



Pioneering Our Way Back into the US Canola Industry

Kristie Sundeen – Field Agronomist – NE ND & NW MN

Dec. 10, 2019





P501L



Pioneer's First Hybrid for the Liberty-Link Canola Market!



- Outstanding Yield Potential
- Very good for Lodging
- Liberty Link Trait and Clubroot (CR1) Trait Pkg.
- Maturity – 5 (medium-early)
- “R” for Blackleg
- Swath hybrid – not suitable for Straight-Cut

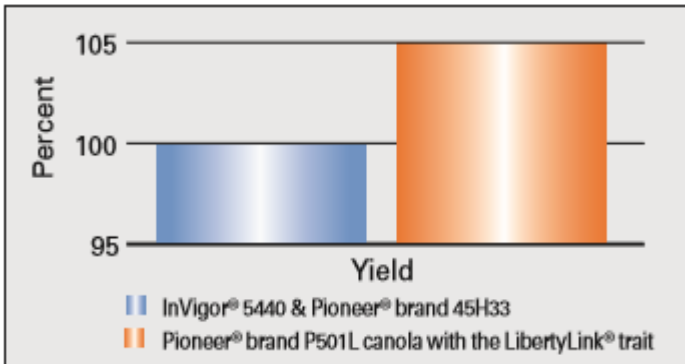
Characteristics:

Early Growth	8
Lodging	7
Plant Height	7
Blackleg	7
Sclerotinia	1
Clubroot	8
Shatter Score	6

Suitability:

Early Planting	Highly Suitable
Delayed Harvest	Not Suitable
No-Till	Highly Suitable
Reduced Tillage	Highly Suitable

Multi-Year Performance (2015-2018)

