Plant and Soil Sciences Extension

Selecting Varieties and Planting Date

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Wes Watkins Center
Stillwater, OK

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Overview

- Planting Date Study
- Glyphosate resistant vs. conventional
- Variety Selection

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Planting Date - Methods

- Randomized Complete Block Design (10*30 ft plots, 3 reps)
- 125,000 seeds/ac, inoculant, and other best management practices used
- Early Season Planting
  - April 9, April 24, and May 20
  - Varieties
    - MG 3.8, 4.4, and 4.8
- Full-season
  - May 20, June 10, and July 20
    - MG 4.4, 4.9, 5.2, 5.5, and 5.6

Methods

- Yield components determined
  - **Seeds/pod, pods/m^2, No. seeds/m^2, pods/reproductive node, No. of reproductive nodes/m^2, No. of nodes/m^2, % reproductive nodes, seed wt (g/100seeds), Harvest index**
- Yield determined form middle two rows.

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Results – Early-season

- Significant difference in variety (MG) and planting date

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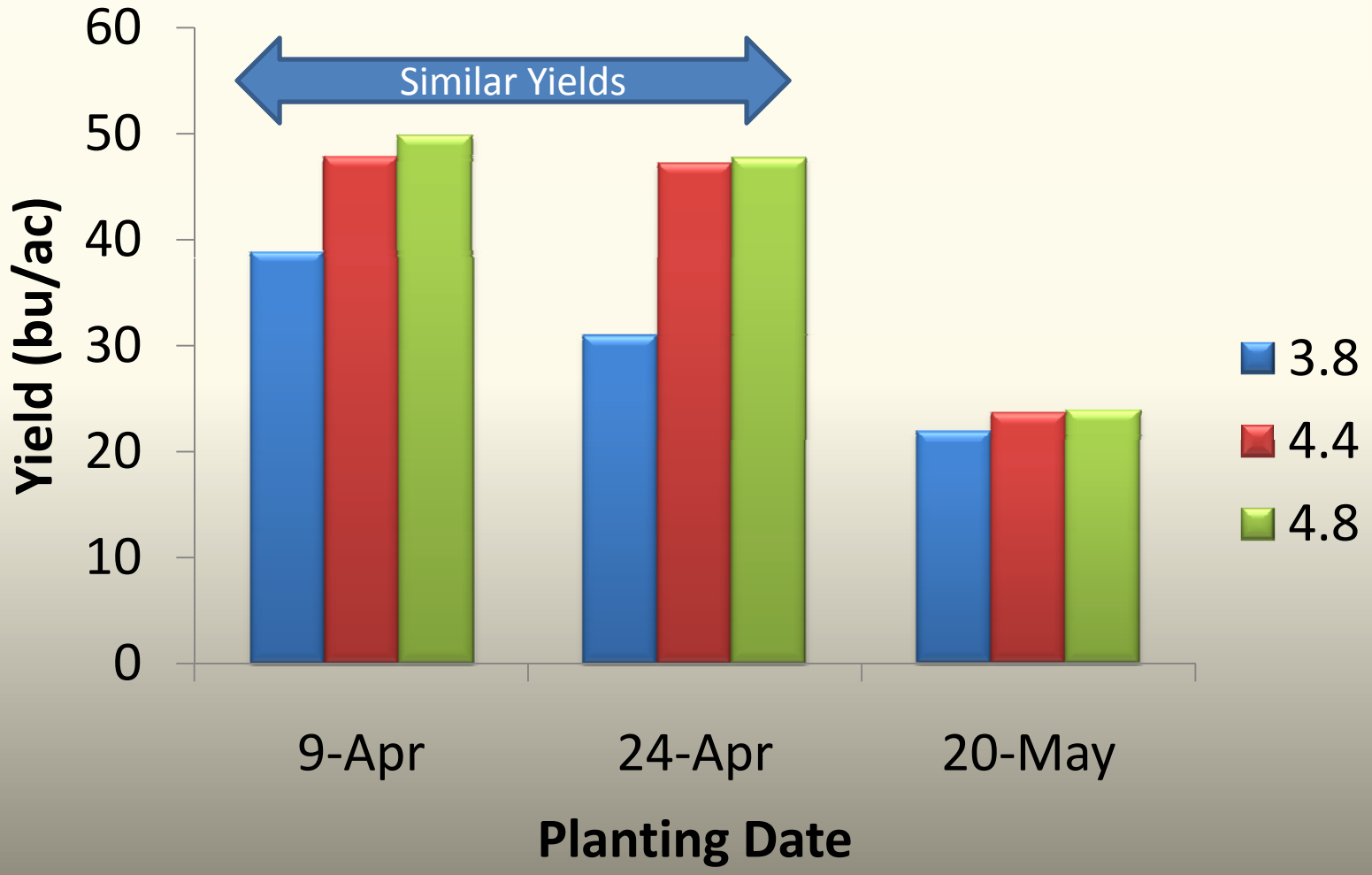
Results – Early-season



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Why the yield loss from planting date?

