

**FIELD RESEARCH REPORT**

2006

**NEW MEXICO STATE UNIVERSITY**

Department of Entomology, Plant Pathology and Weed Science  
&  
Department of Extension Plant Sciences



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Justin Norsworthy, Science Specialist  
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## **INTRODUCTION**

The Annual Report is a partial summary of field crop research conducted by Dr. Jill Schroeder, Dr. Mark Renz, Justin Norsworthy, and Cheryl Fiore to study the efficacy of traditional herbicides with new chemicals or combination of chemicals used to control weeds in crops grown in the region. The results are provided to assist extension personnel, cooperators and others who have an interest in New Mexico agriculture in choosing the most economical and effective weed control for this area. ***It does not contain recommendations for the use of these herbicides or imply that these herbicides are registered for use on commercial crops.***

The information in this report is not a formal release, it is not to be duplicated or published in any form without the written consent of Drs. Jill Schroeder or Mark Renz, Study Directors.

Disk copies of the information in this report are available upon request. Please direct any questions about this report to Drs. Jill Schroeder at (505)-646-2328.

## **ACKNOWLEDGMENTS**

As always, we appreciated the cooperation and assistance of the personnel at the Leyendecker Plant Science Research Center (PSRC). We owe a special thanks to Mark Pacheco, Farm Manager for his expertise and assistance in crop production. The crew working at PSRC provides the labor and machinery for field preparation, planting and irrigation. Without their assistance, we would not be able to complete our research. We also appreciate the cooperation with MARATHON Agricultural and Environmental, Consulting, which enabled us to conduct research at Rincon, NM.

## **PROJECT PERSONNEL**

### **Weed Science Field Station**

Leyendecker Plant Science Research Center  
6700 Leyendecker Road, Las Cruces, NM 88005  
Dr. Jill Schroeder, Study Director  
Dr. Mark Renz, Study Director

### **Research Specialists:**

Cheryl Fiore  
Justin Norsworthy

### **Undergraduate Assistants:**

Felix Barron  
Idie Beth Polley  
Phillip Placencio  
Santos Barron

## **COOPERATORS**

Stephanie Walker, Extension Associate II  
Erin Silver, Associate Professor

Extension Plant Sciences  
Department of Plant & Environmental Sciences

### **Leyendecker Plant Science Research Center**

MSC 3LEY, Las Cruces, NM 88005  
(505)-646-2281

Mark Pacheco, Farm Manager  
Orlando Morales  
Jose M. Castorena  
Felipe C. Flores  
Roberto E. Garcia

Theresa Martinez, Records Tech  
Ralph Trevino  
Liberato Valdes  
Jorge Topete

### **MARATHON-Agric. & Environ. Consulting, Inc.**

205 W. Boutz, Bldg. # 4, Suite 5  
Las Cruces, NM 88005  
527-8853

<http://marathonag.com>

Philip A Banks, President and Principal Investigator

Johnny Krynitz, Farm Manager

Edward Morris, Research Associate

Esteban Nendez, Farm Worker

## TRIAL CHEMICALS

| <b>Trade Name</b>   | <b>Common Name</b>           |
|---------------------|------------------------------|
| Chateau             | Flumioxazin                  |
| Dual Magnum         | S-Metolachlor                |
| Envoke              | Trifloxisulfuron             |
| Goal 2XL            | Oxyfluorfen                  |
| Karmex XP           | Diuron                       |
| Matrix              | Rimsulfuron                  |
| Prowl               | Pendimethalin                |
| Roundup Weather Max | Glyphosate                   |
| Sandea              | Halosulfuron                 |
| Staple              | Pyriothobac                  |
| Suprend             | Prometryn + trifloxisulfuron |
| Surflan             | Oryzalin                     |
| Treflan             | Trifluralin                  |
| V-10142             | V-10142                      |

### Adjuvants

|              |                         |
|--------------|-------------------------|
| Agri-dex     | Crop oil concentrate    |
| Latron AG-98 | No foam non-ionic spray |
| Preference   | No foam non-ionic spray |

