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

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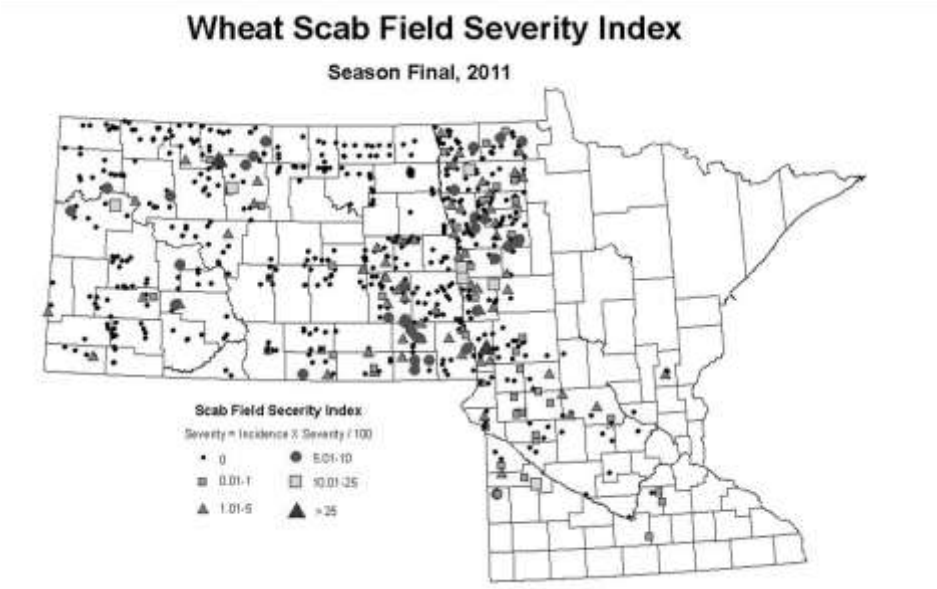
During the 2011 growing season, field surveys were conducted in North Dakota by the NDSU Extension Service to identify pest presence and agronomic production factors in small grain and oilseed crops. State survey coordinators were Marcia McMullen and Sam Markell, extension plant pathologists; Jan Knodel, extension entomologist; Carrie Larson, North Dakota Department of Agriculture plant protection specialist; and Tom Gulya, USDA-ARS sunflower pathologist. Regional coordinator was Greg Endres, extension area agronomist. Kyle Aasand, summer crop scout at the Carrington Research Extension Center, conducted the survey in 236 fields in 12 south-central counties (Burleigh, Dickey, 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: www.ag.ndsu.nodak.edu/aginfo/ndipm. An example listed below is the season's wheat scab (Fusarium head blight) field severity.



The small grain survey was conducted in 118 south-central ND **spring and winter wheat** (104) and **barley** (14) fields during early June through early August, primarily for leaf and head diseases. Diseases included in the survey were bacterial leaf blight, barley yellow dwarf, black chaff, ergot, rust (leaf, stem, and stripe), scab (Fusarium head blight), Septoria, smut (flag and loose), spot blotch, tan spot, and wheat streak mosaic virus. In wheat, fungal disease commonly found were tan spot (throughout the season), and Septoria leaf disease and scab (appeared in early July). Net blotch was found in 79 percent of surveyed barley fields and barley thrips were found in 29 percent of the fields. Other common insects surveyed in small grain were aphids, wheat stem maggots and grasshoppers. Aphids were commonly found starting on June 20. Also, insect traps were placed in 4 wheat fields and soil samples for nematodes were collected from 12 wheat fields (one per county) for the North Dakota Department of Agriculture.

The **soybean** survey was conducted in 89 fields for soybean aphid, bean leaf beetle and grasshoppers. Soybean aphid incidence was low until late July. During July 28 to August 15, 56

of 60 fields (93%) contained aphids. However, none of the fields had aphid densities that reached the economic threshold.

The **sunflower** field survey was conducted in 29 fields during early July through mid-August to inspect plants for downy mildew, rust and verticillium wilt; and grasshoppers. Downy mildew was found in 93 percent of fields. Banded sunflower moth, *Cochylis arthuri* and sunflower moth pheromone traps were located at the CREC during July through mid-August to monitor the emergence and presence of the insects. Also, soil was collected from 19 area sunflower fields for disease analysis.

A fall **sunflower** field survey was also 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 of or damage by weeds, insects, disease and birds. Survey coordinator was Hans Kandel, extension agronomist. Greg Endres; Joel Lemer, Foster County extension agent; Evan Twedt, Griggs County extension agent; Tim Becker, Eddy County extension agent; Emily Kline, Sheridan County extension agent, and Penny Nester, Kidder County extension agent; surveyed nine fields in Foster, Griggs, Kidder, Sheridan, and Wells counties during September 21, 23 and 27. Across these fields, average seed yield was estimated at 1100 lbs/acre (range of 240 to 1980 lbs/acre). The majority of surveyed fields were reduced till or no-till (67%) and planted in 30-inch rows (89%). Birds were the most consistent yield-limiting factor (44% of fields) followed by plant lodging (33% of fields). Average yield loss across fields from seed drop and bird feeding was 23 percent. The most common diseases present included phoma, phomopsis, and sclerotinia. Phoma was found in all fields and the majority of plants were infected. Phomopsis was found in seven fields (78%) with average number of infected plants across fields at 12 percent. Sclerotinia was found in five fields (56%) and those fields had 8 percent or less of plants showing symptoms.

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