Yield Component	9-Apr	24-Apr	20-May
Plants/m^2	18.5 a	18.0 a	13.0 a
Seeds/pod	2.4 a	2.4 a	2.3 a
Pods/m^2	1406 a	1170 b	870 c
No. seeds/m^2	3297 a	2772 b	2085 c
Pods/node	2.0 b	2.0 b	2.4 a
Reproductive Nodes/m^2	711 a	589 b	370 c
Nodes/m^2	963 a	782 b	467 c
% Reproductive Nodes	74 b	76 ab	79 a
Seed Weight	14.0 b	14.8 ab	15.2 a
Harvest Index	46.7 a	45.9 a	44.6 a

Why the yield loss from variety (MG)?

- Less pods/m^2
- Less seeds/m^2
- Greater pods/node
- Less nodes/m^2
- Greater % reproductive nodes

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Results – Full-season

- Significant difference in planting date but not variety (MG).

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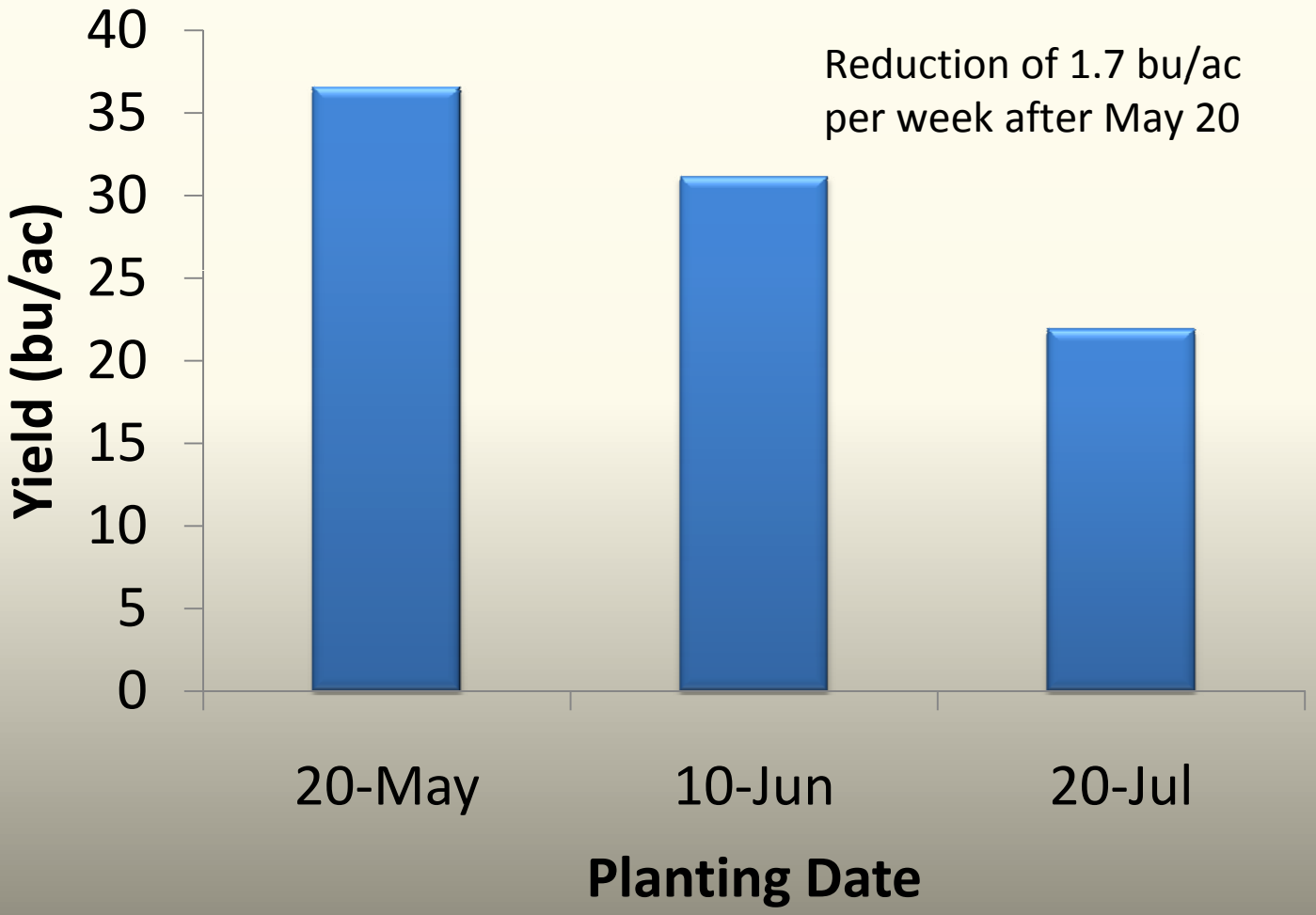
Results – Full-season



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Why the yield loss from planting date?

