

Evaluation of Insecticide Application Strategies for Cotton Insects

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Insecticide Draft Strategy

- **Goal:** Development of a broad approach to reduce potential population-level impact for over 850 species from conventional insecticides applied for pest control in agricultural fields in the contiguous U.S.
- **Targeting:** spray drift and runoff/erosion
- **Considers** 210 invertebrates and 660 listed species that depend on invertebrate for diet or pollination



Mitigation Components

Type and level of mitigation required specific to:

- **Chemical**
- **Crop**
- **Application Method**

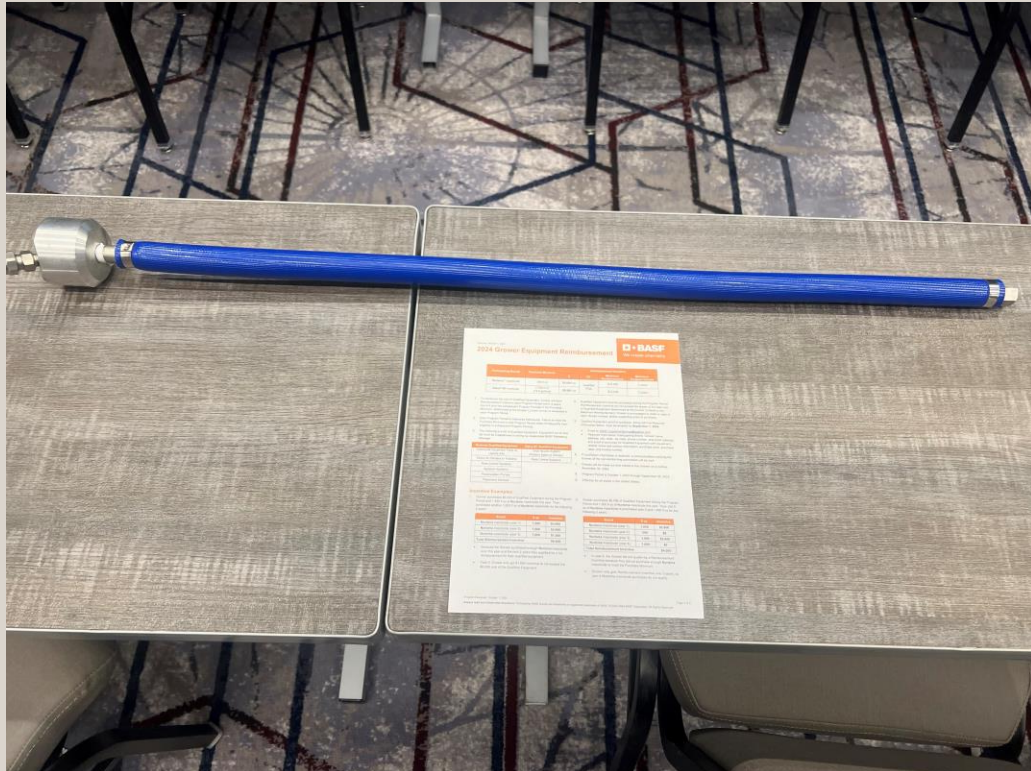


Previous Research

- **Been used as “sloppy lay-by” is herbicide**
- **BASF had an incentive program for the parts**
- **Little work has been done in the insect realm**



Modifications to the “sloppy lay-by”



Inverted “Y” Nozzle





Objective of Research

- **Evaluating if inverted drop nozzle application method will increase efficacy of middle tier products available for tarnished plant bug control**
- **Evaluate if acaricides applied using a “bottom-up” technique will improve efficacy without GPA adjustment**



Hypothesis

- **Utilizing an inverted drop nozzle will allow ai to reach more target sites (fruiting structures) in turn increasing control**
- **Inverted drop nozzles will deliver ai to the bottom side of cotton leaves increasing control**



