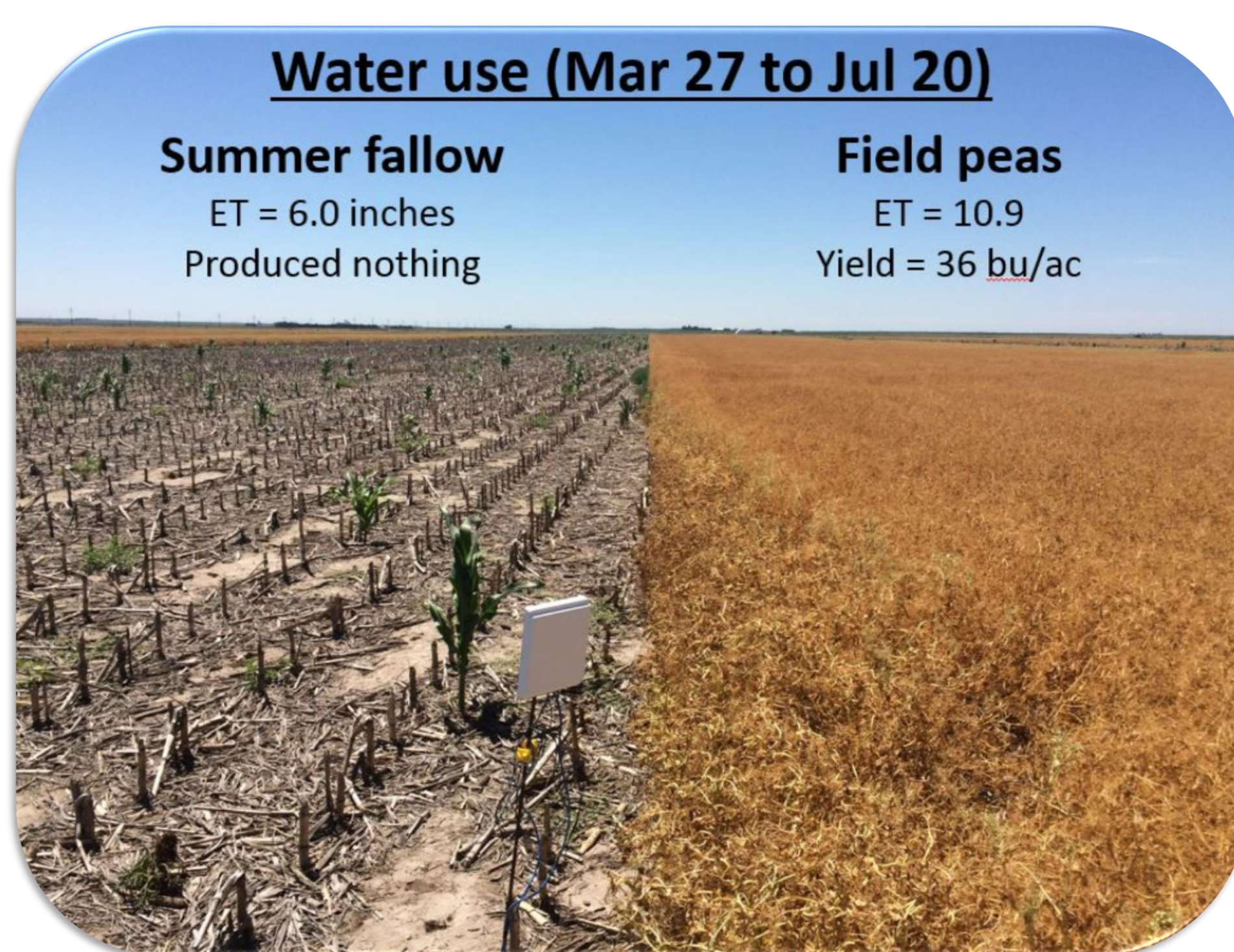


Field Peas as Fallow Replacement in Semiarid Western NE: Sustainability and Agronomic Evaluation