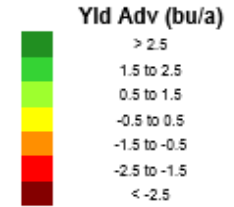




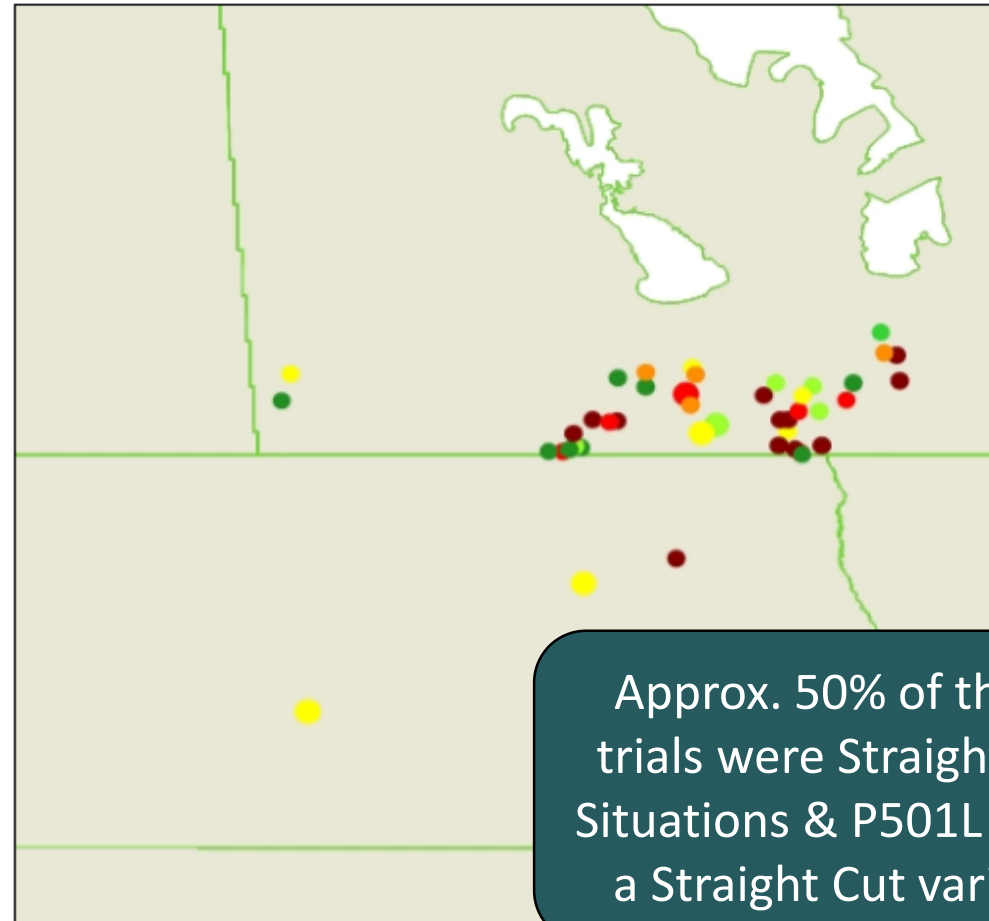
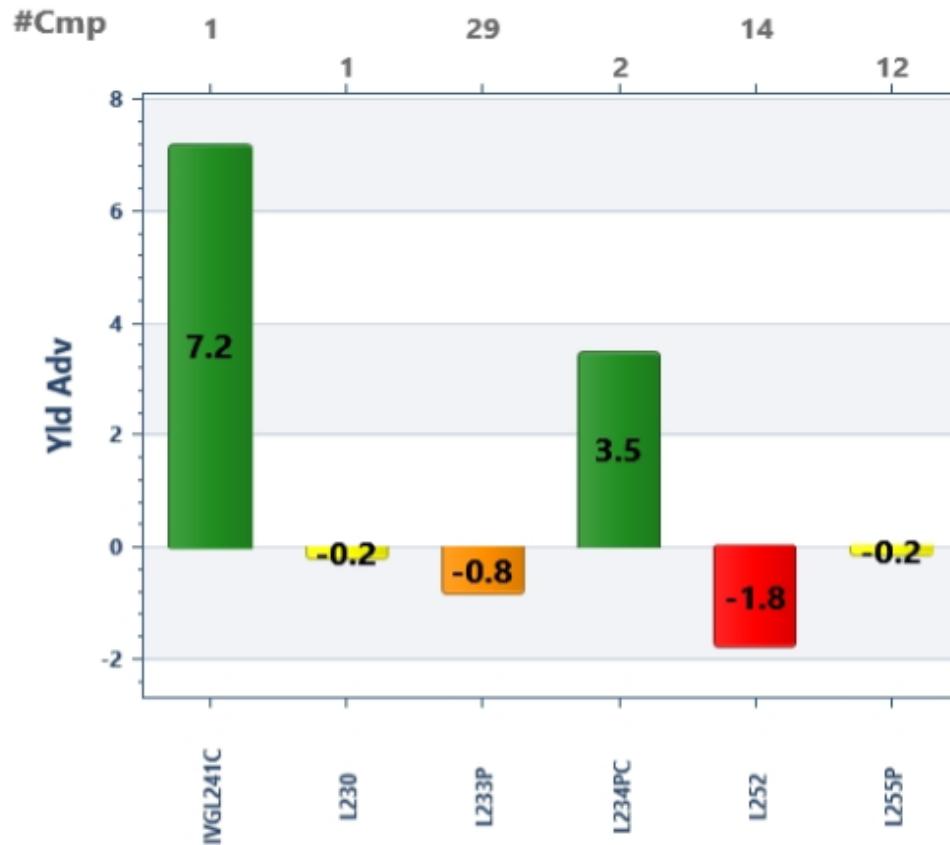
Pioneer
P501L
LL

VS

InVigor
6 Hybrid



2019 — Leader Product Report



Approx. 50% of these trials were Straight Cut Situations & P501L is not a Straight Cut variety.



Pioneer's First Hybrid for the Liberty-Link Canola Market!

- Excellent Yield Potential – 103% of
- Very good for Lodging
- Roundup Ready, Harvest Max, and “New” Clubroot Trait Pkg.
- Maturity – 5 (medium-early)
- “R” for Blackleg
- Suitable for Straight-Cut

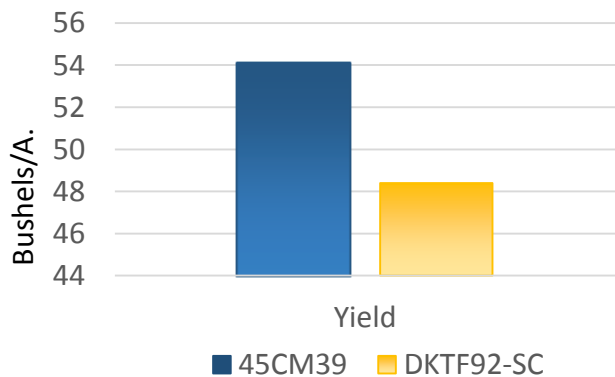
Characteristics:

