

# Crop scouting: It pays to be outstanding in your field

By Meryl Rygg McKenna

For people in agriculture, scouting is more than camping and tying knots. Crop scouting is the important process of monitoring fields during a growing season.

Certified crop adviser Chuck Gatzemeier, Cut Bank, Mont., said growers ideally inspect crops during at least five different growth stages, depending on the crop's vulnerability to diseases, weeds and destructive insects.

Healthy crops begin before planting, with soil sample analysis to identify and correct nutrient levels. A crop that starts healthy, with access to necessary nutrients, timely moisture and heat, will have the best chance against diseases.

Scouting crops begins when plants are newly emerged, at the two-leaf stage. Gatzemeier recommended first checking stand counts; in bare areas, dig down to look for wireworm or cutworm damage, evidence of drill skips or seedlings that drowned out. There may still be time to reseed.

Gatzemeier scouts again during the four- to five-leaf stage, looking for weeds, plant diseases or insects, evaluating the stand and inspecting leaf color. An off-color appearance often indicates nutrient deficiency. For example, yellowish leaves can be a symptom of too little nitrogen, possibly indicating the need for a top dressing of nitrogen.

The third scouting on small grains comes during the flag leaf stage. The last true leaf to grow on a plant, the flag leaf is usually the biggest, widest leaf. Its appearance signals that the plant is ready to form heads.

Gatzemeier continues looking for weeds, insects and diseases during this stage but pays special attention to the flag leaf.

"We want to keep diseases off the flag leaf for maximum photosynthesis and yield," he said.

The fourth time Gatzemeier explores is during the flowering stage. The crop has headed out; its heads are flowering and pollinating. Look for the same things as before, plus fusarium head blight. Discoloration is a symptom of fusarium head blight, and fungicide treatments can knock it out. It usually occurs under irrigation or heavy rainfall during the heading or flowering stage.

The last crucial stage for scouting is close to the crop's maturity. If sawflies have caused much damage, the crop may need to be swathed while it can still make a windrow.

If you are considering in-season herbicides, fungicides or insecticides, check their post-harvest intervals. One common herbicide requires at least seven days between application and harvest.

Choose herbicides that won't leave residual effects, potentially harming the next crop. For example, some herbicides have a nine- or 18-month minimum for planting to peas or lentils. Fungicides kill disease on contact and don't linger in the soil or hurt the next crop.

Swathing may be the remedy for late weeds – they will dry down and join the chaff. If small grains have reached the soft dough stage, the grains will not shrivel after being cut, Gatzemeier explained.

Crop advisers and other ag consultants call on research staff at a close-by agricultural university or research center when they see something unfamiliar. Growers can do the same. If you see an odd-looking insect, weed or disease, take a clear picture and send it online to the university's agricultural diagnostic lab, your crop adviser or Extension agent, or pull a sample and send it to the diagnostic lab through the mail.

To do a good job of scouting, Gatzemeier said, you've got to go out in the field in person.

"When the crop is young, get out on a four-wheeler and drive in a large W form in the field. If you see something goofy, call your adviser. They can go out and walk with you and see what's going on. Get out and walk again during the flag leaf stage."

Once the joints (bulges in the stem) show above ground, the plants can't recover after you drive on them. From then on, drive along the edge of the field, stopping now and then to walk into the crop. Look for insects flying up in front of you, and look at plant health.

Gatzemeier has seen leaves that looked diseased, but closer inspection revealed hail damage. It pays to know the difference – don't spend money on fungicide if the damage is from hail or frost.

Connect with advisers and growers across the state for advance warning of nearby insects or diseases. Growers can sign up for Ag Alerts online from Montana State University; go to <http://www.mtagalert.org/>, a tool Gatzemeier recommended highly. Farmers or advisers notify MSU what they've seen locally, and word spreads through the Ag Alerts. It pays to know; some diseases are deadly for a crop unless treated right away.

Be aware of your economic threshold. If someone says, "I saw this in your fields and you need to spray it," double-check before you act. Treating a crop when it's too late to change your ultimate yield could be money spent with no positive return. Gatzemeier said crop advisers have found it's usually economical to spray if you find at least three weeds per square yard.

There must be a return on investment. Treating weeds might not pay for itself in one year, but with something like Canada thistle or bindweed, which can take several years to eliminate, it may be worthwhile.

Remedies are available for most in-season crop ailments. For wireworms, though, the recommendation is using treated seed in the first place; and for downy brome or Japanese brome in barley, Gatzemeier said nothing is available that targets brome and not barley.

"There's always something new to learn," Gatzemeier admitted. "As certified crop advisers, we go to school and learn all these things, and it's fun," he said.

"Proper sampling and scouting techniques should help growers with their input decisions and greatly improve their profits. It can also avoid the unnecessary use of pesticides, which brings us back to economic thresholds again. A CCA can help growers think through those decisions. Our focus is on improving the profitability of growers."

For more information on certified crop advisers, go to <http://www.certifiedcropadviser.org>.