



Response of Two Deltapine[®] Cotton Varieties to Skip Row Planting and Population

2014 Learning Center Demo Report
Monsanto Learning Center at Scott, MS



Background



- Research continues in skip row production to help understand and potentially streamline 30-inch 2:1 skip rows for cotton production
- Planting of 30-inch 2:1 skip rows may help keep cotton viable in grain production rotations
- Cotton production is difficult in narrow rows, a 2:1 skip row configuration may help solve production issues
 - Boll rot
 - Harvest efficiency

Background



- How do Deltapine[®] cotton varieties respond to 2:1 skip row planting?
- What are the appropriate agronomic decisions in a skip row system vs. solid planting?
 - PGR applications
 - Different plant populations

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Study Guidelines



- A demonstration trial was conducted at the Monsanto Learning Center at Scott, MS, to show the impact and interaction of planting populations by cotton variety in 30-inch 2:1 skip rows and 38-inch solid row plantings
- Two Deltapine[®] cotton varieties were chosen for the demonstration: DP 1034 B2RF and DP 1321 B2RF
- Each product was planted in both row configurations (30-inch 2:1 skip rows and 38-inch solid rows) at four populations (14,000; 28,000; 41,000; and 55,000 seeds/acre)
- Cotton was planted on May 5, 2014, and standard agronomic practices for the area were implemented with irrigation provided as needed
- PGR applied as needed