Early Growth	8
Lodging	7
Plant Height	7
Blackleg	7
Sclerotinia	NA
Clubroot	8
Shatter Score	7

Suitability:

Early Planting	Highly Suitable
Delayed Harvest	Suitable
No-Till	Highly Suitable
Reduced Tillage	Highly Suitable

45CM39 vs. DKTF92-SC
2019 Yield Performance



5.7 bu/A
Advantage
92% Wins

12 locations
2019 USA/CA
Field Plots & Side
by Sides



PIONEER
BRAND · PRODUCTS

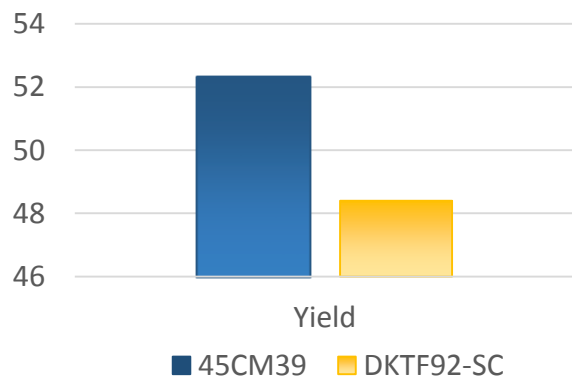
45M35



Pioneer's First Hybrid for the Liberty-Link Canola Market!

- Great Yield Potential
- Excellent for Lodging
- Roundup Ready and Harvest Max Trait Package.
- Maturity – 5 (medium-early)
- “MR” for Blackleg
- Suitable for Straight-Cut

45M35 vs. DKTF92-SC
2019 Yield Performance



5.1 bu/A
Advantage
100% Wins

10 locations
2019 USA/CA
Field Plots & Side
by Sides

Suitability:

Early Planting	Highly Suitable
Delayed Harvest	Suitable
No-Till	Highly Suitable
Reduced Tillage	Highly Suitable

Characteristics:

Early Growth	8
Lodging	8
Plant Height	8
Blackleg	7
Sclerotinia	NA
Clubroot	NA
Shatter Score	7

Non-GMO Canola Offering



AGRONOMIC INFORMATION YIELD DATA

- Across 49 locations over the last 5 years, 46H75 has a 88% win rate against Brett Young 5525CL with an average yield advantage of 165 lbs/ac¹.
- Across 9 locations over the last 5 years, 46H75 has a 78% win rate against Brett Young 5535CL with an average yield advantage of 195 lbs/ac¹.

AGRONOMIC TRAITS

- Late Group maturity hybrid
- Consistently high yield performer
- Outstanding standability and harvestability for swath and combine harvest
- Best practice Clearfield weed management strategies would include Treflan™ or Sonalan™ pre-emerge followed by Beyond™ plus Stinger™ post-emerge

DISEASE RESISTANCE

- Resistant to blackleg



AGRONOMIC INFORMATION YIELD DATA

- In 32 comparisons across the last 5 years, 45H76 has 75% win rate against Brett Young 5525CL with an average yield advantage of 115 lbs/ac¹.

AGRONOMIC TRAITS

- Mid-Group maturity hybrid (about 3-4 days earlier than 46H75)
- Very strong blackleg resistance for fields with heavy canola history
- Good table-top harvest presence for straight-cut harvesting; manage appropriately as not a HarvestMax™ hybrid
- Best practice Clearfield weed management strategies would include Treflan™ or Sonalan™ pre-emerge followed by Beyond™ plus Stinger™ post-emerge

DISEASE RESISTANCE

- Resistant to blackleg



AGRONOMIC INFORMATION YIELD DATA

- New hybrid for the 2020 season, and will be the replacement product for 45H76 in 2021
- P502CL will be the new yield leader in the Pioneer CL segment

AGRONOMIC TRAITS

- Mid-Group maturity hybrid
- Very good blackleg resistance rating for fields with heavy canola history
- Outstanding standability with low late-season lodging potential
- Best practice Clearfield weed management strategies include Treflan™ or Sonalan™ pre-emerge followed by Beyond™ plus Stinger™ post-emerge

