Canola Briefs

Northern CANOLA GROWERS Association

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NCGA Officials Attend USCA Annual Meeting

NCGA Board members Kevin Black and Steve Kakela attended the annual U.S. Canola Association meeting and Research Conference in Washington, DC in February. USCA board members Tom Borgen of Langdon and Bill Mickelson of Rolla joined them as well as ND Oilseed Council representative Alan Klain of Turtle Lake and Barry Coleman, Executive Director, and Paul Thomas, Marketing Specialist.

Members met with canola representatives from other parts of the U.S. to discuss Farm Bill issues, research proposals, and other matters important to the U.S. canola industry. Members also met with Senators Dorgan and Conrad and Representative Pomeroy to discuss canola research priorities and concerns.

At the annual business meeting of the USCA, Steve Kakela was elected as an at-large representative of the USCA and was also chosen as a second vice-president of the board. Kakela will represent the north central region of the U.S. on the board. Congratulations Steve!

Sclerotinia Risk Map for Canola

—Art Lamey, Professor Emeritus, North Dakota State University

The Sclerotinia Risk Map for canola will be available again in June and July of 2003. The risk maps will be posted twice a week on the Northern Canola Growers Association web site and also on the NDSU web site at http://www.ag.ndsu.nodak.edu/aginfo/sclerotinia/sclerotinia.htm.

Each release has three maps: one map shows crop development based on accumulated degree-days and the 50% planting date near each station. A second map shows soil moisture in the upper four inches of soil. The third map shows risk as high (red), medium (yellow) or low (green). The risk map uses weather data from 63 North Dakota Agricultural Weather Network (NDAWN) weather stations and two University of Minnesota weather stations. Upper atmosphere data is supplied by Environment Canada. Dr. Gary Platford, P & D Agro Consulting, Winnipeg, MB, provides an interpretation of the risk map; and Ms. Jennifer Lamb, Keystone Mapping and Research, Newdale, MB, develops the maps.

New NDAWN stations have been added at Mott in Hettinger County; Mavie, east of Thief River Falls, MN; and Greenbush in western Roseau County, MN. Ross, in Mountrail County, was added in time for last year's risk map. These stations were purchased using National Canola Research Project (NCRP) funds.

National Canola Research Program Funding for 2003

The North Central Region of the U.S. Canola Association, which includes North Dakota, Minnesota, South Dakota and Wisconsin, has chosen its canola projects to fund for 2003. A Joint Research Committee met in Fargo, North Dakota in January to allocate funds towards important research projects in canola. This region received $142,993 in fiscal year 2003 for canola research. The following projects were approved for funding by the Joint Research Committee:

- Canada Thistle Control in Canola
- Field Scale Studies of Split N Applications in Canola
- Impact of Late Herbicide Applications on Canola Yield and Quality
- Fall-Seed Winter-Type Canola Evaluations in Minnesota
- Dietary Use of Canola Seeds for Production of CLA in Milk
- Canola Disease and Flea Beetle Survey for ND and MN
- Sow Productivity Using Canola as a Replacement Protein
- Pest Management of the Crucifer Flea Beetle in Canola
- Gene Introgression to Improve Hybrid Canola
- Evaluation of Anti-Oxidant Activity and Food Functionality of Canola Products
- Screening Fungicides for Sclerotinia Management
- Crop Production Center Trials in NW Minnesota

Five Year Review of Canola Insecticide Seed Treatments for Management of the Crucifer Flea Beetle

—Janet Knodel and Cliff Watrin

Canola insecticide seed treatments (CST) including Helix® and Gaucho® were evaluated at three research extension centers of North Dakota State University in Minot, Langdon, and Carrington for the past five years (1998-2002). Overall, flea beetle pressures were high in Minot and Langdon, and moderate in Carrington. When flea beetle pressures were high, the Helix® had significantly lower damage ratings, lower percent leaf area damaged, higher plant stand counts and higher canola yields than the Gaucho®. When flea beetle pressures were lower, both Helix® and Gaucho® were similar in performance and sufficient for control. In 2002, canola was subjected to adverse weather conditions during flowering, e.g. heat stress that negatively impacted yield in Minot and Carrington.

Flea beetles can invade and reduce newly emerged plant stands within a few days (Knodel and Olson 2002). Currently, the most effective management measure is the use of insecticides for managing the overwintering generation of flea beetles that emerges early in the spring. The seedling stage is the most critical period, and insecticides often need to be applied as a seed treatment or as a foliar application to protect the crop from flea beetle damage. Flea beetle populations have been at damaging levels since 1997 in central North Dakota, and appear to be increasing based on trapping records (Knodel, unpublished). Although post-emergence foliar insecticides can be effective, they require timely applications within a relatively small window of opportunity. Seed treatments are obviously more convenient. Our objective is to determine the most effective insecticide seed treatments for control of the crucifer flea beetle in canola.

