InVigor RATE:

Target Plant Population for InVigor® Canola

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Agronomy Manager

Seeds Agronomic Services and Product Advancement

Maximizing the Canola Acre

The Canola Council of Canada, has set an average yield goal of 52 bushels per acre to be realized by the year 2025.

+3BU
PLANT ESTABLISHMENT

The Canola Council of Canada estimates that improvements in seeding and plant establishment alone can increase average yields by 3

In support of the Canola Council initiative, BASF has committed to help growers maximizing the yield potential, agronomic performance and consistency of InVigor canola hybrids.

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The Number of Seeds in a 50lb Bag Varies Dramatically with Seed Size

BAG 1

151,200 seeds/lb

7.6 million seeds

5 lb/ac

17 seeds/ft^2

123% Difference Or 4.2 million seeds Difference

BAG 2

68,727 seeds/lb

3.4 million seeds

5lb/ac

8 seeds/ft^2

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Seeds Agronomic Services and Product Advancement

Maximizing the Canola Acre

Invested in helping growers produce a better canola crop, and delivering consistent yield increases and genetic improvements.

Focused on the AGRONOMY of InVigor hybrids:

- Large scale replicated trials - W. CND & USA
- Program started in 2014
- ~15 unique agronomic protocols at 30+ sites/yr

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Field Equipment

- Plot size = 2,460 ft^2
- 15x larger than traditional breeding plots

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Influence of Seeding Rate on InVigor Performance

Experimental Design

- RCBD
- 5 InVigor hybrids at 6 seeding rates
  - ~2 to 19 seeds/ft^2
- 30 treatments
- 4 replicates

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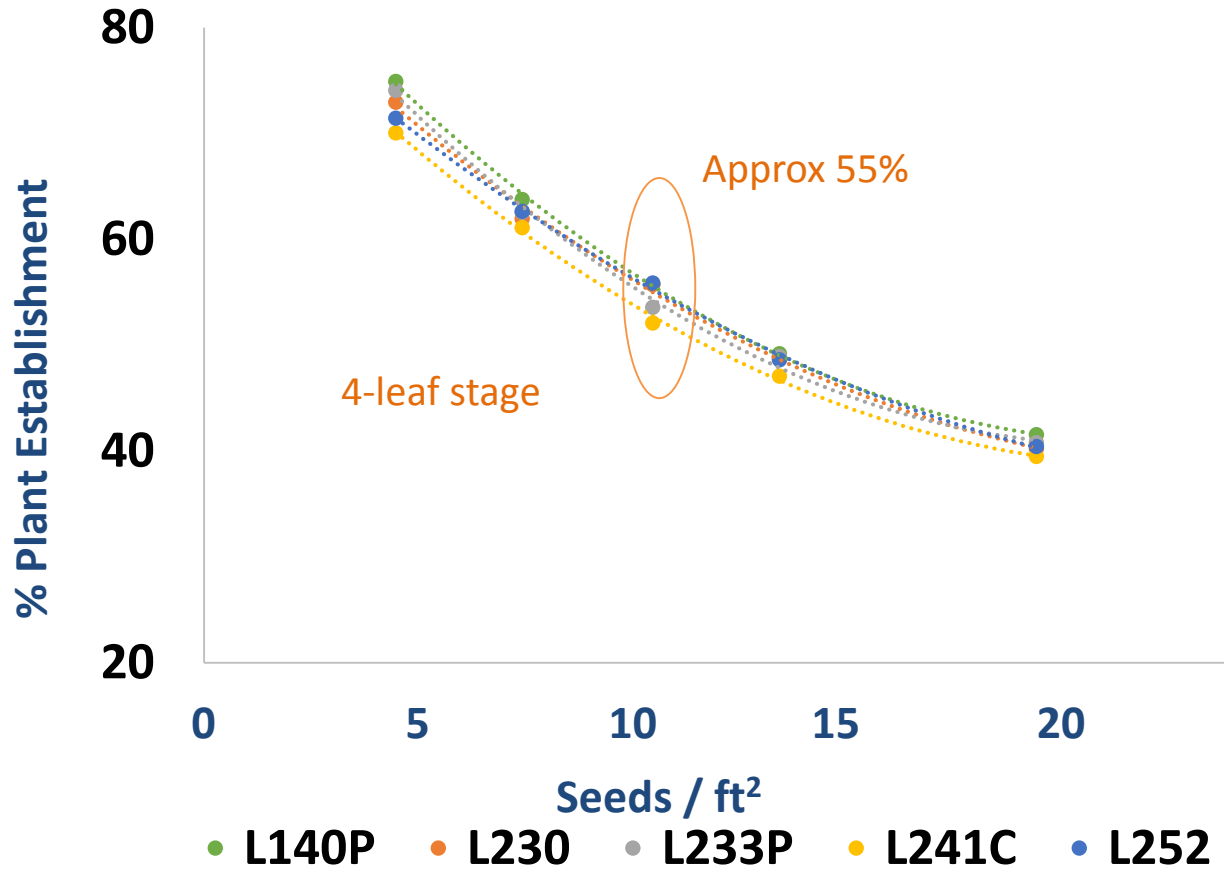
Establishment Varies With Seeding Rate



- Stand establishment consistent across InVigor hybrids
- Non linear relationship