DISEASE RESISTANCE

- Resistant to blackleg



Clearfield (Non-GMO) Canola Trial Data



Pioneer® Hybrid	RM	Competitor Hybrid	Number of Comparisons	% of Wins	Pioneer Yield Advantage (Bu/A)
P502CL	5	46H75	41	46%	0.0
P502CL	5	45H76	27	85%	2.2
P502CL	5	Brett Young 5545CL	39	62%	0.9
P502CL	5	Canterra CS2500CL	39	79%	2.8

Pioneer® Hybrid	RM	Competitor Hybrid	Number of Comparisons	% of Wins	Pioneer Yield Advantage (Bu/A)
46H75	6	45H76	43	53%	1.1
45H75	6	P502CL	41	51%	0.0
45H75	6	Brett Young 5545CL	44	52%	0.5
45H75	6	Canterra CS2500CL	41	71%	2.7

Non-GMO Canola Offering



CLEARFIELD® CANOLA: CONTRACTING OPPORTUNITY

Cargill/West Fargo has contracts available for identity preserved, non-GMO Clearfield® Canola. Pioneer® hybrid **45H76, 46H75** and **P502CL*** canola seed products are eligible for participation in Cargill/West Fargo's program.

Contracting opportunities include attractive basis level opportunities and potential off-farm pick-up.

For more information on Cargill/West Fargo's program, please contact Cargill/West Fargo directly.

Cargill/West Fargo – Contact Information

	OFFICE	CELL
John Zietz	701-282-1614	701-630-0939
Ray Albrecht	701-282-1631	701-936-5931
Darcy Smith	701-282-1676	701-367-6707
Jacob Downing	701-282-1636	318-418-0856

Cargill | 250 7th Ave NE | West Fargo, ND 58078



Lumiderm™

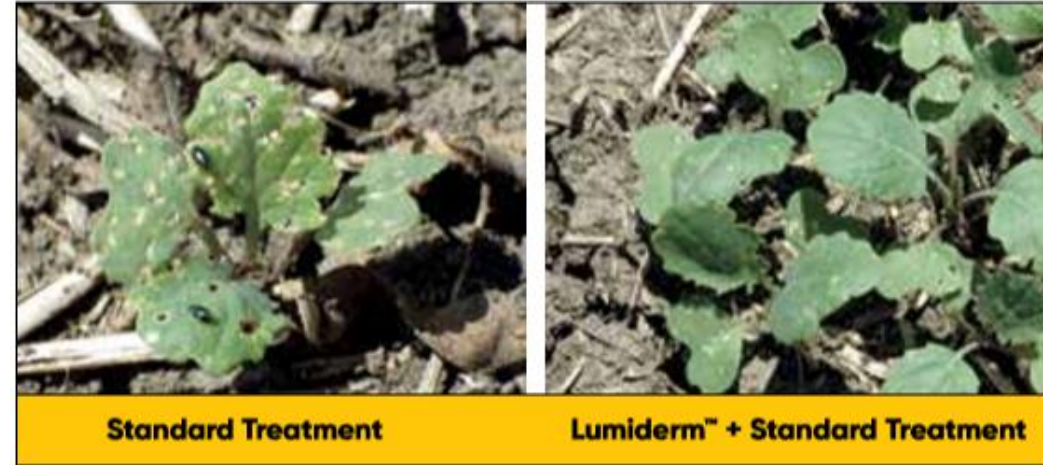
INSECTICIDE SEED TREATMENT

Better Start. Better Harvest.

Lumiderm™ insecticide seed treatment provides excellent plant protection against both flea beetles and cutworms in one convenient bag.

Key Benefits:

- Enhanced crucifer and striped flea beetle protection
- Excellent control of early season cutworms
- Excellent early season seedling stand establishment, vigour and biomass
- Up to 35 days of protection through the critical stages of seedling growth
- Novel class of chemistry (Group 28) for resistance management



Source: Lumsden, SK. 22 Days After Seeding.



