

Impact of Cultural Practices on Soybean Aphid Incidence, Soybean Yield, and Virus Incidence

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Possible Cultural Practices for Aphid-Virus Control

- Date of Planting
- Seeding rate
- Row width comparisons
- Varietal selection
- Tillage practices
- Fertility and fertilization
- Rotations?
- Canopy Density
- Virus free seed



Cultural Practices for Soybean Aphid Control

Observations in 2000

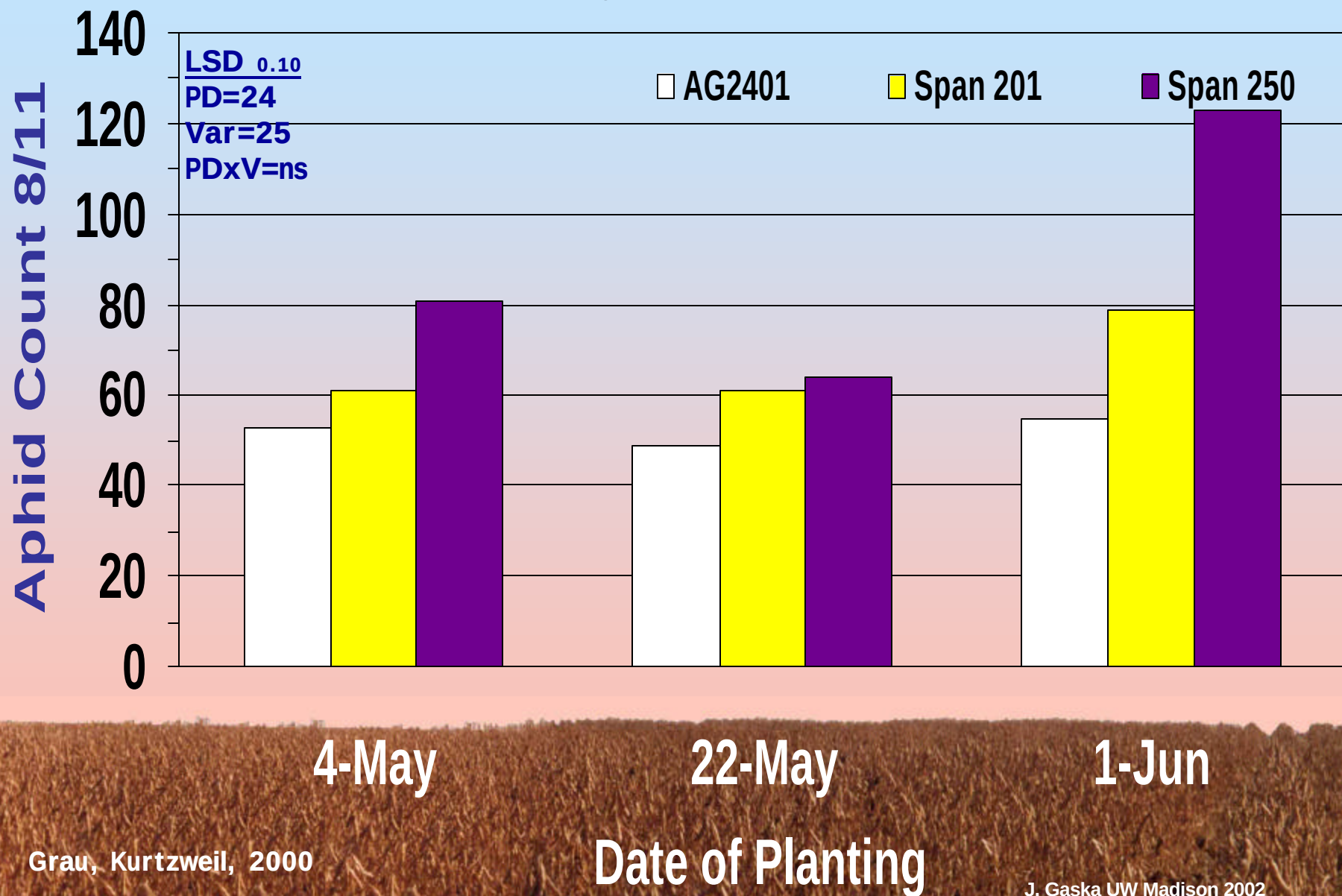
- High soybean aphid pressure in late planted fields
- High soybean aphid pressure in low plant population areas
- First instinct is to use insecticides
- Cultural practices may help also