Percent establishment declines with increasing seeding rate

21 site years data

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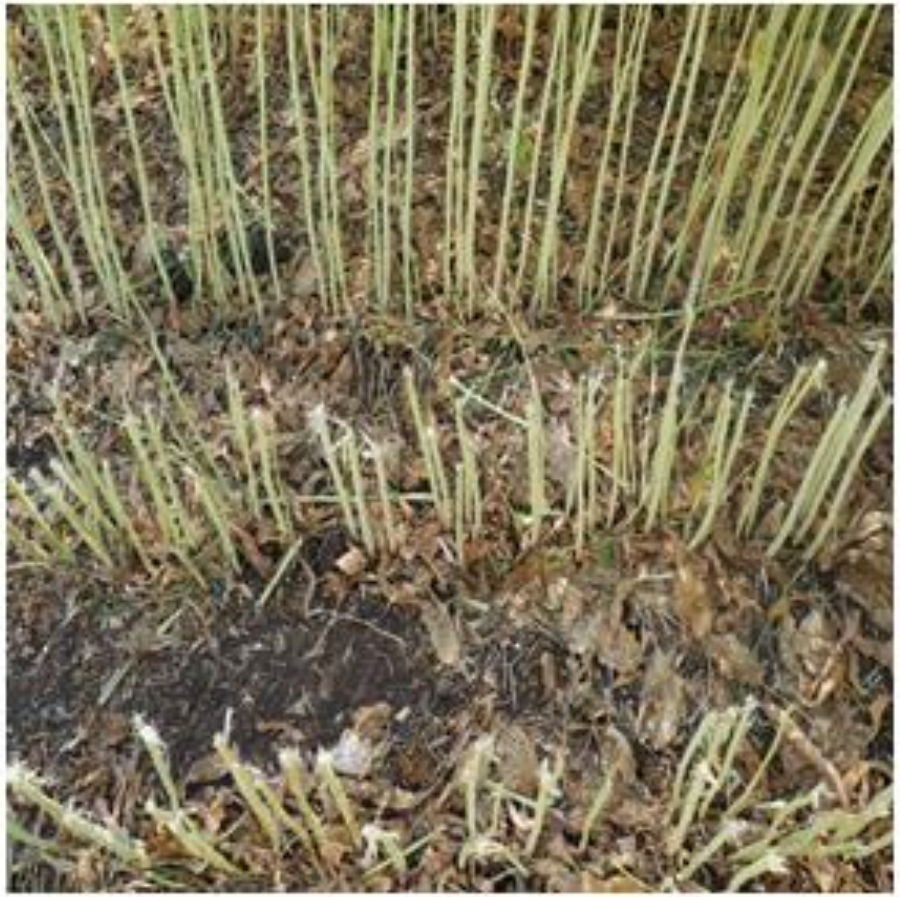
High Plant Populations Lead to Thin Stems

5 plants/ft^2

10 plants/ft^2



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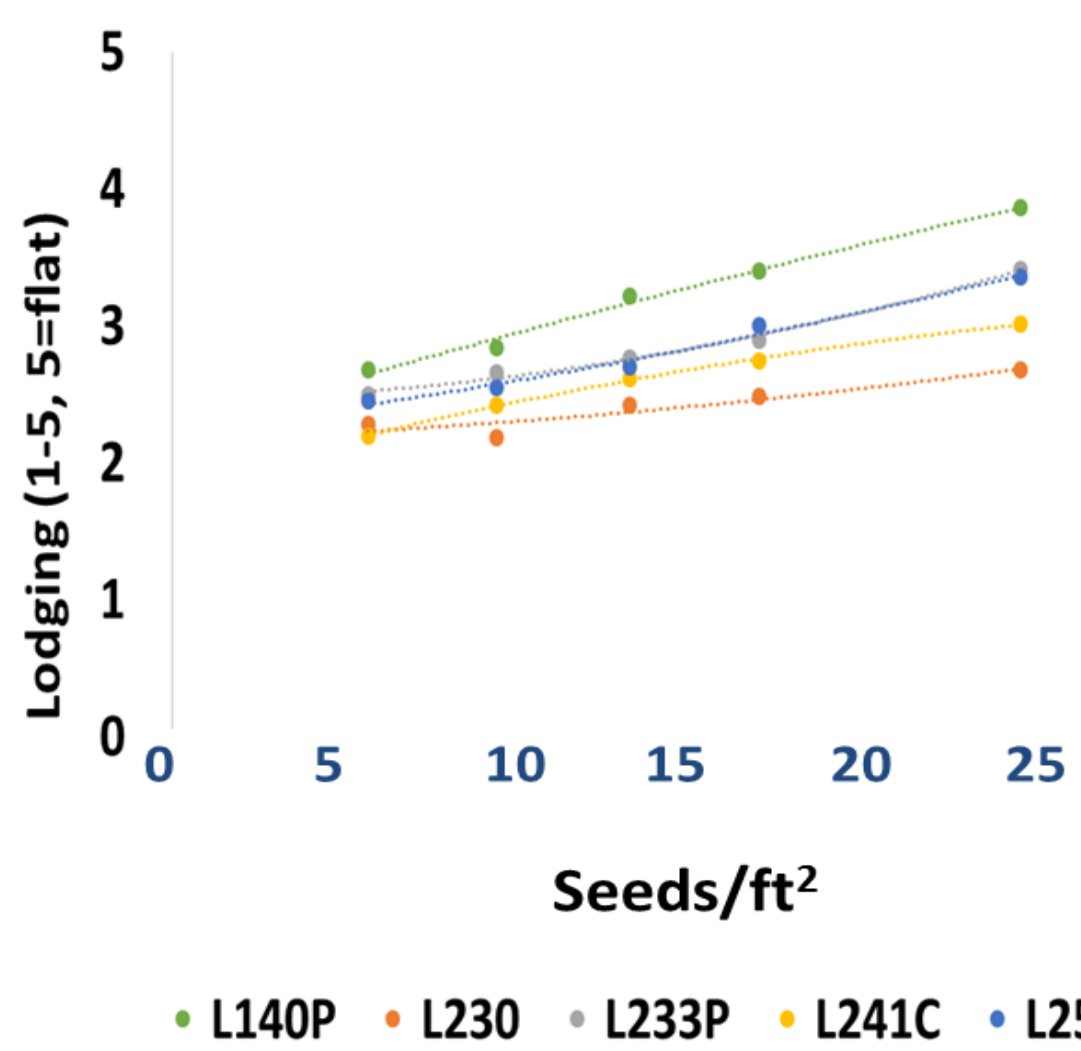
Interaction between Seeding Rate and Lodging

