

**WEED CONTROL IN PROCESSING
CUCUMBERS**

RESEARCH RESULTS – 2010

**PREPARED BY DARREN ROBINSON,
RIDGETOWN CAMPUS**

**FOR THE ONTARIO CUCUMBER
RESEARCH COMMITTEE**

NOVEMBER 2, 2010

ACKNOWLEDGEMENTS

Purpose Of This Booklet

This booklet is provided as a guide to the 2010 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 2010 research program was provided by:

Ontario Cucumber Research Committee & Ontario Food Processors Association
Agchemical Companies

Technical Assistants

Research Technician
David Bilyea

Research Assistants
Laurie Devereaux
Kyle Vink

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.

D.E. Robinson
Ridgetown Campus, University of Guelph
Ridgetown, Ontario
N0P 2C0
(519) 674-1604
drobinso@ridgetownc.uogelph.ca

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: Vlasplik

Planting rate: 265684 seeds/ha

Row spacing: 75cm

Planting date: May 26

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 21/10.

Soil Description:

Sand: 51%

Silt: 28%

Clay: 21

OM: 5.5%

pH: 6.7

CEC 21

Texture: loam

Soil: Watford/Brady Series

Application Information:

APPLICATION DATE	A
TIME OF DAY	MAY 27
TIMING	8:00 PM
AIR TEMP (c)	PRE
RH (%)	21
WIND SPEED (KPH)	62
SOIL TEMP (c)	1
CLOUD COVER (%)	21
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 yield.

HERBICIDE	RATE	VISUAL INJURY		
		7D	14D	28D
1. Check (WEEDFREE)		0C	0C	0C
2. COMMAND	0.63L/AC	0C	0C	0C
3. COMMAND	1.26 L/AC	0C	3BC	0C
4. SANDEA	25 G/AC	0C	0C	0C
5. SANDEA	50 G/AC	0C	1BC	0C
6. REFLEX	0.4 L/AC	4B	5B	3BC
7. REFLEX	0.8 L/AC	9A	11A	9A
8. COMMAND + SANDEA	0.63 L/AC 25 G/AC	0A	0C	0A
9. COMMAND + REFLEX	450 ML/AC 0.4 L/AC	3A	5B	4B
LSD (P <0.05)		2	5	3

Table 1.2. Effect of herbicide treatment on yield (graded – No 1 to No 4).

HERBICIDE	RATE	YIELD (T/AC)			
		No1	No2	No3	No4
1. Check (WEEDFREE)		1.3A	1.2B	12.4AB	30A
2. COMMAND	0.63L/AC	1.0A	1.1B	14.0AB	21BC
3. COMMAND	1.26 L/AC	1.1A	1.9A	16.3A	20C
4. SANDEA	25 G/AC	1.3A	1.2B	16.8A	20C
5. SANDEA	50 G/AC	1.3A	1.5AB	13.7AB	24ABC
6. REFLEX	0.4 L/AC	1.0A	1.0B	9.8BC	18C
7. REFLEX	0.8 L/AC	0.8A	1.0B	7.2C	9D
8. COMMAND + SANDEA	0.63 L/AC 25 G/AC	1.4A	1.3AB	14.6AB	29AB
9. COMMAND + REFLEX	450 ML/AC 0.4 L/AC	0.9A	1.6AB	15.8A	17CD
LSD (P <0.05)		1.3	1.2	4.9	8

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

Conclusions:

This trial was kept weed-free to test for the effect of preemergence applications of Command, Sandea and Reflex on visual injury, stand and yields of cucumber.

Injury was less than 5% after PRE applications of Command, Sandea and the low rate of Reflex, as well as the tank mixes of Command + Sandea and Command + Reflex. The high rate of Reflex injured cucumber, and yield was less than the untreated check in both Reflex treatments.

Command was registered in vine crops. Data were submitted to support the Sandea URMULE in vine crops.