

# Spring Canola on the WSU Wilke Research and Extension Farm in 2012



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## Abstract

The WSU Wilke Research and Extension Farm is a 320 acre facility located on the eastern edge of Davenport, WA. The farm is in a direct seed cropping system that utilizes no-till fallow, winter wheat (*Triticum* spp.), and spring cereals. Broadleaf crops remain a viable option and are substituted when weed pressures and market price create opportunities for profitable production. In 2012 Roundup Ready spring canola (*Brassica napus* L.) was planted into Plot 1 as a substitute for no-till fallow because of a heavy feral rye (*Secale cereale*) infestation. Prior to seeding, RT3<sup>®</sup> herbicide was applied at 32 oz/ac. 'DKL51-45' Roundup Ready spring canola was seeded and fertilized in one pass on May 2 at 2.6 lbs/ac with a SeedMaster direct seed hoe drill on 12-inch spacing. Fertilizer was applied at 60-15-1-9 per acre. Roundup PowerMax<sup>®</sup> was applied on June 8 at 16 oz/ac for grassy and broadleaf weed control. On June 15, Assure II was applied at 8.0 oz/ac for additional grassy weed control, and on August 11, 16.0 oz/ac Spodnam was applied by airplane to help reduce pod shatter. The canola was harvested on August 27 and yielded 1,542 lbs/ac. The crop was sold on September 20 for \$0.29/lb and generated a gross return of \$448/ac. Overall the input costs for the spring canola was \$106/ac and it produced an economic return over costs of \$341/ac. In comparison to the other three crops in the 4-year rotation, this was the second highest, falling \$12/ac short of 'BR 7030W' hard white spring wheat and \$82 and \$101/ac greater than 'Lenetah' spring barley and 'SY 605 CL' dark northern spring wheat.

## The WSU Wilke Research and Extension Farm



Google earth photo take on October 4, 2012 of the Wilke Farm

The WSU Wilke Research and Extension Farm is split by State Hwy 2 with the north side of the farm in a continuous cereal grain production. The south side of the farm is divided into seven plots that are approximately 25 acres in size. Three of these plots are in a 3-year crop rotation and the remaining four plots are in a 4-year crop rotation. In 2012 Roundup Ready spring canola (*Brassica napus* L.) was planted into Plot 1 in the 4-year crop rotation as a substitute for no-till fallow.

## Spring Canola Production Methods and Results

Date	Operation	Rate (unit/ac)	Details
April 21	Preplant Roundup	32 oz/ac	1.5 qt/100 gal Alliance, 1.0 qt/100 gal Activate
May 2	Seeding	2.6 lb/ac	Variety 'DKL51-45' Roundup Ready Spring Canola
May 2	Bulk Fertilizer	51-0-0-0 lb/ac	Anhydrous ammonium below the seed
May 2	Starter Fertilizer	9-15-1-9 lb/ac	Liquid ammonium thiosulfate, 11-37 and NACHURS
June 8	Roundup PowerMax	16 oz/ac	15 lb/100 gal AMS Max
June 15	Assure II	8 oz/ac	1 qt/100 gal NIS
Aug 11	Spodnam	16 oz/ac	Applied by airplane to help reduce shatter



A Seed Master direct seed hoe drill on 12-inch spacing was used to seed the trial and a good stand establishment was achieved despite the low seeding rate. A high population of ladybug eliminated the need to apply insecticides.

### Production of the 4-year crop rotation at the WSU Wilke Research and Extension Farm, 2012.

	Plot 1	Plot 3	Plot 4	Plot 6
<b>Cropping Specifics</b>				
Acreage	25.9	23.5	27.8	29.4
Crop	'DKL51-45' Spring Canola	'BR 7030 W' HWSW	'Lenetah' Spring Barley	'SY 605 CL' DNS Wheat
<b>Crop Production</b>				
Yield	1542 lb/ac	53.1 bu/ac	1.45 ton/ac	38.4 bu/ac
Mkt Grade	#1 Canola 2.4%	#1 HWW 61.7 0.3% 12.7%	#2 BLY 54.0	#1 DNS 62.8 0.2% 12.6%
<b>Gross Economic Return</b>				
Mkt Price	\$0.29/bu	\$9.04/bu	\$237/ton	\$8.97/bu
Gross Return	\$447.50/ac	\$480.02/ac	\$344.53/ac	\$344.82/ac
<b>Input Costs</b>				
Seed	\$28.47/ac	\$21.65/ac	\$18.56/ac	\$21.99/ac
Fertilizer	\$58.08/ac	\$67.03/ac	\$52.1/ac	\$61.43/ac
Herbicides	\$20.32/ac	\$35.10/ac	\$14.92/ac	\$21.30/ac
Fungicide	-	\$3.09/ac	-	\$3.09/ac
Pod Sealant	\$24.09/ac	-	-	-
Total	\$106.09/ac	\$126.87/ac	\$85.58/ac	\$104.71/ac
<b>Summary</b>				
Return over Costs	\$341.41/ac	\$353.15/ac	\$258.95/ac	\$240.11/ac
4-Year Rotation Return over Costs	\$294.56/ac			

## Why Roundup Ready Spring Canola?

- Clean up a heavy feral rye (*Secale cereale*) infestation in Plot 1. Utilizing NTF-WW with CLEARFIELD<sup>®</sup> technology was not a viable option with current rye seed bank levels because, even if control was achieved, populations would still be present at unacceptable levels.
- Reduce the potential for developing Roundup resistant rye populations. Roundup Ready<sup>®</sup> technology was used as well as Assure<sup>®</sup> II to control both broadleaf and grassy weeds. In 2016 Plot 1 is scheduled for 2-gene IMI WW to help ensure no rye populations remain. During this time the rye population will have Group 1 (Assure<sup>®</sup> II), Group 2 (Beyond<sup>®</sup>), and Group 9 (Roundup) herbicides applied, minimizing the potential for herbicide resistant populations.
- Potential for a profitable canola production given current market price. The market price of canola is strong (\$0.30/lb at the time of planting) and yield potential with newly released varieties is acceptable. Given our rye infestation, the risk was also greatly reduced as the potential income generated from NTF-spring cereals was minimal in comparison to spring canola-spring cereal.



## Conclusions

Good weed control was achieved and spring canola was profitable. It produced an economic return over costs of \$341/ac. In comparison to the other three crops in the 4-year rotation, this was the second highest, falling \$12/ac short of 'BR 7030W' hard white spring wheat and \$82 and \$101/ac greater than 'Lenetah' spring barley and 'SY 605 CL' dark northern spring wheat.