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

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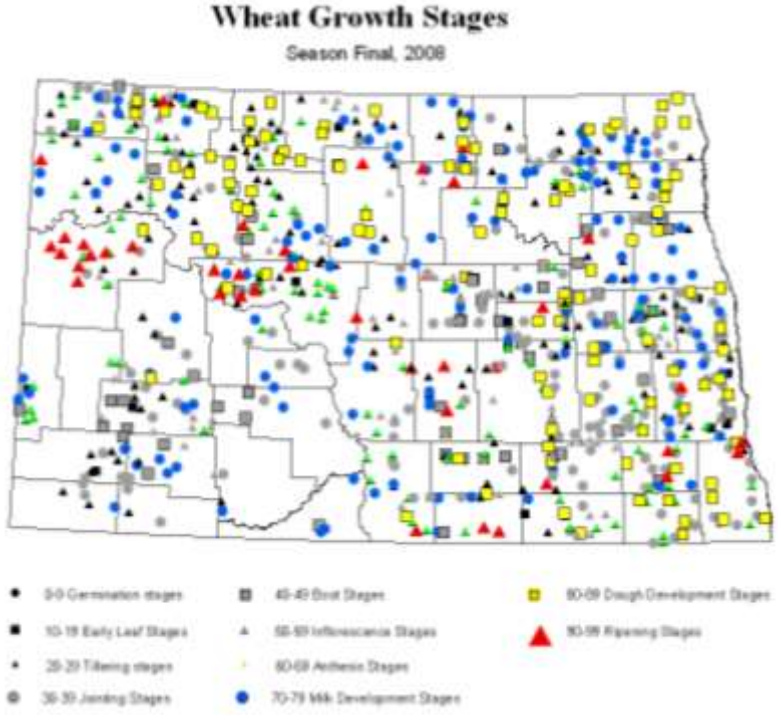
During the 2008 growing season, field surveys were conducted in North Dakota by the NDSU Extension Service to identify pest presence and agronomic production factors in small grain and oilseed crops. Survey coordinators were Drs. Marcia McMullen and Sam Markell, extension plant pathologists, Dr. Jan Knodel, extension entomologist, and Greg Endres, area extension specialist/cropping systems. Taylor Mattson, summer IPM crop scout at the Carrington Research Extension Center, conducted the survey in 478 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.

The small grain survey was conducted in 308 south-central ND **wheat** (225) and **barley** (83) fields from late May through July, primarily for leaf and head diseases. Following is a North Dakota map showing the locations and growth stages of wheat fields surveyed. Diseases included in the survey were bacterial leaf blight, barley yellow dwarf, black chaff, Cephalasporum 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, cereal leaf beetle, grasshoppers, and barley thrips. While most diseases were present, generally severity was low including Fusarium head blight (scab) and the leaf spots.



Pheromone traps were placed in Foster County during late 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 conducted during August in eight fields in Burleigh, Eddy, Foster, Sheridan, Stutsman, and Wells counties. The fields were inspected for the presence of Sclerotinia stem rot (white mold), blackleg, aster yellows, and Alternaria. Blackleg was found in 63% of fields and white mold in 25% of fields, but field incidence was low ranging from 2 to 14% for blackleg and 6 to 8% for white mold. In addition, the fields were surveyed for flea beetles.

The **soybean** survey was conducted in 103 fields for the Asian soybean aphid and soybean rust. As expected, soybean aphid was found throughout the region but no field scouted had an average of greater than 250 aphids per plant. This is quite contrary to the number of soybean fields that were likely treated with insecticide for the aphid.

Sunflower moth and banded sunflower moth pheromone traps were located in Foster County during July to monitor the emergence and presence of the insect. The sunflower field survey was conducted in 67 south-central North Dakota fields during late June through early August to inspect plants for downy mildew, rust, and sunflower beetle.

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 six fields in Foster, Eddy, Sheridan, and Wells counties on September 15. In these counties, plant population ranged from 14,500 to 22,750 and average yield was estimated at 2110 lbs./acre (range of 1850 to 2550). The majority of surveyed fields were reduced- or no-till (67%) and half were planted in 30-inch rows. No consistent yield-limiting factor was found among fields. The most common diseases present included phoma, phomopsis, rust, and sclerotinia. Sclerotinia wilt was found in 33% of fields with incidence at 2%; middle stalk rot was found in 33% of fields with incidence ranging from 2 to 4%; and head rot was found in one field with incidence at 4%. Seed loss from blackbird feeding was noted in 67% of surveyed fields, with estimated loss per field ranging from 1 to 18% during the survey period.

Maps displaying summaries of survey results by crop and pest are available at the following website: http://www.ag.ndsu.nodak.edu/aginfo/ndipm/. Survey details may be obtained by contacting the Carrington Center.