Confection Sunflower Production in the Big Horn Basin of Wyoming

Preliminary report

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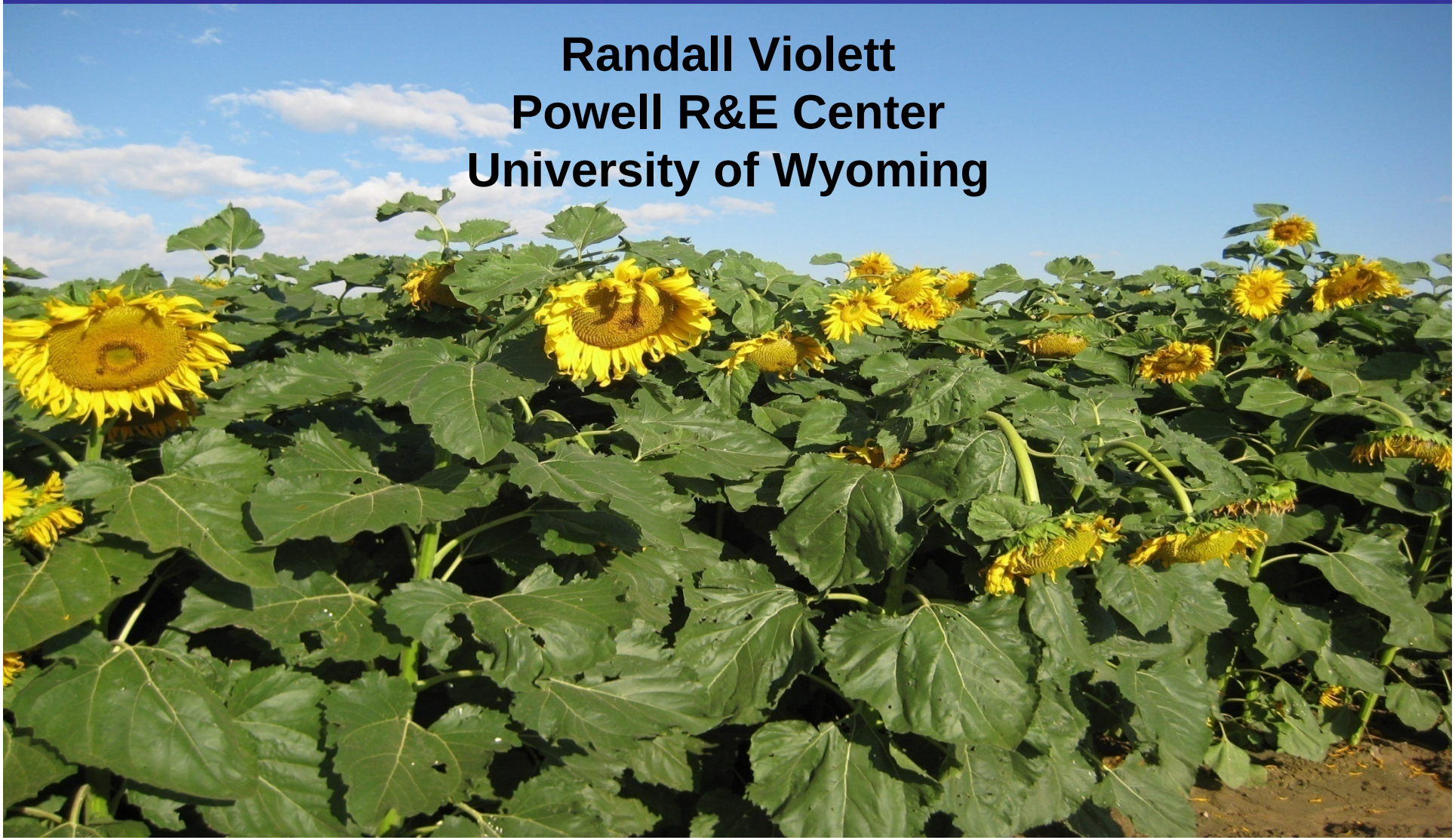

Introduction

- Elevation 4365 feet above sea level
- 142 days above 28 degrees F
- 6-9 inch precipitation zone
- Furrow irrigation on 22 inch rows
- Low disease pressure
- Sugar beet, Barley rotation
- Looking for alternatives in rotation
- Looking for profit

Literature Review

- High Plains Sunflower Production Handbook

  Colorado State University, Kansas State University, University of Nebraska, University of Wyoming, USDA-ARS- Central Great Plains Research Station, Akron, Colorado

- Irrigation Management in Sunflowers

  Andrew R. Kniss, Graig M. Alford, Stephen D. Miller, University of Wyoming

- Sunflower Cost-Return Budget in Western Kansas

  Troy J. Dumler, Daniel M. O'Brien, Curtis R. Thompson, Brian L.S. Olson, Kansas State University

Objective 1 of study

- Collect data to determine if confection sunflower production is a viable crop for the Big Horn Basin of Wyoming.

Materials and Methods

- Established test plot on PREC.
- Completed production with existing equipment at PREC.
- Interviewed producer that had three year history of growing confection sunflowers.

Results and Recommendations

- Average yield from PREC trial 3677 lbs/acre with 53% >20/64, test wt 24 lbs
- Average yield from producer 3120 lbs/acre with 87% > 20/64, test wt 22 lbs
- No diseases
- No insect damage
- No desiccation

Objective 2 of study

- Determine where to place confection sunflowers in area crop rotation.

Materials and Methods

- 2 sites in Big Horn Basin WY, 2008
- Sites were selected based on previous crop grown. One site following sugar beet, the other following malting barley.
- Soil samples taken before planting.
- Soil samples taken after harvest of sunflowers.

Results and Recommendations

- Field prep work done in fall following beets.
- Round –up ready beets provide cleaner field.
- More Nitrogen available deeper in soil profile after barley.
- No significant difference in yield or quality between the two sites.

Objective 3 of study

- Make production recommendations to producers.

Materials and Methods

- Performed variety trials
- Performed planting density trial
- Performed post emergent herbicide trials
- Performed pre-plant herbicide trial

Results and Recommendations

- Tested nine varieties and found Mycogen 8C482 as best performer.
- Determined that 19,000 plants/acre is the most desirable population.
- Raptor and Pursuit controlled *Amaranthus retroflexus* L. without affecting yield, did affect seed size.
- No difference between Sonalan, Eptam and Prowl H_2O.
- Wildlife will cause decrease in yield.

Need for Further Research

- Keep testing varieties
- Place in more rotations
- Determine affect of following sunflowers on rotation
- Fertilizer rates and placement
- Irrigation timing and amount of water applied
- Strip tillage applications
- Wildlife control

Questions