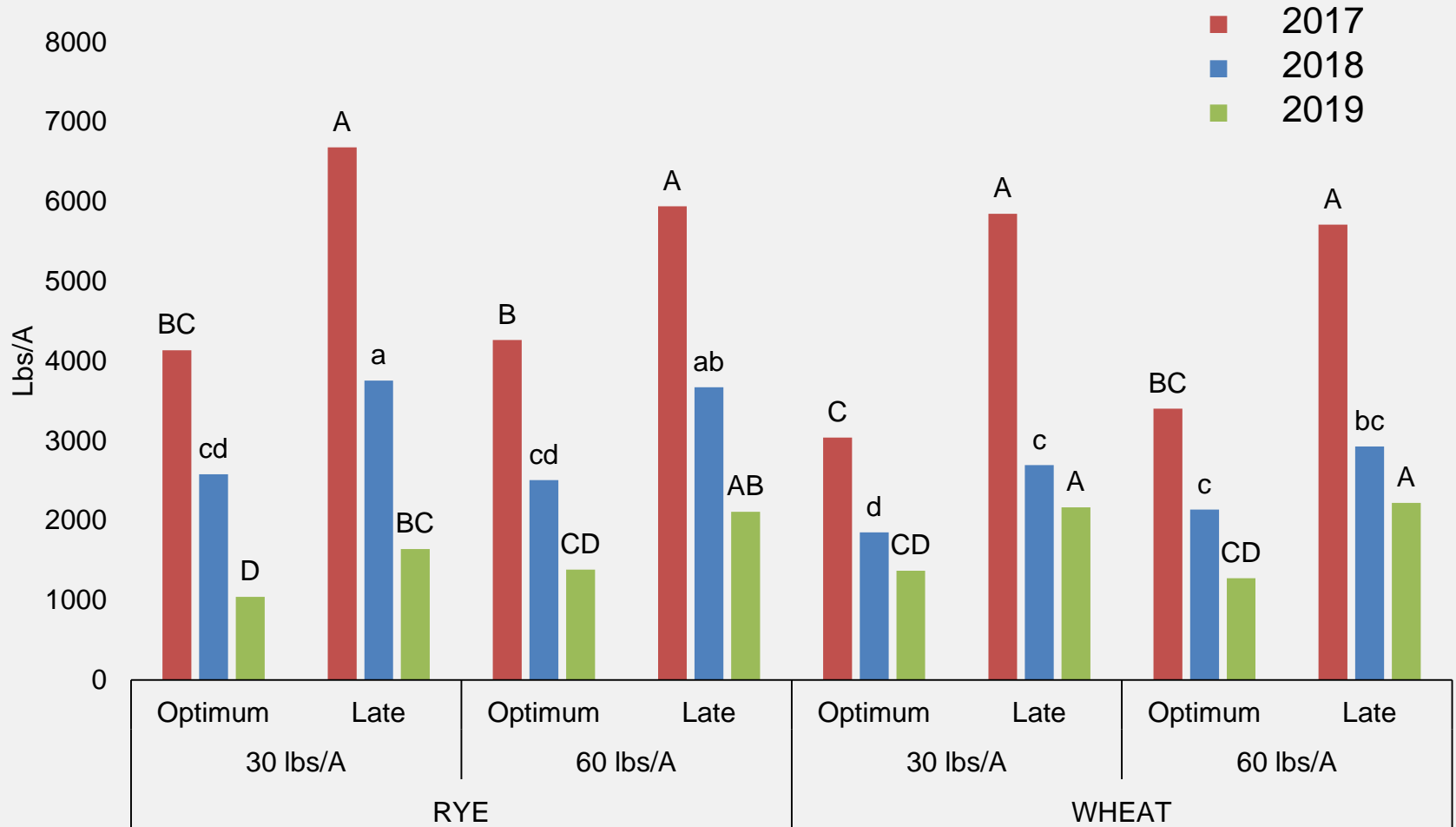
Materials and Methods

Management			
	2017	2018	2019
Seeding Date	12-12-2016	11-17-2017	12-18-2018
Optimum termination	3-27	3-27	4-9
Late termination	4-10	4-10	4-23
Planting Date	5-24	5-16	5-18
Variety	NG 4545 B2XF	DP 1646 B2XF	DP 1646 B2XF
Harvest Date	10-20	11-14	10-28

