

# CANOLA FLEA BEETLE MANAGEMENT

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**The Crucifer flea beetle is** the most important insect pest of canola in North Dakota. The beetles attack young seedlings shortly after emergence and may severely reduce stands and yield. In a program led by Jan Knodel at the NDSU North Central Research Extension Center and also conducted at the Carrington and Langdon Research Extension Centers, commercial seed treatments and a labeled foliar spray are being compared for effectiveness. Normally, seed treatment adequately controls flea beetles and the major concern is how strong a treatment formulation is needed (more concentrated product = higher cost). However, the spring of 2003 was somewhat atypical. The soil warmed up very slowly and canola which was planted early (early May) did not emerge for approximately three weeks

in some fields. Since the protection afforded by seed treatments may last approximately three weeks, considerable flea beetle damage was observed in some fields planted with treated seed. As a result, seed treatments in combination with a foliar spray at the cotyledon stage produced the best yields. The brand of seed treatment chemical had a minimal effect on yield at Carrington, but the higher rate tended to increase yield over the lower rate. Yields with foliar spray and no seed treatment were also relatively good this season. However, timely application is critical. Weather conditions and other field operations at this time of the year may affect the timeliness of spraying and increase the risk of relying solely upon foliar treatment.

During the past two seasons at Carrington, flea beetles have attacked canola research plots shortly before physiological maturity, causing severe damage in some instances. Due to pre-harvest interval restrictions, foliar insecticides labeled for seedling treatment cannot be used at the end of the season. Under the leadership of Dr. Denise Olson, NDSU Entomology Dept., Fargo, a project was initiated at Carrington, Minot, and Langdon to study the effectiveness of biorational treatments, including biological control agents, vegetable oils, and kaolinite clay. As promising materials are identified, work on application methodology will be intensified.



**Late-season flea beetle damage.**