### Treatment Application Code Definitions

| <b>Code</b> | <b>Application Placement/Timing</b>                             |
|-------------|---|
| 4-6 LEAF    | POST when chile is at 4-6 leaf stage                            |
| AC          | PRE EMERGENCE AFTER DRAGGING CAP                                |
| BC          | PRE EMERGENCE BEFORE DRAGGING CAP                               |
| BANDIR      | directed away from crop in a band on the soil                   |
| BROFOL      | broadcast over the plant canopy                                 |
| BROSOI      | broadcast over the soil   |
| COT         | when chile is at cotyledon stage                                |
| LAYBY       | Last application before harvest                                 |
| PRE         | pre-emergence of any shoot growth                               |
| PREPOS      | pre-emergence of crop, post emergence of weeds                  |
| POSPOS      | Post-emergence of crop and weeds, applied over the plant canopy |
| POST        | Post-emergence of crop, applied over the plant canopy           |

**Trial ID: 05-L-6**

**Envoke and Suprend for cotton in lower rainfall regions – rotational crop safety**

**Location:** Plant Science Research Center, Weed Research Fields

**Study Director:** Dr. Jill Schroeder

**Title:** Professor, Weed Scientist

**Affiliation:** New Mexico State University

**Postal Code:** 88003

**E-mail:** [Jischroe@NMSU.edu](mailto:Jischroe@NMSU.edu)

**Crop Description**

**Crop 1:** Cotton, American upland  
**Variety:** DP 434 ROUNDUP READY  
**Code:** GOSHI  
**Planting Date:** 5/10/2005  
**Rate, Unit:** 5 Seed/ROW-FT

**Description:** EARLY SEASON

**Latin Binomial:** *Gossypium hirsutum*  
**Planting Method:** SEEDED  
**Row Spacing, Unit:** 40 IN

**Crop 2:** Durum wheat  
**Code:** TRZDW  
**Planting Date:** 1/12/2006

**Variety:** Weather Master 135  
**Latin Binomial:** *Triticum durum*  
**Planting Method:** SEEDED

**Crop 3:** Onion, direct seeded  
**Code:** ALLXS  
**Planting Date:** 1/12/2006

**Variety:** Cimarron  
**Latin Binomial:** *Allium cepa*  
**Planting Method:** SEEDED

**Crop 4:** Lettuce  
**Code:** LACSP  
**Planting Date:** 2/12/2006

**Variety:** Diamond  
**Latin Binomial:** *Lactuca species*  
**Planting Method:** SEEDED

**Crop 5:** Alfalfa  
**Code:** MEDSA  
**Planting Date:** 4/28/2006

**Variety:** Mecca II  
**Latin Binomial:** *Medicago sativa*  
**Planting Method:** SEEDED

**Crop 6:** Chile  
**Code:** CAPAN  
**Planting Date:** 4/28/2006

**Variety:** Joe Parker  
**Latin Binomial:** *Capsicum annuum*  
**Planting Method:** SEEDED

**Crop 7:** Field corn  
**Code:** ZEAMX  
**Planting Date:** 4/28/2006

**Variety:** NG6958  
**Latin Binomial:** *Zea mays*  
**Planting Method:** SEEDED

**Crop 8:** Watermelon  
**Code:** CITLA  
**Planting Date:** 4/28/2006

**Variety:** Crimson Sweet  
**Latin Binomial:** *Citrullus lanatus*  
**Planting Method:** SEEDED

**Crop 9:** Grain sorghum  
**Code:** SORBI  
**Planting Date:** 4/28/2006

**Latin Binomial:** *Sorghum bicolor*  
**Planting Method:** SEEDED

## Site and Design

**Plot Width, Unit:** 47 FT

**Number of Rows per plot:** 28 Row

**Site Type:** Furrow irrigated field

**Plot Length, Unit:** 25 FT

**Tillage Type:** CONVENTIONAL-TILL

**Replications:** 4

**Study Design:** Randomized Complete Block

## Field Prep./Maintenance:

### 2005

To maintain plots weed-free: Plots were cultivated or hand-weeded as needed. Cotton was planted in all rows of each plot. Treatments were applied to the entire plot. Glyphosate was applied at a rate of 0.78 lb ai/a with Latron AG98 at .25% V/V approximately once a month throughout 2005.