2024 Tarnished Plant Bug inverted drop nozzles

Location

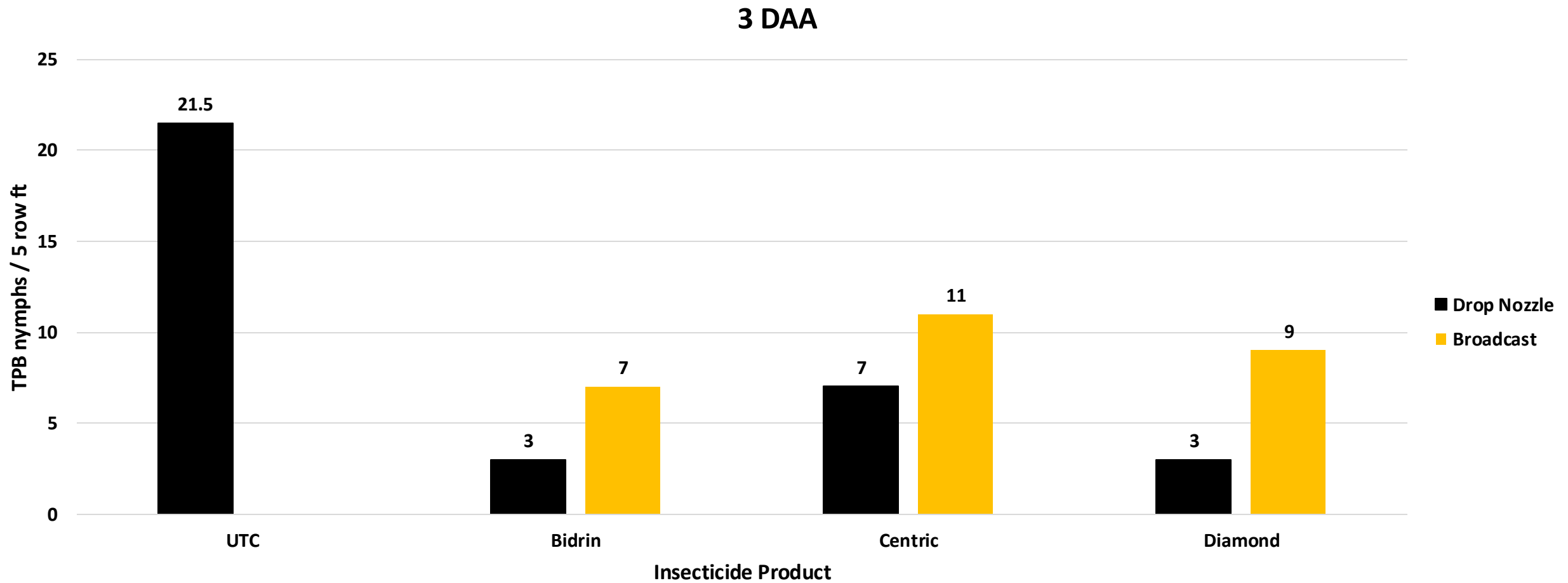
- Portageville, MO
- DP2115 B3XF
- 8 Row Plots x 215 ft

Application

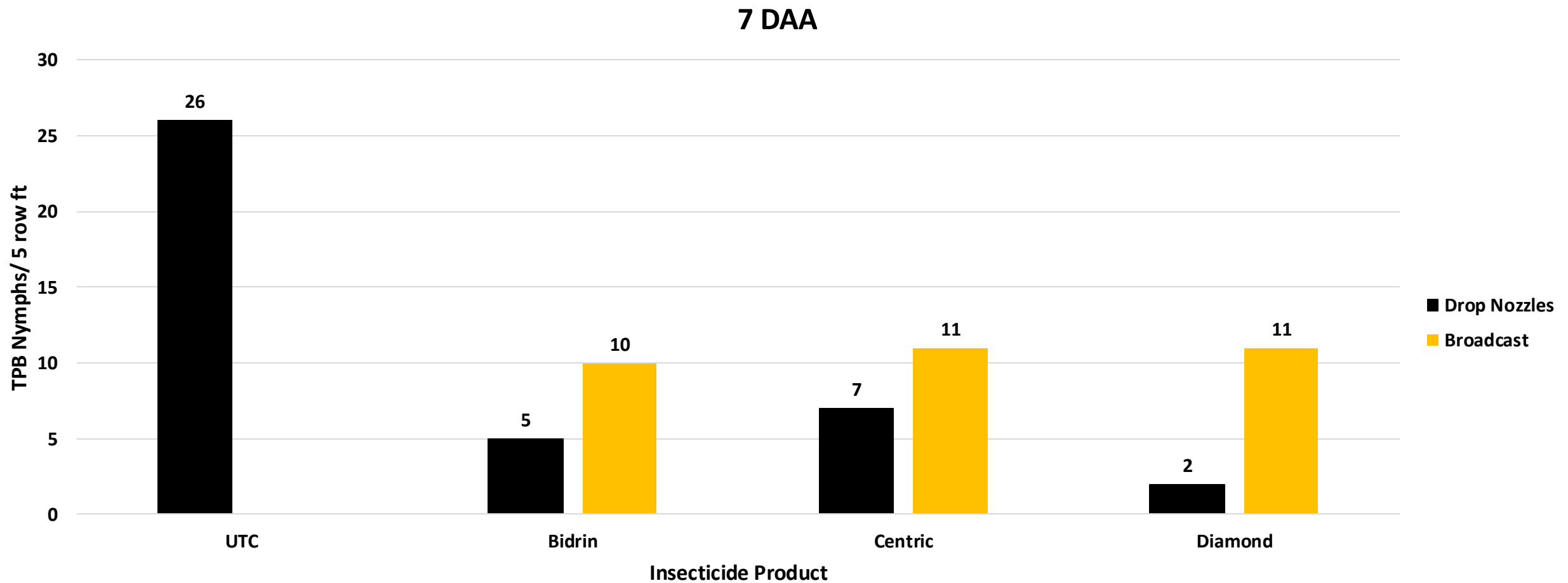
- 15 GPA
- 2.5 MPH
- Teejet Hollow cone Tips