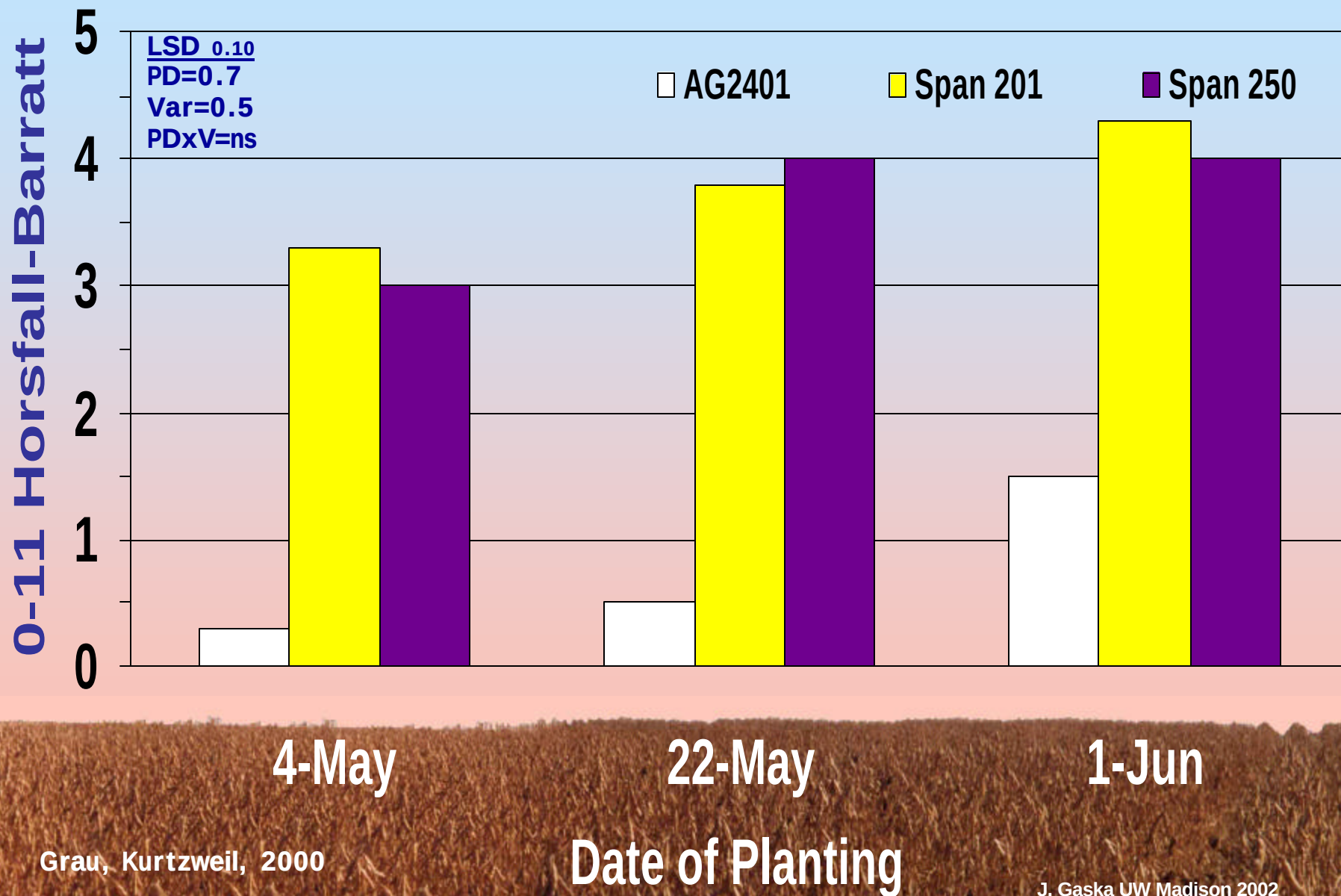
Effect of planting date and variety on aphid incidence.

Arlington, WI. 2000



Effect of planting date and variety on virus symptoms.