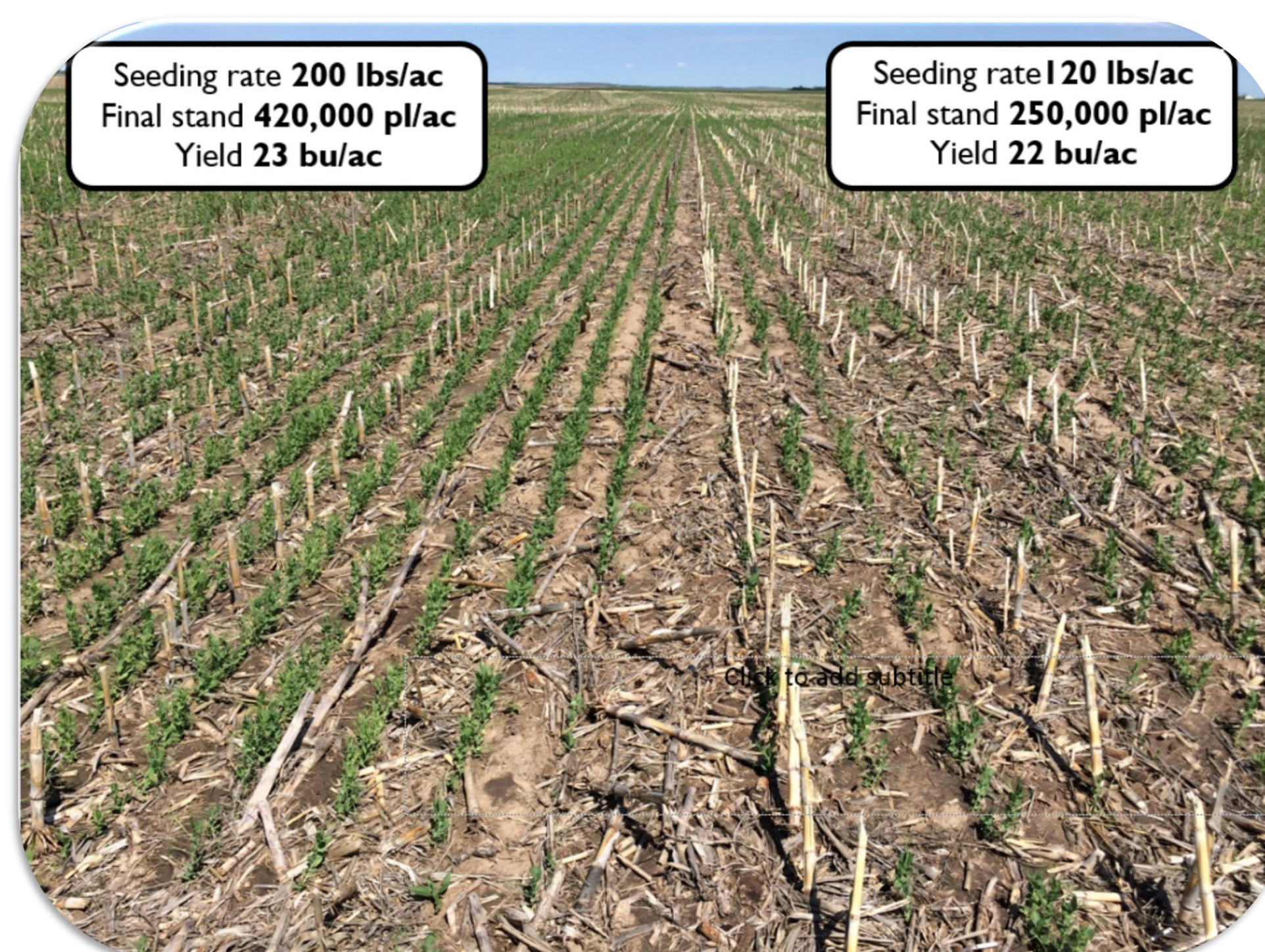
SARE PROJECT ONC 16-021 Strahinja Stepanovic

Rotation study: field peas vs fallow

Parameter	Field peas - wheat	Fallow - wheat
Water use efficiency	✓	
Wheat yield		✓
Soil nutrient cycling	✓	✓
Soil infiltration	✓	
Microbial activity (Solvita)	✓	
Beneficial soil microbes	✓	
Beneficial insects	✓	
Profitability	✓	



Agronomic studies: growing field peas



- **Seeding rate study.** Although lowering currently recommended seeding rates (target population of 350,000 plants/ac) may be possible without losing profits, we observed better weed suppression, faster and more uniform dry down, higher pod set and more efficient harvest at higher plant populations. Thereby, we recommend using seeding rates of 180-200 lbs/ac (~350,000 plants /ac) until further research is completed.
- **Seeding depth study.** Placing the seeds 1 to 3 inches deep where there is moisture and good seed-to-soil contact.
- **Inoculant study.** The carryover of rhizobia in fields with history of field peas (two and three years before) was not sufficient to initiate nodulation and biological nitrogen fixation. We recommend using inoculant at each planting.

**Manuscript accepted for publication in
Agronomy Journal**

Field pea variety and herbicide evaluation



Field pea variety trials at seven NE locations:



Field pea production resource page
(<https://cropwatch.unl.edu/2018/field-pea-planting-and-production-resources>):

1. Field peas - variety selection
2. Field peas - A guide to Herbicide Carryover and Herbicide Efficacy
3. Rotational costs and benefits
4. Seeding recommendations
5. Economic decision support model
6. New markets for field pea

Outreach



FIELD PEA FIELD DAY at Bladen, NE (June, 2016) – field demo, indoor sessions and tour of Gavilon's processing facility

Twitter activity

Impact



Field Pea Production Workshop at Culbertson, NE (Nov, 2016):

- 92 people attended (42 surveyed) individuals 9,000 ac directly farmed, and 1,880,100 acres represented.
- 96 % improved knowledge about field pea varieties, seeding rate, seeding depth, inoculant, and herbicide to be useful.
- 92 % improved ability to make informative decision on whether to replace fallow
- **85 % likely to adopt field pea crop in their rotation**
- 92 % reported to be likely to adopt field peas management strategies
- 98 % reported for this educational program to be above average and one of the best, \$30/ac estimated value of knowledge gained.

FIELD PEAS IN NE – THE REAL CHANGE!

What changed?	Before (2015)	After (2017)
Field pea planted acreage	34,000	55,000
Certified seed dealers	3	8
Field pea processing facilities	1	3
Field pea buyers in NE	1	7