Observations



Yield Response of Cotton When Averaged Across Cotton Varieties and Population

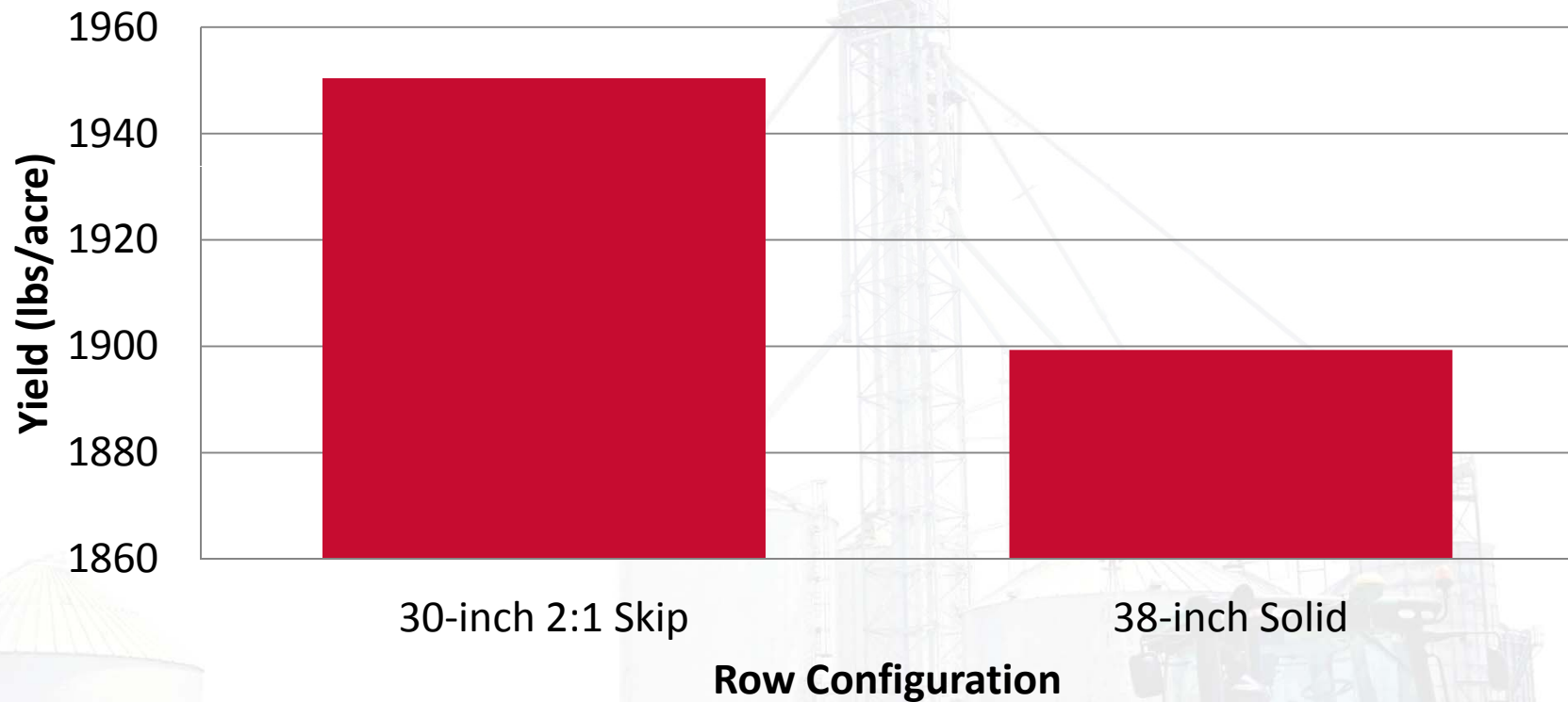


Figure 1. The yield response of cotton when averaged across varieties and planting populations.

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Observations



Yield Response of Cotton Varieties when Averaged Across Populations

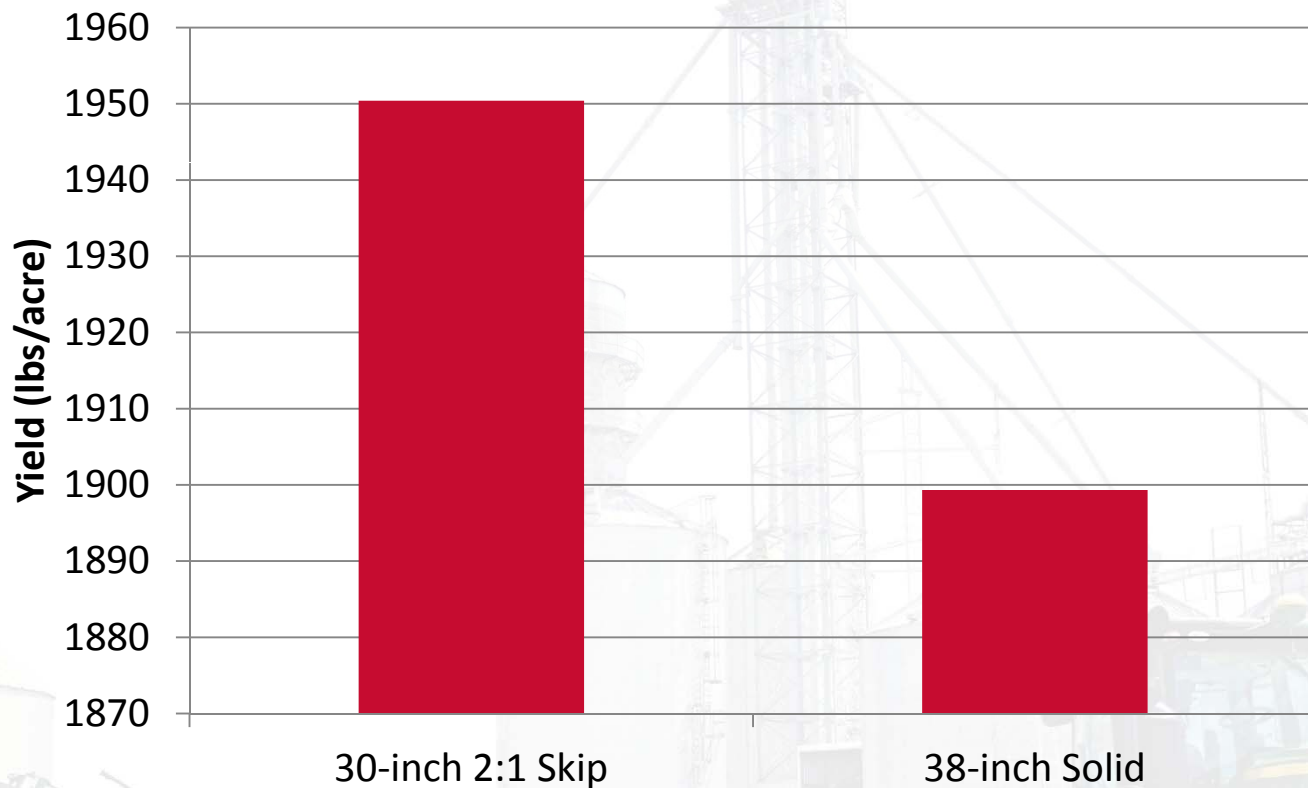


Figure 2. The yield response of cotton when averaged across planting populations.

