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INTRODUCTION

- Seepage is the predominant irrigation for potato production in Florida, but poses problems such as 1) water conservation and 2) water quality.
- Overhead irrigation is significantly greater in water-use efficiency as compared to seepage irrigation.
- Objective: to quantify the water savings of converting seepage to center pivot for potato production in SW Florida.

MATERIALS & METHODS

2014-2015 Growing Season

Farm	Irrigation	Variety	Acreage (ha)	Planting Date	Harvest Date
Farm 1	Seepage	Red LaSoda	4	10/12/14	1/23/15
	Central Pivot	Red LaSoda	69	10/12/14	1/23/15
Farm 2	Seepage	Red LaSoda	10	10/19/14	1/23/15
	Central Pivot	Red LaSoda	57	10/12/14	1/23/15
Farm 3	Seepage	Red LaSoda	3	12/5/14	3/23/15
	Central Pivot	Red LaSoda	83	12/5/14	3/23/15
Farm 4	Seepage	Accumulator	49	12/18/14	3/23/15
	Central Pivot	Accumulator	121	12/18/14	3/23/15

Field Measurements

Leaf greenness



Soil moisture



Rain gauge



Leaf water potential

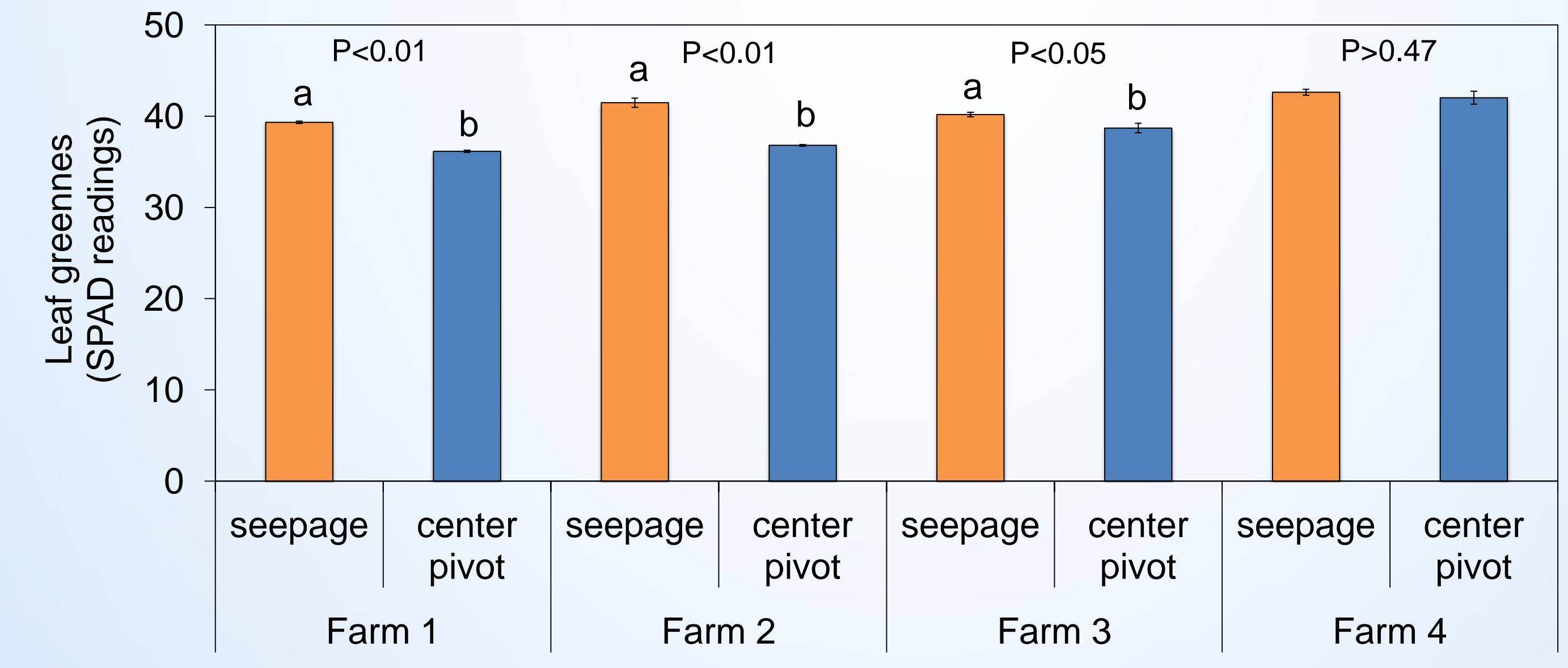


Flow meter

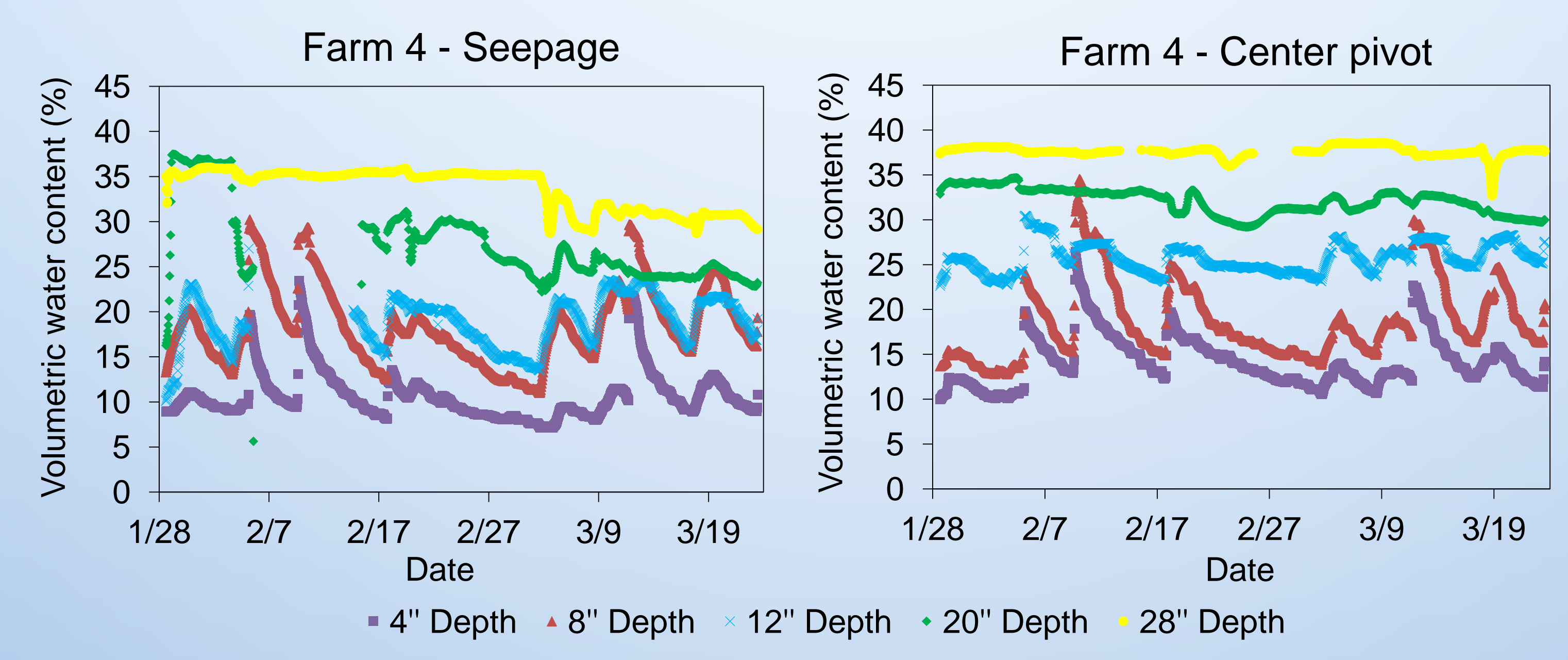


RESULTS

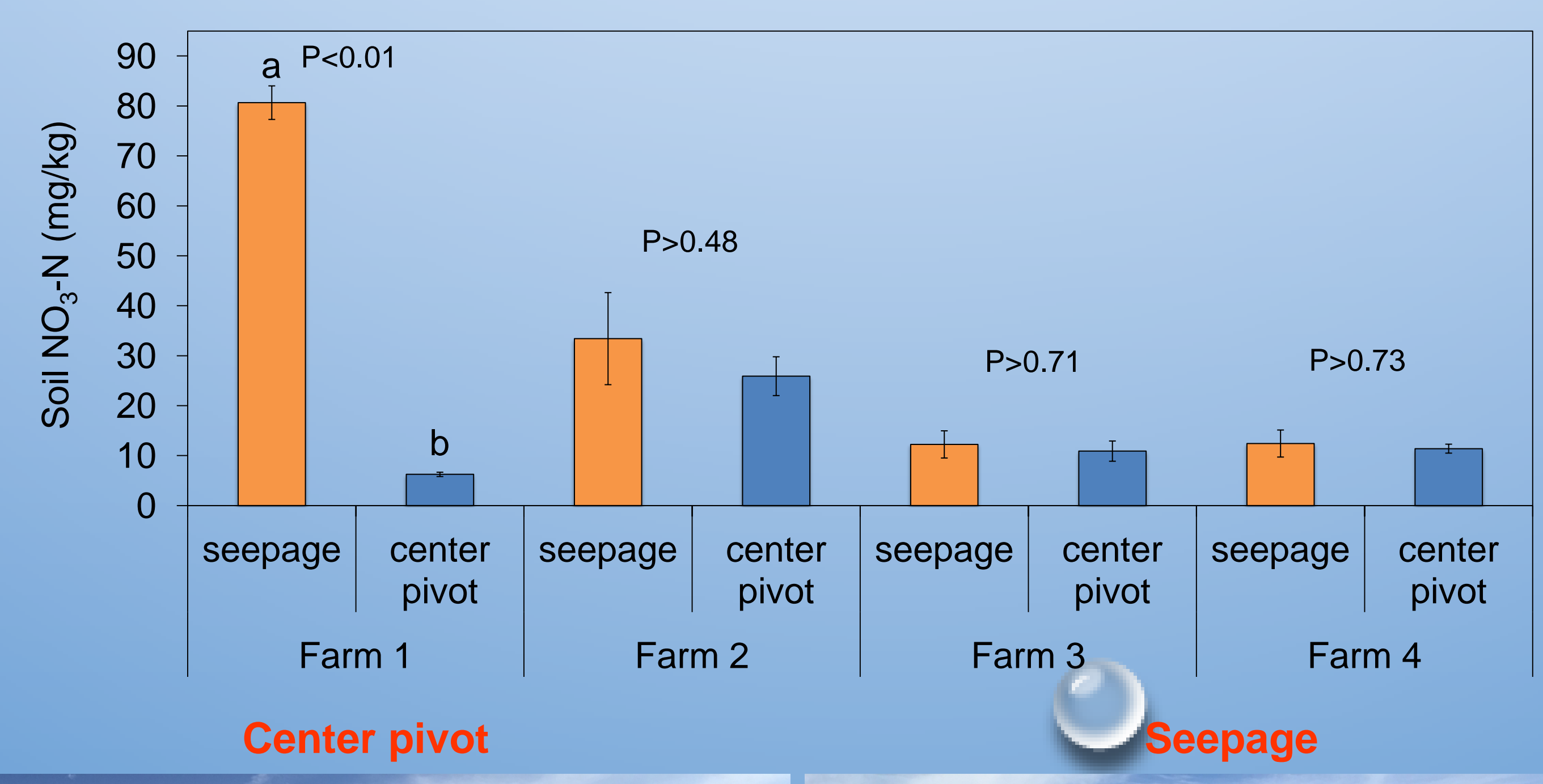
Leaf greenness



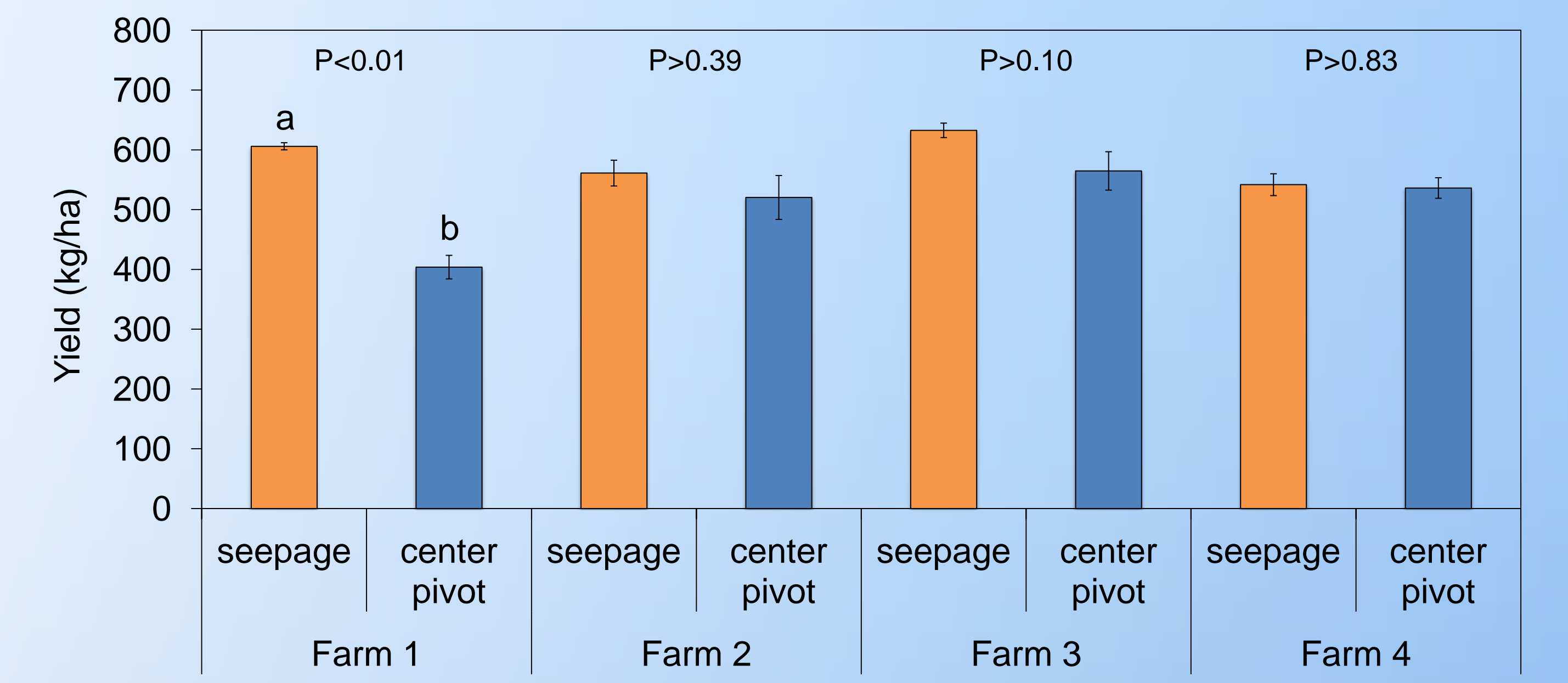
Moisture



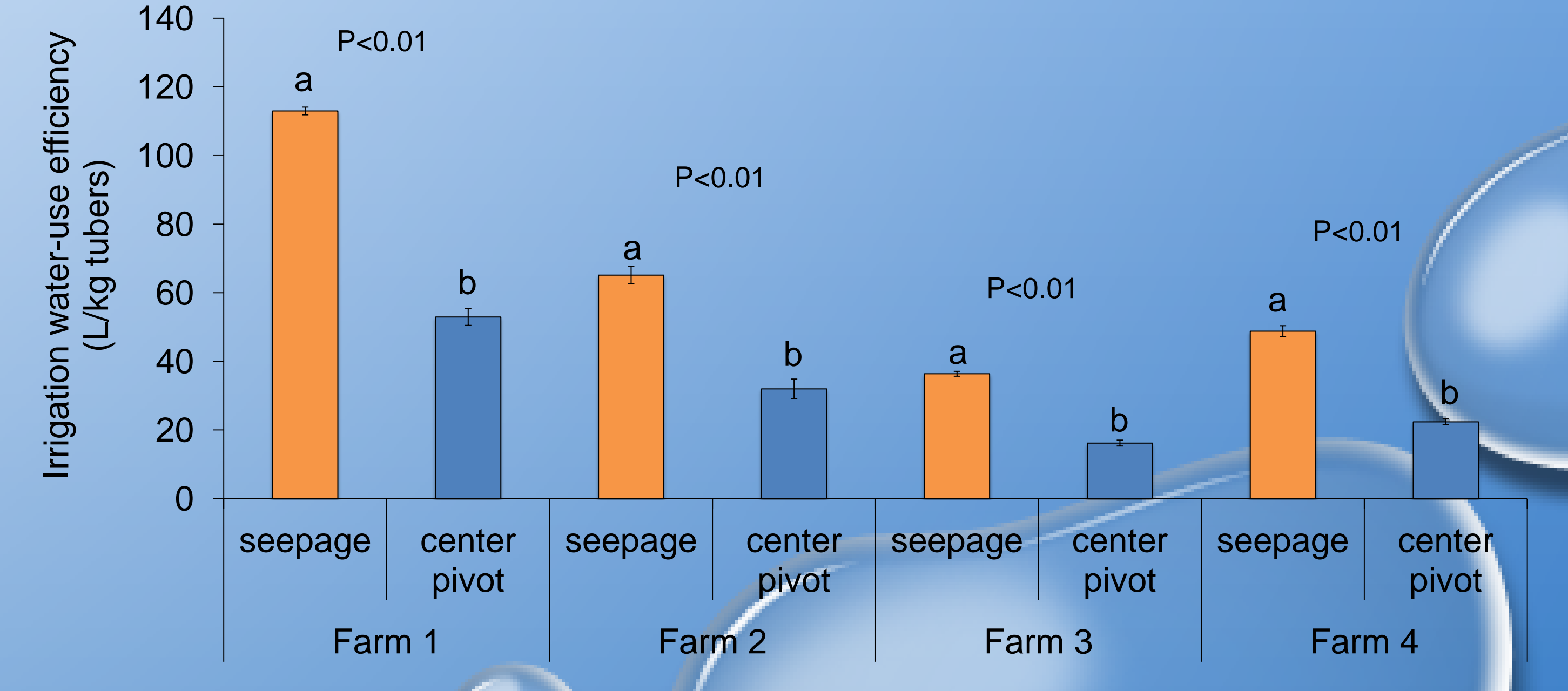
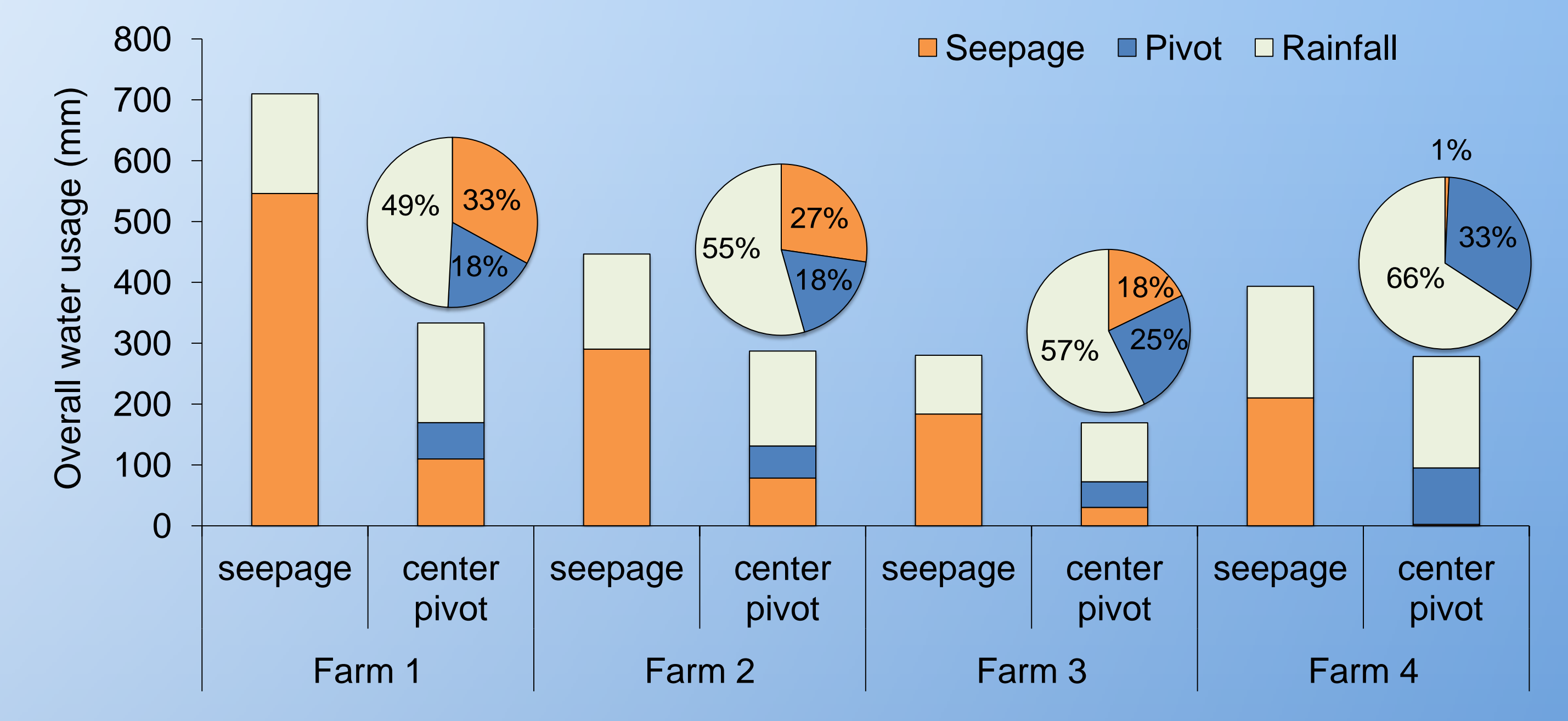
NO₃-N Level in Soil at Harvest



Potato Yields



Water Usage



CONCLUSIONS

- Center pivot irrigation system can save more than 50% of irrigation water as compared with seepage irrigation.
- A more suitable fertilization program may be required. (e.g., fertilization)

ACKNOWLEDGEMENTS

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