

Small Grain, Oilseed Crop, and Corn Field Surveys in South-Central North Dakota

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During the 2009 growing season, field surveys were conducted in North Dakota by the NDSU Extension Service to identify pest presence and agronomic production factors in small grain and oilseed crops. State survey coordinators were Drs. Marcia McMullen and Sam Markell, extension plant pathologists, and Dr. Jan Knodel, extension entomologist. Taylor Mattson, summer crop scout at the Carrington Research Extension Center, conducted the survey in 416 fields in 11 south-central counties (Burleigh, Eddy, Emmons, Foster, Kidder, LaMoure, Logan, McIntosh, Sheridan, Stutsman, and Wells). Use of the survey data includes grower and ag industry education, and support for labeling of crop protection products.

Maps displaying summaries of survey results by crop and pest are available at the following website: <http://www.ag.ndsu.nodak.edu/aginfo/ndipm/>.

The small grain survey was conducted in 275 south-central ND **wheat** (211) and **barley** (64) fields during early June through mid-August, primarily for leaf and head diseases. Diseases included in the survey were bacterial leaf blight, barley yellow dwarf, black chaff, Cephalosporium stripe, dwarf bunt, ergot, rust (leaf, stem, and stripe), scab (Fusarium head blight), Septoria, smut (flag and loose), spot blotch, tan spot, and wheat streak mosaic. Insects were also surveyed including aphids, wheat stem maggots, grasshoppers, and barley thrips. While most diseases were present, severity generally was low including Fusarium head blight (scab) and the leaf spots.

Pheromone traps were placed in Foster County during mid-June through July to detect the presence of Bertha armyworms and diamondback moth in **canola**. Both insects were found in traps at low levels. The field survey was started on August 17 and completed on September 2 involving eight fields in Burleigh, Eddy, Foster, Sheridan, and Wells counties. The fields were inspected for the presence of Sclerotinia stem rot (white mold) and blackleg. Blackleg was found in 38 percent of fields and white mold in 25 percent of fields, but field incidence was low ranging from 2 to 6 percent for blackleg and 2 to 10 percent for white mold. In addition, the fields were surveyed for flea beetles.

The **soybean** survey was conducted in 82 fields for soybean aphid. Twenty-two percent of fields contained aphids but plant counts did not average greater than 100 aphids in any field.

Sunflower moth and banded sunflower moth pheromone traps were located in Foster County during June through mid-August to monitor the emergence and presence of the insects. The sunflower field survey was conducted in 57 south-central North Dakota fields during early July through mid-August to inspect plants for downy mildew, rust, and sunflower beetle. Thirty-five percent of fields had downy mildew and 14 percent had rust, but rust severity generally was very low.

Also, a fall **sunflower** field survey was conducted in September by the National Sunflower Association in cooperation with the NDSU Extension Service. Various data were recorded including plant population, row spacing, tillage system, estimated yield, and presence/symptoms of weeds, insects, disease and birds. Survey coordinator was Dr. Duane Berglund, emeritus extension agronomist. Greg Endres; Tim Becker, Eddy County extension agent; Jeremiah Lien, Wells County extension agent; and Crystal Shaunaman, Sheridan County agent, participated in

the North Dakota program by surveying seven fields in Foster, Eddy, Sheridan, and Wells counties on October 8. In these counties, average yield was estimated at 1880 lbs./acre (range of 1360 to 3060). The majority of surveyed fields were minimum-till or no-till (57 percent) and planted in 30-inch rows (86 percent). No consistent yield-limiting factor was found among fields. The most common diseases present included phoma, phomopsis, rust, and sclerotinia.

Sclerotinia middle stalk rot was found in four fields with incidence ranging from 4 to 22 percent, and head rot was found in four fields with incidence ranging from 2 to 44 percent. Leaf rust was found in four fields with upper-leaf severity ranging from 0.1 to 3 percent.

A late-season **corn** field survey was conducted on November 10, as part of a statewide effort by the NDSU Extension Service to collect ears for mold diagnosis. Thirteen fields were visited in Eddy, Foster, Stutsman, and Wells counties by Greg Endres; Tim Becker, Eddy County extension agent; and Wendy Becker, Foster County extension agent. Samples were submitted to the NDSU plant and veterinary diagnostic labs. Two of the thirteen samples (15 percent) had detectable levels of mycotoxins, ranging from 0.3 to 1.4 ppm, but these levels are considered low.

Details from the field surveys may be obtained by contacting the Carrington Center.