Arlington, WI. 2000



Materials and Methods

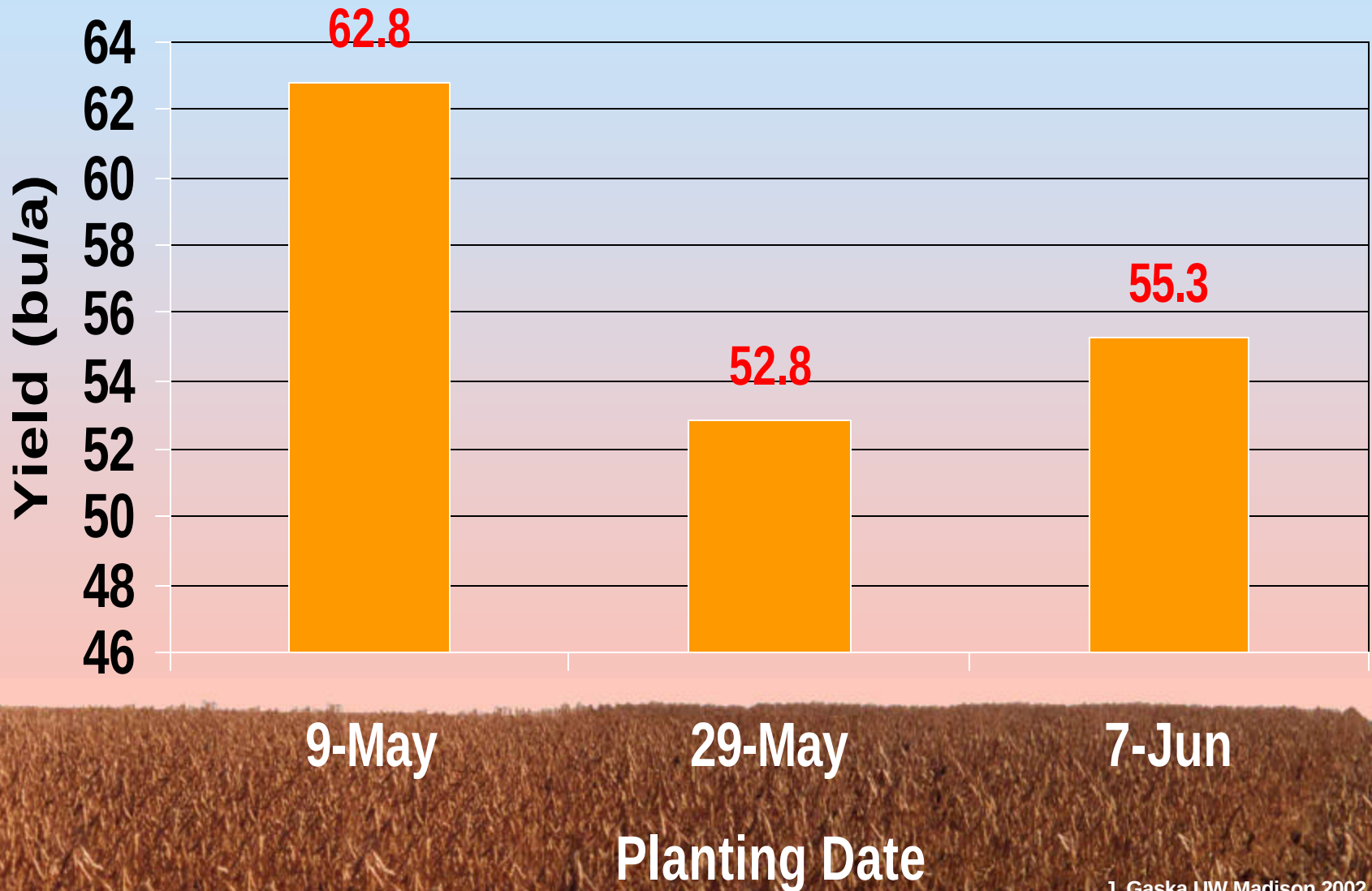
2001 Date of Planting Study

- **Location:** Arlington Ag Research Station
- **Expt. Design:** RCB
- **Reps:** 4
- **Variety:** DSR-215RR
- **Row width:** 30", 120,000 seeds/acre
- **Planting dates:** May 9, May 29, June 7
- **No insecticides were used**



