



Pioneer Canola

“Canola that Can Do it All”

Kristie Sundeen – Pioneer Field Agronomist

12/1/2023 – MN Canola Symposium



Herbicide Platforms Available thru Pioneer



Pioneer Protector® Brand canola hybrid portfolio has the most diverse canola portfolio available in the market today!

Weed Resistance management is strength within our portfolio with high yields, consistent performance, and Pioneer Protector® traits being available within all herbicide systems.



What is Optimum® GLY?



- Corteva’s proprietary glyphosate tolerance trait
 - Improve crop safety
 - Excellent weed control system
 - Greater application flexibility

Table 1. Comparison of glyphosate labeled timing and rates on the three glyphosate-tolerant technologies.

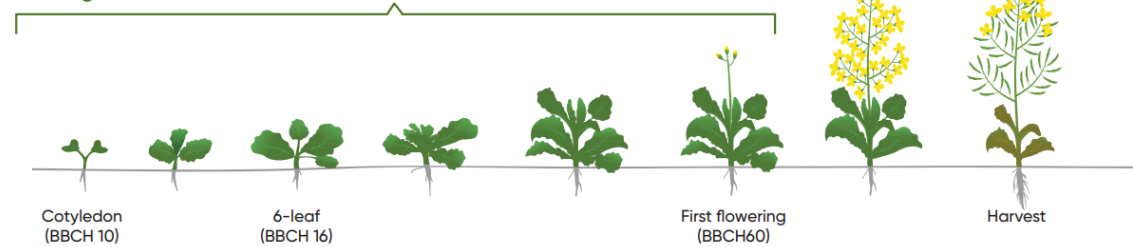
Stage	Roundup Ready® canola	TruFlex™ technology	Optimum® GLY herbicide tolerance trait
Emergence – 6 leaf	Durango® DMA® @ 12 oz/A (0.38 lb ae/A) as two applications OR 18 oz/A (0.56 lb ae/A) as single application	Durango DMA @ 48 oz/A (1.5 lb ae/A) for a single application	Durango DMA @ 48 oz/A (1.5 lb ae/A) for a single application
Emergence – First flower	N/A	Durango DMA @ 24 oz/A (0.75 lb ae/A) for two applications	Durango DMA @ 24 oz/A (0.75 lb ae/A) for two applications

Optimum® GLY herbicide tolerance products and TruFlex™ technology spray window

- Emergence to 6 leaf: Up to 1.5 lb ae/A

Optimum GLY® herbicide tolerance products and TruFlex technology spray window

- Emergence to first flower: 0.75 lb ae/A + 0.75 lb ae/A



RR Canola – 2L (equiv) applied at 4 leaf and 1st flower
Optimum Gly– 2L (equiv) applied at 4 leaf and 1st flower



Pioneer Protector® Sclerotinia



Sclerotinia susceptible and non-susceptible



Non-resistant 55% infection



Sclerotinia resistant 13% infection

Photo, courtesy of Pioneer® Canada, showing infected stems ripened prematurely.

Leading the Industry in Sclerotinia Resistance

- Corteva Agriscience developed and commercialized the first Sclerotinia resistance hybrid in 2008.

Benefits of Seeding Canola with Pioneer Protector® Sclerotinia Trait

- Reduction in Incidence by over 60%
- Peace of Mind that provides increased flexibility and insurance when timing fungicide applications.
- Convenience of Sclerotinia protection that is planted with the seed.
- Season-Long Control of an in-plant trait that provides protection regardless of weather patterns throughout the entire growing season.
- Management tool to help manage risk of Sclerotinia infection over large acres.

Products available with Pioneer Protector® Sclerotinia trait packages:





"NEW" P516L



- ❑ SWATH Product - Pod Shatter Score 6, improved shatter tolerance over P506ML.
- ❑ Improved verticillium stripe score (6).
- ❑ New Source (CR6) for Clubroot Resistance
- ❑ Replacement for P506ML & P501L.

Primary Brand	Primary Hybrid/Brand	Comp Brand	Comp Hybrid/Brand	Yield Adv (bu/a 50#)	Mst Adv	Comp
Pioneer	P516L	InVigor	L356PC	0.6	0.4	4
Pioneer	P516L	InVigor	L357P	3.1	0.0	2
Pioneer	P516L	Pioneer	P505MSL	-0.2	0.3	55
Pioneer	P516L	Pioneer	P612L	-0.1	0.1	50





**PIONEER[®]
LIBERTY-LINK[®]
CANOLA
PRODUCTS
2020 - 2023
Comparison Plot
Results for US**
(Information from 10/26/23
includes PKP)

Pioneer [®] Hybrid/ Brand	Comp Brand	Comp Hybrid	#Cmp	Yld Adv (lb/a)	Yld %Wins
P612L	Pioneer	P505MSL	13	105	62%
	Pioneer	P516L	9	140	78%
	InVigor	L340PC	6	-45	33%
	InVigor	L345PC	3	-120	33%
P505MSL	Pioneer	P612L	13	-105	38%
	Pioneer	P516L	10	-10	60%
	InVigor	L340PC	5	-75	40%
P516L	Pioneer	P612L	9	-140	22%
	Pioneer	P505MSL	10	10	40%
	InVigor	L340PC	4	-245	25%



