

# The Golden Nematode

## A Pest of National Importance

### The Golden Nematode (GN) is A Threat to US Agriculture

- ◆ The GN is present in the US. If it becomes established in potato, tomato, and eggplant production areas, it would cause an estimated \$0.5 to \$4.8 billion in annual losses.
- ◆ If the GN spreads to new sites in the US, it will result in trade embargoes and compromise international trade. This would affect not just the potato industry, but any agricultural commodity in contact with soil (e.g. all nursery, turf, root, and tuber crops).
- ◆ Once the pest is introduced into field, it is almost impossible to destroy. The GN can survive in soil for more than 30 years.



**Potato yield losses caused by the GN. Yield on the left was from a GN-free field; Yield on the right was from a GN-infested field.**



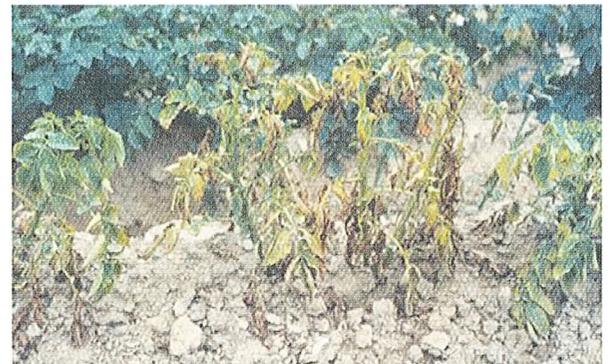
**Roots of an infected plant showing numerous GN cysts on the root surface.**

### The Golden Nematode is Quarantined in the US

- ◆ The GN is distributed in potato-growing areas worldwide.
- ◆ In North America, the GN is found in isolated locations. In Canada, the GN occurs in Newfoundland and on Vancouver Island. In Mexico, the GN exists in nine states.
- ◆ In the US, the GN is a quarantine pest and has been confined by effective management to nine counties within the state of New York.

### How Can the GN Be Contained and Controlled?

- ◆ To prevent GN spreading, infested fields need to be monitored annually and sanitation practices need to be employed.
- ◆ Growing GN resistant potato varieties and rotation practices will effectively control the pest. Management of GN infested lands requires 4 to 7 year rotation schedules.
- ◆ GN resistant potato varieties must be continually developed and continually released to meet changing markets and combat new races of the pest. Research is essential for developing new GN resistant potato varieties.



**Crop damage caused by GN infestation.**

## Managing the Golden Nematode in the US

- ◆ In the United States, control of the GN requires strict regulatory and quarantine procedures, and yearly surveys of infested lands.
- ◆ The availability and cropping of GN-resistant potatoes is essential.
- ◆ Regulatory agencies such as the USDA-APHIS and the New York State Department of Agriculture and Markets must work with growers and monitor adherence to a GN management plan.



Foundation seed potato fields of the GN resistant variety 'Marcy'. The GN can spread with soil associated with potato tubers. It is important to develop resistant potato varieties that growers want to grow, as this will ensure that GN resistant varieties are deployed, minimizing the risk of the GN spreading within the US. A long-term commitment of resources is required to ensure the development and release of GN resistant potato varieties.

## How Can We Protect the Potato Industry?

- ◆ Support the continued development of potato varieties resistant to GN.
- ◆ Support research on the GN to enhance the development of new resistant potato varieties and novel control strategies.
- ◆ Strengthen adherence to and participation in the GN management program (e.g surveys and stringent cropping practices).

### Contacts For More Information

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