

Louisiana Agricultural Technology & Management Conference

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Threecornered Alfalfa Hopper Management

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Threecornered alfalfa hopper (TCAH)

Spissistilus festinus (Say)



Adult



Nymph

TCAH injury: girdles

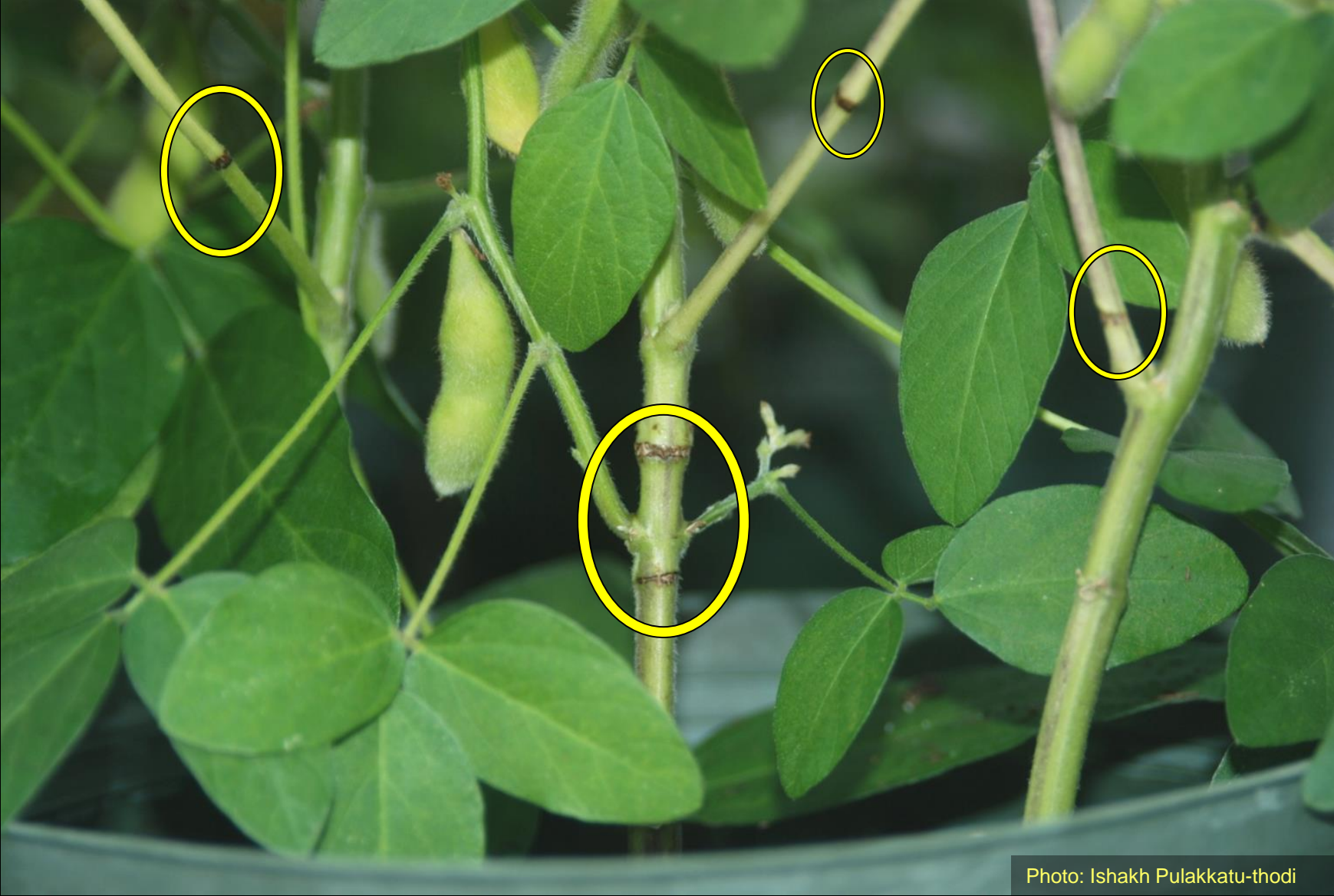


Photo: Ishakh Pulakkatu-thodi

Management recommendations for plant in reproductive stages

- **Starting at pod set**
 - Threshold for drop cloth: 3 nymphs / row ft
 - Threshold for sweep net: 1 adult / sweep
- **Comprehensive research at LSU in the 1980s**
- **Thresholds in neighboring states (for soybean in reproductive stages)**
 - Mississippi: 2 adults / sweep (was 1 adult / sweep until 2011)
 - Arkansas: no threshold

Sparks & Newsom. 1984. J. Econ. Entomol. 77: 1553-1558.