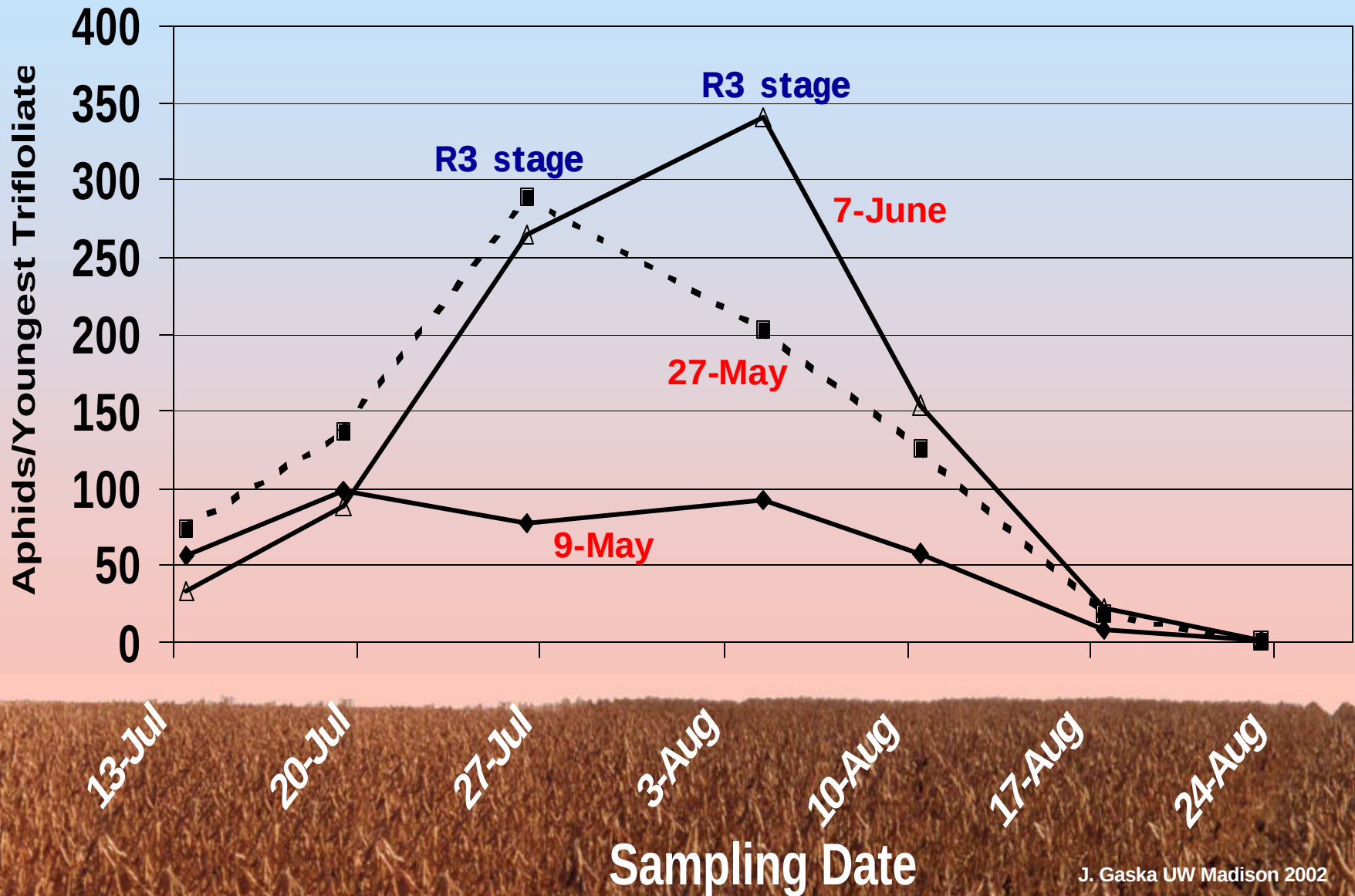
Soybean Aphid Date of Planting

Arlington, WI 2001



Soybean Aphid Population vs. Planting Date

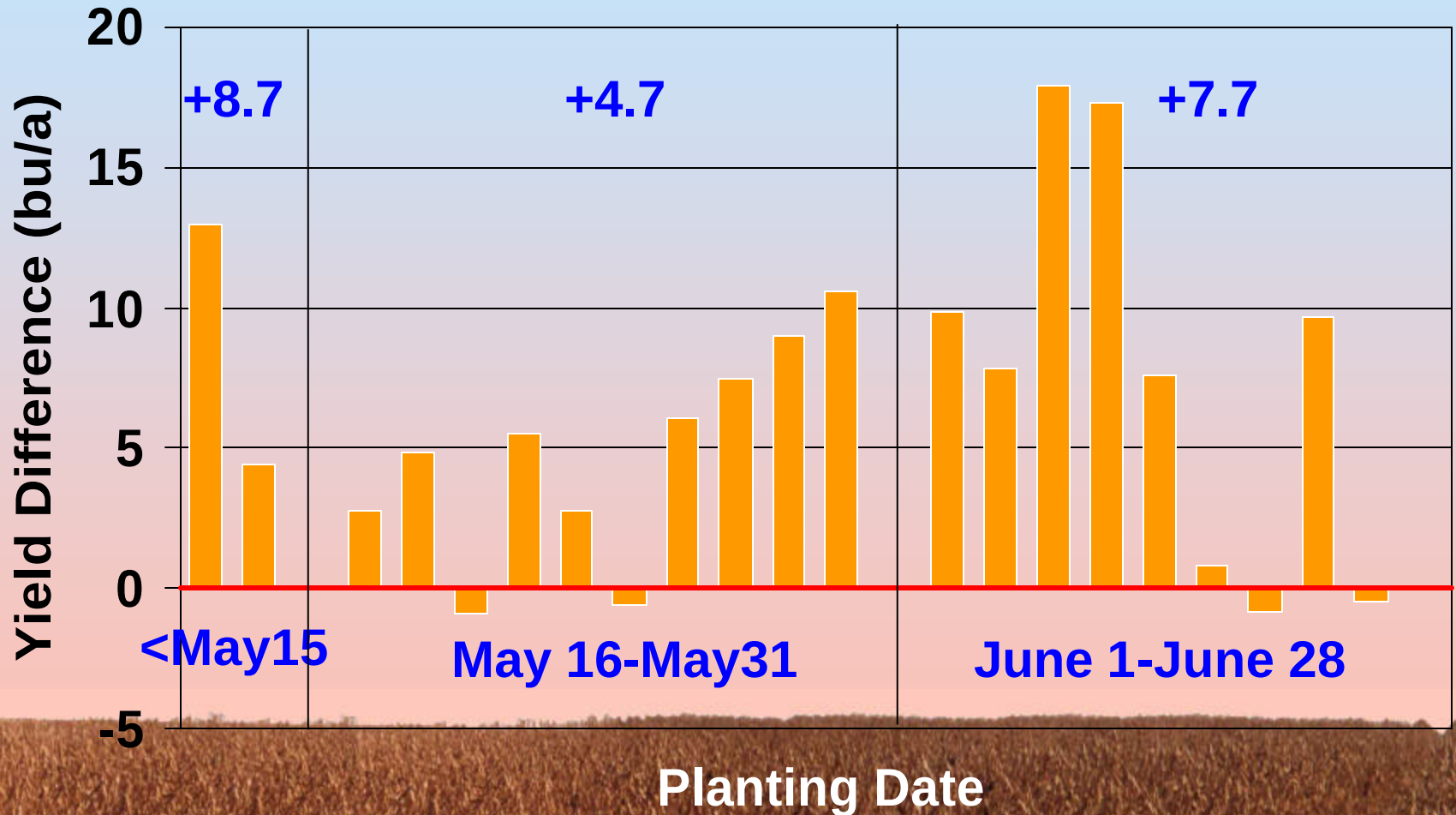
Arlington, WI 2001



Soybean Aphid On-Farm Observations

Planting Date Variations

Various WI Locations - 2001



Which one does an aphid prefer?



Materials and Methods

2001 Row Spacing x Seeding Rate Study

- Location: Arlington Ag Research Station
- Expt. Design: RCB-Split Plot
- Reps: 4
- Variety: DSR-215RR
- Row width: 7.5" and 30"
- Population: 7.5" 150K, 200K, and 250 K seeds/acre
30" 75K, 125K and 175K seeds/acre
- Planting date: May 9
- No insecticides were used

