



Pacific Northwest  
Vegetable Extension Group

## Identification & Management of Emerging Vegetable Problems in the Pacific Northwest

Pacific Northwest Vegetable Extension Group

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### Herbicide Carryover in Potato Seed

#### **Affected plant species:**

Most, if not all, crops can be affected by herbicides used to control weeds. In the case of potatoes, most cultivars are sensitive to most broad spectrum or broad leaf weed herbicides.

#### **Common name of the causal agent:**

Herbicides such as Round-Up, Milestone, and many more.

**Chemical names:** Glyphosate, aminopyralid, and others.

#### **Symptoms & key characteristics for identification:**

The first symptom of herbicide injury from contaminated potato seed tubers is poor or slow emergence. Affected tubers may sprout excessively (Fig. 2), or may not sprout at all. When tubers do not sprout, blank spots occur in the field in a random distribution (Fig. 1), not in patches or strips. Some sprouts may branch before emerging, and produce excessive fine roots (Fig. 3). Sprouts that are not severely contaminated by herbicide may develop into vines, while those severely contaminated will die. Sprouts that emerge above-ground often have distorted leaves, flattened or twisted vines, and the plant may be stunted (Fig. 4). Severity of symptoms may depend on the concentration and timing of herbicide contamination.

#### **Biology/epidemiology:**

Herbicide damage occurs when weed control is performed improperly. Either herbicides are accidentally sprayed onto the wrong crop (drift, tank residues, or misapplication) or herbicide residues from past applications are still present and active in areas where a new crop is planted.

#### **Management:**

- Follow all directions on herbicide product labels.
- Pay special attention to the recommended amount of time that certain crops can be planted in a treated field, as some plant-back restrictions can be a year or more.
- Submit seed to the WA or OR Potato Seed Lot trials for evaluation.



Fig. 1. Excessive sprouting caused by herbicide carryover on potato seed. Photo Source: Carrie Wohleb, WSU.



Fig. 2. Blank areas in a field due to herbicide carryover on potato seed tubers. Rows on the right are plants from seed not contaminated with herbicide. Photo Source: Carrie Wohleb, WSU.



Fig. 3. Potato sprouts branching underground (arrow) and excessive root production caused by herbicide carryover on the seed tubers. Photo Source: Carrie Wohleb, WSU.



Fig. 4. Stunted potato plant with deformed leaves due to herbicide carry-over on seed. Photo Source: Carrie Wohleb, WSU.

### **Selected references:**

CDMS Database of pesticide product labels and MSDS sheets: <http://www.cdms.net/>

Pacific Northwest Vegetable Extension Group:

[http://mtvernon.wsu.edu/path\\_team/vegpath\\_team.htm](http://mtvernon.wsu.edu/path_team/vegpath_team.htm)

PNW VEG Photo Gallery at [http://mtvernon.wsu.edu/path\\_team/diseasegallery.htm](http://mtvernon.wsu.edu/path_team/diseasegallery.htm)