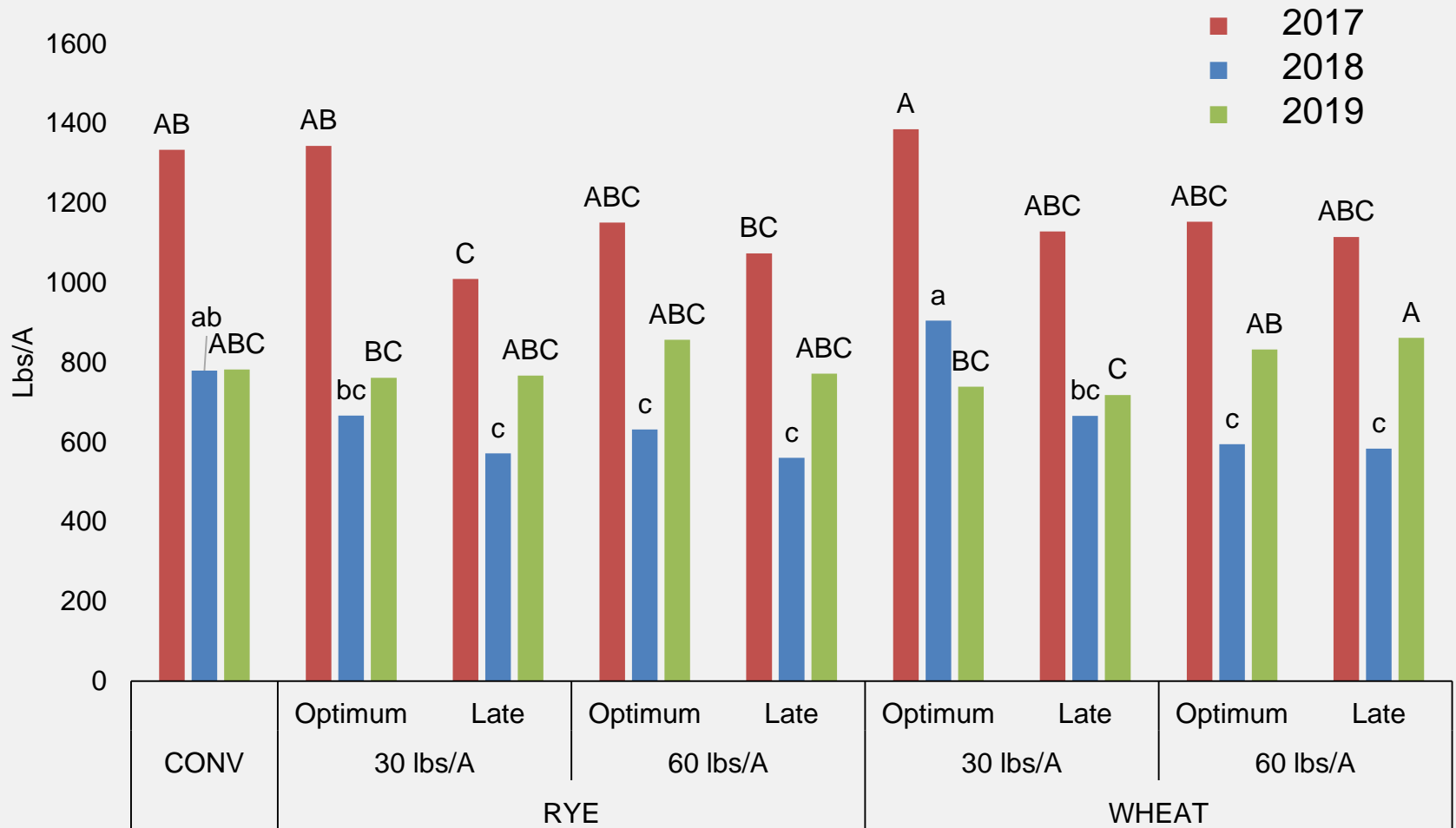
Materials and Methods

Rainfall and Irrigation (in.)				
		2017	2018	2019
Cover seeding to termination	Rainfall	4.8	1.6	2.8
	Irrigation	0.0	0.5	1.8
Post-termination to cotton harvest	Rainfall	11.5	7.3	6.9
	Irrigation	9.1	11.1	9.0
	Total	25.4	20.5	20.5

