

Field Scouting 101

Whether you're a grain farmer or cattle ranching, field scouting has some general rules that will work on every farming operation. The goal is to gain a true understanding of the processes occurring in your fields, so that you can make the most economically and environmentally effective decisions possible.

Useful Tools for Field Scouting:

1. 50 x 50 cm (0.25 m²) sampling frame
2. record sheets, clipboard and pencil
3. magnifying glass
4. tweezers
5. clear plastic bags
6. paper bags
7. labels
8. sweep net
9. pocket knife
10. identification resources
11. flagging tape

Number of Samples:

As a general rule of thumb:

In a field of <100 acres, check a minimum of five (5) locations.

In a field of >100 acres, check a minimum of ten (10) locations.

Other General Information:

In addition to sampling for diseases, insects or weeds, scouting is useful to gauge crop stage to aid in making spraying decisions or to check for stunting caused by nutrient deficiencies, drought, flooding or frost. Often these problems are detectable only after regular scouting for a number of weeks to allow comparison.

If you come across something you cannot identify, take samples or pictures and contact your local agronomist, applied research association, Agricultural Fieldman or Alberta Agriculture representative. Alternatively, the Canadian Phytopathological Society has published a guide to Diseases in Field Crops in Canada. This comprehensive manual has over 600 color photographs and is available for \$35.00 from ARECA or from www.cps-scp.ca/publications.htm.



'Working Together, to Keep Alberta Growing'

Agricultural Research and Extension
Council of Alberta

#211, 2 Athabasca Ave
Sherwood Park, AB T8A 4E3
Phone: 780-416-6046
Fax: 780-416-8915
www.areca.ab.ca

Increasing Adoption of Integrated Pest Management in Cereals

Part 3

Reducing Pesticide Use and Risk through Effective Field Scouting



Canada



Why Scout Fields?

With the introduction of larger machinery and highly mechanized seeding, spraying and harvesting systems, producers may wonder if field scouting is still relevant.

The simple fact is, however, that in order to know what pests are in your fields and how many of them there are, you have to scout. You can make a lot of very costly decisions by not knowing what is happening on your land, both above and below ground. For example, producers are often confused about when to spray for diseases like stripe rust or insects like grasshoppers.

Field scouting is an economic and environmental prerequisite to pest management decision-making. Treatment when damage is insignificant or when the damage is too far along is economically and environmentally irresponsible. A farmer can only collect the information needed to make timely management decisions by regular scouting.

The only way to know if spraying is economical is by regular scouting. When it comes to farming, knowledge is not only power, it is money in the bank.

Scouting Patterns:

There are three standard sampling patterns, depending on the type of pest you are scouting for:

Pattern 1 – W, X or Z Pattern

- Use when scouting for pests that are distributed uniformly throughout *the field*.
- Exclude obvious influencing factors such as headlands, wet areas or hills.
- Walk the field in a W, X or Z pattern, taking samples and observations at regular intervals along the way.
- Pests that this pattern is often used for include: stinkweed, wild oats, leaf diseases, aphids, diamond-back moth, bertha armyworm, root maggots, and lygus bugs.

Pattern 2 – Patchy Infestations

- Use when scouting for pests often found in particular areas of the field (e.g. low spots) or that occur in thick patches within the field.
- Concentrate sampling in areas of the field the pest is commonly found in or where patches exist.
- Pests that this pattern may be used for include: pale western cutworm, Canada thistle, quackgrass, common root rot and tansy.

Pattern 3 – Field Edges

- Use when scouting for pests that can move into a field from fencelines, headlands, ditches or bush.
- Concentrate sampling and observation on the field edges.
- Pests that this pattern is used for include: flea beetles, grasshopper, red turnip beetle and scentless chamomile

Weeds

The goal of weed scouting is to assess infestation levels of known weeds and to detect new infestations as early as possible. In the case of weeds like scentless chamomile, early detection can mean the difference between eradication within one season and a chronic problem for years to come. If possible, record detailed counts of weed species and numbers per square meter to get the most accurate information possible. If this is not possible, the following guide may be used :

Group 1: Wild oats, stinkweed, wild buckwheat, lamb's-quarters, redroot pigweed, hemp-nettle, smartweed, volunteer canola, wild mustard, Russian thistle, tartary buckwheat, cow cockle, shepherd's-purse, kochia.

Light	Medium	Heavy
1-10 plants/m ²	10-30 plants/m ²	>30 plants/m ²

Group 2 - Chickweed, green foxtail, corn spurry.

Light	Medium	Heavy
1-20 plants/m ²	2-70 plants/m ²	>70 plants/m ²

Group 3 - Canada thistle, sow-thistle, dandelion

Light	Medium	Heavy
1-2 plants/m ²	2-10 plants/m ²	>10 plants/m ²