2016 IPM Field Survey Summary for South-Central North Dakota

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During the 2016 crop season, an **integrated pest management (IPM) small grain, soybean and sunflower** field survey was conducted by the NDSU Extension Service, in cooperation with the North Dakota Department of Agriculture, to identify crop pest presence and agronomic factors. Use of the survey data includes farmer, crop adviser and ag industry education; support for exporting North Dakota crops; and reference for educational and research projects.

State IPM survey coordinators are Jan Knodel, extension entomologist; Patrick Beauzay, State IPM coordinator and entomology research specialist; and Sam Markell and Andrew Friskop, extension plant pathologists. Claire Endres, crop scout based at the Carrington Research Extension Center (CREC), surveyed 311 fields in 11 south-central counties: Burleigh, Dickey, Eddy, Emmons, Foster, Kidder, LaMoure, Logan, McIntosh, Stutsman, and Wells.

The small grain survey was conducted in 150 **spring and winter wheat,** and 15 **barley** fields during late May to early August, primarily for leaf and head diseases, and insects. Primary diseases in the survey were bacterial leaf blight, barley yellow dwarf virus, rust (leaf, stem and stripe), Fusarium head blight (scab), Septoria, loose smut, net and spot blotch (barley), tan spot (wheat), and wheat streak mosaic virus (wheat). In wheat, tan spot and Septoria were commonly found with severity generally ranging from 2-5% during late May through early July, then increasing to highs of 10-30% severity with tan spot and 10-60% with Septoria during the balance of the season. Spot or net blotch was found in four of 15 (27%) barley fields.

Insects surveyed in small grain were grasshoppers, aphids, cereal leaf beetle, wheat stem maggot and sawfly, and barley thrips. Grasshoppers were commonly found along small grain field edges but at low densities (1 to 6/yd^2). Aphids appeared in mid-June at densities with no expected economic impact during the season. Wheat plants showing damage from wheat stem maggot ranged from 2-30% plant incidence.

Insect traps were placed in two wheat fields (CREC and Wishek area) to sample for two exotic insects (ND Dept. of Ag), and in a CREC **corn** field to sample for four exotic insects (NDSU Dept. of Entomology). Also, soil samples for nematodes were collected from 11 wheat fields (one per county) for the ND Dept. of Ag.

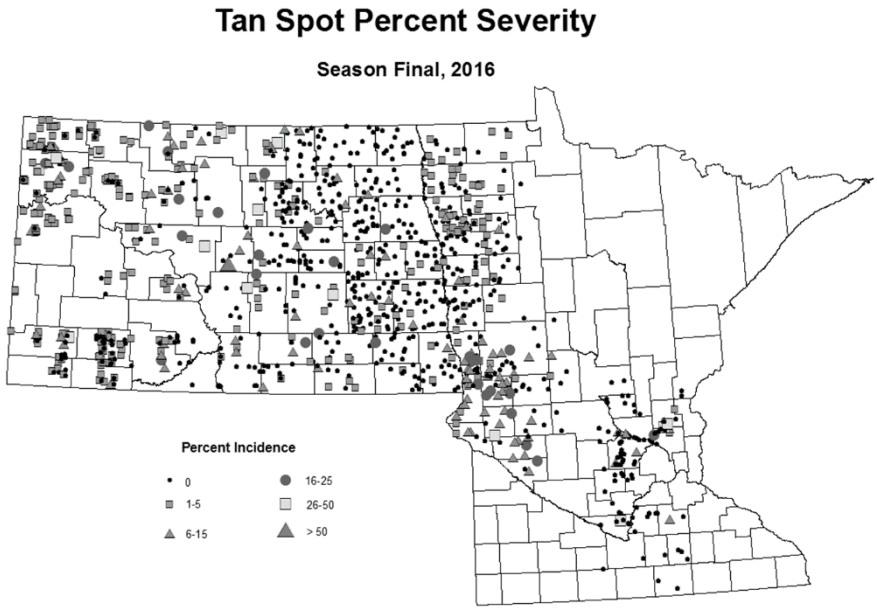
The **soybean** survey was conducted in 98 fields to detect grasshoppers, soybean aphid, bean leaf beetle, spider mites and Western corn rootworm. Soybean aphids were first detected on July 6 but were found in only a few fields at low densities during the balance of the scouting period. Only 3% of the soybean fields were grown on previous year's soybean ground. Thirty-one percent of fields were grown in 30-inch rows.

The survey included 48 **sunflower** fields inspected during late June through mid-August for grasshoppers, downy mildew, rust and verticillium wilt. Grasshoppers were found along edges of 65% of fields at low densities (range of 1-3/yd^2). Downy mildew and rust were found in only three to four of the scouted fields. Sunflower moth, banded sunflower moth and *Cochylis arthuri* pheromone traps were located at the CREC during July through mid-August to monitor the presence of these insects. Banded sunflower moth and *Cochylis arthuri* generally were found throughout the trapping period. Small grain (primarily wheat) was the most common crop that preceded sunflower (53% of total fields), followed by corn (33%) and soybean (15%).

IPM Crop Scout Claire Endres scouts a sunflower field.

Maps displaying summaries of the state survey results by crop and pest are available at the following website: [www.ag.ndsu.edu/ndipm.](www.ag.ndsu.edu/ndipm)

An example displayed below is the season's summary of tan spot severity in wheat.



Details from the field surveys may be obtained by contacting the CREC.