### 2006

In 2006, the 28 row plots were split in half (14 rows for half 1 and 14 rows for half 2); cotton was planted in half 1 of each plot and rotational crops were planted on half 2. All 2006 treatments were applied only to half 2, after evaluation and termination of the rotation crops. Weeds were hoed as needed and glyphosate was applied at a rate of 22 oz/acre approximately once a month.

## Soil Description

**Texture:** Sandy Clay Loam    **% OM:** 1.4    **pH:** 7.8    **CEC:** 42

**% Sand:** 54    **% Silt:** 19    **% Clay:** 27



## 05-L-6 Treatment Plan

| Trt No. | Treatment Name | Form Conc | Form Type | Rate    | Rate Unit | Appl Code | Appl Description | Amt Product to Measure |
|---------|----------------|-----------|-----------|---------|-----------|-----------|------------------|------------------------|
| 1       | CHECK [-;UN]   |           |           |         |           |           |                  |                        |
| 2       | SUPREND        | 80        | WG        | 0.8     | lb ai/a   | B         | BRODIR           | 59.73 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | %v/v      | B         | BRODIR           | 20.0 ml/mx             |
|         | SUPREND        | 80        | WG        | 0.8     | lb ai/a   | D         | BRODIR           | 59.73 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | D         | BRODIR           | 20.0 ml/mx             |
| 3       | SUPREND        | 80        | WG        | 1.2     | lb ai/a   | B         | BRODIR           | 89.67 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | B         | BRODIR           | 20.0 ml/mx             |
|         | SUPREND        | 80        | WG        | 1.2     | lb ai/a   | D         | BRODIR           | 89.67 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | D         | BRODIR           | 20.0 ml/mx             |
| 4       | ENVOKE         | 75        | WG        | 0.00705 | lb ai/a   | A         | BROFOL           | 0.5618 g/mx            |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | A         | BROFOL           | 20.0 ml/mx             |
|         | SUPREND        | 80        | WG        | 1.2     | lb ai/a   | B         | BRODIR           | 89.67 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | B         | BRODIR           | 20.0 ml/mx             |
|         | ENVOKE         | 75        | WG        | 0.00705 | lb ai/a   | C         | BROFOL           | 0.5618 g/mx            |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | C         | BROFOL           | 20.0 ml/mx             |
|         | SUPREND        | 80        | WG        | 1.2     | lb ai/a   | D         | BRODIR           | 89.67 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | D         | BRODIR           | 20.0 ml/mx             |
| 5       | STAPLE         | 85        | SP        | 0.0634  | lb ai/a   | B         | BRODIR           | 4.455 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | B         | BRODIR           | 20.0 ml/mx             |
|         | STAPLE         | 85        | SP        | 0.0634  | lb ai/a   | D         | BRODIR           | 4.455 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | D         | BRODIR           | 20.0 ml/mx             |
| 6       | SUPREND        | 80        | WG        | 1.2     | lb ai/a   | B         | BRODIR           | 89.67 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | B         | BRODIR           | 20.0 ml/mx             |
|         | STAPLE         | 85        | SP        | 0.0634  | lb ai/a   | D         | BRODIR           | 4.455 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | D         | BRODIR           | 20.0 ml/mx             |
| 7       | ENVOKE         | 75        | WG        | 0.0141  | lb ai/a   | A         | BROFOL           | 1.124 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | A         | BROFOL           | 20.0 ml/mx             |
|         | SUPREND        | 80        | WG        | 2.4     | lb ai/a   | B         | BRODIR           | 179.3 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | B         | BRODIR           | 20.0 ml/mx             |
|         | ENVOKE         | 75        | WG        | 0.0141  | lb ai/a   | C         | BROFOL           | 1.124 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | C         | BROFOL           | 20.0 ml/mx             |
|         | SUPREND        | 80        | WG        | 2.4     | lb ai/a   | D         | BRODIR           | 179.3 g/mx             |
|         | LATRON AG-98   |           |           | 0.25    | % v/v     | D         | BRODIR           | 20.0 ml/mx             |

### Notes

6/9/2006 On 6/6/06 glyphosate was applied at 2 lb ai/acre to chile, alfalfa and watermelon, then mowed on 6/7 so that all plots on Half 2 were crop free prior to Application C.