Lumiderm™ Controls all Types of Cutworms

Peace of Mind

- Controls all species of cutworm
- Activity on both above and below ground feeders

High Risk Fields for Cutworm

- Fields that had flowering weeds in August or September
- Pea / Lentil / Hemp fields / Alfalfa (??)
- Tight canola rotations





Flea beetle feeding

- Enhanced protection against both crucifer and striped flea beetles
- Stronger on striped flea beetles than other options
- Lumiderm stops flea beetle feeding quicker than standard seed treatment



Reduced feeding duration = less stress on plants

Lumiderm™

INSECTICIDE SEED TREATMENT

ENHANCED FLEA BEETLE PROTECTION

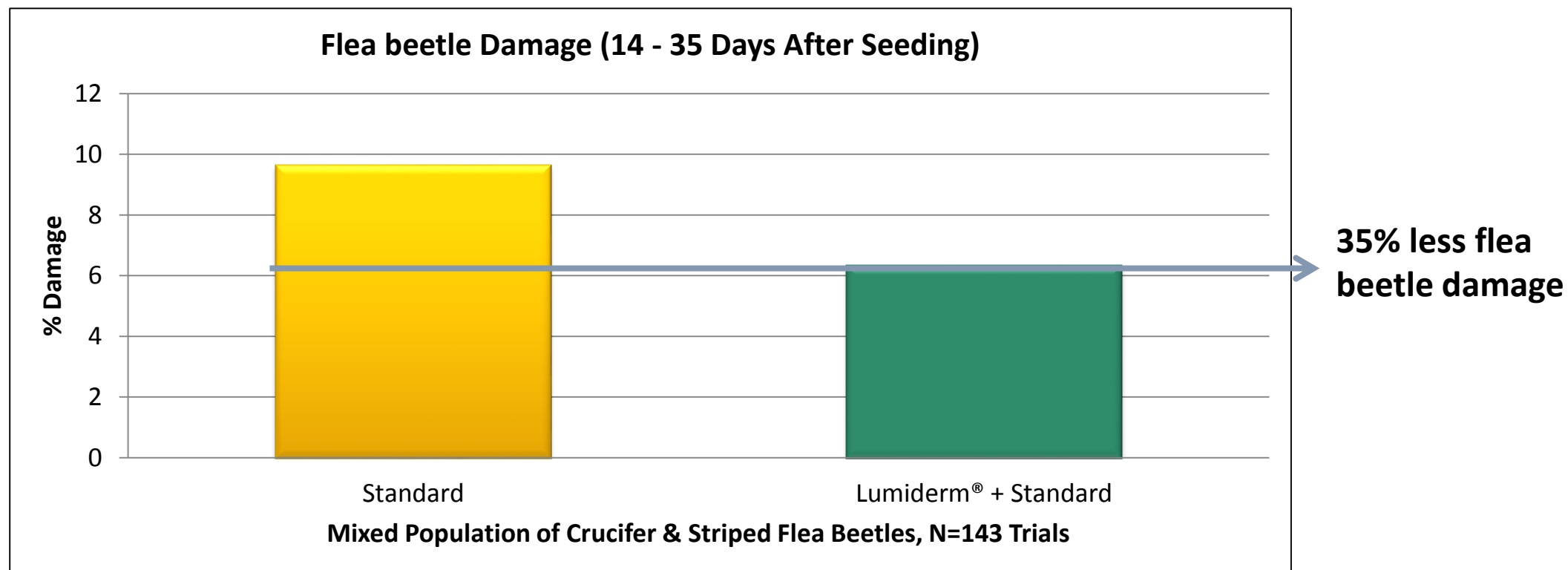


Helix® Vibrance®

Helix® Vibrance® + Lumiderm®



WHAT DOES “Enhanced protection against both crucifer and striped flea beetles” LOOK LIKE? Less damage per leaf.