Lodging tended to increase with increasing seeding rates



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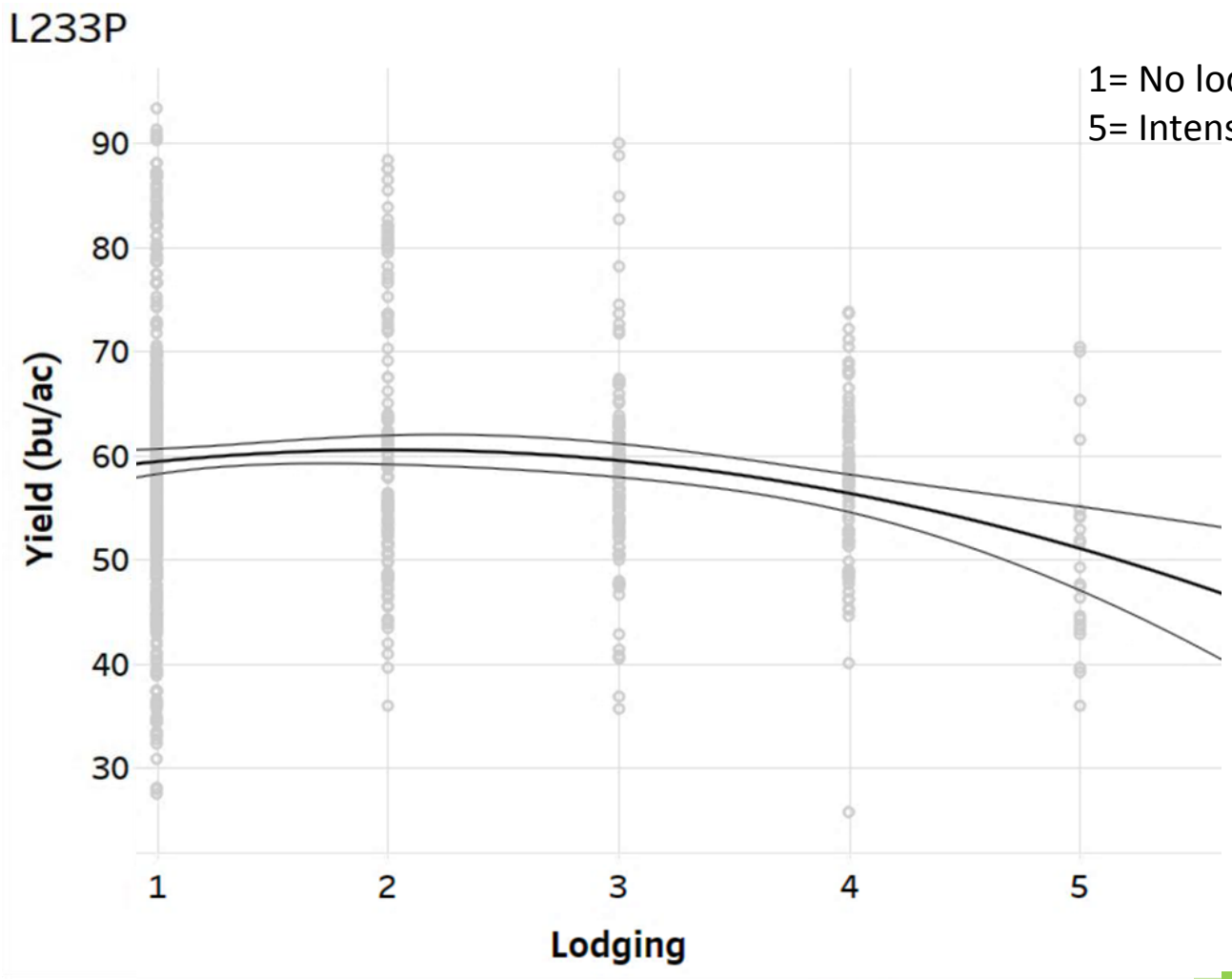
Interaction Between Lodging and Yield for L233P



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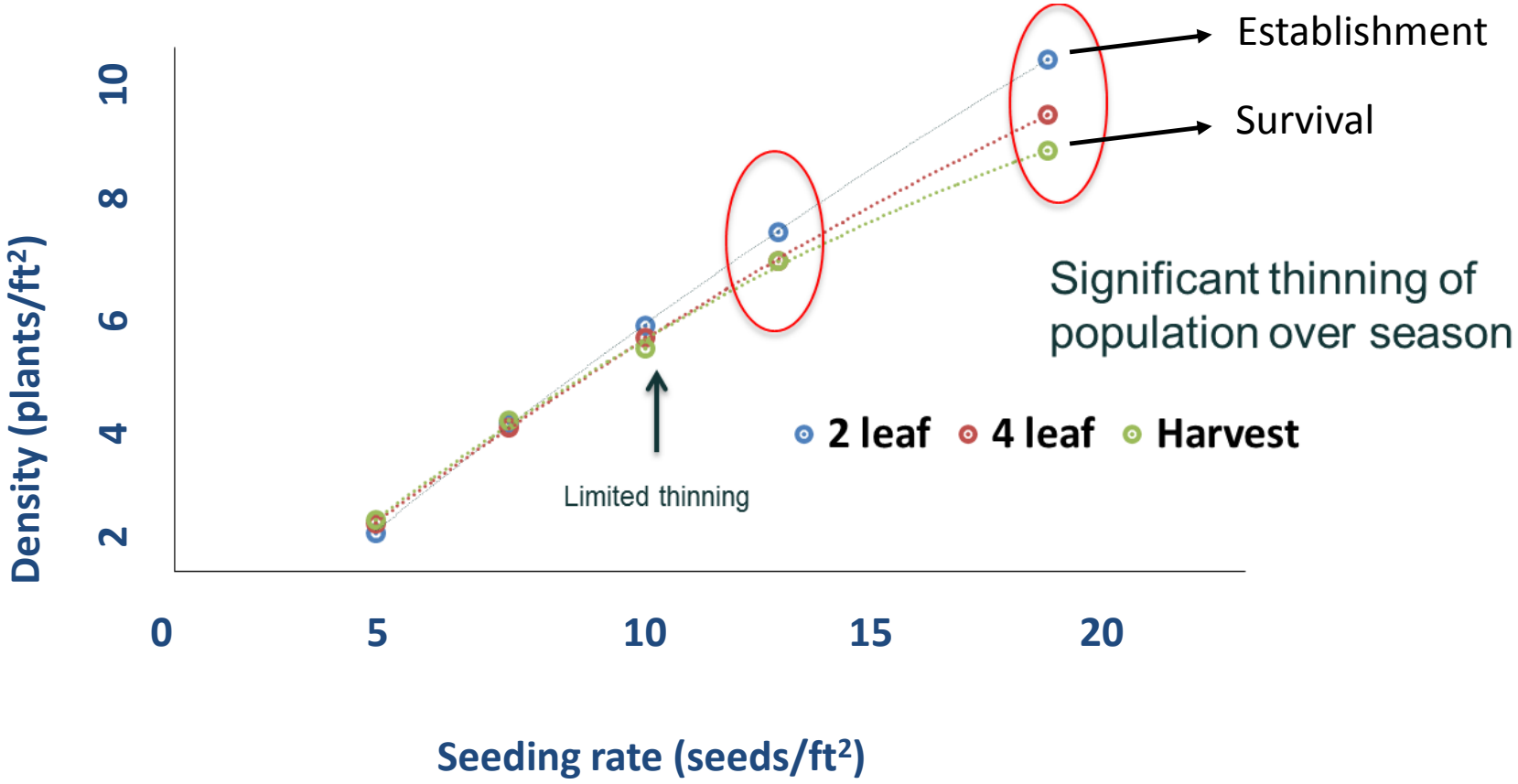
Canola Population Dynamics Over Growing Season