Sparks & Boethel. 1987. J. Econ. Entomol. 80: 471-477.

Field evaluations, 2013-2014

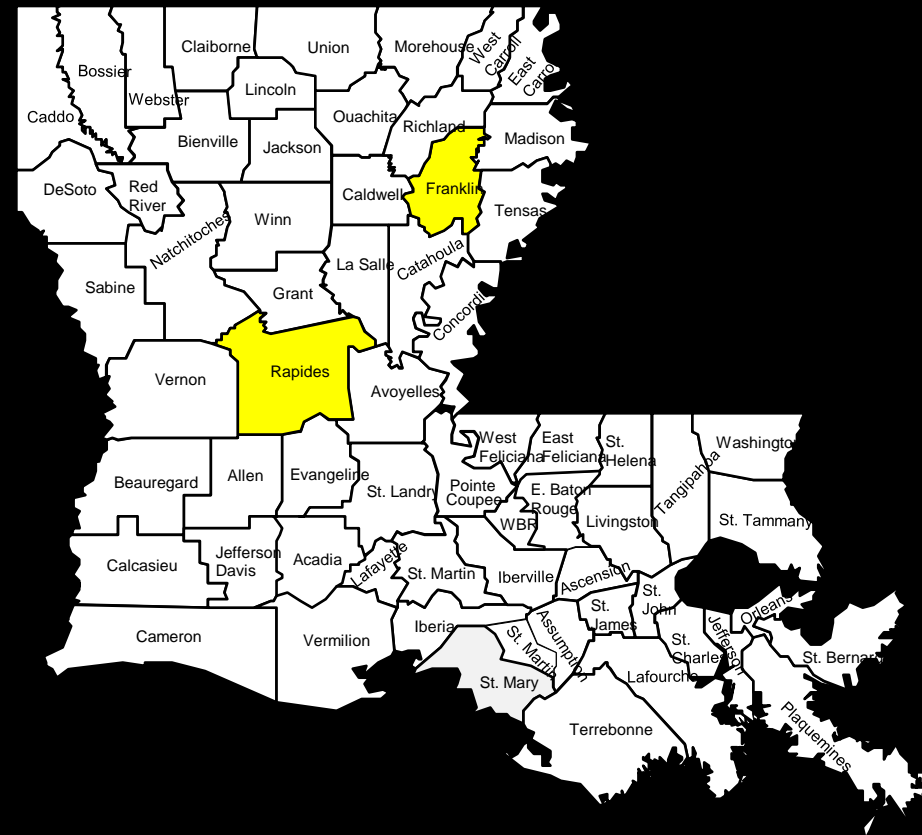
- **Dean Lee and Macon Ridge Research Stations**

- Experimental field of Progeny P4850RY
- Standard soybean production practices

- **4-6 replications**

- 3 plots / replication

- **TCAH adults and nymphs released in field cages as needed**



When soybean plants attained the R1, R3, or R5 stage:

- **2 or 3 field cages / plot**
 - Each cage: 2.5 ft * 2.5 ft * 4 ft
- **TCAH adults, or nymphs, released in 1 cage in each plot**
 - 30 TCAH / row ft for 10 days
- **1 non-infested cage / plot**



Mature plants were collected from a 1.5-row foot section in each cage

- **Injury data**

- Proportion of plants with green stem syndrome
- Number and location of TCAH girdles / plant

