

# 116.8 bu/ac Canola Yield Winning Plot Recipe

## Field Averaged 111.3 bu/ac on 147 acres

**Grower Name:** Florian Hagmann **Location:** Birch Hills, SK. **Growing Season:** 2015

**Seed Product:** Pioneer® hybrid 45H33 (RR) treated with DuPont™ Lumiderm™

### Field History:

**Previous crop(s):** 2006 – 2009 alfalfa, 2010 – Wheat, 2011 – Canola, 2012 – Wheat  
2013 Canola – **Field contained a winning Yield Challenge strip at 84.5 bu/ac (Pioneer® hybrid 45H29 (RR)),** 2014 – Barley

**Seeding Date:** May 22<sup>nd</sup>, 2015

**Air seeder:** Bourgault 3320 precision hoe drill planted at 5 mph

**Yield measured (area):** 1563 feet long x 35 feet wide = 1.2558 acres (minimum 0.9 acres of canola harvested to qualify for yield challenge)

**Yield measured:** 7292 lbs of canola. DuPont Pioneer weigh wagon measured by sales associate.

**Moisture content of harvest sample:** 9.5% - no green seed

**Soil test report:** October 2014 completed by AgriTrend Ltd.

**Precipitation reports from WeatherFarm** (Closest weather station - Tomtene Seed Farm – 4 miles from Florian's winning field as the crow flies)

- May 1<sup>st</sup> to September 5<sup>th</sup>, 2015 – 106.8 mm, ~4 1/4" of rain
- Average temperature from pre-bud until August 31<sup>st</sup> – 18.8°C

**No Manure was applied to field in 2015.**

### **Fertilizer at the time of seeding:**

- 21.5 lbs of ESN 44-0-0
- 21.5 lbs of S15 13 – 33 – 0 - 15
- 35 gal 342 CL 20-0-3-4 - 5 Cl - 0.1 Zn (10.3 lbs/gal)
- 2 gal ATS 12-0-0-26 (11.10 lbs/gal)
- 14 gal KSN22 10-20-2-0 (10.7 lbs/gal)
- 0.11 gal KS Max 5 - 0 - 3 - 0.5Cu - 1 Fe- 2 Mn – 2 Zn - 0.025 B (10.4 lbs/gal)
- 0.11 gal 20% Humic Acid (added to buffer against the salt)

### **Foliar Fertilizer at herbicide timing and in-crop:**

- At Pre-seed Burnoff - 0.5 gal XRN 28-0-0 (10.7 lbs/gal) with ½ liter of Roundup Transorb®
- June 16<sup>th</sup> – 3-4 leaf - 1 gal XRN 28-0-0 (10.7 lbs/gal) with ½ L Roundup Transorb® 7.5 gal water
- July 2<sup>nd</sup> – pre-bud - 2 gal 2075 20-0-7-5 (11 lbs/gal) with ½ L Roundup Transorb® 7.5 gal water
- July 17<sup>th</sup> – 80-85% podded - 2 gal 1515 15-15-2 (10.7 lbs/gal)
- July 17<sup>th</sup> - 0.11 gal KSMaX 5-0-3-0.5 Cu - 1 Fe - 2 Mn- 2 Zn - 0.025 B(10.4 lbs/gal)

**Total fertilizer applied at seeding:** 102 lbs N/ac, 36 lbs P/ac, 14 lbs K/ac, 25 lbs S/ac  
**Total foliar fertilizer applied –** 14 lbs of N /ac , 3 lbs of P/ac, 2 lbs of K/ac, 1.0 lbs of S/ac

**Estimated N from Mineralization assuming average rates of 10 lb/% OM –** 60 lb/ac

**Total Nitrogen available from the AgriTrend soil test report:**

Organic Matter (OM) 0 - 6" – 6% OM

Organic Matter 6-12" – 2.8% OM

Sampling depth	Nitrogen (N)		Phosphorus (P)		Potassium (K)		Sulphur (S)	
	NO <sub>3</sub> ppm	NO <sub>3</sub> lb/ac	Bicarb P ppm	Bicarb P lb/ac	ppm	lb/ac	ppm	lb/ac
0-6 inch	14	28	4	8	213	426	17	34
6-12 inch	2	4	2	4	126	252	15	30
12-24 inch	1	4	1	2	121	484	93	372
Total to 24 inch		36		14		799		436

**Canola would have been able to access N to 24" so total available N was 212 lb N / ac including the estimated N from mineralization.**

**Total Fertilizer cost:** = \$270/acre (according to Pioneer Hi-Bred sales representative)

**Fungicide applications:** None **Irrigation:** None

**Swathed:** September 5<sup>th</sup>, 2015 at 70% seed colour change

**Comments from the Grower:**

- Field averaged 111.3 bu/acre hauled into the local elevator on 147 acres total.
- It was a healthy canola crop right from the start with a planned out balanced nutrient program.
- Florian figured the seed survival rate after seeding was over 90%.
- Mentioned that Potassium and Phosphorous played a great role in the high yield observed on the field
- He stated that Phosphorous was already in the ortho – form so that made a difference in the availability to the plants and in uptake – He applied about 4X the amount of P that was found to be in the soil.

**Comments from DuPont Pioneer Agronomist (Derwyn Hammond):**

- Large amount of residual S in the subsoil below 12" that the crop would have some access to unless taproot development was stunted by excess moisture or compaction layers, which would be unlikely given the high yields.
- As the surface moisture is used by the plants, water from deeper in the profile moves up bringing mobile nutrients like N and S with it which could have helped with the high yield achieved.
- Another factor would be the OM at 6% which could supply about 8-10 lb N for each % of OM or 48 to 60 lb/ac of N on average, and conditions ideal for canola growth would be good for mineralization.
- Also, recent research by the Canola Council suggests that new canola hybrids may only need 2 lb of N / bu of canola compared to 3 lb of N / bu that they used to recommend in the past.
- The combination of available N in the test plus the applied fertilizer and mineralizable N from OM would have been reasonable to produce this yield from an N standpoint.