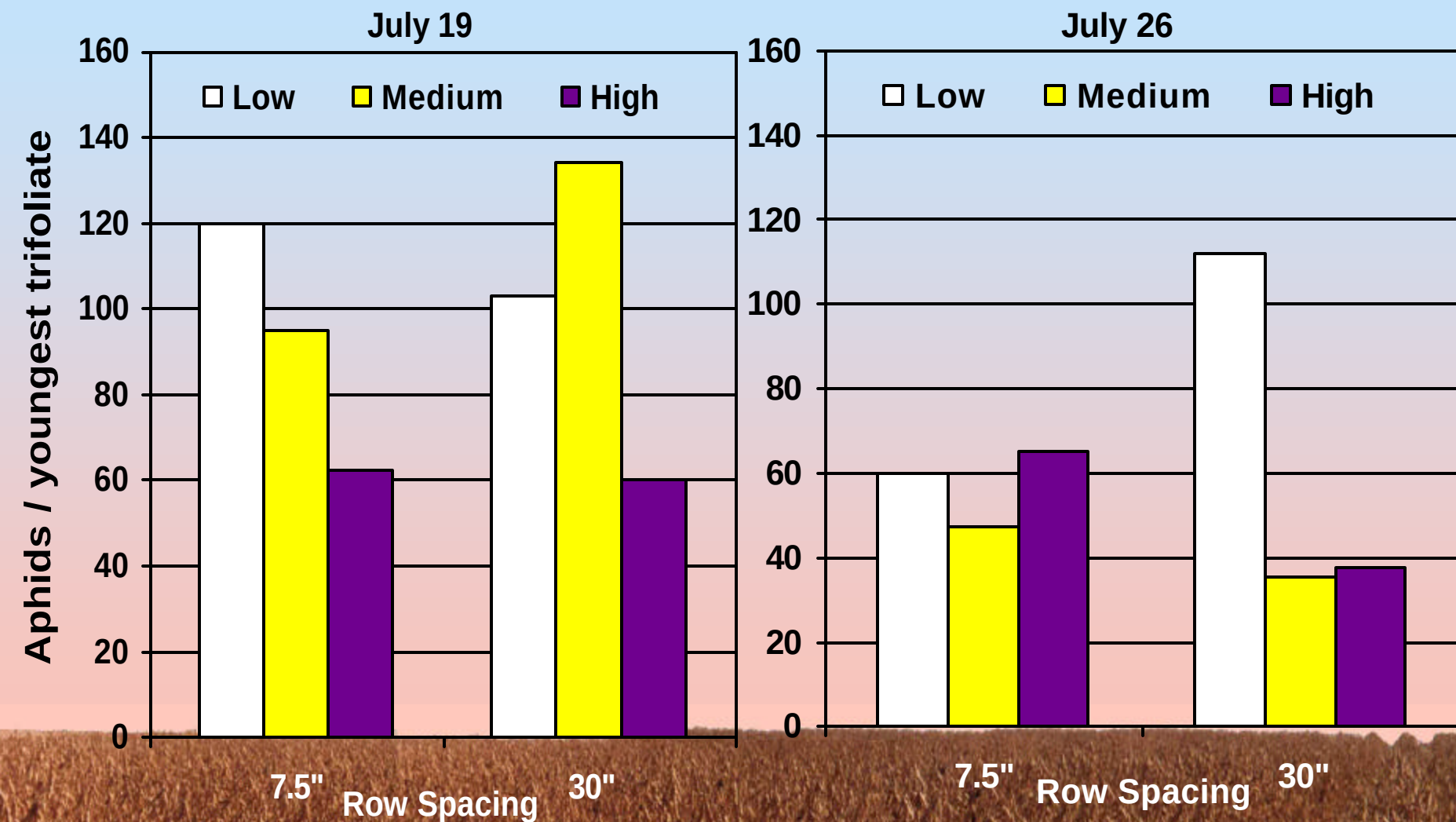


Soybean grain yield at two row widths and three seeding rates.

Arlington, WI. 2001



Soybean aphids at two row widths and three seeding rates on July 19 and July 26. Arlington, WI. 2001.



Summary

- Planting date significantly affected aphid numbers
- No conclusions on viral activity due to planting date or plant density
- Insecticides may have to be used if aphid populations reach damaging levels
- Future research will build on aphid colonization numbers and correlate GDU's with aphid numbers



Conclusions and Recommendations for Cultural Management of Soybean Insect-Virus Complex

Early Planting Date

- Advantage
 - Maintain dense canopy
 - High yield potential
 - Lower aphid density
 - Lower virus incidence
- Disadvantage
 - Bean leaf beetle
 - BPMV

Late Planting Date

- Use higher seeding rate for denser canopy
- May require an insecticide application
- Very late plantings may be able to mix herbicide and insecticide

Use of virus free seed



Thank You!

- Questions?
- Comments?

The Soybean Virus-Insect Team

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