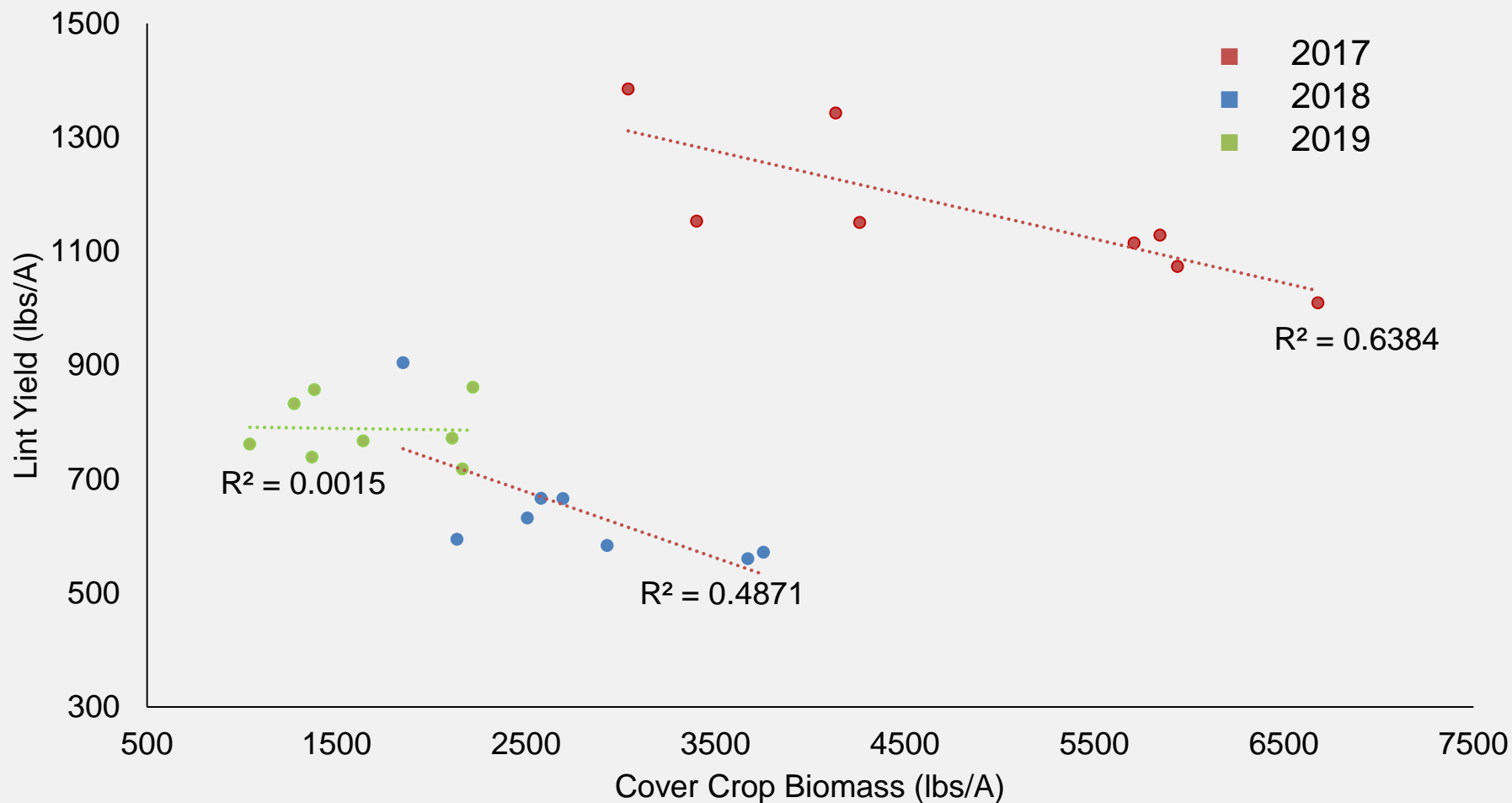
Cover Crop Biomass



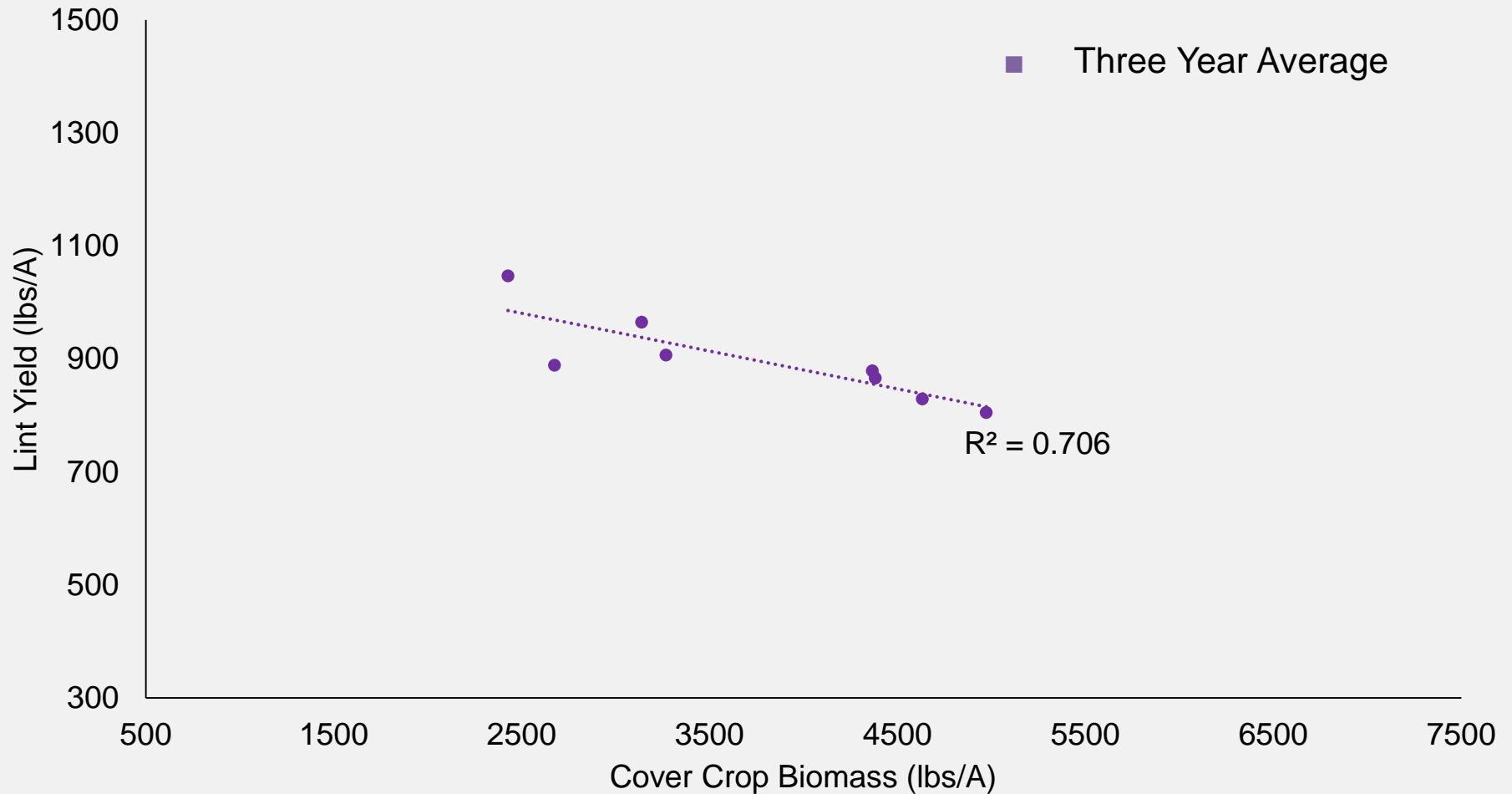
Cotton Lint Yield



Relationship Between Cover Crop Biomass and Lint Yield



Relationship Between Cover Crop Biomass and Lint Yield



Summary

- Seeding rate had little effect on biomass, with the lower seeding rate producing similar amounts of biomass as the higher seeding rate.
- Lower seeding rate and optimum termination date resulted in cotton yields equal to conventional tillage.
- The late termination reduced yields when compared to conventional tillage.
- Higher amounts of biomass had a negative effect on yield.

Conclusion

- These results indicate that planting 30 lbs/A of either wheat or rye along with an optimum termination produced yields equal to conventional till.



Questions?

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