Pioneer® Hybrid/ Brand	Comp Brand	Comp Hybrid	#Cmp	Yld Adv (lb/a)	Yld %Wins
P612L	Pioneer	P505MSL	329	0	46%
	Pioneer	P516L	211	0	47%
	InVigor	L340PC	158	-125	30%
	InVigor	L343PC	30	25	47%
P505MSL	Pioneer	P612L	329	0	54%
	Pioneer	P516L	219	0	53%
	InVigor	L343PC	30	-85	37%
	InVigor	L350PC	6	45	67%
	InVigor	L345PC	163	-100	32%
	InVigor	L340PC	178	-100	38%
P516L	Pioneer	P612L	211	0	52%
	Pioneer	P505MSL	219	0	47%
	InVigor	L340PC	139	-125	26%
	InVigor	L343PC	38	-20	39%



PIONEER® LIBERTY-LINK CANOLA PRODUCTS

2020 - 2023 Comparison
Plot Results for Western
Canada & US

(Information from 10/26/23 includes PKP & IMPACT)



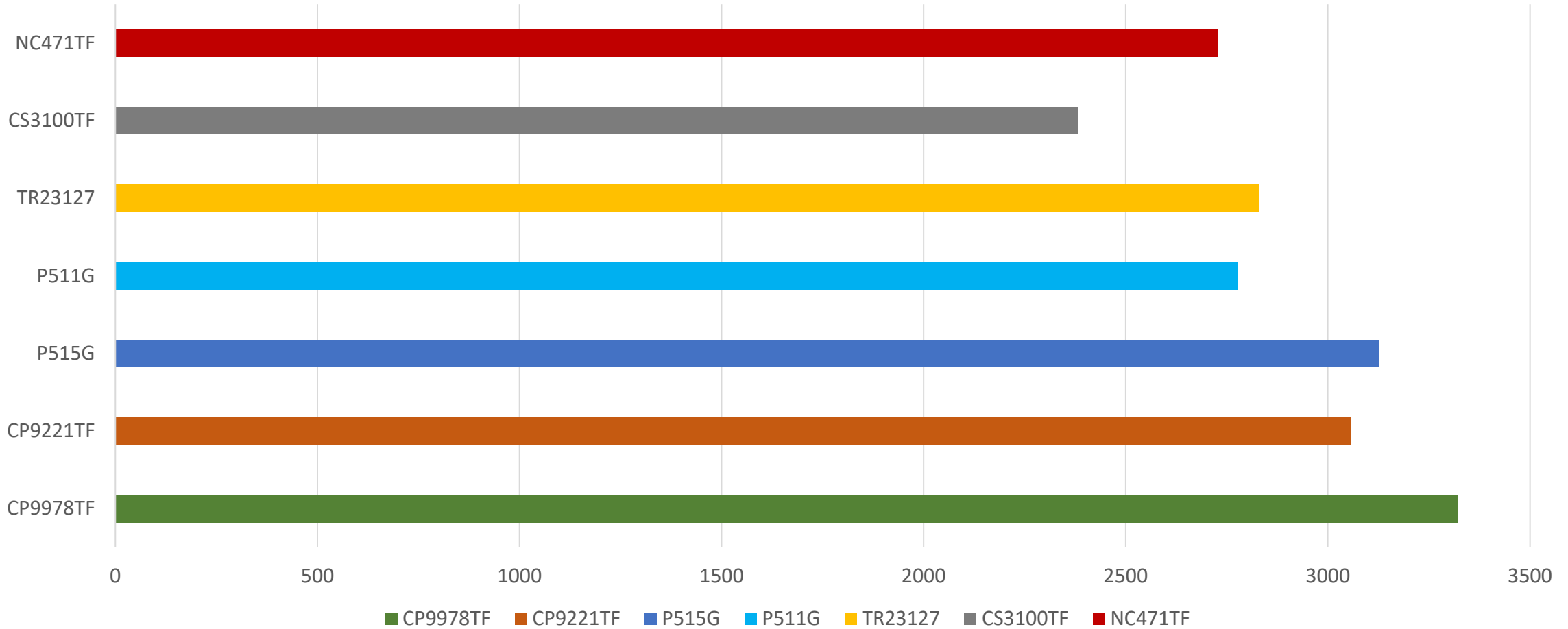
NDSU – Langdon Research Center

Canola - Roundup Ready - 2023- Table 2

Langdon

Company	Variety	Plant Height	Cover ¹	Oil ²	Yield ²		2-yr Avg. ³
					2022	2023	
					lbs/a		
BASF	LR354PC	55	83	41.1	–	2344	--
Bayer	DK900TF	52	88	42.4	–	2757	--
BrettYoung	BY 6211TF	51	87	40.4	3295	2515	2905
Canterra Seeds	CS2600 CR-T	50	88	42.6	2409	2608	2508
Canterra Seeds	CS3000 TF	49	85	41.6	2929	2578	2754
Canterra Seeds	CS3100 TF	53	83	42.7	3382	2609	2996
CROPLAN	CP9221TF	46	78	40.6	–	2412	--
CROPLAN	CP9978TF	51	90	41.1	2710	2932	2821
Dyna-Gro	DG 760 TC	49	90	41.7	–	2818	--
Dyna-Gro	DG 781 TCM	53	88	42.2	–	2526	--
Nuseed	NC155 TF	53	82	40.8	2963	2412	2687
Nuseed	NC471 TF	53	65	41.8	2360	2072	2216
Nuseed	NC527CR TF	52	90	41.3	2797	2471	2634
Pioneer	P511G	55	72	42.2	–	2391	--
Pioneer	P515G	50	83	41.3	–	2551	--
Proseed	TR 23127	53	80	42.1	–	2709	--
Star	StarFlex	52	92	42.7	3149	2676	2913
Trial Mean		52	84	41.6	3063	2516	--
C.V. %		5.1	10.6	2.3	7.1	5.1	--
LSD 5%		4.4	14.8	1.6	384	341	--
LSD 10%		3.7	12.3	1.3	320	--	--

Northern Resources Co-op – Roseau, MN 2023 Canola Variety Trial



2023 –Agronomic Issues in Canola

- FLEA BEETLES!! - Continue to be a Problem...Seed Treatments with 2 MOA along with early scouting necessary to stay ahead of this issue.f
- Pod Drop continues to be an issue when products left too long in the field.
- Pod Shatter incidence was down for 2023 season.
- **NEW Disease - Verticillium Stripe** - causing major late season lodging and standability issues!!
 - Submit samples for testing if you have fields that go down late in-season to verify.



- It is believed that Early season infections caused the major standability and yield losses.
- Early season moisture from emergence to Rosette stage plays a big part in verticillium prevalence.
- Soil borne fungal disease so we will have to use genetics to combat this disease along with wider rotations.