RESULTS AND DISCUSSION

Flea Beetle Population Dynamics: The three locations ranked from heavy to light flea beetle pressures include: Minot, Langdon, and Carrington. Overall, Minot had the highest continuous flea beetle pressures over the past five years. Historically, Langdon has had high flea beetle pressures in the early 1990s, but pressures in 1998-99 were low until 2000 when flea beetle populations increased to high numbers. The Carrington area has grown less canola acreage over the past 10 years; in comparison, Langdon and Minot have grown large acreage of canola for more than 15-20 years. Flea beetle pressures are generally lighter in areas with less acreage and in areas that have not been growing canola for a long time (>10 years).

Flea Beetle Damage Assessment (Table 1): Overall, canola seed treatments with an insecticide resulted in less damage than the untreated check. Helix Xtra® had significantly lower damage ratings compared to the other insecticide seed treatments and untreated check regardless of whether the flea beetle pressures were low or high. However, when flea beetle pressures were low, like 1999 in Langdon, it was difficult to detect significant differences in damage ratings between the different seed treatments (e.g. Helix Xtra® vs. Gaucho®). In general, the higher rate of imidacloprid, Gaucho Platinum®, provided better control than the low rate of imidacloprid, Gaucho®.

Yield Data (Table 1): Carrington yield data was negatively impacted by sclerotinia disease in 2000 and heat stress during flowering in 2002. Minot yield data was also negatively impacted by heat stress during flowering in 2002. Helix Xtra® had significantly higher yields compared to imidacloprid treatments and untreated check at Minot and Langdon. However, these differences were not significantly different at Carrington where the flea beetle pressures were lower. The higher rate of imidacloprid, Gaucho Platinum, had higher yield than the low rate of imidacloprid, Gaucho®, and was only slightly lower than Helix Xtra® (not significantly different, P=0.05).

Summary: In conclusion, the damage rating of the CSTs averaged across the three locations and years include the following ranked from lowest to highest: Helix Xtra® with 2.5, Helix Lite® with 3.2; Gaucho® with 3.9, and untreated check with 4.7. Only data using the damage rating scale of 1-6 were analyzed. Yields of the CSTs averaged across the three locations and years include the following ranked from highest to lowest: Helix Xtra® with 2116 lbs/A, Helix Lite® with 2020 lbs/acre, Gaucho® with 1575 lbs/acre, and untreated check with 1255 lbs/acre. Gaucho Platinum® was not included because of only one year of data for damage ratings and yield. Overall, Helix Xtra® averaged about 861 lbs/acre more than the untreated check and about 541 lbs/acre more than Gaucho® treated seed.

Canola in Rotations

—Duane R. Berglund, NDSU Extension Agronomist
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Canola best follows cereal grains or fallow in rotation. A preferred crop rotation would have canola planted at least two cropping years between plantings. However, if planting canola after one cropping year, it is strongly recommended to grow a variety that is moderately resistant or resistant to blackleg. Canola is susceptible to sclerotinia stem rot. Infection risk increases if canola is planted close in rotation with other susceptible crops like sunflower, dry edible beans, mustard or crambe. At least two years should separate canola and sugar beet plantings. If planting canola within three years of susceptible crops, a

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Table 1. Flea Beetle Damage Ratings and Yield Data from Three Locations in ND.