Excessive seeding rates cause in-season plant thinning

21 site years data

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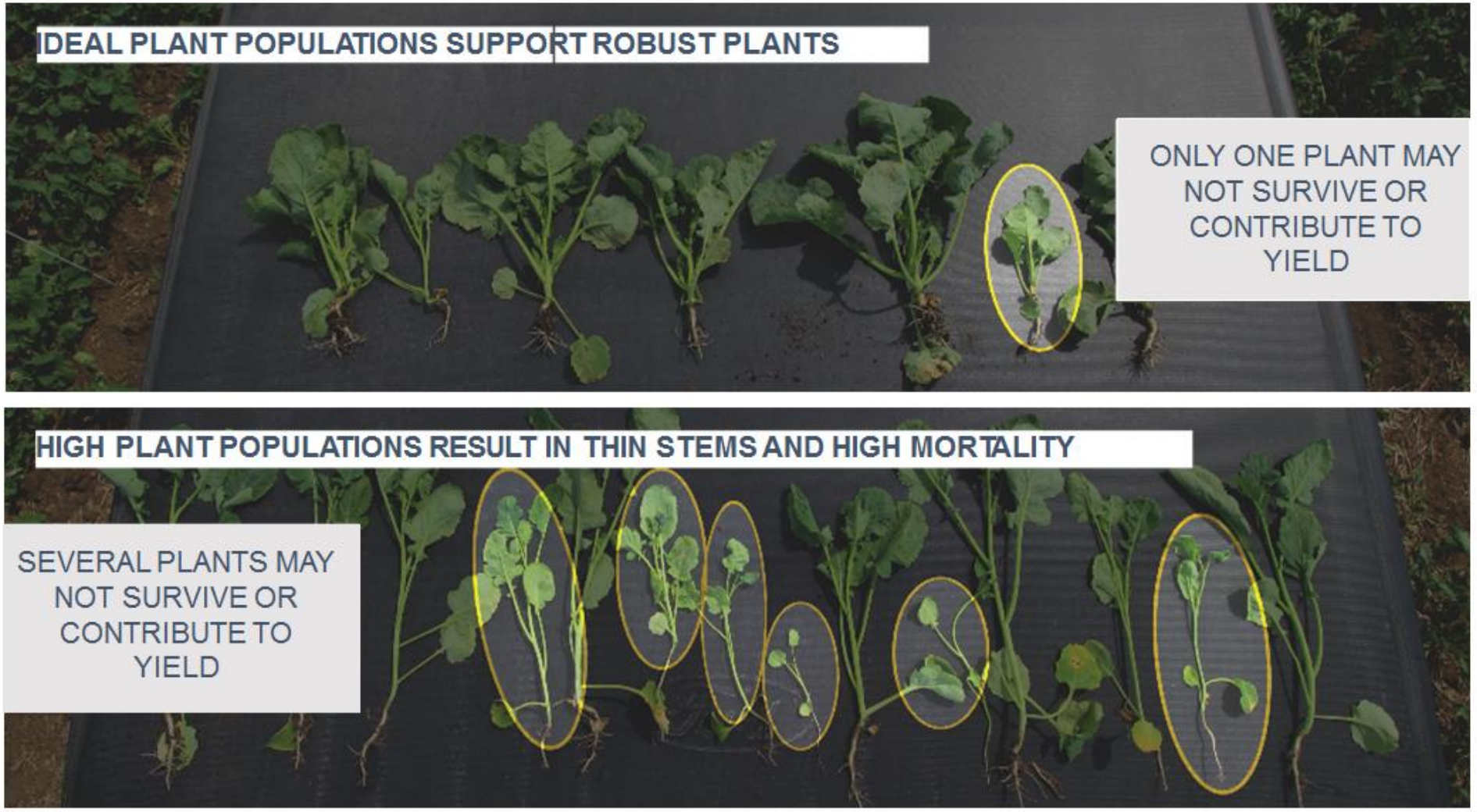
Intra-crop Competition / Plant Mortality

Plant Population Impacts Resources
Light – Nutrients – Space – Moisture



Overly Dense Canola Canopy Can Lead to Increased Disease Pressure

Low Plant Population

High Plant Population

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Low Plant Populations Compromise Weed Control

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Problems Seeding Below An Optimum Rate

Plant Structure is Affected by Plant Population

HIGH PLANT POPULATION

IDEAL PLANT POPULATION

LOW PLANT POPULATION

Seeding rates affect flowering, maturity, weed control, desiccation, harvestability