Full-season yield components	20-May	10-Jun	20-Jul
Plants/m2	17.1 a	12.42 b	18.1 a
Seeds/pod	2.3 a	2.3 a	2.2 a
Pods/m2	1200 a	744 b	803 b
No. seeds/m2	2786 a	1685 b	1793 b
Pods/node	2.5 a	2.1 b	2.0 b
Reproductive Nodes/m2	507 a	367 b	409 b
Nodes/m2	642 a	460 c	548 b
Percent Reproductive Nodes	79 a	79 a	75 b
Seed Weight	14.2 a	14.2 a	12.6 b
Harvest Index	43 a	44 a	40 a

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Other Observations

- Difference in bloom dates between planting dates was minimal (3-7 days), due to soybean being a photoperiod sensitive plant.

- Extended pod fill due to weather.

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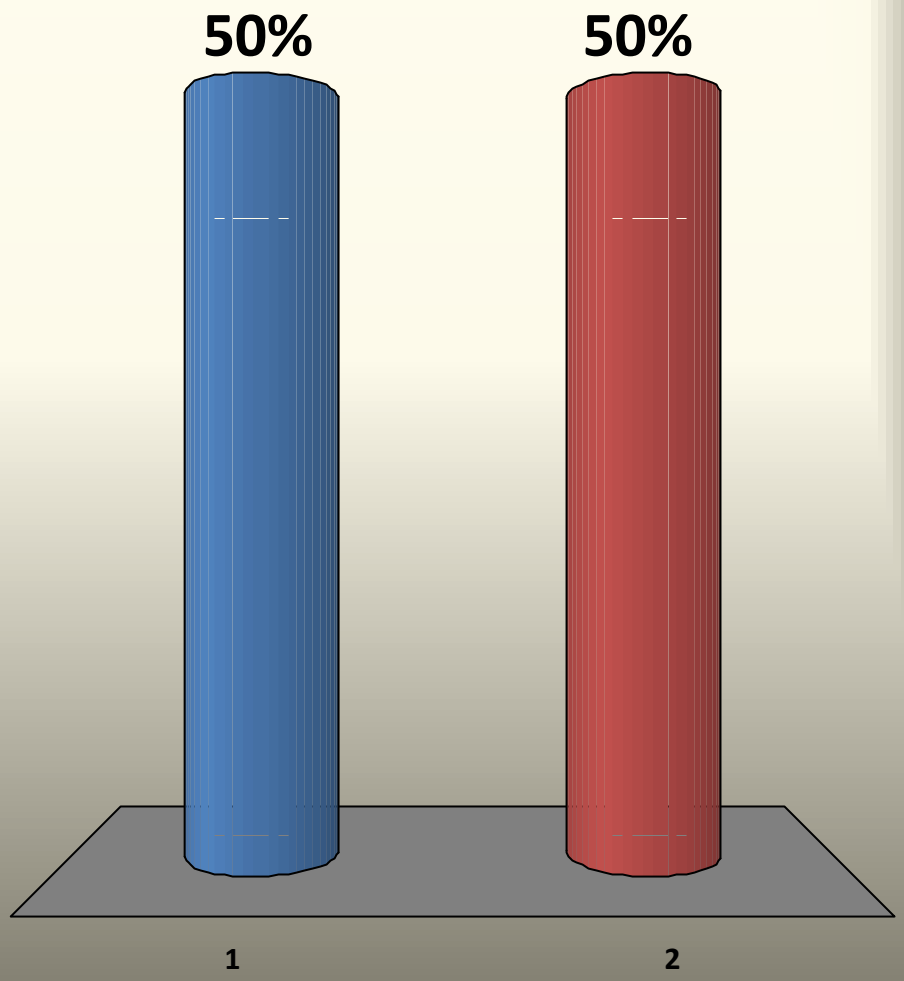
The Cowboys will beat Texas A&M tonight?