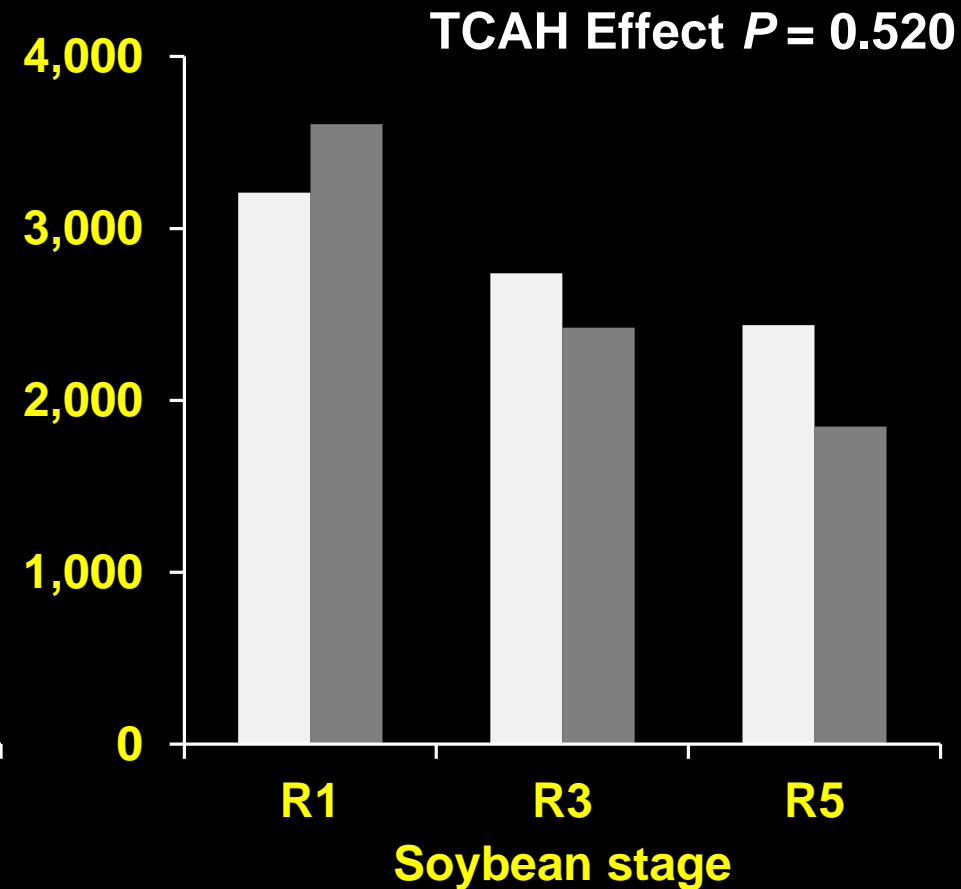
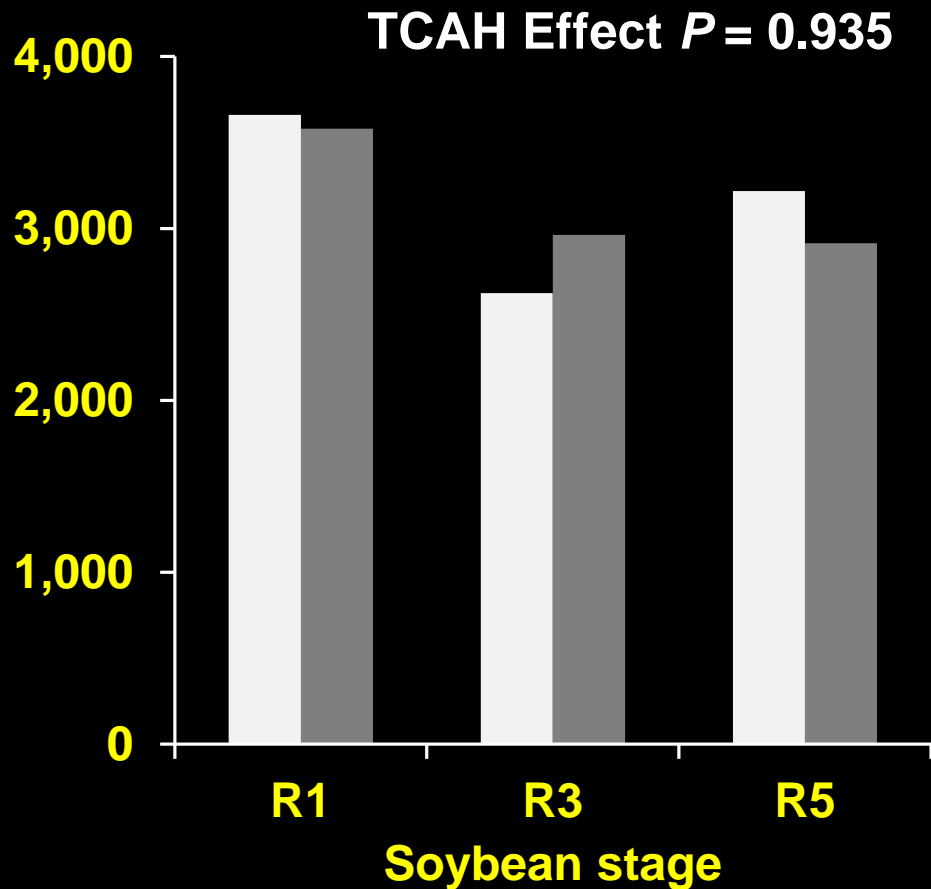
- **Yield component data**