## Application Description

|                                | <b>A</b> | <b>B</b>  | <b>C</b> | <b>D</b>  |
|--------------------------------|----------|-----------|----------|-----------|
| <b>Application Date:</b>       | 6/8/2005 | 7/28/2005 | 6/9/2006 | 7/27/2006 |
| <b>Time of Day:</b>            | MORNING  | MORNING   | MORNING  | MORNING   |
| <b>Application Method:</b>     | SPRAY    | SPRAY     | SPRAY    | SPRAY     |
| <b>Application Timing:</b>     | POSPOS   | LAYBY     | POSPOS   | LAYBY     |
| <b>Application Placement:</b>  | BROFOL   | BANDIR    | BROSOI   | BROSOI    |
| <b>Applied By:</b>             | C. FIORE | C. FIORE  | C. FIORE | C. FIORE  |
| <b>Air Temperature, Unit:</b>  | 75 F     | 72 F      | 79 F     | 93 F      |
| <b>% Relative Humidity:</b>    | 33       | 58        | 35       | 36        |
| <b>Wind Velocity, Unit:</b>    | 0 MPH    | 1 MPH     | 5 MPH    | 1.7 MPH   |
| <b>Dew Presence (Y/N):</b>     | N        | N         | N        | N         |
| <b>Soil Temperature, Unit:</b> | 75 F     | 75 F      | 82 F     | 88 F      |
| <b>Soil Moisture:</b>          | DRY      | DRY       | ADEQUATE | DRY       |
| <b>% Cloud Cover:</b>          | 0        | 35        | 10       | 50        |

## Crop Stage At Each Application

|                          | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
|--------------------------|----------|----------|----------|----------|
| <b>Crop 1 Code:</b>      | GOSHI    | GOSHI    | HALF 2   | HALF 2   |
| <b>Stage Scale Used:</b> | 3-5 LEAF | BLOOM    | NO CROP  | NO CROP  |

## Application Equipment

|                              | <b>A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
|------------------------------|----------|----------|----------|----------|
| <b>Appl. Equipment:</b>      | BACKPACK | BACKPACK | BACKPACK | BACKPACK |
| <b>Operating Pressure:</b>   | 14 PSI   | 21 PSI   | 21 PSI   | 14 PSI   |
| <b>Nozzle Type:</b>          | TEEJET   | TEEJET   | TEEJET   | TEEJET   |
| <b>Nozzle Size:</b>          | 11002    | 0C02     | 11002    | 11002    |
| <b>Nozzle Spacing, Unit:</b> | 20 IN    | 20 IN    | 20 IN    | 20 IN    |
| <b>Nozzles/Row:</b>          | 2        | 2        | 2        | 2        |
| <b>Band Width, Unit:</b>     | 20 IN    | 20 IN    | 20 IN    | 20 IN    |
| <b>Boom Length, Unit:</b>    | 80 IN    | 80 IN    | 80 IN    | 80 IN    |
| <b>Boom Height, Unit:</b>    | 18 IN    | 18 IN    | 18 IN    | 18 IN    |
| <b>Ground Speed, Unit:</b>   | 2 MPH    | 2 MPH    | 2 MPH    | 2 MPH    |
| <b>Carrier:</b>              | WATER    | WATER    | WATER    | WATER    |
| <b>Spray Volume:</b>         | 16 GPA   | 16 GPA   | 16 GPA   | 16 GPA   |
| <b>Propellant:</b>           | CO2      | CO2      | CO2      | CO2      |