1. Yes
2. No



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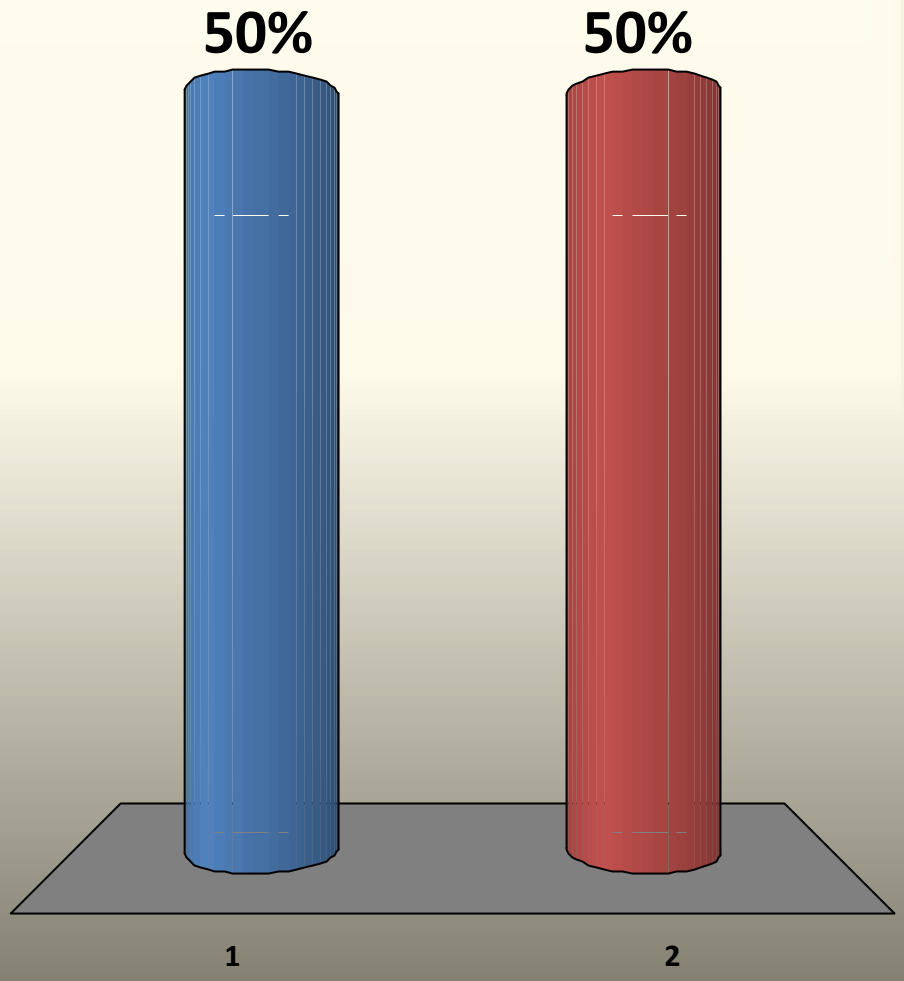
When making variety selections do you consider more than one year of yield data?

1. Yes
2. No



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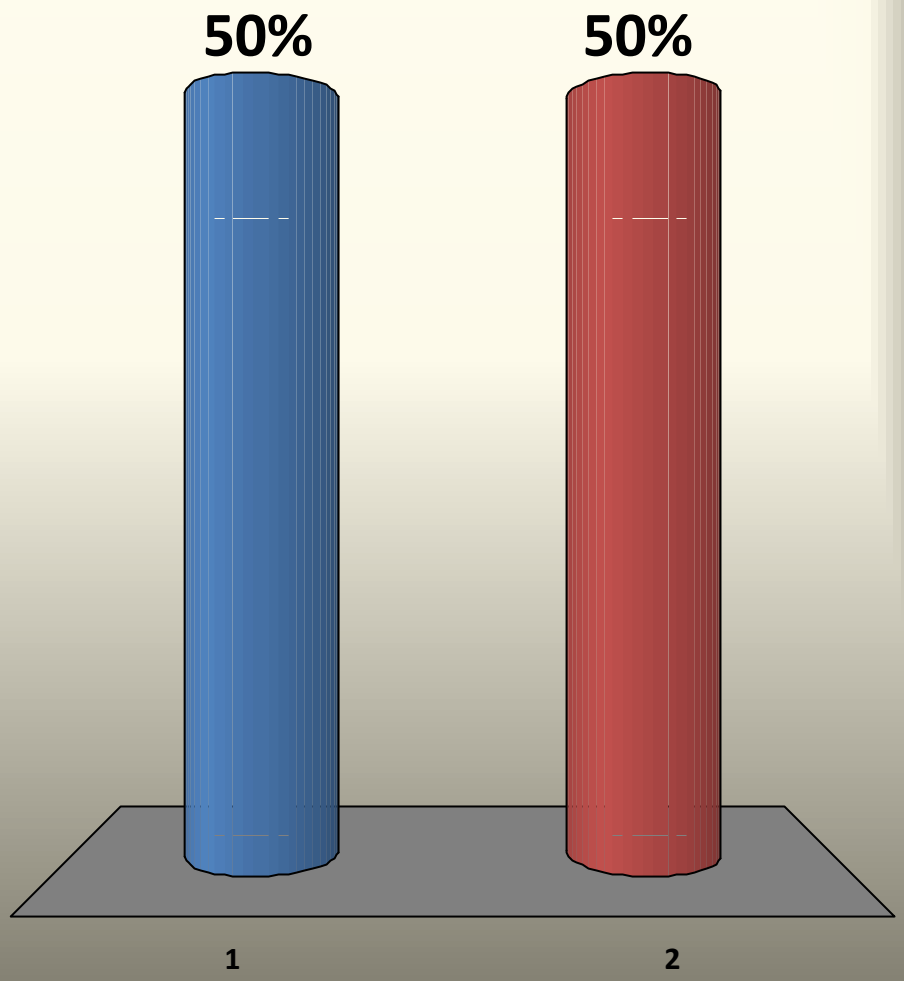
Do you plant a range of MG?