Treatments	Damage Ratings – 21-25 DAP					Yield (lbs/Acre)				
Minot										
	1998	**1999**	**2000**	**2001**	**2002**	**1998**	**1999**	**2000**	**2001**	**2002**
	Avg. pits/pl.2		**Avg.**							
pits/pl.2	**1-43**	**1-64**	**1-64**							
Helix Lite®	—	—	—	1.3	4.0	—	—	—	2454	688
Helix Xtra®	18.9	24.3	3.8	1.5	3.0	2376	1501	1855	2368	958
Gaucho®	43.7	42.2	2.7	2.3	5.4	1800	1127	1081	2114	412
Gaucho Pl®	—	—	—	2.0	—	—	—	—	2430	—
Untreated	41.7	38.3	2.7	3.5	6.0	1315	1127	1048	2210	141
LSD 5%	***11.7***	***17.7***	***0.7***	***0.9***	***0.4***	***250***	***249***	***402***	***309***	***355***
C.V. %	***24.7***	***28.0***	***15.3***	***33.0***	***5.7***	***10.0***	***13.6***	***19.8***	***11.3***	***56.1***
Langdon										
	1998	**1999**	**2000**	**2001**	**2002**	**1998**	**1999**	**2000**	**2001**	**2002**
		1-105	**1-64**	**1-64**	**1-64**					
Helix Lite®		—	—	2.8	4.4	2915	—	—	2600	2567
Helix Xtra®		1.0	3.6	2.2	3.7	3015	2812	3044	3128	2976
Gaucho®		1.4	4.9	4.0	5.7	2499	2647	1727	1898	974
Gaucho Pl®		—	—	3.5	—	—	—	—	2320	—
Untreated		—	5.0	5.6	6.0	2649	—	1137	1137	60
LSD 5%		***NS***	***0.3***	***0.5***	***0.5***	***322***	***NS***	***375***	***243***	***195***
C.V. %		***20.8***	***5.7***	***9.9***	***6.5***	***8.0***	***6.4***	***18.5***	***10.8***	***10.7***
Carrington										
	1998	**1999**	**2000**	**2001**	**2002**	**1998**	**1999**	**2000**	**2001**	**2002**
			1-64	**1-64**	**1-64**					
Helix Lite®			—	1.2	5.4			—	2688	899
Helix Xtra®			2.2	1.0	4.8			885	2688	1048
Gaucho®			4.0	1.3	6.0			934	2463	1007
Gaucho Pl®			—	1.2	—			—	2643	—
Untreated			4.0	1.7	6.0			966	2546	538
LSD 5%			***0.7***	***0.5***	***NS***			***NS***	***NS***	***215***
C.V. %			***11.4***	***32.1***	***21.3***			***23.9***	***8.5***	***17.5***

Shaded areas or dashes represent no data available. Gaucho Pl® = Gaucho Platinum®

1 DAP = Days after planting

2 The number of pits per plant was counted about two-three weeks after planting, seedling stage.

3 Damage rating scale of 1-4. 1= severe damage (untreated check) and 4 = no damage.

4 Damage rating scale of 1-6. 1 = 0-3 pits per seedling, 2 = 4-9 pits per seedling, 3 = 10-15 pits per seedling, 4= 16-25 pits per seedling, 5 = >25 pits per seedling, and 6 = dead.

5 Damage rating scale of 1-10. 1 = no damage, 10 = severe damage. There was very little damage at the cotyledon stage. There was some flea beetle pressure later that attacked the older leaves. This rating was taken at the 4-5 leaf stage.

Canola in Rotations, continued from page 2...

fungicide application may be needed. Less susceptible crops that could be planted successfully in a close rotation with canola are rowed soybeans, flax, semi-leafless field pea or lentil.

Canola seeds can shatter, so volunteer plants are a probability the next season. Cereals should follow canola to allow the use of certain broadleaf phenoxy herbicides for control. Production of canola and tame mustard on the same farm should be avoided. Admixtures of the two crops can reduce the market value of both. In addition, conventional canola should not be planted on fields with heavy infestations of wild mustard. Roundup Ready, Liberty Resistant and Clearfield canola all could be planted on heavy infested wild mustard fields.

The persistence of herbicide residue remaining from application to prior growing crops and weeds can injure new canola seedings. These include but are not limited to sulfonylurea, imidazolinone and triazine classes of herbicides. Always refer to the herbicide label information pertaining to crop rotation restrictions following their use. North Dakota Weed Control Guide, Circular W-253, includes information on rotation restrictions for certain crops, including canola following herbicide applications.

USDA Issues Projected Plantings Report

On Friday, March 31, the U.S. Department of Agriculture released its annual Projected Plantings Report for the U.S. The survey revealed that U.S. farmers plan to decrease their canola acres by 14 percent to 1.249 million acres. Acreage in the largest canola producing state, North Dakota, is expected to be 1.1 million acres, down from 1.3 million acres last year. Production in Minnesota is expected to decrease 12 percent from last year's 80,000 acres. Canola production in other states is expected to remain unchanged. Listed below are the expected numbers for the 2003 crop year:

Canola: Area Planted by State and United States, 2001-2003

State	Area Planted 2001	2002	2003 1/	2003/2002
	1,000 Acres			Percent
MN	80	80	70	88
ND	1,300	1,300	1,100	85
Oth Sts	114	79	79	100
US	1,494	1,459	1,249	86

1/ Intended plantings in 2003 as indicated by reports from farmers.

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