## AOV Means Table

| Crop Name          | TRZDW     | ALLXS   | LACSP    | ALLXS    | LACSP    | ALLXS    | SORBI    | CITLA     |
|--------------------|-----------|---------|----------|----------|----------|----------|----------|-----------|
| Description        | Tillering | 1 leaf  | 3-4 leaf | 1-2 leaf | 4-5 leaf | 1-2 leaf | 4-5 leaf | 1-2 Leaf  |
| Part Rated         | SHOOT     | SHOOT   | SHOOT    | SHOOT    | SHOOT    | SHOOT    | SHOOT    | SHOOT     |
| Rating Date        | 3/9/200   | 3/9/200 | 3/9/200  | 3/22/200 | 3/22/200 | 3/30/200 | 5/19/200 | 5/19/2006 |
| Rating Unit        | 6         | 6       | 6        | 6        | 6        | 6        | 6        | 6         |
| Treatment No.      | %UNCK     | %UNCK   | %UNCK    | %UNCK    | %UNCK    | %UNCK    | %UNCK    | %UNCK     |
| 1                  | 0.0 b     | 0.0 b   | 0.0 c    | 0.0 c    | 0.0 b    | 0.0 c    | 0.0 a    | 0.0 c     |
| 2                  | 0.0 b     | 11.3 ab | 52.5 b   | 23.8 b   | 73.8 a   | 35.0 b   | 0.0 a    | 8.8 bc    |
| 3                  | 0.0 b     | 7.5 b   | 60.0 b   | 30.0 b   | 66.3 a   | 36.3 b   | 2.5 a    | 11.3 bc   |
| 4                  | 5.0 b     | 12.5 ab | 47.5 b   | 23.8 b   | 77.5 a   | 47.5 b   | 0.0 a    | 10.0 bc   |
| 5                  | 13.8 a    | 26.3 a  | 15.0 c   | 62.5 a   | 21.3 b   | 87.5 a   | 5.0 a    | 23.8 a    |
| 6                  | 2.5 b     | 8.8 b   | 55.0 b   | 31.3 b   | 63.8 a   | 33.8 b   | 0.0 a    | 10.0 bc   |
| 7                  | 5.0 b     | 16.3 ab | 80.0 a   | 50.0 a   | 88.8 a   | 55.0 b   | 3.8 a    | 18.8 ab   |
| LSD (P=.05)        | 5.97      | 11.42   | 15.91    | 15.66    | 21.61    | 19.81    | 7.93     | 9.03      |
| Standard Deviation | 4.02      | 7.69    | 10.71    | 10.54    | 14.55    | 13.34    | 5.34     | 6.07      |
| CV                 | 107.23    | 65.24   | 24.18    | 33.35    | 26.03    | 31.65    | 332.01   | 51.54     |
| Bartlett's X2      | 0.159     | 1.406   | 8.396    | 4.432    | 13.731   | 4.627    | 1.295    | 0.973     |
| P(Bartlett's X2)   | 0.984     | 0.924   | 0.136    | 0.489    | 0.017*   | 0.463    | 0.523    | 0.914     |
| Replicate F        | 1.086     | 11.617  | 2.574    | 0.994    | 1.197    | 1.941    | 0.366    | 0.548     |
| Replicate Prob(F)  | 0.3803    | 0.0002  | 0.0860   | 0.4182   | 0.3392   | 0.1592   | 0.7785   | 0.6556    |
| Treatment F        | 6.055     | 4.470   | 26.356   | 14.507   | 20.032   | 15.679   | 0.638    | 6.258     |
| Treatment Prob(F)  | 0.0013    | 0.0061  | 0.0001   | 0.0001   | 0.0001   | 0.0001   | 0.6989   | 0.0011    |