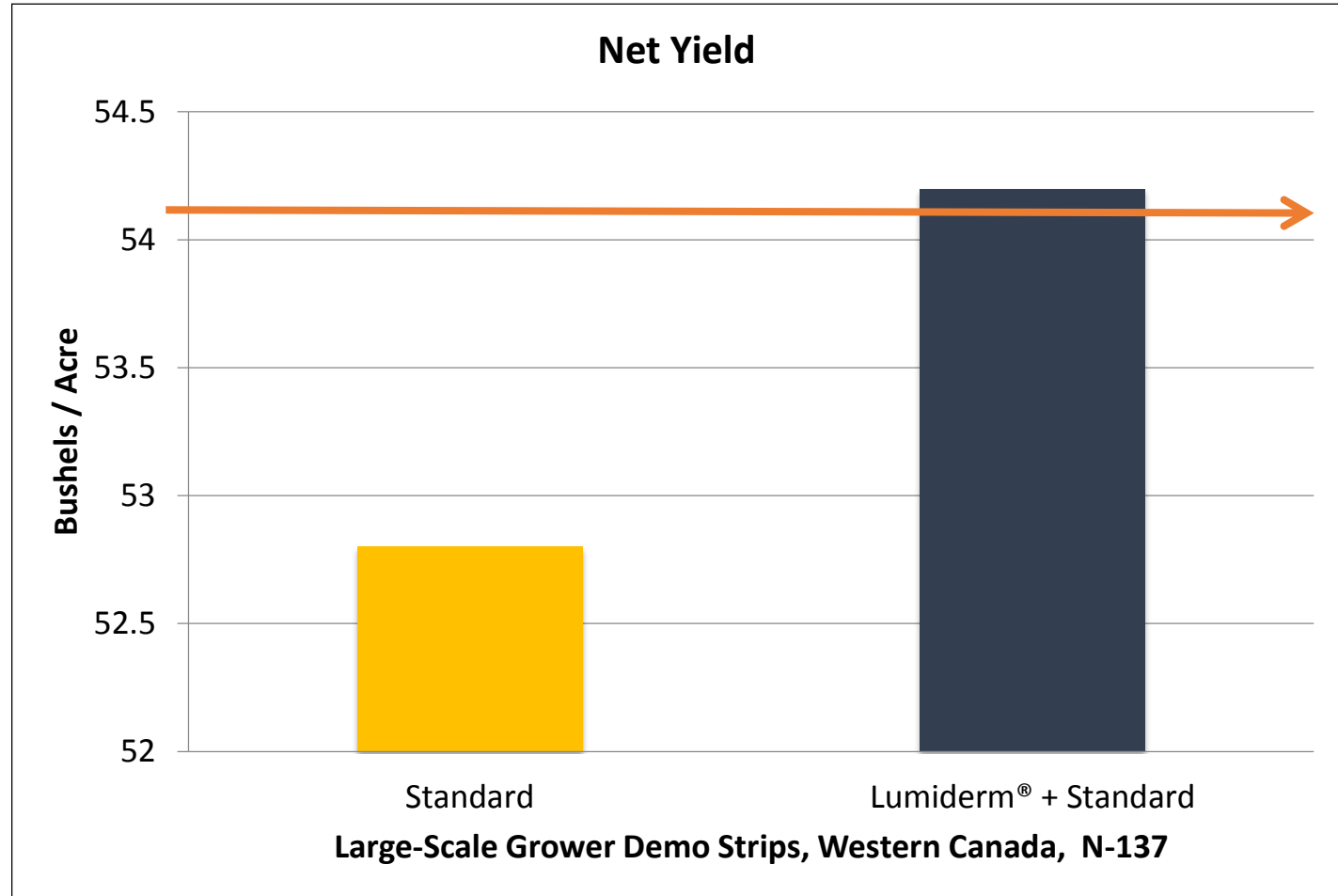
Source: Corteva™ Research & Development (replicated) trials and Grower Demo strip trials (2010-2015)

Lumiderm™

INSECTICIDE SEED TREATMENT



Lumiderm™: Yield update 137 sites over 3 years





Lumiderm™
INSECTICIDE SEED TREATMENT



- **P501L vs. L-233P Side by Side**
 - **Planted on May 18, 2019.**
 - **Pictures were taken June 5, 2019.**
- **The field was sprayed with insecticide for Flea Beetles on June 4, 2019.**
- **P501L has Helix Vibrance w/ Lumiderm Seed Treatment while the InVigor L-233P has just Prosper Evergol.**

