

Volunteer Potato Management

Gavin Graham
IPM Weed Management Specialist
gavin.graham@gnb.ca
(506) 453-3486

Volunteer Potato

- Impossible to remove all tubers during harvest procedure, up to 10% remain
 - Non-harvested fields will be unique challenge
- Sprout in following season
 - Competition for next crop
 - Disease/insect host
 - Daughter tubers



Prevention

- Harvest Management
- Tillage
 - Keep tubers at surface
- Hope for cold
 - 50 chilling hours, -2°C at tuber
 - Depth of burial
 - Snow cover will insulate soil, beside windbreaks typically have more volunteers



Previous NB Trials

- Focused on in crop grain control
- Overwintering populations
- 'Seeded' cereal stands
- Inconsistent emergence
- Inconsistent results
- Daughter tuber effects?



2015 Trial Methods

- Establish a 'commercial' planting of Russet Burbank
 - May not be similar to 'volunteers'
 - No crop competition
- Spray stage at right
- Ratings and Yields



% Control

% Control

% Control

% Control

Kg tubers/row



7 Days

15 Days

23 Days

36 Days

Tubers

Untreated

- Normal Growth
- Flower buds start 15 Day after application

0 %

0 %

0 %

0 %

24.1 kg



7 Days

15 Days

23 Days

36 Days

Tubers

Round-up (900 g ai/ha)

- Best control overall
- Seed piece effects at right



97 %

95 %

95 %

89 %

1.9 kg



7 Days

15 Days

23 Days

36 Days

Tubers

Callisto

- Symptoms slower
- Late resprouting, but strong yield impact (80%)



53 %

90 %

94 %

78 %

5.3 kg



7 Days

15 Days

23 Days

36 Days

Tubers

MCPA - Low

- Slowed initially
- Delayed flowering

28 %

25 %

10 %

3 %

22.1 kg



7 Days

15 Days

23 Days

36 Days

Tubers

MCPA - High

- Slight control improvement over low rate
- No yield impact

26 %

33 %

15 %

9 %

23.3 kg



7 Days

15 Days

23 Days

36 Days

Tubers

Trophy

- Improved over MCPA amine
- 20% reduction in yield

44 %

59 %

46 %

15 %

19.7 kg



7 Days



15 Days



23 Days



36 Days



Tubers

Pixxaro

- Good suppression early
- Yield slightly decreased

60 %

56 %

54 %

25 %

19.4 kg



7 Days

15 Days

23 Days

36 Days

Tubers

Infinity

- Quick symptoms early
- Potatoes re-grew, but 40% yield effect

80 %

75 %

58 %

30 %

14.1 kg



7 Days

15 Days

23 Days

36 Days

Tubers

Refine

- Good suppression early
- Potato recovery

74 %

70 %

59 %

21 %

16.0 kg



7 Days

15 Days

23 Days

36 Days

Tubers

Refine + MCPA

- Slight improvement over Refine alone

71 %

75 %

65 %

24 %

14.2 kg



7 Days

15 Days

23 Days

36 Days

Tubers

2015 Trial Discussion

- Round-up best treatment for visual control and daughter tuber yield
- Callisto had some regrowth but good control of daughter tubers
- MCPA amine was not effective
- Pixxaro and Trophy had visual suppression early, but little change to final tuber yield
- Infinity, Refine and Refine + MCPA had slightly improved suppression, but more reduction on tuber yields

Discussion

- Crop competition may have 'improved' control and daughter tuber reductions
- Chieftain 'spacers' behaved differently
- Spray before volunteers get too large



Advice for Non-Harvested Fields

- Management will depend on situation
 - Need for cash crop or cover crop?
 - Potential for enough cold temp. at tuber level?
- Best for volunteers: Late seeded cover crop
 - Early tillage/herbicide to control first flush of potatoes
 - Establish well, herbicide / mow / terminate if needed
- Best for cash crop: Field corn, ideally HR
 - Glyphosate, Callisto good options, may need 2 spray
- Cereals, RR soybeans less reliable control
 - Avoid IP soybean, pea