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Observations



Yield Response of Cotton Varieties by Row Configuration and Planting Population

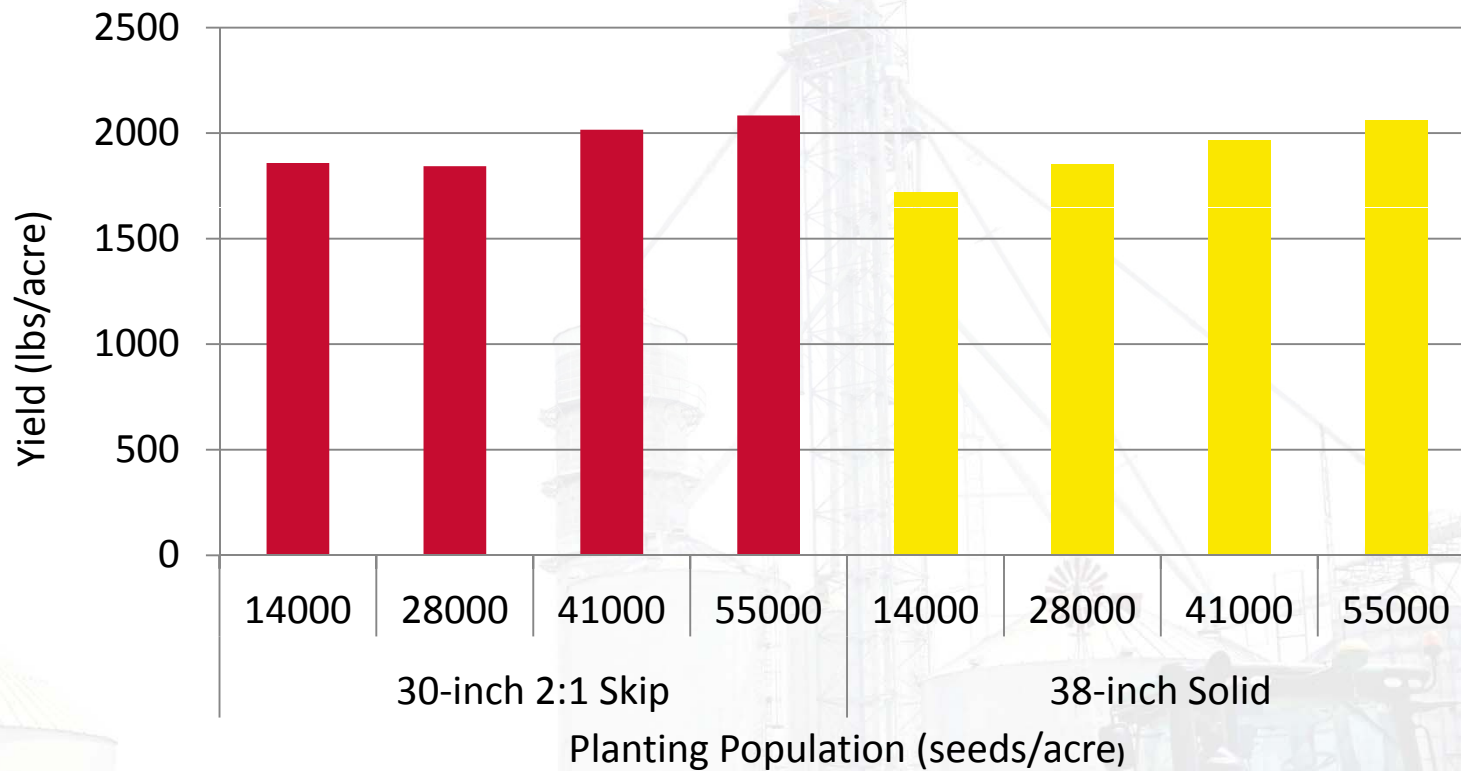


Figure 3. The yield response of cotton varieties by row configuration and planting populations.