- No. plants
- No. pods / plant
- No. seeds
- Seed weight
- Yield

Soybean yield in lb / A (2013)

Dean Lee Res. Stn.

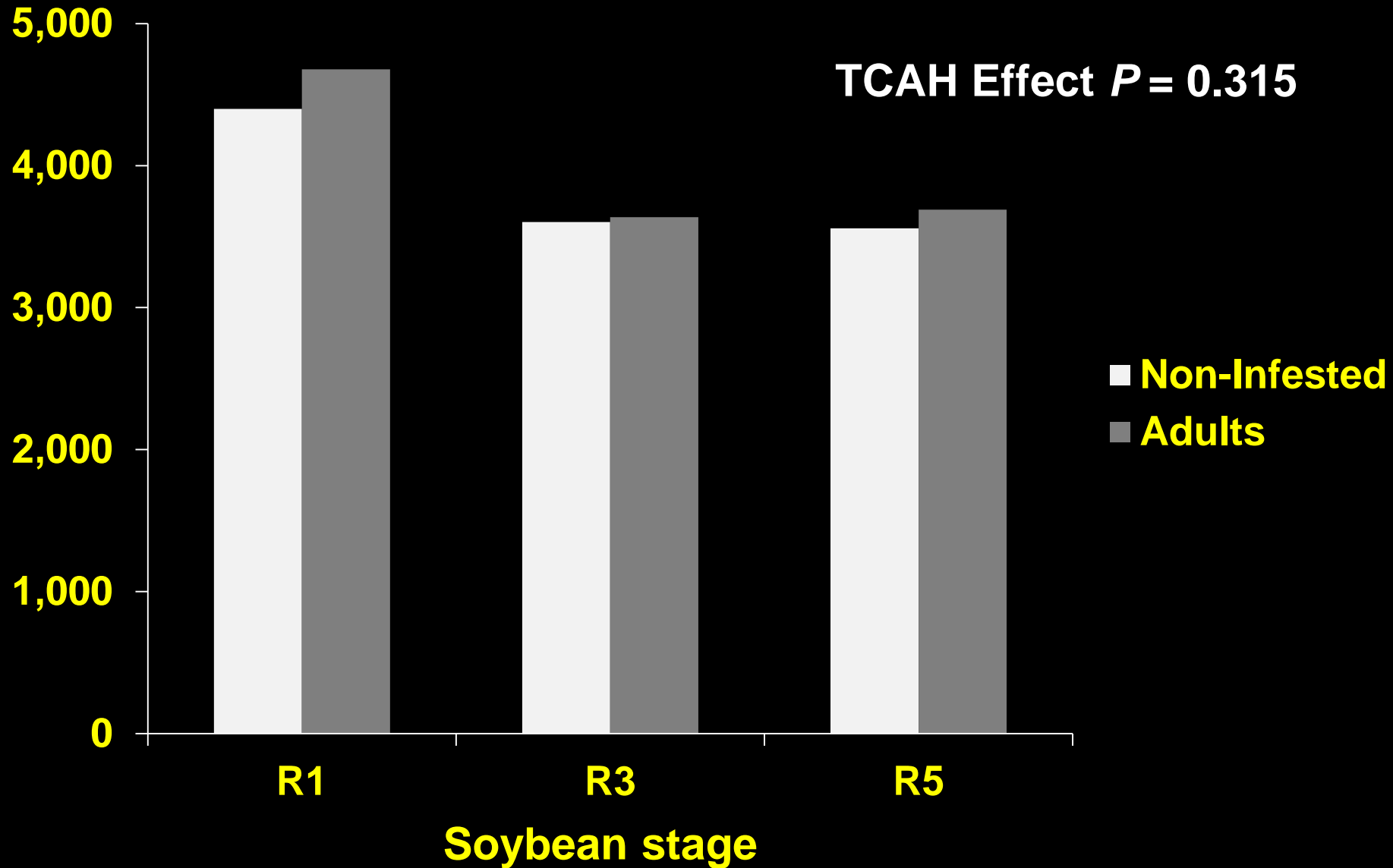
Macon Ridge Res. Stn.



