

Section II

Foliage & Seed-Feeding & Mining Insects

FFA-IMC-UI CANOLA SCOUTING PROGRAM 1993: METHODS, PROBLEMS, RECOMMENDATIONS

L.R. Elbersen, J.P. McCaffrey, and B.A. Busch
Department of Plant, Soil, and Entomological Sciences
University of Idaho, Moscow, Idaho 83843
(208)885-9489

A cooperative program for monitoring insect pests in spring-planted canola fields during 1993 was conducted by Future Farmers of America students and advisors, InterMountain Canola agronomists, and University of Idaho entomologists. Our objective was to monitor the populations of pests of canola and assess yield loss associated with their damage. Sampling methods included flight impact traps which sampled cabbage seedpod weevils, lygus bugs, and diamondback moth adults; and diamondback moth pheromone traps. We also assessed insect populations before and after insecticide applications in treated and untreated areas of commercial fields by sweep net sampling which monitored cabbage seedpod weevils, lygus bugs, flea beetles, and diamondback moth larvae, pupae, and adults. Yields were determined in treated and untreated areas of fields in order to assess the economic benefit or loss of treatment, and to statistically relate loss to insect populations.

Four spring canola fields for each area of Reardan and Spangle, Washington and Troy and Genesee, Idaho were selected for the monitoring program. Weekly monitoring of flight impact traps and diamondback moth pheromone traps by FFA students began during the second week of June and sweep net sampling began in two of the four fields per region when plants began to bolt, about the first week of July. Weekly report forms for traps and sweep sample results were completed by FFA students and UI entomologists and sent to IMC agronomists.

The monitoring program was generally successful. However several problem areas were noted. The number of personnel involved in the program made efficient communication difficult. Accuracy in identification of insects and inconsistencies in sample processing between areas were also common. Access into the fields for sweep sampling was inhibited as the crop matured and coordinating the transfer of samples from the FFA students was sometimes difficult.

There is a need to assess the sampling methods used this season to determine their accuracy and efficiency in estimating field populations. Improvement and further development of these monitoring procedures is essential to this program. We did not have a method for quantifying aphid populations this season, therefore development of sampling methods for these pests is necessary.

Areas which require attention in order to improve the program are communication, insect identification, sample collection, and field access. Further research needs include sampling method development, yield loss assessment methodology, and economic threshold development and evaluation.