Response of Two Deltapine® Cotton Varieties to Skip Row Planting and Population

Observations



Yield Response of Cotton Varieties by Row Configuration and Population

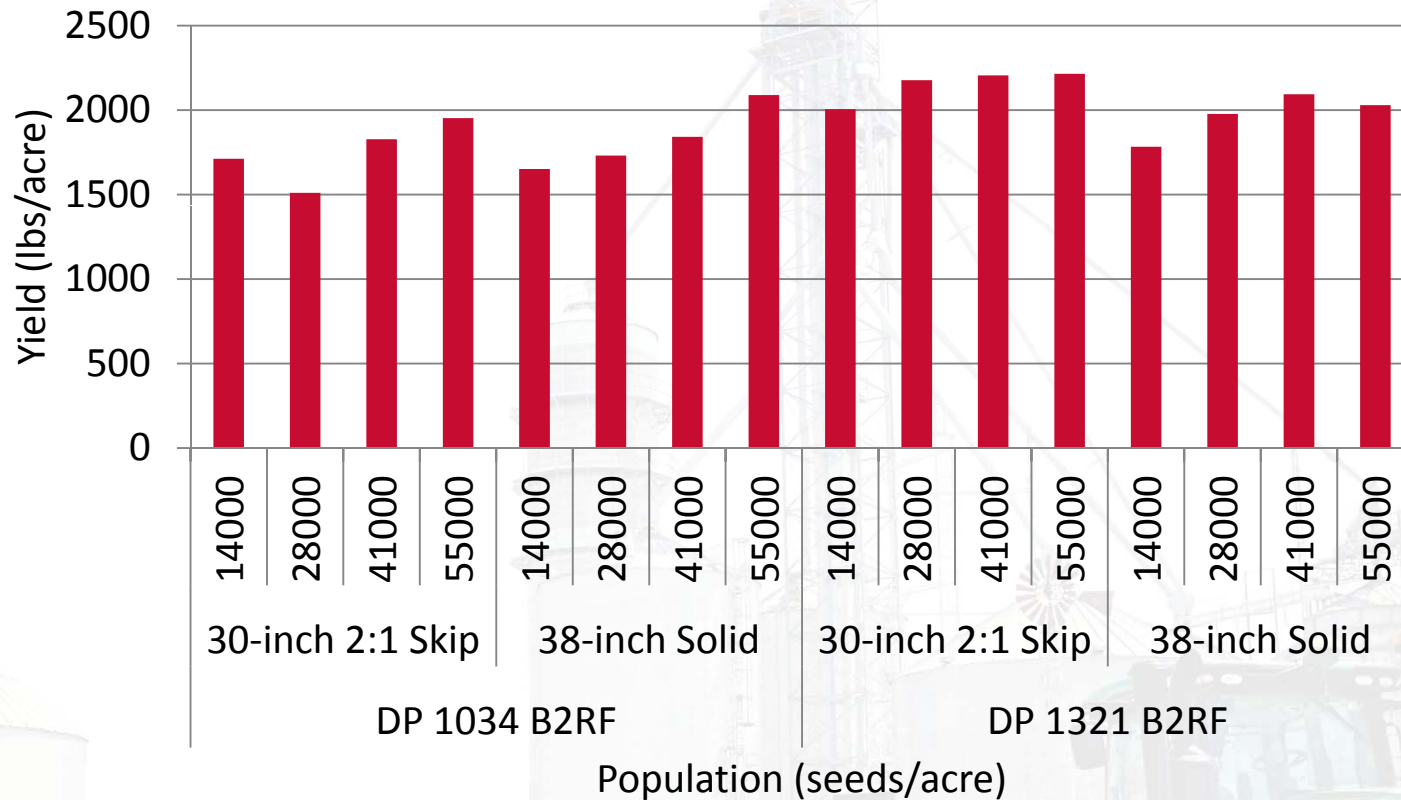


Figure 4. The yield response of cotton varieties by row configuration and planting populations.

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Results & Conclusions



- In 2014, the highest yields were reported in the 30-inch 2:1 skip row configurations which averaged 50 lbs lint/acre (Figure 1)
- DP 1321 B2RF produced the highest yield at 55,000 seeds/acre, and the second highest yield at 28,000 seeds/acre (Figure 4)
- Cotton varieties performed similar for the row configurations and populations; DP 1321 B2RF had higher yields than DP 1034 B2RF
- Planting population - the 3 seeds per foot treatment maximized yield potential for both row configurations
 - Planting to a seeds/acre population is the best option.
 - Calibrate planters and application equipment for increased seeds per foot in skip row planting

Observations



Average Cotton Yield When Comparing 38-inch Solid Rows versus 30-inch 2:1 Skip Rows