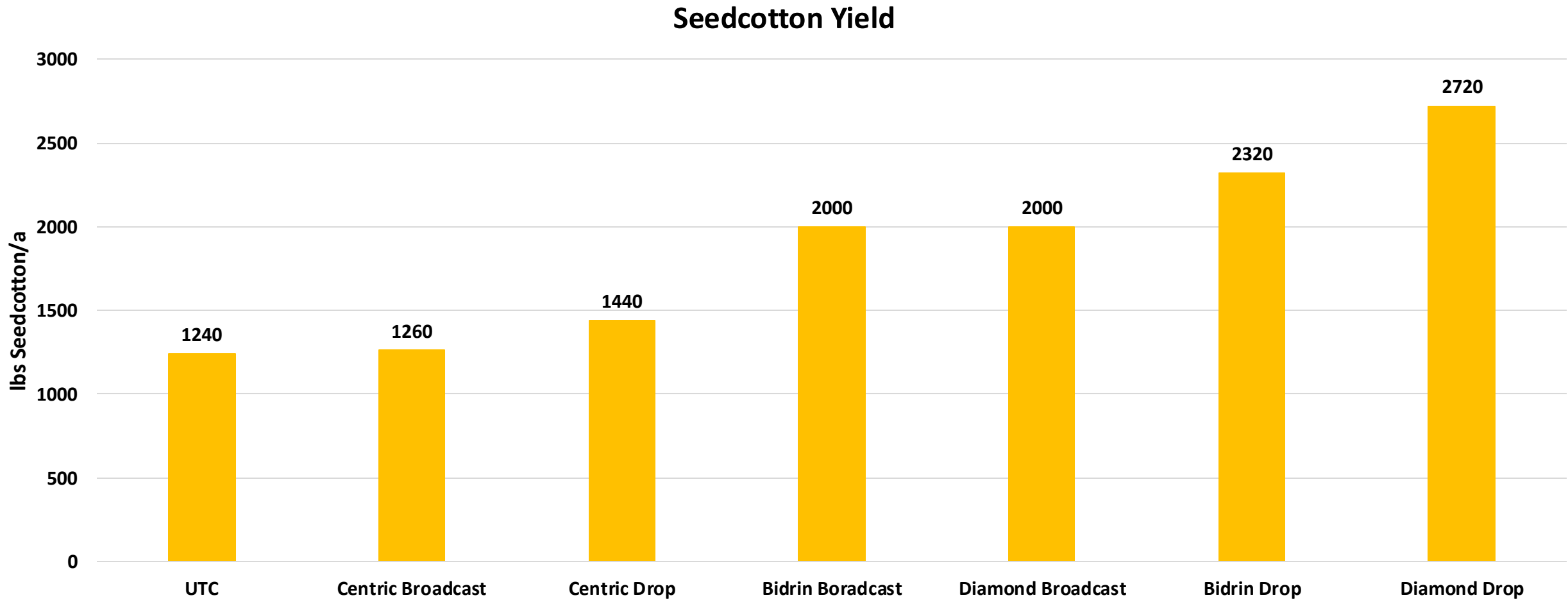
Results



Results



Results



Results

- **All products increased tarnished plant bug control when implementing inverted drop nozzles**
- **9 oz/a of diamond provided largest numerical control compared to other products at 7DAA**
- **More work is need to strengthen data set**



Implications

- **Nozzle selection**
- **Speed**



Future Research

Insects

- **Nozzle Selection**
- **Adjuvant Selection**
- **Edge effect**
- **Mite border treatment**

Pathology

- **Target spot studies**
- **Fungicide uptake**



Recognition

- **The Cotton Foundation**
- **Cotton Incorporated Core Program**
- **Cotton Incorporated Missouri State Support Program**



Cotton
Incorporated



Thanks for Listening!

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