

Organic Soybean Population Study

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Background

- Soybean seeding rates
 - Increase efficiency
 - Save on input costs
- Equipment
- Farmer preference
- UNL Studies
 - Many planting population studies

Data Collected

- Early season stand counts (V1-V2)
- Canopy density
- Weed pressure
- Harvest stand counts
- Yield
- Moisture
- Net return

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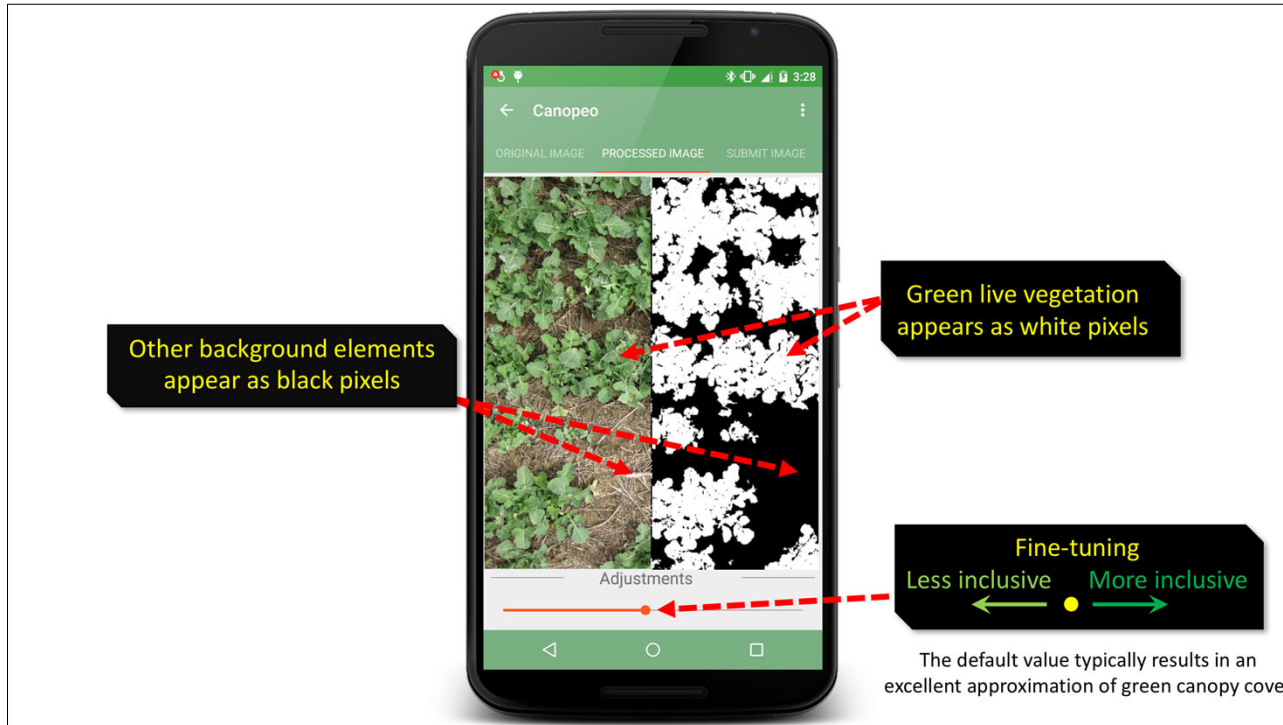