| Crop Name          | ZEAMX    | MEDSA    | GOSHI       | CAPAN    | MEDSA      | ZEAMX    | CITLA      |
|--------------------|----------|----------|-------------|----------|------------|----------|------------|
| Description        | 3-4 LEAF | 2 trifol | cotyl -1 lf | cotyl    | 2-4 trifol | 4-5 leaf | 2 - 3 leaf |
| Part Rated         | SHOOT    | SHOOT    | SHOOT       | SHOOT    | SHOOT      | SHOOT    | SHOOT      |
| Rating Date        | 5/19/200 | 5/19/200 | 5/19/2006   | 5/24/200 | 5/24/200   | 5/24/200 | 5/24/200   |
| Rating Unit        | 6        | 6        | 6           | 6        | 6          | 6        | 6          |
| Treatment No.      | %UNCK    | %UNCK    | %UNCK       | %UNCK    | %UNCK      | %UNCK    | %UNCK      |
| 1                  | 0.0 b    | 0.0 c    | 0.0 a       | 0.0 a    | 0.0 c      | 0.0 b    | 0.0 b      |
| 2                  | 3.8 b    | 45.0 b   | 0.0 a       | 0.0 a    | 38.8 b     | 1.3 b    | 16.3 ab    |
| 3                  | 3.8 b    | 72.5 a   | 0.0 a       | 2.5 a    | 81.3 a     | 2.5 b    | 5.0 b      |
| 4                  | 10.0 b   | 76.3 a   | 0.0 a       | 7.5 a    | 87.5 a     | 7.5 b    | 12.5 ab    |
| 5                  | 8.8 b    | 71.3 a   | 0.0 a       | 1.3 a    | 62.5 ab    | 5.0 b    | 28.8 a     |
| 6                  | 2.5 b    | 40.0 b   | 0.0 a       | 0.0 a    | 47.5 b     | 2.5 b    | 7.5 b      |
| 7                  | 25.0 a   | 86.3 a   | 0.0 a       | 15.0 a   | 95.5 a     | 37.5 a   | 28.8 a     |
| LSD (P=.05)        | 10.38    | 21.77    | 0.00        | 12.18    | 25.08      | 8.23     | 13.64      |
| Standard Deviation | 6.99     | 14.65    | 0.00        | 8.20     | 16.88      | 5.54     | 9.18       |
| CV                 | 90.99    | 26.21    | 0.0         | 218.54   | 28.61      | 68.9     | 65.09      |
| Bartlett's X2      | 2.571    | 3.11     | 0.0         | 8.507    | 12.954     | 4.695    | 7.814      |
| P(Bartlett's X2)   | 0.766    | 0.683    | .           | 0.037*   | 0.024*     | 0.454    | 0.167      |
| Replicate F        | 2.067    | 2.899    | 0.000       | 0.049    | 0.213      | 0.728    | 0.547      |
| Replicate Prob(F)  | 0.1405   | 0.0635   | 1.0000      | 0.9853   | 0.8862     | 0.5484   | 0.6565     |
| Treatment F        | 5.780    | 16.591   | 0.000       | 1.892    | 15.616     | 22.825   | 6.021      |
| Treatment Prob(F)  | 0.0017   | 0.0001   | 1.0000      | 0.1375   | 0.0001     | 0.0001   | 0.0013     |

## AOV Means Table

| Crop Name          | SORBI     | CAPAN      | MEDSA    | CITLA    |
|--------------------|-----------|------------|----------|----------|
| Description        | 4-5 leaf  | Cotyl - 4" | 6"       | Vining   |
| Part Rated         | SHOOT     | SHOOT      | SHOOT    | SHOOT    |
| Rating Date        | 5/24/2006 | 6/1/2006   | 6/1/2006 | 6/1/2006 |
| Rating Unit        | %UNCK     | %UNCK      | %UNCK    | %UNCK    |
| Treatment No.      |           |            |          |          |
| 1                  | 0.0 a     | 0.0 a      | 0.0 c    | 0.0 b    |
| 2                  | 0.0 a     | 6.3 a      | 40.0 b   | 2.5 b    |
| 3                  | 1.3 a     | 2.5 a      | 77.5 a   | 7.5 b    |
| 4                  | 1.3 a     | 21.3 a     | 91.3 a   | 20.0 ab  |
| 5                  | 2.5 a     | 12.5 a     | 46.3 b   | 35.0 a   |
| 6                  | 1.3 a     | 3.8 a      | 45.0 b   | 2.5 b    |
| 7                  | 3.8 a     | 23.8 a     | 96.5 a   | 32.5 a   |
| LSD (P=.05)        | 4.29      | 18.45      | 24.93    | 14.04    |
| Standard Deviation | 2.89      | 12.42      | 16.78    | 9.45     |
| CV                 | 202.07    | 124.16     | 29.63    | 66.14    |
| Bartlett's X2      | 3.074     | 6.076      | 18.894   | 7.834    |
| P(Bartlett's X2)   | 0.545     | 0.299      | 0.002*   | 0.166    |
| Replicate F        | 2.000     | 1.838      | 0.240    | 1.467    |
| Replicate Prob(F)  | 0.1501    | 0.1764     | 0.8673   | 0.2570   |
| Treatment F        | 0.857     | 2.297      | 16.454   | 9.867    |
| Treatment Prob(F)  | 0.5439    | 0.0801     | 0.0001   | 0.0001   |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