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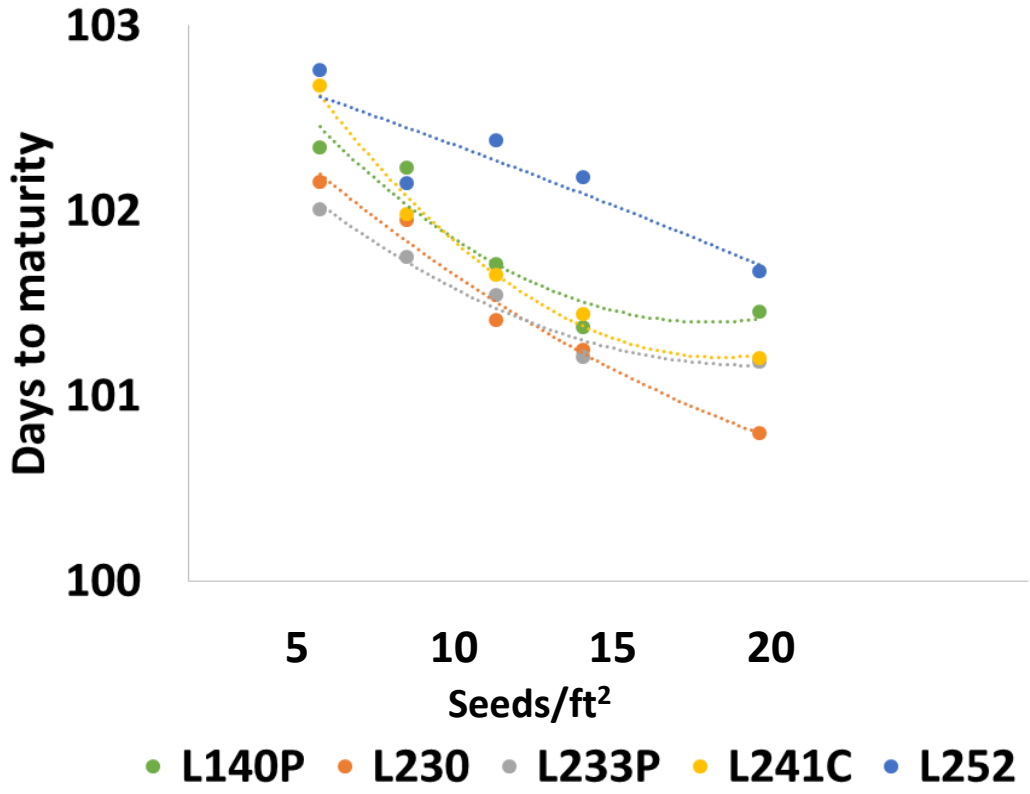
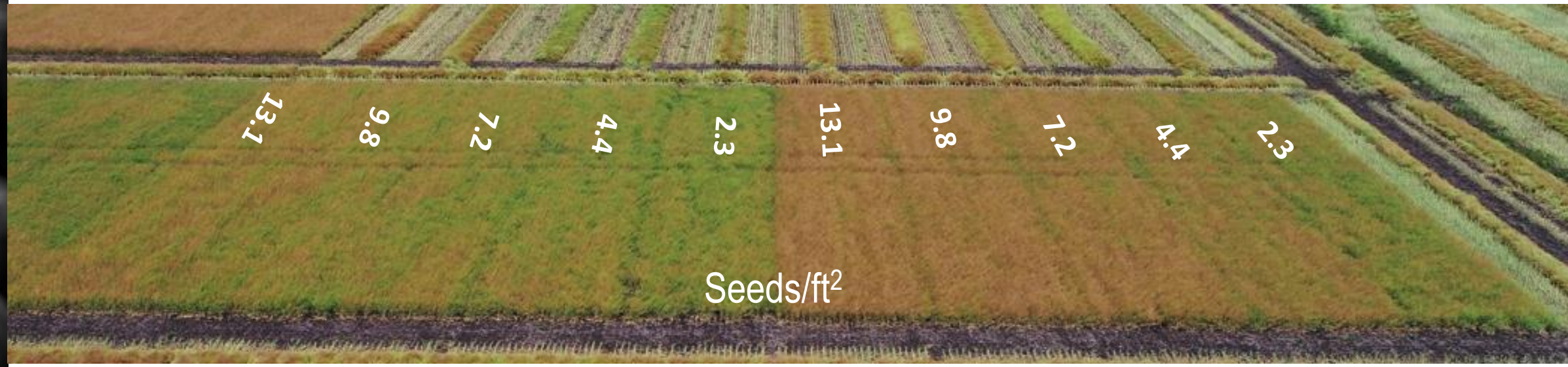
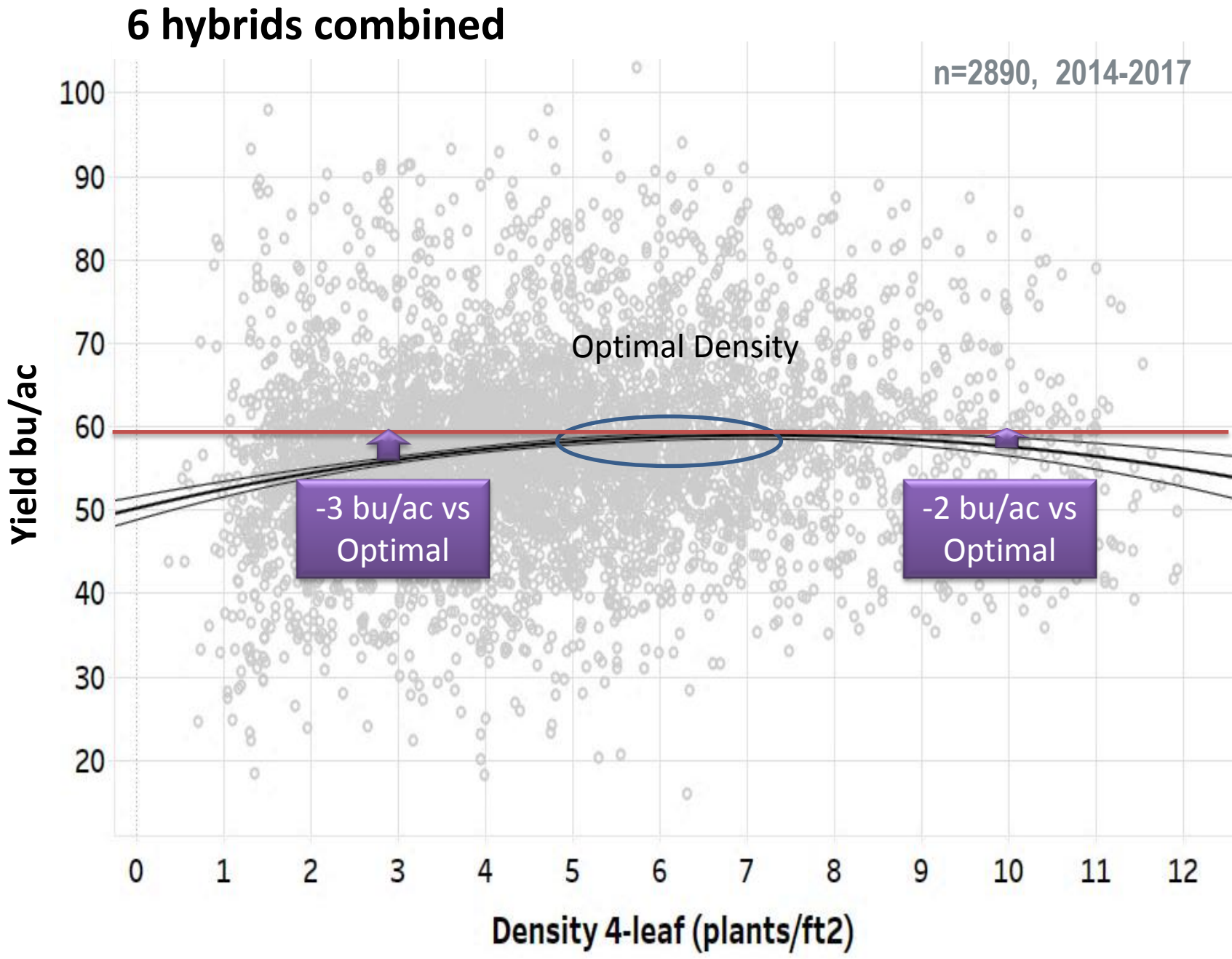
Relationship Between Seed Rate and Maturity