1. Yes
2. No



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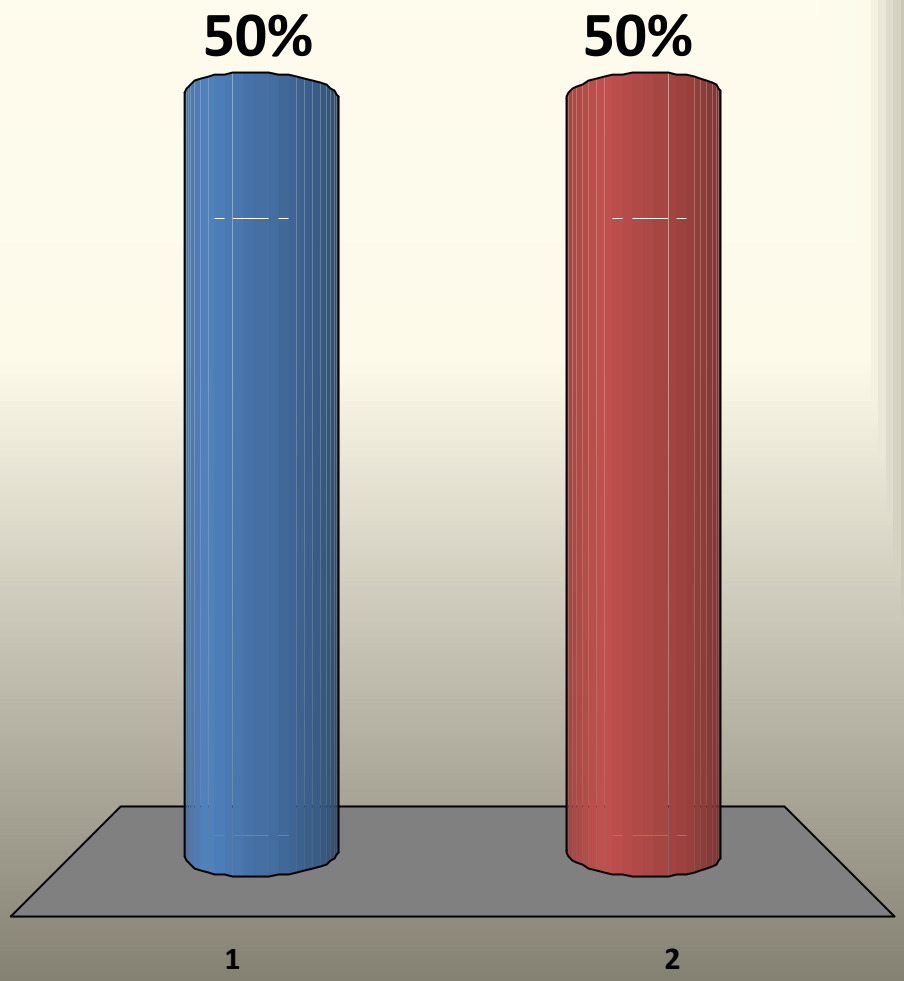
Do you plant any soybean early?