## Site Description

**Trial ID:**           **06-L-1 Chile tolerance to pre-emergence herbicides**  
                          **06-L-2 Chile tolerance to early post emergence herbicides**  
                          **06-L-3 Chile tolerance to directed layby herbicides**

Location: Plant Science Research Center, Weed Research Fields

**Study Director:** Dr. Jill Schroeder  
**Affiliation:** New Mexico State University  
**E-mail:** [Jischroe@NMSU.edu](mailto:Jischroe@NMSU.edu)

**Title:** Professor, Weed Scientist  
**Postal Code:** 88003

**Study Director:** Dr. Mark Renz  
**Affiliation:** New Mexico State University  
**E-mail:** [mrenz@wisc.edu](mailto:mrenz@wisc.edu)

**Title:** Extension Weeds Specialist  
**Postal Code:** 88003

## Crop Description

**Crop 1:** Chile  
**Code:** CPSAN  
**Planting Date:** 4/28/06  
**Row Spacing, Unit:** 40 in

**Variety:** Joe Parker  
**Latin Binomial:** *Capsicum annuum*  
**Planting Method:** DIRECT SEEDED  
**Soil Temperature:** 59°F

## Weed Description

**Code:** PHYWR  
**Common Name:** Wright groundcherry

**Latin Binomial:** *Physalis wrightii*  
**Description:** summer annual

**Code:** AMAPA  
**Common Name:** Palmer amaranth

**Latin Binomial:** *Palmeri amaranthus*  
**Description:** summer annual

**Code:** IPOSS  
**Common Name:** morningglory species

**Latin Binomial:** *Ipomea species*  
**Description:** summer annual

**Code:** ANNPO  
**Common Name:** annual grasses

**Latin Binomial:**  
**Description:**

**Code:** LEFFI  
**Common Name:** Red Sprangletop

**Latin Binomial:** *Leptochloa filiformis*  
**Description:** annual grasses

## Site and Design

**Site Type:** furrow irrigated field

**Plot Width:** 6.66 feet

**Study Design:** Randomized Complete Block

**2005 Previous crop:** fallow/Sudangrass/fallow

**Tillage Type:** conventional

**Plot Length:** 25 feet

**Replications:** 4

## Maintenance

### 2006 Maintenance and Field Prep

|          |  |
|----------|--|
| Jan 24   | chisel   |
| Jan 27   | plow   |
| Mar 21   | harrow   |
| Mar 24   | level, list                                      |
| April 28 | harrow   |
| May 2    | drag cap   |
| June 6   | cultivate  |
| June 26  | Thin to space chile plants 10 to 12 inches apart |
| June 28  | cultivate 06-L-1 and 06-L-3 and hoe 06-L-3       |
| July 13  | cultivate all three studies, hoe 06-L-3          |

### 2006 Maintenance Pesticides

|          |  |
|----------|--|
| April 28 | Platinum 8 oz/acre<br>Ridomil 2-oz/acre<br>Quadris 7.8 oz/acre |
| May 9    | Pre emergence Roundup WeatherMax 11 oz/acre                    |
| May 10   | Pre emergence Staple .62 oz/acre <b>06-L-3</b>                 |
| July 7   | Quadris applied 7.8 oz/acre                                    |
| July 17  | Quadris applied 7.8 oz/acre                                    |

06-L-1, 06-L-2, 06-L-3 Chile Harvest

Harvest date: 9/21 and 9/22/2006

Ten feet of each 25 ft long by two row wide plot was hand harvested. All marketable chiles were harvested and fresh weights were obtained. Yields from these plots were converted to pounds per acre.