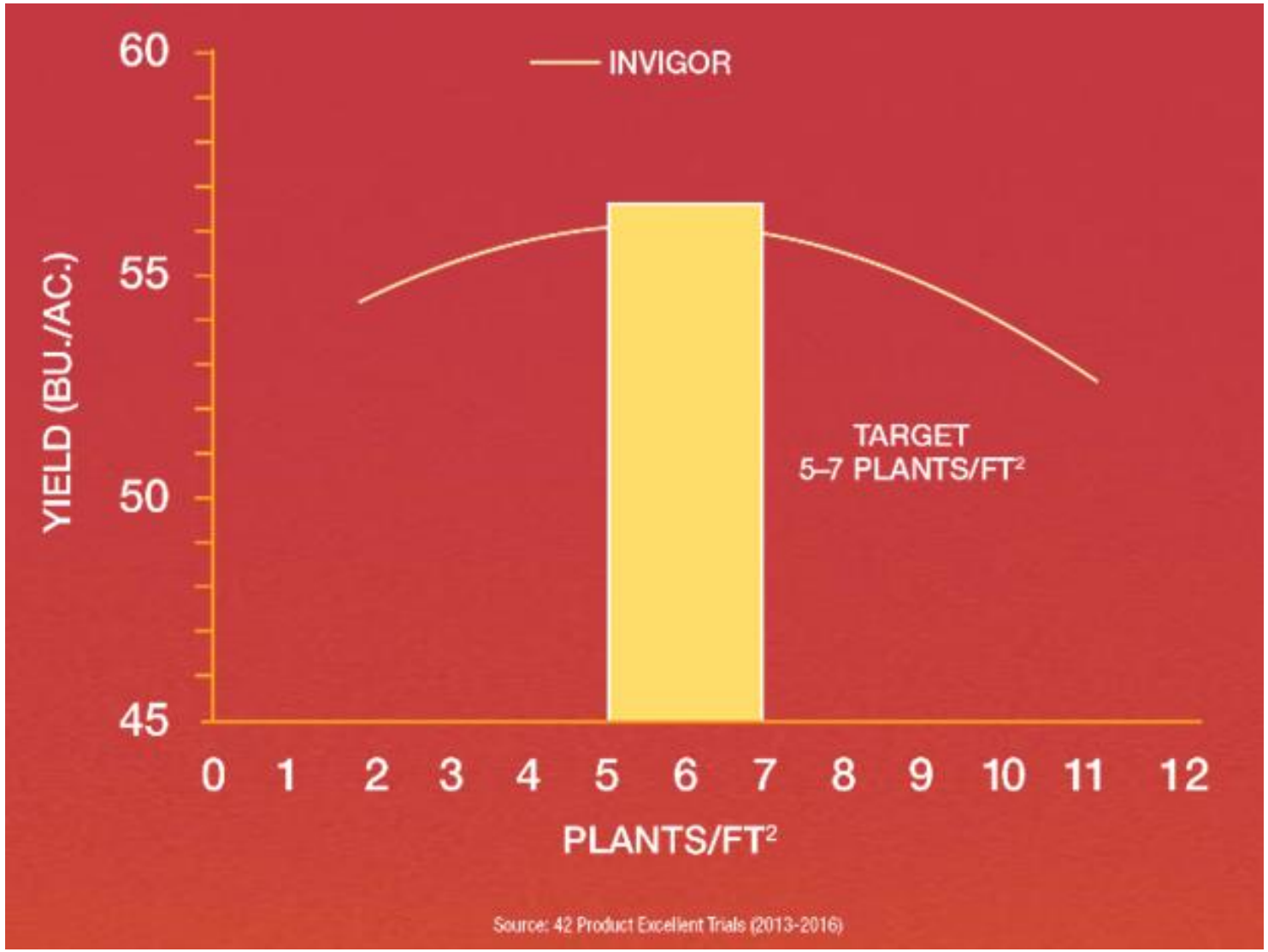




Combined Hybrids – Relationship Between Yield And Density at 4 Leaf



DETERMINING THE 5-7 PLANTS/FT^2 OPTIMAL TARGET PLANT POPULATION



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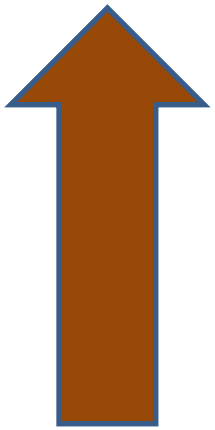
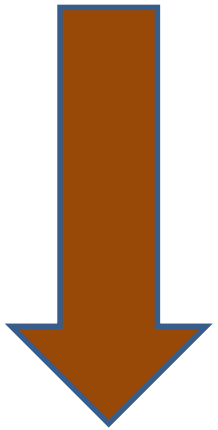
THE ADVANTAGES OF TARGETED PLANT POPULATION



- Improved plant stand efficiency
- Improved weed competition
- Efficient use of resources
- Even maturity with uniform plant structure
- Maximize yields



- Reduced competition within the crop
- Reduced sclerotinia incidence
- Reduced lodging

