

2014 IPM Crop Survey in South-Central North Dakota

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During the 2014 growing season, an integrated pest management (IPM) field survey was conducted in North Dakota by the NDSU Extension Service to identify crop pest presence and agronomic factors in small grain, soybean and sunflower. Use of the survey data includes farmer, crop adviser and ag industry education; support for exporting North Dakota crops; and reference for research projects.

State IPM survey coordinators were Sam Markell and Andrew Friskop, extension plant pathologists; Jan Knodel, extension entomologist; Patrick Beauzay, state IPM coordinator and entomology research specialist. Kyle Aasand, crop scout based at the Carrington Research Extension Center (CREC), surveyed 407 fields in 11 south-central counties: Burleigh, Dickey, Eddy, Emmons, Foster, Kidder, LaMoure, Logan, McIntosh, Stutsman, and Wells.

The south-central small grain survey was conducted in 175 **spring and winter wheat**, and 43 **barley** fields during late May through July, primarily for leaf and head diseases. Primary diseases in the survey were bacterial leaf blight, barley yellow dwarf virus, rust (leaf, stem, and stripe), Fusarium head blight (scab), Septoria (wheat), loose smut, tan spot (wheat), wheat streak mosaic virus (wheat), and net and spot blotch (barley). In wheat, tan spot was commonly found with severity ranging from 1 to 10 percent. Scab was rarely noted during the survey. Spot blotch was found in 58 percent of barley fields, but leaf severity was only 1 to 5 percent. Also, the survey included inspection for several low incidence and exotic diseases.

Insects surveyed in small grain were grasshoppers, cereal leaf beetle, aphids, wheat stem maggot and sawfly, and barley thrips. Grasshoppers were commonly found along small grain field edges but predominantly at low densities (only 4 wheat fields with $>10/\text{yd}^2$). Thrips were found in only two (5% of total) barley fields. Also, insect traps were placed in four wheat fields for exotic insects and soil samples for nematodes were collected from 11 wheat fields (one per county) for the North Dakota Department of Agriculture.

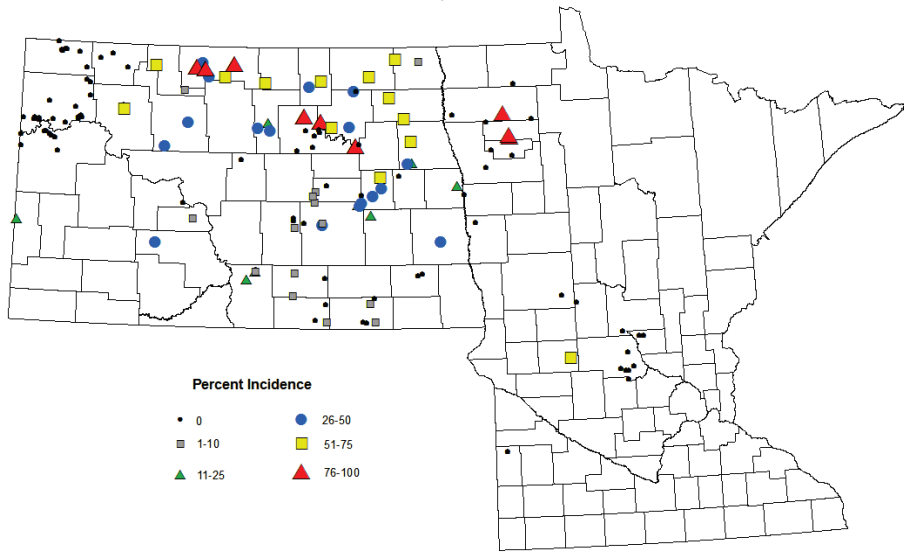
The **soybean** survey was conducted in 153 fields to detect grasshoppers, soybean aphid, bean leaf beetle, spider mites and Western corn rootworm. Soybean aphids were first detected on July 16 and were present in nearly every field by early August but populations did not exceed 35 aphids per plant. Eighty-four percent of the soybean fields surveyed had 15- to 22-inch row spacing, while 13 percent were in 30-inch rows and 3 percent had 8- to 12-inch rows.

The survey included 36 **sunflower** fields during late June through early August to inspect plants for grasshoppers, downy mildew and rust. Grasshoppers were found in nearly all field edges but at generally low densities (range of 1-15/ yd^2). Downy mildew was found in 69 percent of fields. Sunflower moth, banded sunflower moth and *Cochylis arthuri* pheromone traps were located at the CREC during July and August to monitor the presence of the insects. Banded sunflower moth was detected throughout the period and trap numbers peaked during early August. Trap counts of other moths were very low. Corn (53% of total fields) was the most common crop that preceded sunflower, followed by wheat and soybean (22% each), and canola (3%).

Maps displaying summaries of the state survey results by crop and pest are available at the following website: www.ag.ndsu.edu/ndipm/. The following example is the season's summary of spot blotch incidence in barley.

Barley Spot Blotch Incidence

Season Final, 2014



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