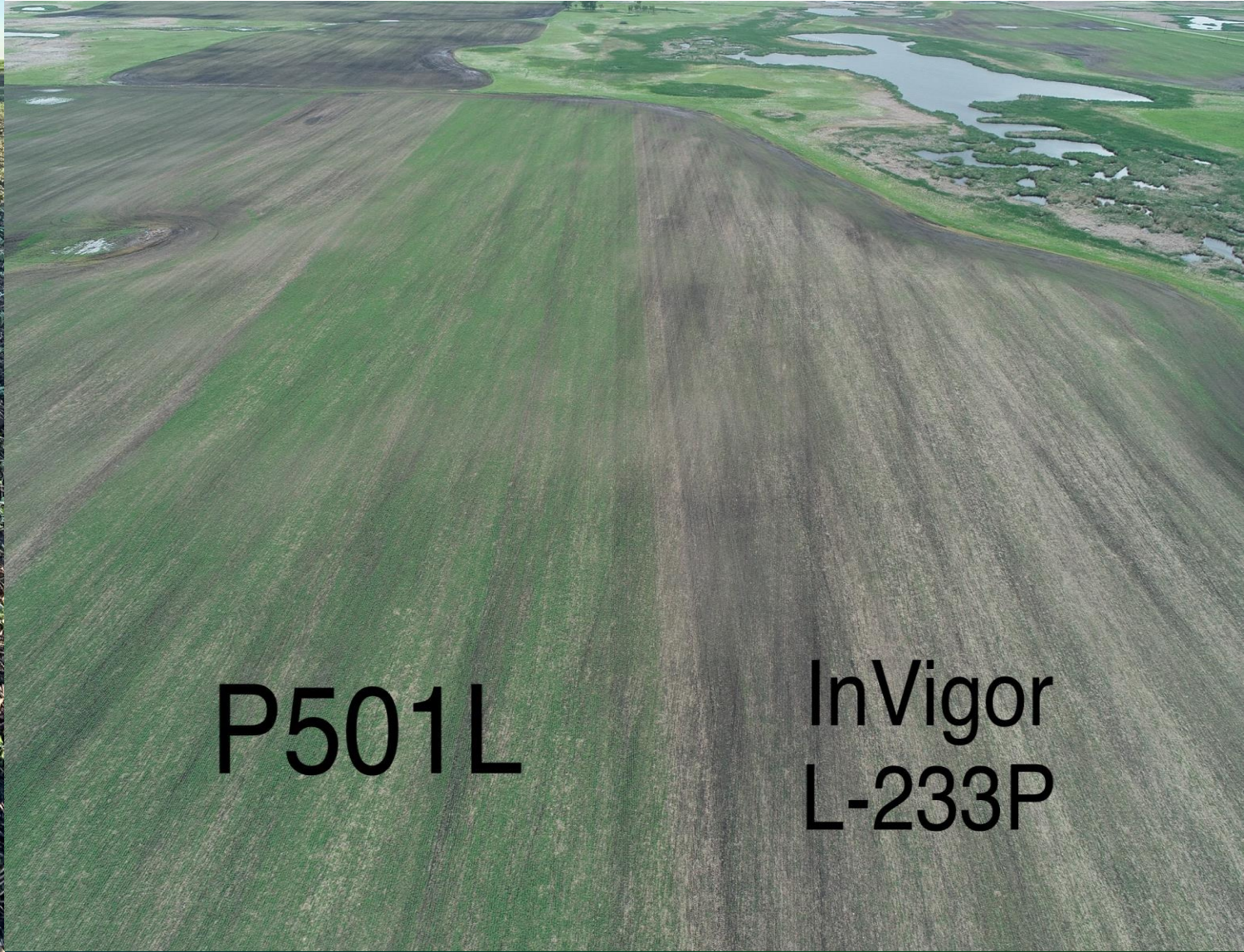
InVigor
L-233P

vs.

Pioneer
P501L



- 1st Photo take on June 10, 2019 by Kristie Sundeen
- 2nd Drone Photo taken on June 18, 2019 by Zach Fore
- P501L vs L-233P – Lumiderm vs. No Lumiderm