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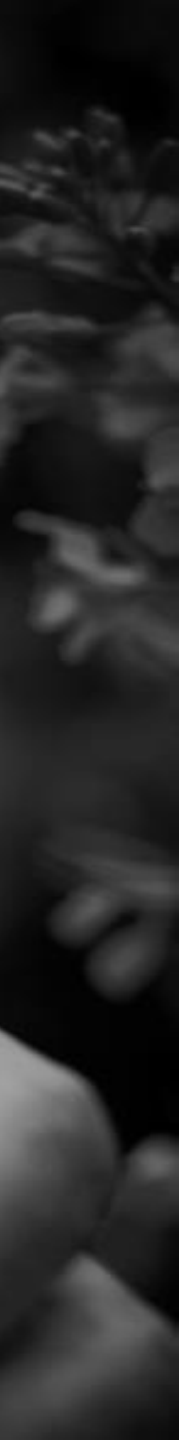

Making Every Plant Count

1. **Check the seed tag and make sure you know the seed weight of your selected InVigor hybrid.**
2. **Conduct plant counts to understand survivability on your farm.**
3. **Determine your seeding rate then calibrate your drill for each seed lot to reflect seed size differences, your desired plant stand and your expected survivability in order to achieve 5 – 7 plants/ft^2**
4. **If you are unsure of your survivability, seeding 10 seeds/ft^2 will usually result in achieving 5 – 7 plants/ft^2**

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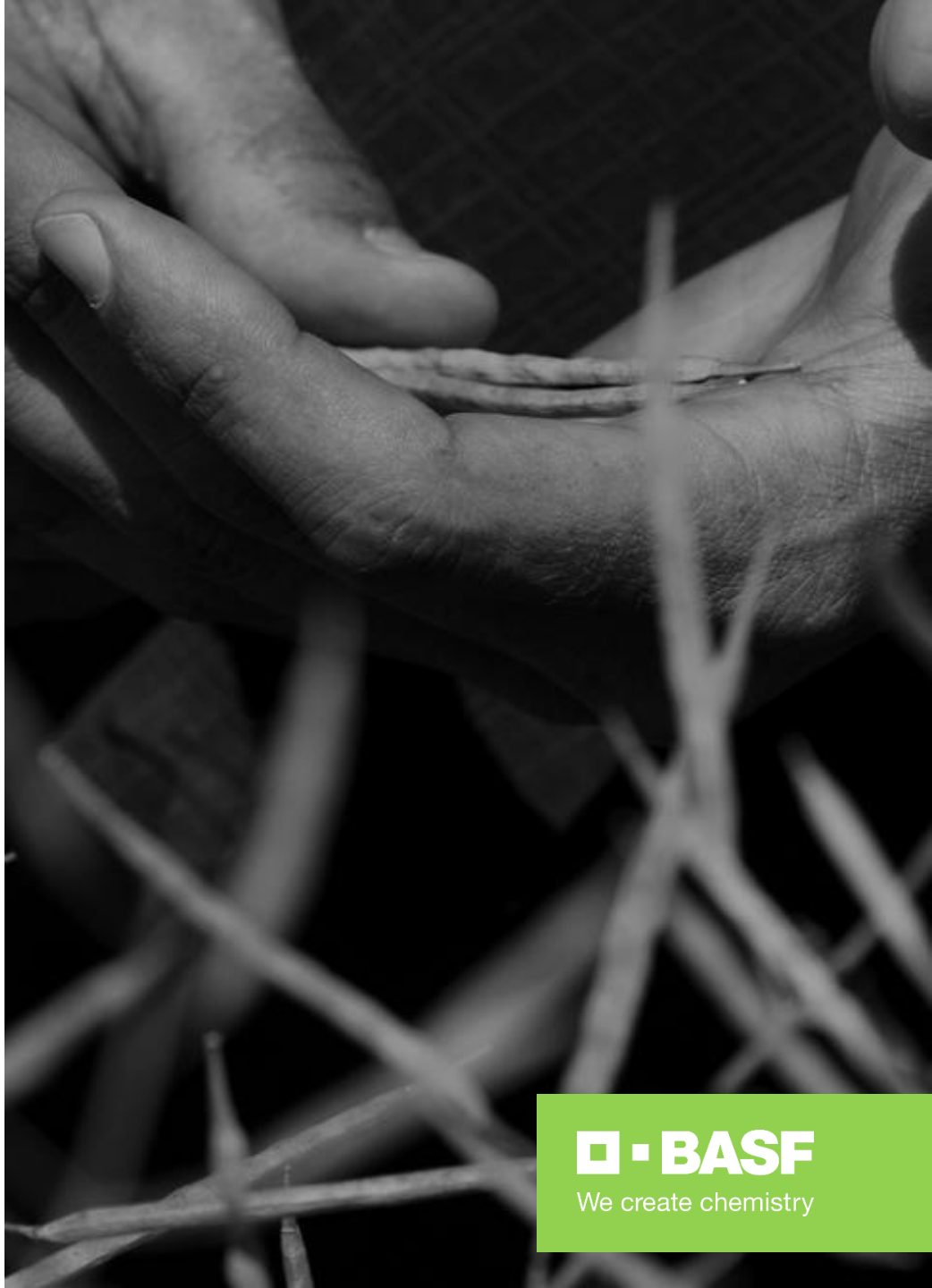
Thank you!

Any questions?



Bigger Seed Must Be Better?