1. Yes
2. No



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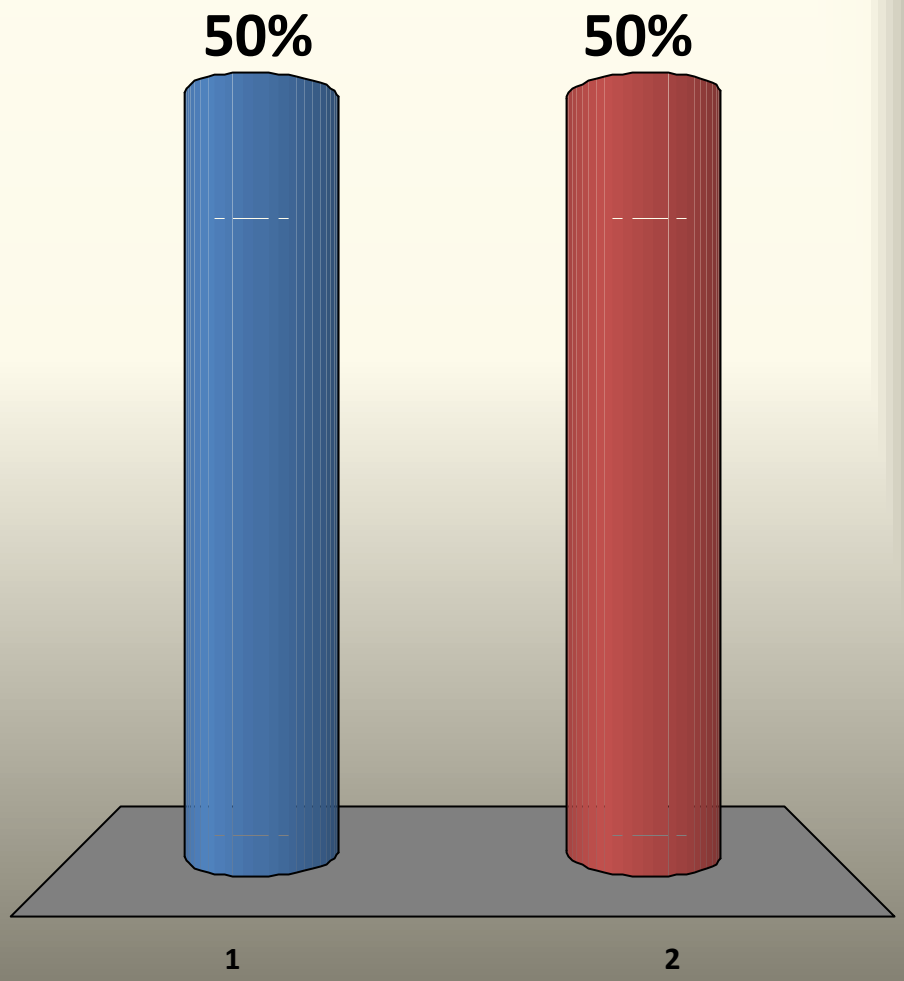
Will you consider planting conventional varieties in 2010?

1. Yes
2. No



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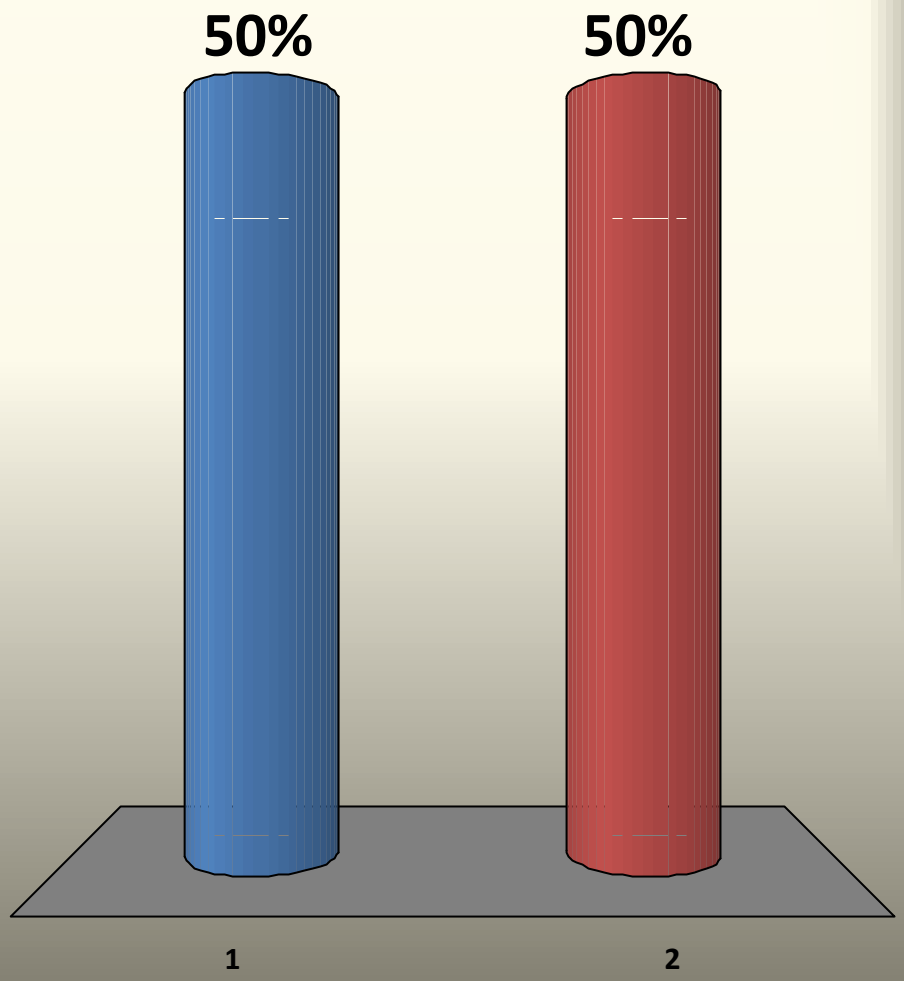
Do you use pre-emerge herbicides?