Image courtesy canopeoapp.com

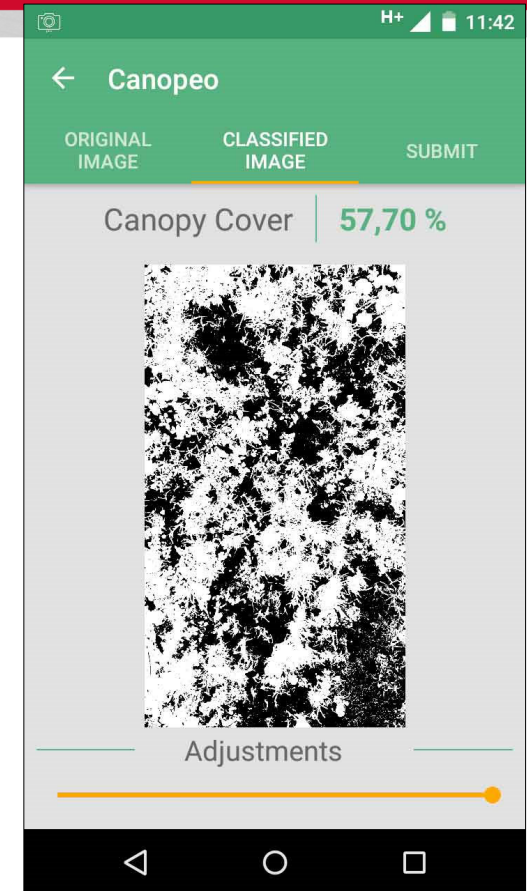


Image courtesy greenappsandweb.com

Management Conf



June 24, 2020

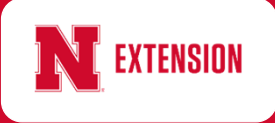


July 2, 2020



July 16, 2020

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EXTENSION



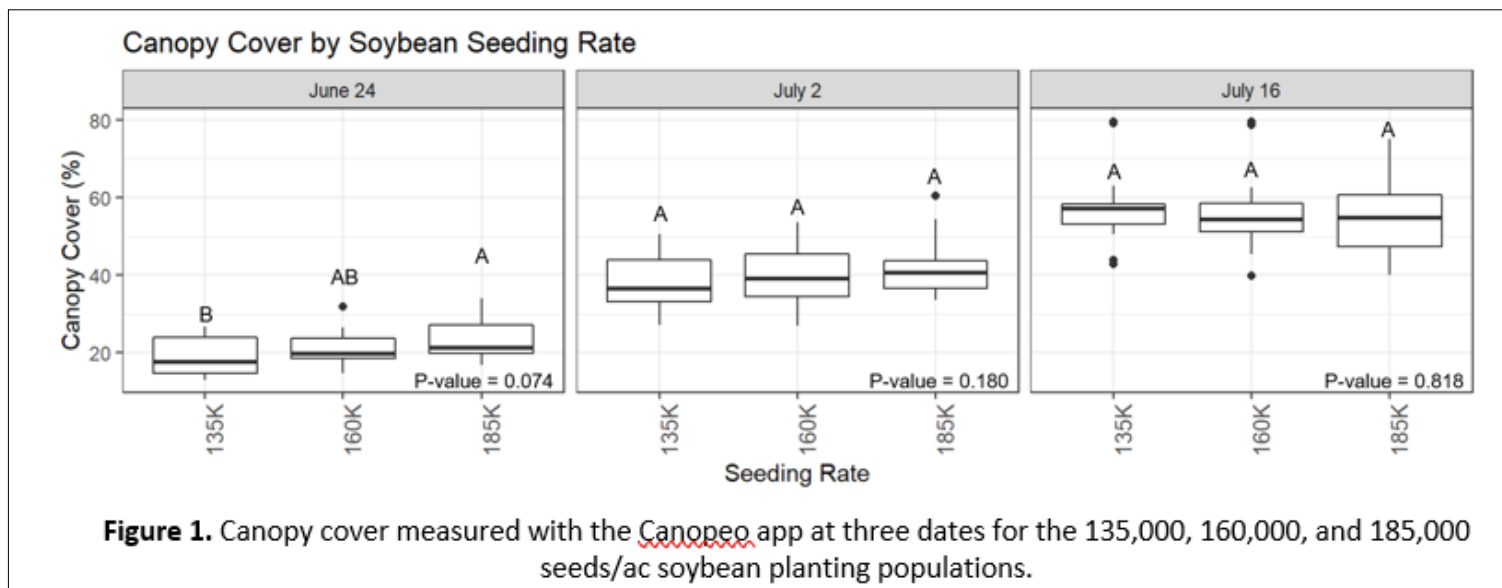


Results

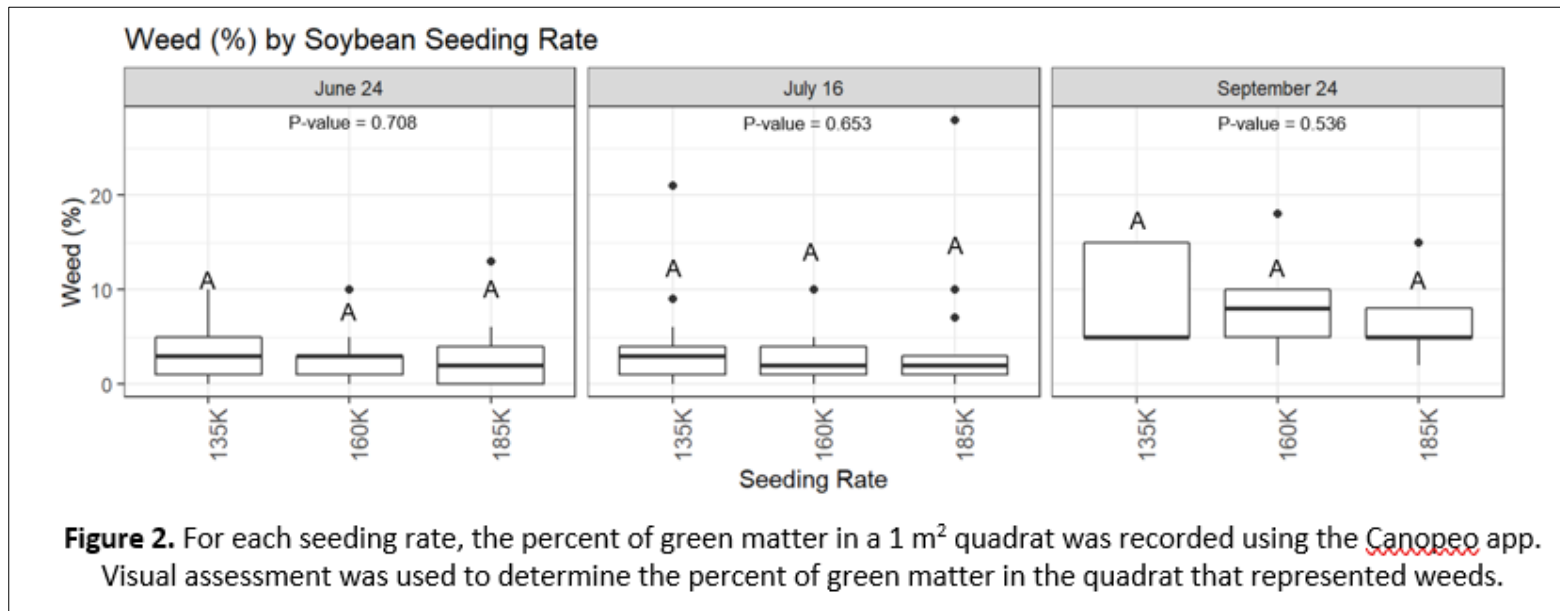
	Early Season Stand Count (plants/ac)	Harvest Stand Count (plants/ac)	Lodging (%)	Pods/ plant	Moisture (%)	Yield (bu/ac) [†]	Marginal Net Return [‡] (\$/ac)
135,000 seeds/ac	106,667 C*	101,533 B	1 A	58 A	7.7 A	75 A	646.07 A
160,000 seeds/ac	129,067 B	114,867 A	2 A	49 A	7.9 A	73 A	621.34 B
185,000 seeds/ac	142,800 A	116,000 A	3 A	44 A	7.6 A	75 A	629.62 AB
P-Value	0.001	0.014	0.423	0.179	0.201	0.137	0.063

*Values with the same letter are not significantly different at a 90% confidence level.
[†]Yield values are from cleaned yield monitor data. Bushels per acre corrected to 13% moisture.
[‡]Marginal net return based on \$9.50/bu soybean and \$64.90/unit of 140,000 seeds.

Results



Results



Results

	-----Canopy Closure-----			-----Weed Pressure-----		
	June 24	July 2	July 16	June 24	July 16	September 24
135,000 seeds/ac	19 B	39 A	58 A	3 A	4 A	8 A
160,000 seeds/ac	21 AB	40 A	56 A	3 A	3 A	8 A
185,000 seeds/ac	24 A	42 A	56 A	3 A	4 A	7 A
P-Value	0.074	0.180	0.818	0.708	0.653	0.536

Summary

- On June 24, the 135,000 seeds/ac treatment had lower percent canopy cover than the 185,000 seeds/ac
- On July 2 and July 16, there was no difference in canopy cover between the three seeding rates.
- There was no statistical difference in
 - Lodging
 - Pods per plant
 - Grain moisture
 - Yield
- The 135,000 seeds/ac treatment resulted in the highest marginal net return.

Future Plans

- Repeat study again in 2021?
- Modifications to the study?
 - Depends on the producer's goals

Resources

- Nebraska On-Farm Research Network
 - Website: <https://cropwatch.unl.edu/on-farm-research>
 - Publications (print or online)
- Virtual Field Days
 - Twitter: @OnFarmResearch
 - YouTube: Nebraska Extension On-Farm Research Network Channel
- CropWatch
 - Website: <https://cropwatch.unl.edu>



Question? Thank You!

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