

A Survey for Strawberry Diseases in Central Alberta in 2011

Ron Howard, Plant Pathologist
Alberta Agriculture and Rural Development
Crop Diversification Centre South
301 Horticultural Station Rd. E.
Brooks, AB

A general disease survey was carried out on three strawberry farms in central Alberta in 2011. This was a follow-up survey to one conducted in 2010 when the same three farms were visited during the summer. The intention was to survey each farm up to three times per season in order to assess the spectrum of diseases present at different growth stages. Unfortunately, inclement weather and a heavy research load only allowed for a single visit in 2010, so a second visit was arranged in 2011 to fulfill the survey objectives.

The farms surveyed included The Jungle Farm at Innisfail, Stevens Strawberries at Wetaskiwin, and Hansel and Gretel's Berry Farm at Vegreville. All of the farms were pick-your-own operations located close to urban centres. The incidence and severity of major infectious and non-infectious diseases were assessed, and soil and root samples were collected in late summer to determine the types and numbers of plant pathogenic nematodes present, if any. Plantings of both June-bearing and day-neutral cultivars were examined.

The most frequently encountered infectious diseases were leaf scorch (*Diplocarpon earlianum*), common leaf spot (*Mycosphaerella fragariae*), and powdery mildew (*Sphaerotheca macularis* f. sp. *fragariae*). Two genera of plant parasitic nematodes were extracted from soil samples, i.e. *Paratylenchus* (pin nematode) and *Xiphinema* (dagger nematode), but population levels were below economic thresholds. Iron chlorosis, flooding damage and misshapen fruit were the most commonly seen abiotic problems. In most cases, infectious diseases were not a significant production constraint; however, reduced vigour and plant death caused by excessive rain early in the season significantly impacted stands and fruit yields in a few fields. Results reports will be compiled for each farm as soon as samples analyses have been completed, tabulated and analyzed.

Appreciation is extended to the three growers who allowed us to visit their farms and to the scientific colleagues who assisted with various aspects of the survey. These included:

- Sherry Lisowski and Greg Daniels, Plant Pathology Technologists, CDC South
- Rob Spencer, Alberta Agriculture and Rural Development, Alberta Ag-Info Centre, Stettler, AB
- Dr. Tom Forge, Plant nematologist, Agriculture and Agri-Food Canada, Pacific Agri-Food Research Centre, Agassiz, BC
- Dr. Siva Sabaratnam, Plant Pathologist, British Columbia Ministry of Agriculture and Lands, Plant Health Unit, Abbotsford, BC



“Survey for Strawberry Diseases in Alberta”

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Summary of Survey Results for 2009

The operations participating in the survey were:

- Slack's Market Garden, Medicine Hat (Larry and Beth Slack)
- Broxburn Vegetables, Lethbridge (Paul and Hilda deJonge)

□ Serviceberry Farms, Strathmore (Grace Fedak)

All of the growers were excellent cooperators. They allowed unrestricted access to their strawberry plantings and provided useful information on field histories and cultural practices.

Each farm was visited three times during the season, which gave us the opportunity to examine the crops at various growth stages. Unseasonable cool, dry weather in April and May resulted in slow recovery of established stands, and late frosts caused serious blossom damage in some fields. As a result fruit yields were below normal and quality also suffered. New plantings seemed to fare better in terms of berry yield and quality. Some of the common diseases and disorders observed on one or more of the farms were: bacterial leaf spot, black root rot, iron chlorosis, fruit rot, and spider mite damage. Purification and identification of bacterial and fungal cultures from symptomatic plants are continuing. Multiple soil samples were taken from each farm for nutrient and nematode analyses. While nutrient analyses have been completed, nematode analyses are still underway. Final analytical results should be available by late November. Individual reports will be prepared for cooperating growers, and an overall summary report will be completed as well.

Research Reports: APHGCFs-funded research studies.