1. Yes
2. No



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Low-input vs High-input (STW)

Treatment	Yield
	- - bu/ac - -
Conv. Soybeans	23
Conv.+Inoc.	21
Conv. + Inoc. + Fungicide	21
RR	18
RR+pre-emerge+inoc.	22
RR+pre-emerge+inoc.+fungicide	25
RR+pre-emerge+inoc.+fungicide+growth	25

Variety and MG Selection

- What drives variety selection?
  - Performance
  - Seed cost
  - Weed problems (RR vs. Conv.)
  - Seed availability

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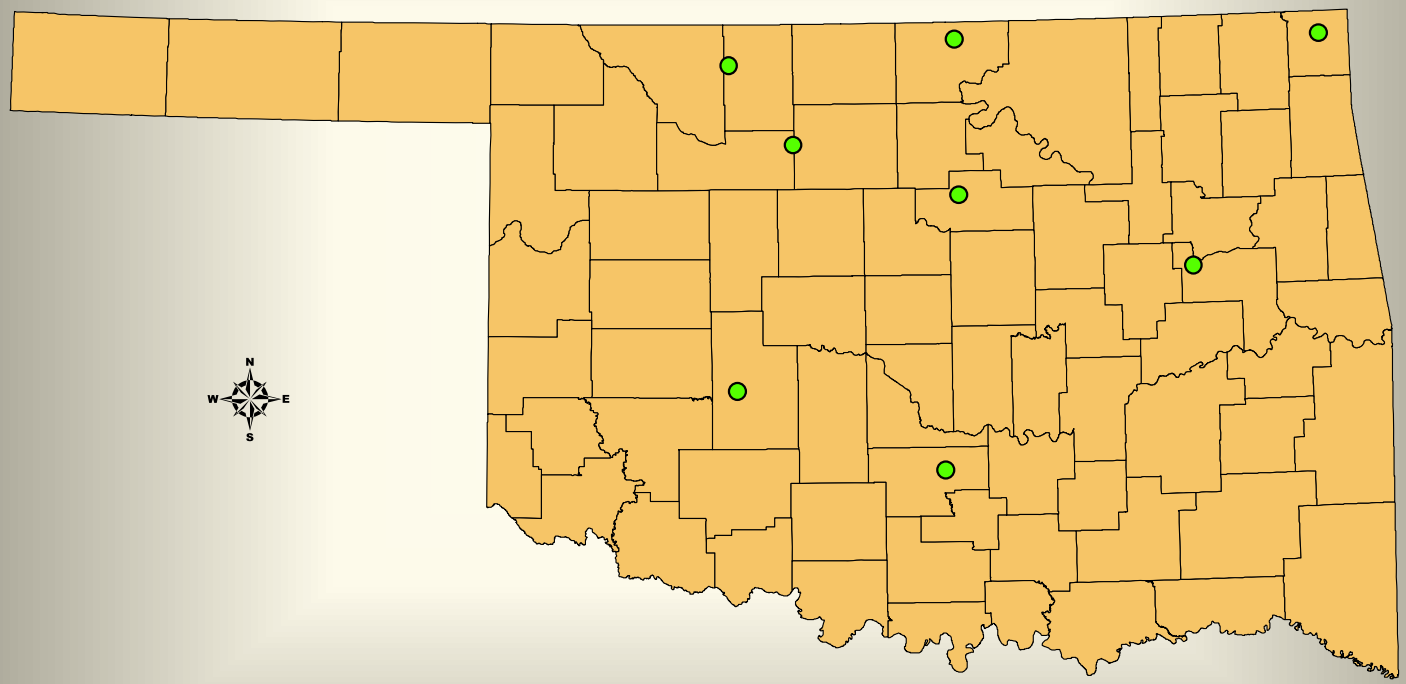
2009 Soybean Performance Trial Locations



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Comparison of Conv. and Glyphosate