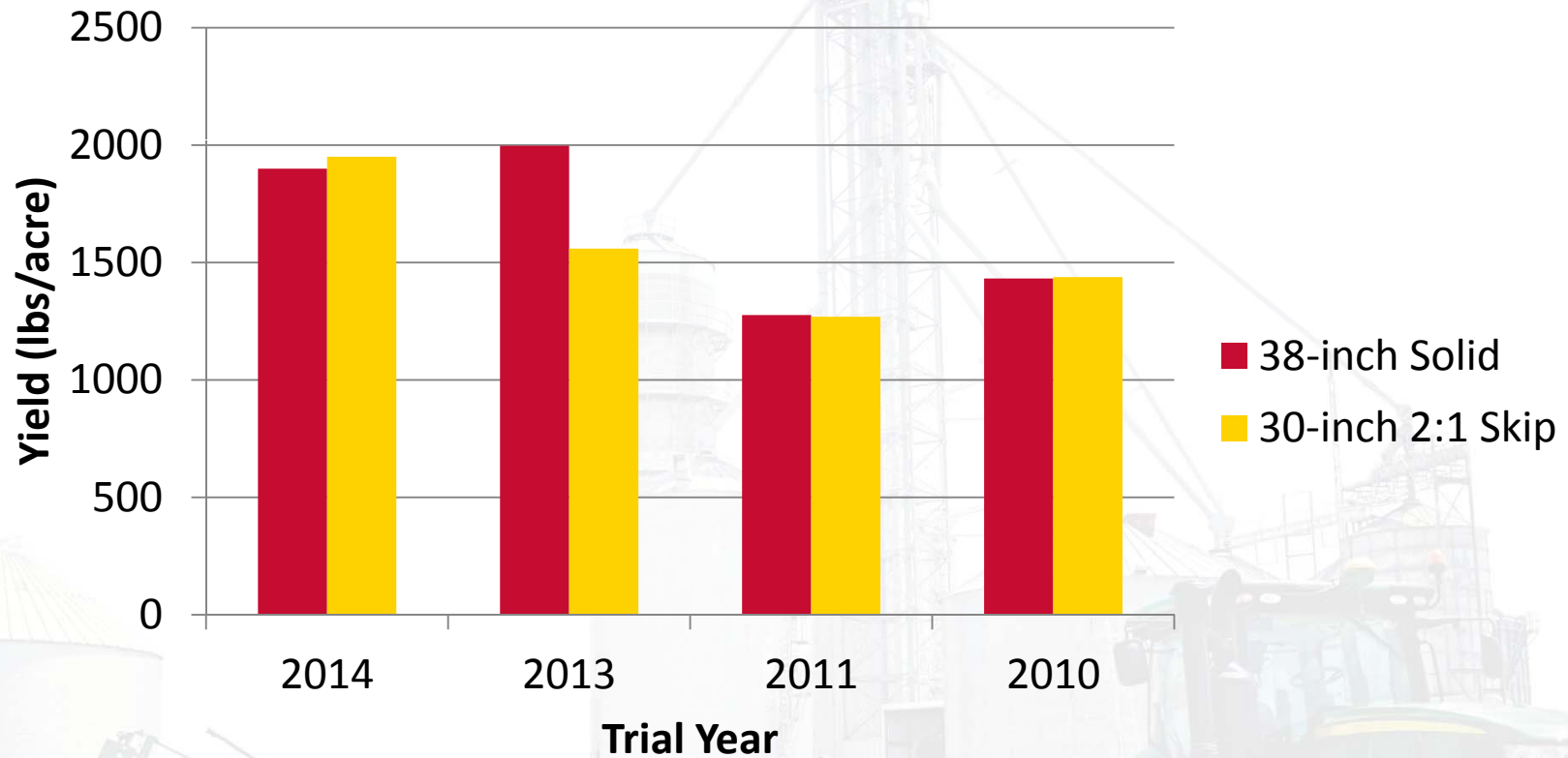


Figure 5. The yield result of planting configuration by trial year.

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Results and Conclusions



- Some believe that by planting in skip rows, money may be saved on seed and technology fees
- This trial shows that plant populations per field acre (not acre of row feet) needs to be in the same range for 2:1 skip rows as 38-inch rows
- Seed that would have been planted in the skipped rows should be planted in the remaining rows to achieve an acceptable plant population

Results and Conclusions



- In 2014, the 30-inch 2:1 skip rows numerically outperformed the 38-inch solid rows
- The selected cotton products performed similar for the row configurations and populations; DP 1321 B2RF had higher yields than DP 1034 B2RF
- Both row spacings responded similarly to the different planting populations, with the higher populations producing higher final yield (Figures 3)
- In the 2:1 skip rows PGR applications were reduced 50 to 60% versus the solid planting
- Results from 3 of the 4 years showed 2:1 skip rows to at least be at parity with 38-inch solid rows (Figure 5)