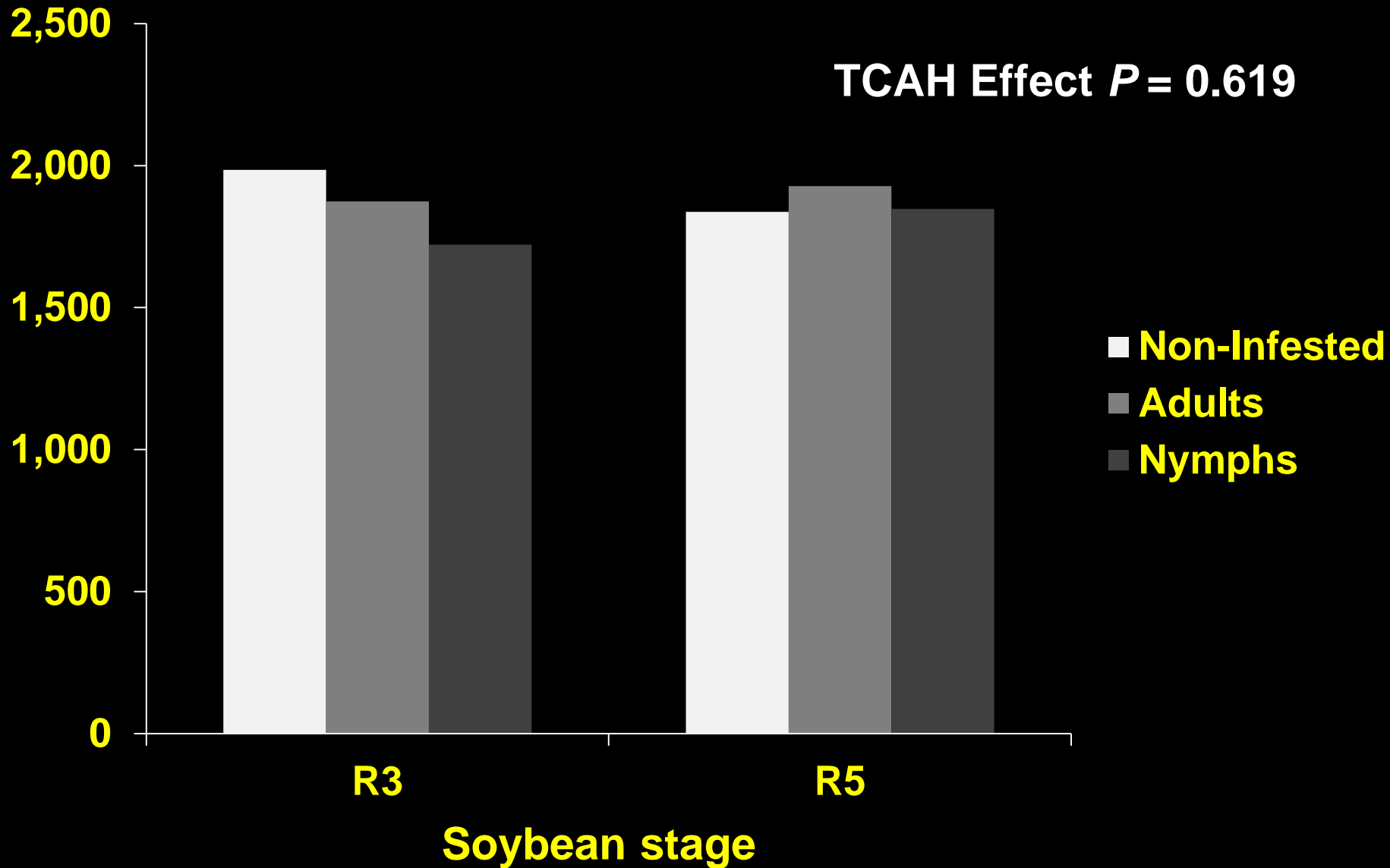
■ Non-Infested ■ Infested

■ Non-Infested ■ Infested

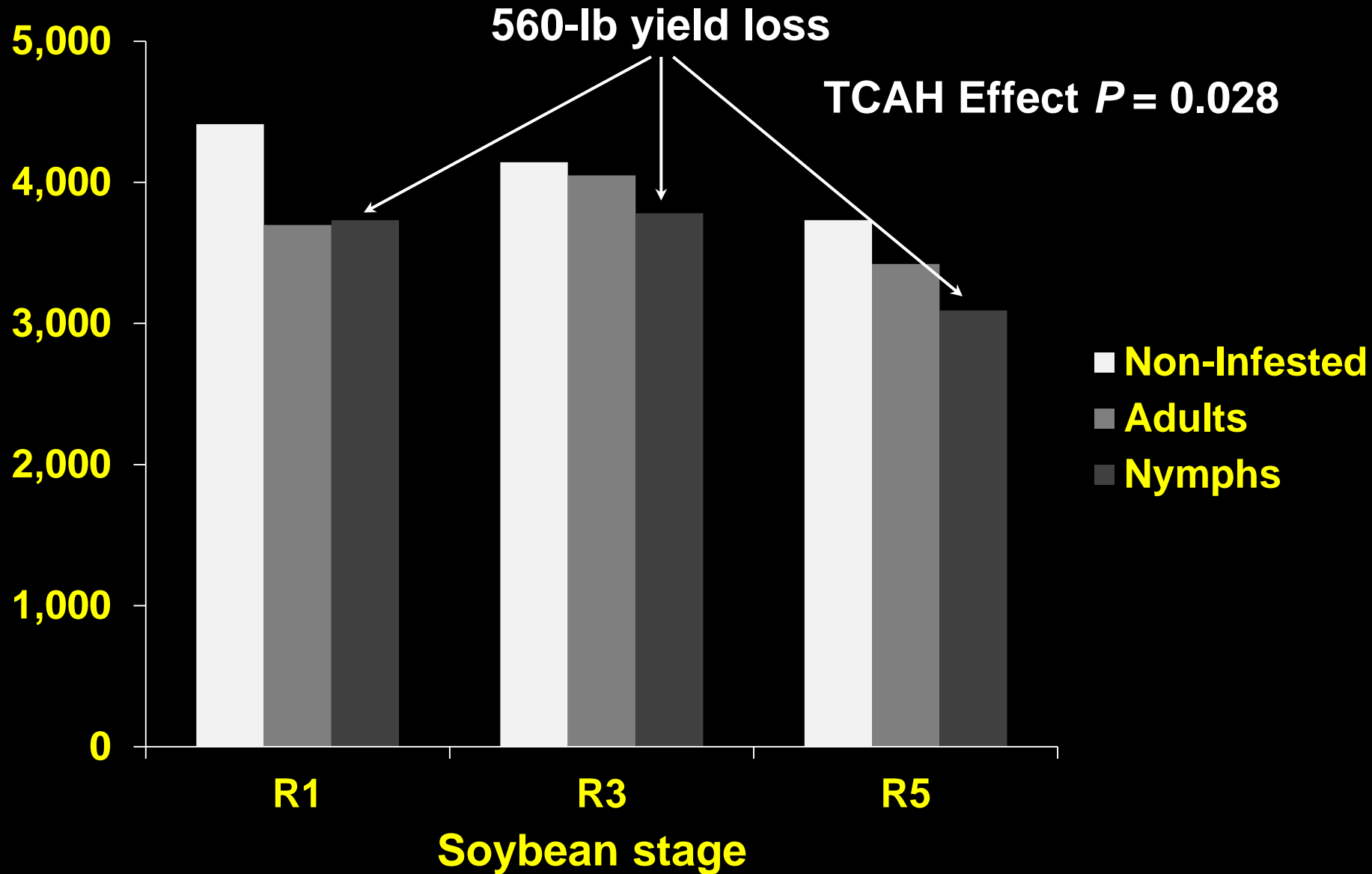
Soybean yield in lb / A (Dean Lee Res. Stn.)



Soybean yield in lb / A (Dean Lee Res. Stn.)



Soybean yield in lb / A (Macon Ridge Res. Stn.)



Current recommendation

- It is likely that TCAH adults do not cause yield losses under current production practices
- TCAH nymph feeding may be associated with yield losses
- Starting at pod set
 - 1 adult / sweep
- But...

TCAH Management

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