

Table 12. Canola yields (Mg/ha DM) compared across the GRAIN and FORAGE rotations with nested treatments of RH, SH, IM, and BM.

Crop	Year	Grain (G)			Forage (F)			G vs. F
		RH	SH	SE	IM	BM	SE	Constras t p value
		Mg ha ⁻¹			Mg ha ⁻¹			
Canola	2010 ^{II}	1.42	1.01	0.30	1.14	1.12	0.66	0.661
	2011	2.06	1.99	0.25	1.53	1.68	0.23	0.031
	2012 ^y	2.02	1.12	0.34	1.11	1.35	0.34	0.494
ACROSS ROTATION COMPARISON		Tests of Fixed Effects						
Source of Variation		df	p value					
Year			2010	2011	2012			
Rotation		1	0.661	0.031	0.4937			
MainMgt(Rotation)		2	0.334	0.091	0.1051			
SubMgt(Rotation)		2	-	0.465	0.2132			
MainMgt*SubMgt(Rotation)		2	-	0.115	0.9771			
[‡] In 2012, Grain Rotation canola was corrected for yield loss. ^{II} In 2010, no submanagement treatments were in place at the start of this experiment.								

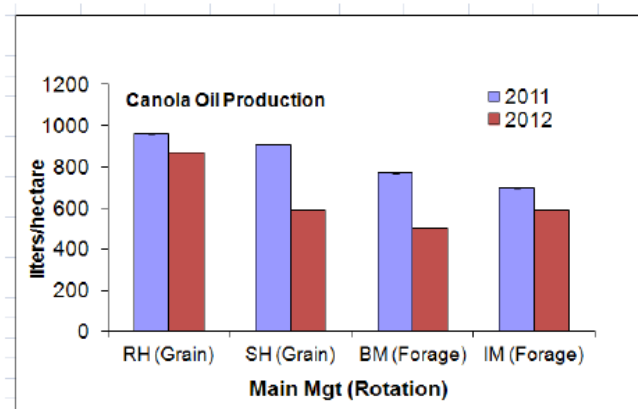


Fig. 10. Canola oil production for main management (mgt) strategies nested with the Grain and Forage Rotations. For 2011, SE bars are shown, with at least 2 samples for each treatment. For 2012, only 1-2 samples were pressed per treatment so no SE bars are shown.

Table 13. Grain crop yields (Mg/ha DM) compared across the GRAIN and CORN-SOY rotations with nested treatments of RH, SH, IM, and BM.

Crop	Year	Grain (G)		SE	Corn-Soy (C-S)		SE	(C-S) G vs. C-S	
		RH	SH		IM	BM		p value	p value
		(6 yr)	(6 yr)		(2 yr)	(2 yr)			
		Mg ha ⁻¹			Mg ha ⁻¹				
Corn Grain	2010	10.94	10.61	0.29	11.43	11.56	0.32	0.740	0.261
	2011	8.95	8.39	0.25	6.95	6.75	0.32	0.037	0.039
	2012	8.31	8.62	0.36	9.37	8.80	0.36	0.504	0.344
Soybean Grain ^{II}	2010	4.33	4.22	0.26	3.92	3.88	0.32	0.924	0.688
	2011	2.78	3.34	0.24	2.89	2.89	0.47	0.954	0.985
	2012	2.40	3.53	0.22	3.11	3.17	0.13	0.359	0.928
ACROSS ROTATION COMPARISON		Tests of Fixed Effects							
Source of Variation	df	Den DF	p value						
Year			2010	2011	2012				
Rotation	1	3	0.585	0.084	0.193				
Crop (Rotation)	2	6	<0.001	<0.001	<0.001				
MainMgt (Rotation)	2	6	0.695	0.926	0.035				
Crop*MM (Rotation)	2	6	0.844	0.151	0.120				

^{II} No manure was applied to soybeans and in 2010, no prior manure management with corn happened.