Results and Conclusions



- Similar yields can be expected from either 38-inch solid rows or 30-inch 2:1 skip rows, as long as management decisions are made to optimize conditions for that row configuration
- Skip rows may allow for better light penetration before canopy closure
- Skip rows may provide some level of moisture conservation advantage over solid row cotton
- Carefully read planter manuals to determine settings to achieve the desired population per acre of land, not per planted acre
- Since cotton plants will eventually fill the skipped row, all over-the-top pesticide applications from mid-to-late-season, should be calculated as if the cotton were planted in solid rows
- Particular care should be taken to keep the skip row weed free until canopy closure

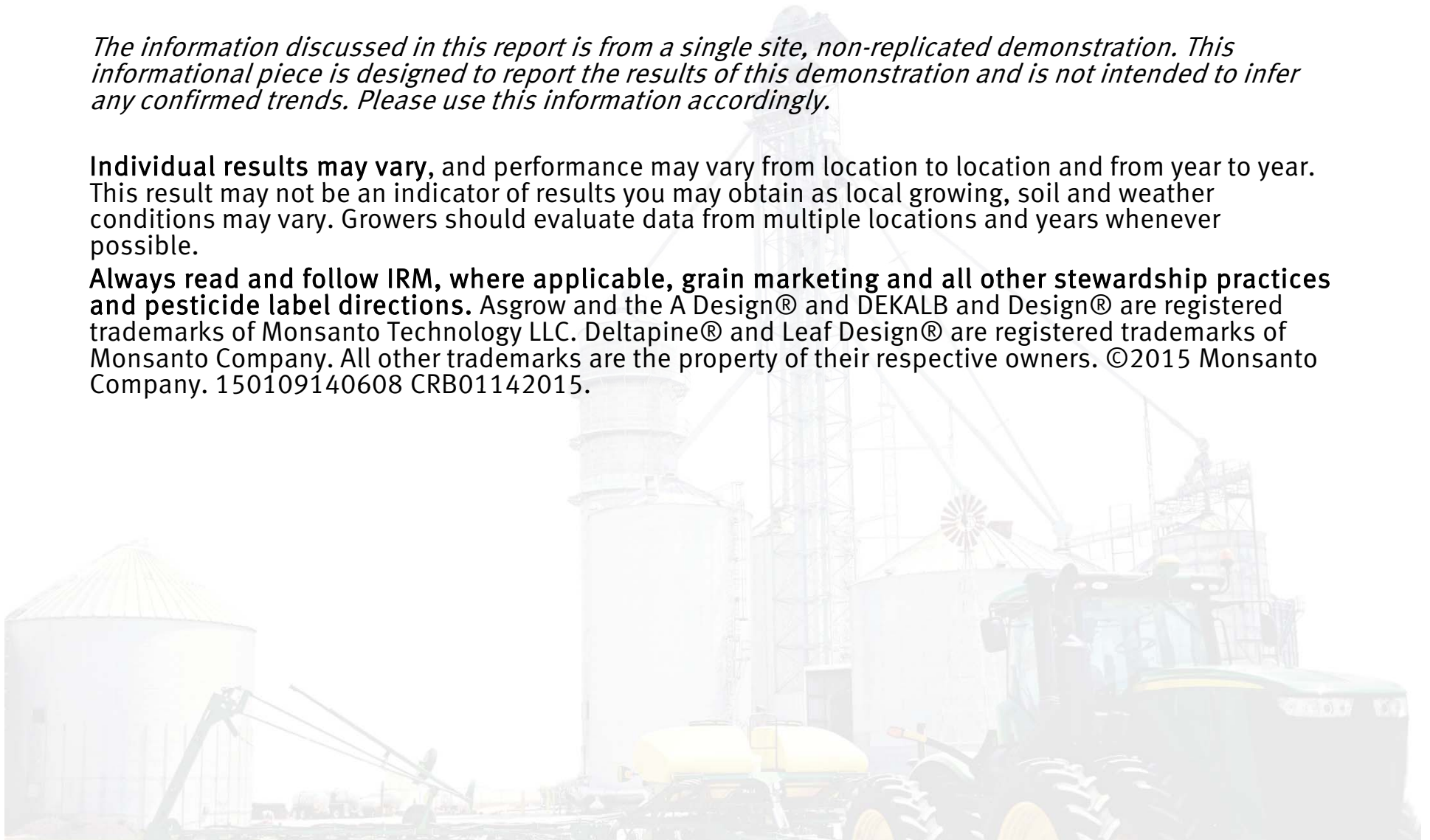
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Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

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THANK YOU

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