P501L

InVigor
L-233P

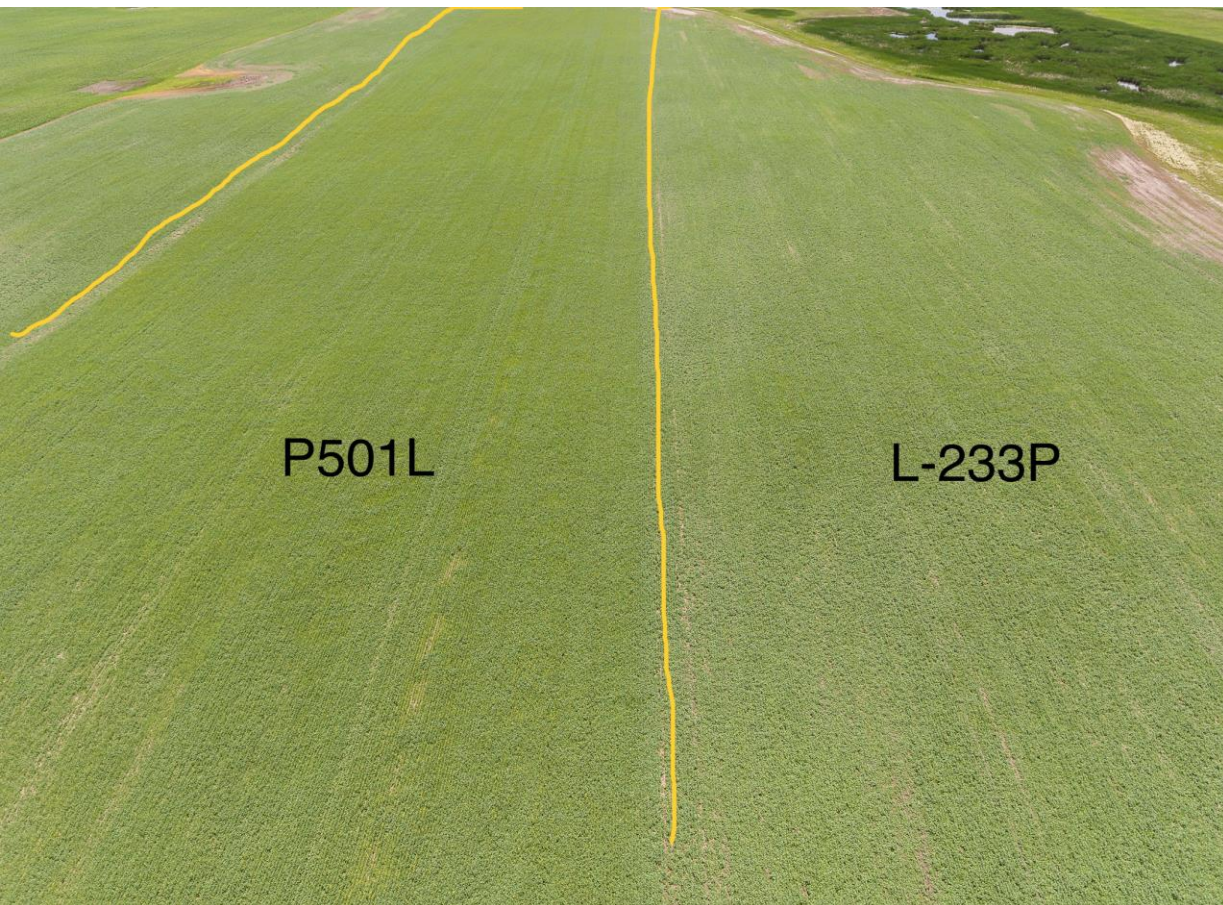
Pioneer
P501L

InVigor
L-233P

- 1st Picture taken on June 25, 2019 by Kristie Sundeen
- 2nd Picture taken on July 2, 2019 by Kristie Sundeen
- P501L vs L-233P – Lumiderm vs. No Lumiderm



- 1st Picture taken by drone on July 3, 2019 by Zach Fore
- 2nd Picture taken on July 11, 2019 by Kristie Sundeen
- P501L vs L-233P – Lumiderm vs. No Lumiderm



P501L vs L-233P – Lumiderm vs. No Lumiderm

- Desiccated August 18, 2019 w/ Roundup w/ Sharpen
- Harvested Sept. 4, 2019
 - Rain/Wind Storm – Sept 1, 2019
 - Pod Shatter occurred on P501L due to storm causing about 10-15% Yield loss on P501L.
 - Yield Results
 - P501L – 2078 lbs/A. – Mst. 11
 - L233P – 2242 lbs/A. – Mst. 12.5



Lesson Learned –
P501L is a hybrid better suited
to the swath market.





Any Questions? Thank You!

If Interested the best discounts on seed are available until this Friday, Dec. 13th.

Contact -



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