

Canola Fertility Test Plot

Dan Blackledge Farm, Marion, MI

A trial conducted by Osceola County MSU Extension to determine the effect of nitrogen, boron and sulfur applications on canola yield.

Fertilized according to MSU soil test recommendations.

Soil test date sample on 4/21/2010

- Ph 6.2
Phosphorus 29 ppm
Potassium 71 ppm
Magnesium 120 ppm
- Previous Crop – pasture land
 - Applied 1.0 ton/acre of calcitic lime to all plots
 - Applied 105 lbs/acre of 11-52-0 and 110 lbs/acre of 0-0-60 on all plots (enough phosphorus and potassium for 60 bu/acre yield)
 - Assumed 25 lbs of residual nitrate nitrogen would be available from the pasture grass sod plowdown.
 - Planted May 6, 2010 – seeding Python ClearField Canola at 5 lbs/acre
 - Soil types: Graycalm sand, Uibly sandy loam, and Kawkawlin loam
 - Plot size: total area was 5.5 acres; each trial had a harvested area of 16' x 1,361' (0.5 acre)

Test Plot Fertility Trials

<u>Plot #</u>	<u>Trial</u>	<u>Fertilizer Applied</u>
1	Nitrogen for 40 bu. (control)	128 lbs/acre of 46.0.0
2	Nitrogen for 50 bu.	170 lbs/acre of 46.0.0
3	Nitrogen for 60 bu.	205 lbs/acre of 46.0.0.
4	Nitrogen for 50 bu. plus boron	170 lbs/acre of 46.0.0, 20 lbs/acre of 10% boron
5	Nitrogen for 50 bu. plus sulfur	110 lbs/acre of 46.0.0, 125 lbs/acre ammonium sulfate
6	Nitrogen for 50 bu. plus boron & sulfur	110 lbs/acre of 46.0.0, 125 lbs/acre ammonium sulfate, 20 lbs /acre of 10% boron
7	Nitrogen for 60 bu. plus boron & sulfur	148 lbs/acre of 46.0.0., 125 lbs/acre of ammonium sulfate, 20 lbs/acre of 10% boron
8	Nitrogen for 40 bu. (control)	128 lbs/acre of 46.0.0
9	Nitrogen for 50 bu. plus boron & sulfur With a portion of nitrogen being a slow release form	55 lbs/acre of 46.0.0, 125 lbs/acre of ammonium sulfate, 20 lbs/acre of 10% boron, 55 lbs/acre of Super U 46% slow release nitrogen
10	Nitrogen for 60 bu. plus boron plus, plus a portion of nitrogen being slow release	102 lbs/acre of 46.0.0, 125 lbs/acre of ammonium sulfate, 20 lbs/acre of 10% boron, 102 lbs/acre of Super U 46% slow release nitrogen
11	Nitrogen for 40 bu. (control)	128 lbs/acre of 46.0.0

2010 Canola Fertility Trial
 Dan Blackledge Farm, Marion, MI
 Harvested August 28, 2010

<u>Fertilizer</u>	<u>Yield Goal</u>	<u>N Applied: Yield Goal</u>	<u>Actual Yield/acre</u>	<u>Moisture</u>	<u>N Applied: Actual Yield</u>	<u>Fertilizer & Lime Cost</u>	<u>Net Yield Value Less Fert. & Lime¹</u>	<u>Net Profit Per Acre²</u>
1. Urea (control)	40 bu.	2.4 lbs N/bu.	41.6 (some lodging)	6.4%	2.4	\$71.76/a	\$344.24	\$126.61/acre
2. Urea	50 bu.	2.3 lbs N/bu.	43.7 (some lodging)	6.5%	2.6	\$80.41/a	\$356.59	\$138.96/acre
3. Urea	60 bu.	2.2 lbs N/bu.	45.9	6.2%	2.85	\$87.62/a	\$371.38	\$153.75/acre
4. Urea + Boron	50 bu.	2.3 lbs N/bu.	46.4	6.4%	2.5	\$89.41/a	\$374.59	\$156.96/acre
5. Urea + AMS	50 bu.	2.3 lbs N/bu.	50.1	6.3%	2.3	\$81.40/a	\$419.92	\$201.97/acre
6. Urea + AMS + Boron	50 bu.	2.3 lbs N/bu.	50.5	6.3%	2.3	\$90.80/a	\$414.20	\$196.57/acre
7. Urea + AMS + Boron	60 bu.	2.2 lbs N/bu.	50.0	6.3%	2.6	\$98.63/a	\$401.37	\$183.74/acre
8. Urea (control)	40 bu.	2.4 lbs N/bu.	48.4	6.0%	2.0	\$71.76/a	\$412.24	\$194.60/acre
9. Urea + AMS + Slow Release N + Boron	50 bu.	2.3 lbs N/bu.	52.4	6.5%	2.2	\$94.32/a	\$429.68	\$212.05/acre
10. Urea + AMS + Slow Release N + Boron	60 bu.	2.6 lbs N/bu.	54.7	6.4%	2.9	\$116.69/a	\$430.31	\$212.68/acre
11. Urea (control)	40 bu.	2.4 lbs N/bu.	45.3	6.6%	2.1	\$71.76/a	\$381.24	\$163.61/acre

**Conducted by Jerry Lindquist, Osceola County MSU Extension.
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¹ Yield x \$10/bu. – lime & fertilizer cost.

² Yield x \$10/bu. – lime & fertilizer & \$217.63/acre for other production costs.