

VIII VARIETY AND SYSTEMS COMPARISON TRIAL

Objective: Establish agronomic criteria for choosing among varieties and herbicide options.

Background: The availability of canola with innovative traits (herbicide tolerance, specialty oils) has given producers many options for variety selection. Yield, crop quality, lodging resistance, harvestability and disease resistance are important variety traits to consider in the selection process. The greatest economic return will occur by choosing the most appropriate combination of suitable varieties and appropriate herbicides for each field. Factors to consider beyond the performance of the variety include specialty oil premiums, weed spectrum, tillage system and herbicide rotation.

Methodology: All varieties were seeded at 5 lb/ac with the exception of the InVigor varieties, which were seeded at 4 lb/ac. The trial was laid out as an RCB design with four replicates. All varieties were treated with Helix Xtra seed treatment and had the same tillage, fertilizer and post-emergent fungicide treatments. The check varieties for this trial were Hyola 401 and Q2, treated with conventional herbicides. All the herbicide tolerant varieties were sprayed with their respective herbicides (see *Site Information – Herbicides applied*). Swathing commenced when seed colour change was 30 to 40 % on the main stem, and harvest was completed when suitable conditions existed.

Observations: The trial was seeded on May 20 into fair to good soil moisture. Light rain showers the week after seeding allowed for reasonably uniform emergence. Weed pressure was high with primary weeds including green and yellow foxtail, Canada thistle, wild mustard, redroot pigweed, common lambsquarters, smartweed, and wild buckwheat. Heaviest weed pressure came from foxtail numbering over 200 per square foot and large patches of Canada thistle. The crop was growing nicely until approximately the 1-leaf stage when the weather turned wet. The crop suffered from excess moisture and did not grow very well for the first half of June. Herbicide application was delayed due to the stress on the crop and lack of calm conditions. All herbicides were finally applied on June 25 and 26 at the 6-leaf to bolting stage in very muddy conditions. To avoid tearing up the plots, the sprayer was driven on the border area of each plot. The Liberty Link varieties were sprayed prior to sunset. The Roundup Ready and Clearfield varieties were sprayed after dark and the Conventional varieties were sprayed the following morning.

Results:

VARIETY AND SYSTEMS COMPARISON TRIAL Thief River Falls, MN							
Treatment / System	Yield (%)	Yield (lb/ac)	Yield (bu/ac)	Contribution Margin (\$/ac)	Oil (%)	Growing Degree Days	Days To Maturity
Liberty Link							
InVigor 2663	120	1684	33.7	50.33	43.2	1286	90
InVigor 2733	103	1450	29.0	24.64	42.8	1200	82
Clearfield							
46A76	99	1387	27.7	11.61	43.2	1286	90
Canterra 1670	93	1303	26.1	(4.92)	43.4	1309	92
Roundup Ready							
Hyola 357 Magnum	132	1846	36.9	66.85	42.7	1214	83
45H21	116	1631	32.6	44.59	42.8	1214	83
SW Peak	114	1598	32.0	46.71	43.6	1237	85
DKL 3455	113	1592	31.8	47.70	44.0	1214	83
DKL 223	111	1565	31.3	36.46	42.5	1200	82
Canterra 1812	108	1514	30.3	30.67	43.8	1279	89
Gladiator	105	1476	29.5	31.94	42.7	1226	84
RR Hyb 2013	103	1442	28.8	23.07	42.7	1237	85
DS Roughrider	101	1420	28.4	29.05	45.9	1286	90
LiBred 499RR	101	1414	28.3	21.05	43.5	1226	84
DKL 3585	97	1361	27.2	22.81	43.3	1271	88
Dakota	80	1126	22.5	(1.25)	42.4	1171	80
Conventional							
Q2	106	1495	29.9	20.22	42.8	1251	86
46H02	106	1486	29.7	11.99	43.4	1251	86
Hyola 401	100	1404	28.1	3.11	41.5	1237	85
LSD		201.5	4.03		0.88		1.8
CV%		11.5	11.5		1.7		1.7

Note: Brackets indicate a negative contribution margin.

Note: The contribution margins had an error in the Summary Report that was printed for distribution; the corrected values are in this table.

Discussion:

Hyola 357 Magnum, InVigor 2663 and 45H21 yielded significantly higher than the check (Hyola 401). The late herbicide application on the conventional and Clearfield varieties was outside the recommended window of application as a result of poor weather conditions. Hyola 357 Magnum had the highest contribution margin. Contribution margins reflected differences in seed costs, yield and herbicide costs. The 12-day range in maturity may be attributed to the cool conditions prior to

and during swathing. DS Roughrider had the highest oil content and Hyola 401 had the lowest.