**Background**

- Recently there have been reports of injury to potato crops from herbicides.
- Herbicide injury could be the result of drift from use in neighbouring crops, improper cleaning of spray tank or mis-application in potato crop itself.
- Demonstration trial was set up to understand the injury.

**2011**

- Four herbicides, commonly used in Manitoba were selected for the demonstration:
  - Group 2 – Odyssey (imazamox 35% + imazethapyr 35%)  
  - Group 4 – 2, 4-D (2,4-D Ester)  
  - Group 9 – Round-Up (Glyphosate)  
  - Group 10 – Liberty (glufosinate ammonium)
- Four concentrations of the herbicide solution (0, 1, 10 and 20% of the recommended rates on a field crop were used.
- Herbicide solutions were sprayed on Russet Burbank (RB) plants in field, about 5 weeks after emergence.
- Tubers were harvested from these plots and visually observed for effects from the herbicides.
- Tubers were then put in cold storage for planting in 2012.

**2012**

- Daughter tubers from 2011 herbicide exposure were planted in 2 locations: Winkler and Portage La Prairie CM CDC sites.
- Emergence was recorded after 4 weeks of planting.
- Emergence was very similar at both locations. Data for only Winkler site presented.

**Figure 2: Emergence in Winkler, daughter tubers of 2011 drift affected plants. Herbicides Odyssey, Round-Up and Liberty significantly reduced emergence (Fig 3) and yield (Fig 4).**

- Untreated RB tubers were also planted in Winkler and Portage, for demonstrating affect of current season spray drift injury with 4 concentrations of 6 herbicides (Frontline-2,4-D & Infinity - in 2012)
- Foliage injury from the herbicides are highly variable, and symptoms appeared to fade away with time
- Harvested and stored daughter & grand-daughter tubers for 2013

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