- Blackleg and verticillium stripe co-habitation – often found together in field.



Root cross-section of plants prior to harvest. Verticillium stripe (left), blackleg (middle), and healthy plant (right).



FIRST IMPRESSIONS ARE EVERYTHING.



Lumiderm™

INSECTICIDE SEED TREATMENT

Key Grower Benefits:

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

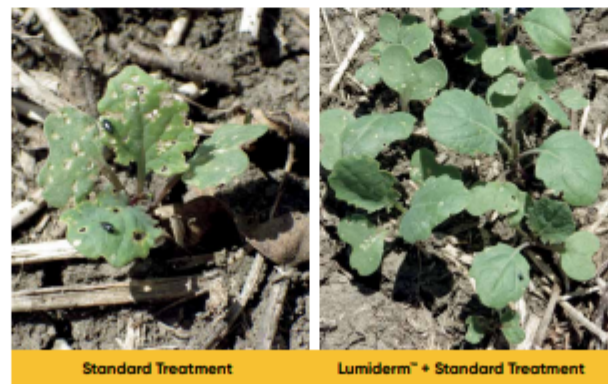
See the Lumiderm™ difference in yield increase.

- 78% occurrence of positive yield increase across Western Canada[†]
- 35% Less Flea Beetle Damage^{*}
- 1.4 bu/ac higher yield^{**}

See the Lumiderm™ difference in enhancing flea beetle protection

Crucifer and striped flea beetles can cause significant damage to canola crops. Lumiderm™ insecticide seed treatment offers enhanced protection against flea beetles, to help maximize your canola yield.

- Lumiderm™ provided a 35% reduction in flea beetle damage, 14–35 days after seeding, in 192 trials across Western Canada^{*}
- Growers have achieved a 1.4 bu/acre advantage over the standard treatment, across Western Canada^{**}



Source: Lumsden, SK, 22 Days After Seeding.

See the Lumiderm™ difference in cutworm control

Cutworms are a real problem in canola production. If you're not paying close attention to your fields, they can destroy a significant portion of your crop in a matter of days.

- Cutworms are very difficult to detect since they typically live underground during the day and feed at night
- During the first 35 days of seedling growth, Lumiderm™ helps protect your canola from cutworm feeding, which can enhance early season stand establishment and crop vigour



[†] Results from 55 large-scale, grower managed field trials across Western Canada in 2015.

^{*} Source: 192 Research & Development (replicated) trials and Grower Demo strip trials (2010–2015).

^{**} Source: Canola yield averaged across 137 Grower demonstration strips in Western Canada from 2013–2015.



TRUTH, BE TOLD.



What's Coming from Pioneer?

- Optimum Gly Trait Package replacing RR.
- New Base Fungicide Seed Treatment Package – Expected 2025.
- Improved Shatter Tolerance over current hybrids.
- Additional hybrids with Sclerotinia Tolerance.
- Improved Verticillium Stripe Tolerance/Resistance.
- Continued Improved Clubroot Resistance Packages.



Any Questions? Thank You!

If Interested the best discounts on seed are available until this Friday, Dec. 1st

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