

**WEED CONTROL IN PROCESSING  
CUCUMBERS**

**RESEARCH RESULTS – 2012**

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**FOR THE ONTARIO CUCUMBER  
RESEARCH COMMITTEE**

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## **ACKNOWLEDGEMENTS**

### **Purpose Of This Booklet**

This booklet is provided as a guide to the 2012 processing cucumber weed control research control plots. The experiments outlined in this booklet are located at Ridgetown Campus. We appreciate the funding, cooperation and assistance provided by the Ontario cucumber research committee (cucumber growers and processing companies). As well, we would like to thank the chemical companies and their representatives, agextension personnel, and other research scientists for their ideas, plant material and herbicide samples that were used in these trials. Funding for the 2012 research program was provided by:

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We trust that the information provided by this research will further the science of weed control by assisting with the registration of herbicides through the minor use system. We also hope this information will be of use in the extension of proper herbicide recommendations, thereby enabling growers to achieve consistent, broad spectrum weed control with a minimum of crop damage.

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## TRIAL 1: WEED MANAGEMENT IN CUCUMBERS

**Objective:** Determine the tolerance of cucumber to preemergence applications of Dual II Magnum, Command, Sandea, and Outlook.

### Materials & Methods:

**Crop:** Cucumber

Variety: Vlaspik

Planting rate: 1000000 seeds/ha

Row spacing: 75cm

Planting date: May 23/12

Depth: 2 cm

**Design:** Randomized Complete Block Design

Plot width: 2m

Plot length: 10m

Reps: 4

**Field Preparation:** Trial fertilized with 27-0-0 at 250 kg/ha and 18-19-19 at 300 kg/ha on May 21/12.

### Soil Description:

Sand: 50%

Silt: 28%

Clay: 21

OM: 5.7%

pH: 6.0

CEC 21

Texture: Loam

Soil: Watford/Brady Series

### Application Information:

APPLICATION DATE	A
TIME OF DAY	MAY 24
TIMING	9:00 AM
AIR TEMP (c)	PRE
RH (%)	25
WIND SPEED (KPH)	55
SOIL TEMP (c)	3
CLOUD COVER (%)	26
CROP STAGE	0
	PRE

### Spray Equipment:

Application Method: CO2 Backpack

Nozzle Type: Air Induction

Nozzle Spacing: 50 cm (20")

Spray Volume: 200 L/ha (20 GAL/AC)

Pressure: 207 KPA (30 PSI)

Nozzle Size: ULD120-02

Boom Width: 1.5 m (60")

**Table 1.1. Effect of herbicide treatment on cucumber visual injury 7, 14 and 28 days after application and cucumber #1, #2, #3 yield.**

HERBICIDE	RATE	VISUAL INJURY			YIELD (T/AC)		
		7D	14D	28D	#1	#2	#3
1. Check (WEEDFREE)		0C	0B	0B	1.6A	5.2A	8.2A
2. Check (WEEDY)		0C	0B	0B	0.9A	3.5A	3.3BC
3. REFLEX	0.4 L/AC	6B	3B	3BCD	0.9A	3.4A	6.7AB
4. COMMAND + DUAL II MAG	0.45 L/AC 0.5 L/AC	5B	4B	5ABC	1.1A	4.7A	5.3ABC
5. COMMAND + SANDEA	0.45 L/AC 25 G/AC	0C	1B	0D	1.2A	4.9A	7.2AB
6. DUAL II MAG + SANDEA	0.5 L/AC 25 G/AC	0C	1B	1CD	1.3A	4.7A	6.9A
7. REFLEX + COMMAND + DUAL II MAG	0.8 L/AC 0.45L/AC 0.5 L/AC	15A	11A	9A	1.1A	4.3A	3.6BC
8. REFLEX + COMMAND + SANDEA	0.8 L/AC 0.45L/AC 25 G/AC	13A	13A	6AB	1.1A	3.6A	6.5AB
9. REFLEX + DUAL II MAG SANDEA	0.8 L/AC 0.5 L/AC 25 G/AC	5B	10A	8A	1.1A	4.4A	2.4C
LSD (P <0.05)		4	5	4	0.4	1.9	3.6

Note: Means followed by the same letter are not significantly different (P=0.05, LSD).

**Table 18.2. Effect of herbicide treatment on control of common ragweed (AMBEL), lambsquarters (CHEAL), large crabgrass (DIGSA) and green foxtail (SETVI) 56 days after application.**

HERBICIDE	RATE	PERCENT CONTROL			
		AMBEL	CHEAL	DIGSA	SETVI
1. Check (WEEDFREE)					
2. Check (WEEDY)					
3. REFLEX	0.4 L/AC	89B	90A	66C	56B
4. COMMAND + DUAL II MAG	0.45 L/AC 0.5 L/AC	75C	80B	93A	92A
5. COMMAND + SANDEA	0.45 L/AC 25 G/AC	89AB	88AB	89A	89A
6. DUAL II MAG + SANDEA	0.5 L/AC 25 G/AC	90AB	94A	88A	89A
7. REFLEX + COMMAND + DUAL II MAG	0.8 L/AC 0.45L/AC 0.5 L/AC	89AB	94A	94A	93A
8. REFLEX + COMMAND + SANDEA	0.8 L/AC 0.45L/AC 25 G/AC	95A	95A	91A	90A
9. REFLEX + DUAL II MAG SANDEA	0.8 L/AC 0.5 L/AC 25 G/AC	96A	95A	88A	88A
LSD (P <0.05)		6	7	22	18

Note: Means followed by the same letter are not significantly different (P=0.05, LSD).

**Conclusions:**

This trial determined the effect of preemergence applications of various tank mixes of Command, Sandea and Reflex on visual injury, weed control and yields of squash. Poor control of common ragweed reduced yield of the Command+Dual II Magnum treatment compared with the untreated check. Due to poor control of large crabgrass and green foxtail, yield was lower than the untreated check in the Reflex treatment. Due to crop injury, yield was lower than the untreated check in the Reflex+Command+Dual II Magnum Reflex+Dual II Magnum+Sandea treatment.

**Data were submitted to support the Sandea URMULE in vine crops.**