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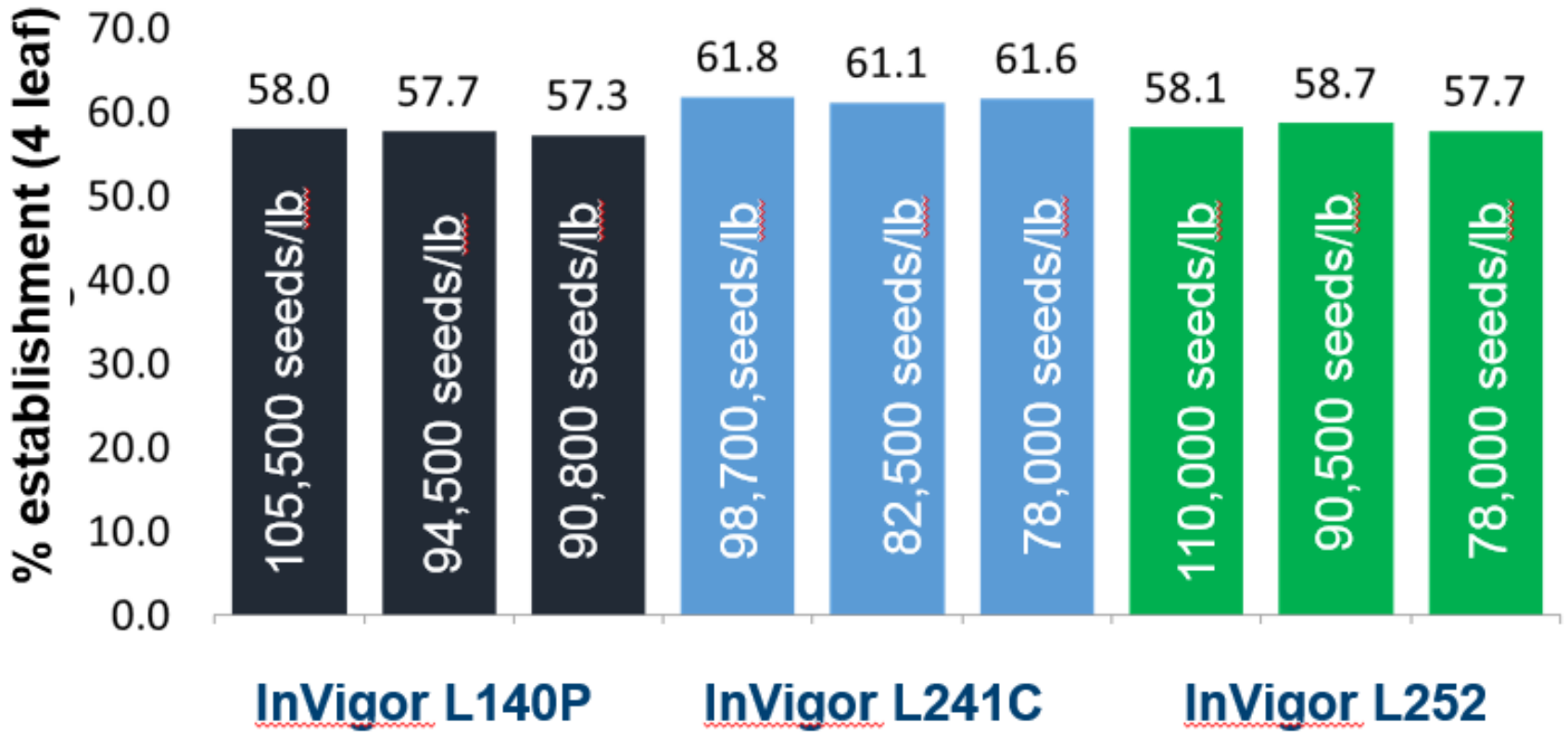
Effect of Seed Weight on Establishment



All plots seeded at 10 seeds/ft^2

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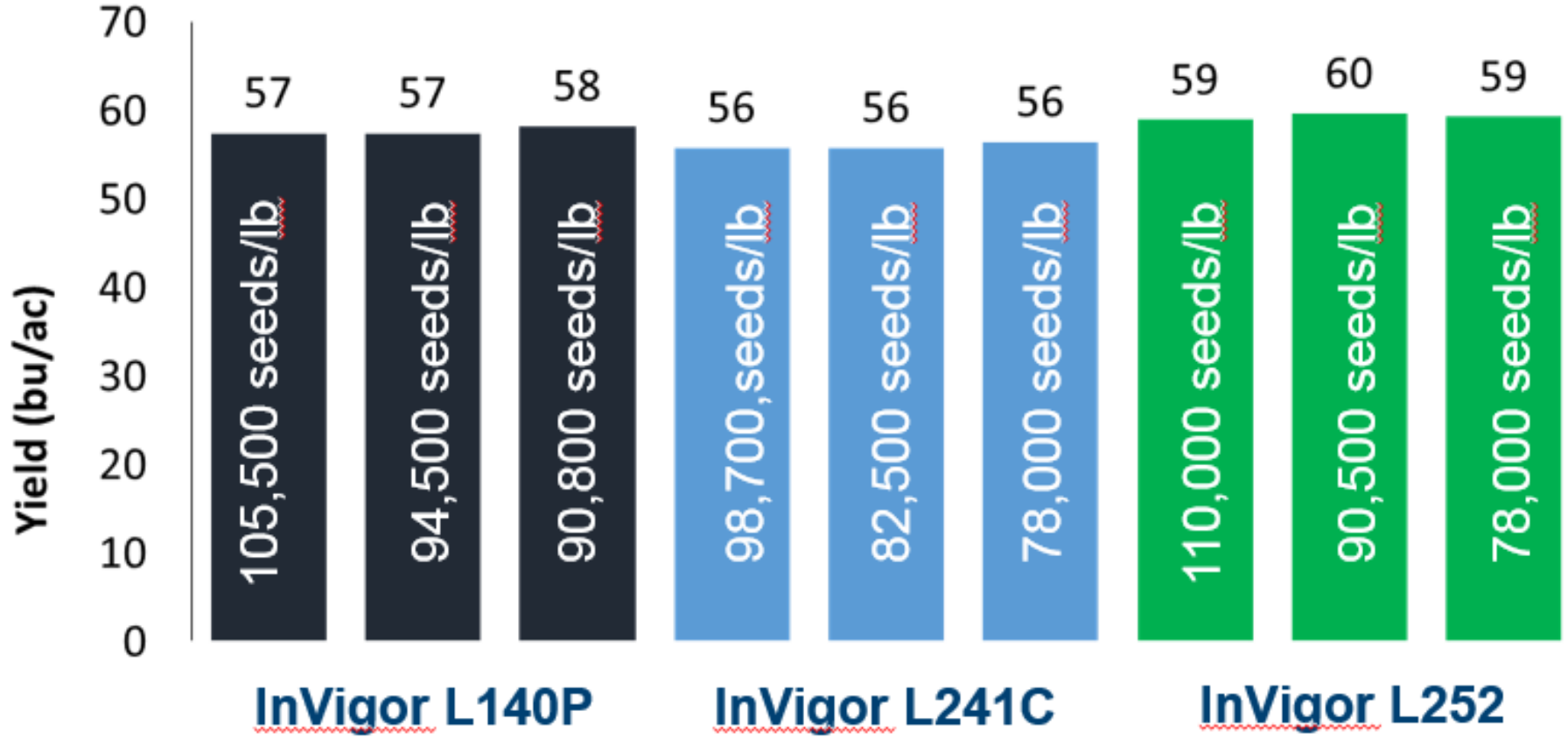
Effect of Seed Weight on Yield



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