- 6 locations side by side
- Took top 3 varieties out of each trial and compared

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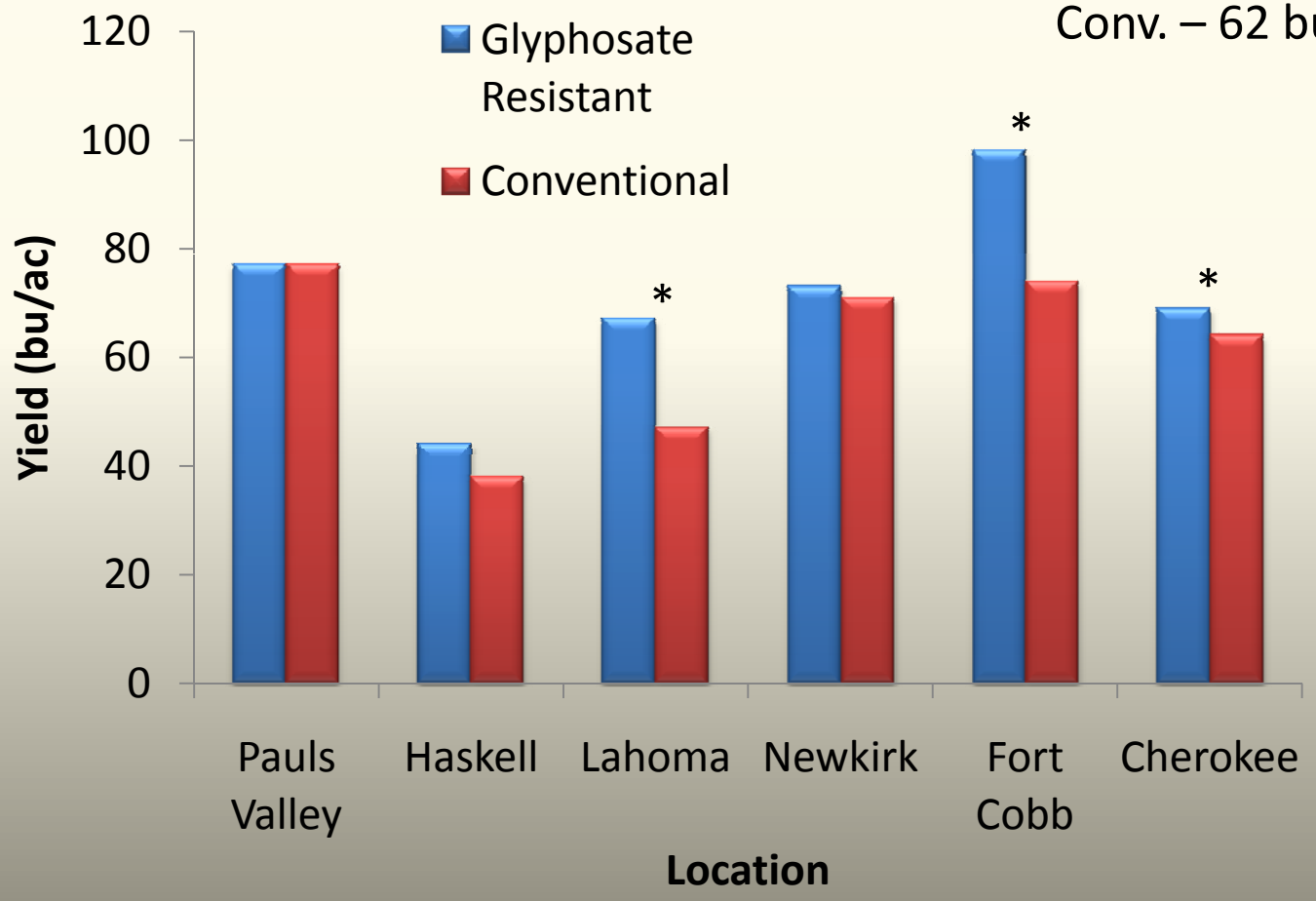
2009 Performance Trial Data

Overall Avg:
Gly. Res. – 71 bu/ac
Conv. – 62 bu/ac



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Recommendations

- Double-crop following wheat
  - Success depends on soil moisture at wheat harvest
- Early-season
  - MG IV
  - Early April
- Full-season
  - Late MG IV or V
  - End of May – June
  - No later than July 10

Other Thoughts

- Diversity through:
  - MG selection
  - Planting Date
  - SCN resistance
  - Herbicide Tolerance
- Conventional Varieties

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Summary

- Variety selection is probably the most important decision you make.
- Planting Date is a close second.
- Diversity of MG and planting date is critical in being profitable.

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Thank you

Here is to a repeat of 2009.

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