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Canada Sprayer Guide
12 - 3109 Palliser Drive S.W.
Calgary, Alberta T2V 4W5
Phone 403 543-7420, Fax 403 543-7419
Email: info@CanadaSprayerGuide.com
Web: www.canadasprayerguide.com

Low-drift nozzles and low water volume may reduce herbicide performance.
Calgary, Alta, April 18, 2006

Herbicides may underperform when mixed with low water volumes and very coarse applications, say researchers with Agriculture and Agri-Food Canada (AAFC) in Saskatoon, Saskatchewan.

The results of a three-year study conducted by Dr. Tom Wolf found that a selection of wild oat herbicides generally lost effectiveness on tame oats as water volumes were decreased and spray quality was more coarse. "Low water volumes save time and low-drift nozzles reduce drift," says Wolf. "The question is whether they can be combined to get the best of both worlds and, if so, what is the point beyond which an applicator should not venture. Applicators need to know if and when they can expect a loss of performance with coarser sprays and lower carrier volumes."

Over the course of the study, sprays were applied in three qualities (medium, coarse and very coarse) and each of these spray qualities was applied using water volumes of 45, 85 and 125 l/ha. The four herbicides tested in the study included Horizon, Assure II, Puma and Everest. The results showed that the individual herbicides differed in response to these variables, says Wolf. "Of the Group 1 products, Horizon was the most tolerant while Assure was the most sensitive. Puma was immediate in its response."

Meanwhile, Everest, a Group 2 product with soil activity, did not show any sensitivity to water volume or spray quality, likely due to post-spray rainfall. For Group 1 products, Wolf recommends that low-drift sprays should be applied at no less than 85 l/ha and that very coarse sprays be avoided. Group 2 products with soil activity do not need this restriction if rain is expected. Other recommendations include not applying grassy herbicides below 50 l/ha and using medium or finer sprays at low water volumes.

The full research report can be found on the Canada Sprayer Guide Web site at www.CanadaSprayerGuide.com. Canada Sprayer Guide is a Web based resource designed to help producers, and those who serve producers, keep up to date on the latest developments in crop production technology.

Other new articles on the Canada Sprayer Guide Web site include "Why consider terrain compensation" and "Funding for new sprayer technology available from the feds." Canada Sprayer Guide is developed by Meristem Information Resources Ltd in cooperation with industry partners.