## Soil Description

Texture by feel: Clay    **Organic Matter** : 1.5%    **pH**: 7.7    **Soil Name**: Belen Clay  
**CEC**: 1.33 mmhos/cm    **SAR**: 4.31    **Sodium (for SAR)**: L 7.51 meq/L  
**Magnesium (for SAR)**: 1.34 meq/L    **Calcium (for SAR)**: 4.73 meq/L  
**K 1:5 (soil:water extract)**: 42 ppm    **NO3 – N 1:5 (soil:water extract)**: 11.1 mg/Kg  
**Phosphorus (NaHCO3 extracted)**: 12.3 ppm

### 2006      Fertilizer Applied

|         |               |               |
|---------|---------------|---------------|
| 3/24/06 | 45% Urea      | 100 lbs/ acre |
|         | 11-52-0 (MAP) | 231 lbs/acre  |
|         | P205 + K20    | 388 lbs/acre  |
| 5/27/06 | N-0-0         | 100 lbs/acre  |

**Closest Weather Station:** Plant Science Research Center Weather Station

\*rain measured at field rain gauge significantly different from PSRC Weather station

**Distance:** .05 miles from plots

**Location:** 15 miles South of Las Cruces, NM

**Elevation:** 1168 m

**Latitude:** 32° 13' 0.00" N

**Longitude:** 106° 45' 0.00" W

| Furrow Irrigation     | Rain dates and amount |             |      |             |       |             |
|-----------------------|-----------------------|-------------|------|-------------|-------|-------------|
|                       | Date                  | Inches      | Date | Inches      | Date  | Inches      |
| March 24 pre-irrigate | 1/25                  | 0.03        | 7/14 | 0.20        | 8/18  | 0.26        |
| April 28 at planting  | 2/19                  | 0.01        | 7/15 | 0.11        | 8/19* | 2.0         |
| May 10                | 2/23                  | 0.19        | 7/16 | 0.01        | 8/20  | 0.01        |
| May 28                | 2/24                  | 0.05        | 7/23 | 0.01        | 8/21  | 0.27        |
| June 7                | 4/11                  | 0.01        | 7/28 | 0.22        | 8/30  | 0.03        |
| June 20               | 5/15                  | 0.10        | 7/30 | 0.06        | 8/31  | 0.69        |
| June 29               | 5/16                  | 0.01        | 7/31 | 0.85        | 9/1   | 0.64        |
| July 14               | 6/9                   | 0.08        | 8/1  | 0.28        | 9/2   | 0.02        |
| July 25               | 6/28                  | 0.02        | 8/3  | 0.08        | 9/3   | 1.68        |
| Aug 14                | 7/4                   | 0.04        | 8/4  | 0.05        | 9/4*  | 1.90        |
| Aug 28                | 7/5                   | 0.25        | 8/5  | 0.01        | 9/5   | 0.01        |
|                       | 7/6                   | 0.05        | 8/14 | 0.02        | 9/13  | 0.46        |
|                       | 7/8                   | 0.04        | 8/15 | 0.06        | 9/14  | 0.05        |
|                       | 7/9                   | 0.23        | 8/16 | 0.74        |       |             |
| Total                 |                       | <b>1.10</b> |      | <b>2.70</b> |       | <b>8.02</b> |

## 06-L-1 Treatment Plan

| Trt No. | Treatment Name      | Form Conc | Form Type | Rate | Rate Unit | Appl Code |
|---------|---------------------|-----------|-----------|------|-----------|-----------|
| 1       | Hand-Weeded Control |           |           |      |           |           |
| 2       | Pendimethalin       | 3.3       | EC        | 0.75 | lb ai/a   | A         |
| 3       | Pendimethalin       | 3.8       | CS        | 0.75 | lb ai/a   | A         |
| 4       | V10142              | 75        | DF        | 0.2  | lb ai/a   | A         |
| 5       | Pendimethalin       | 3.3       | EC        | 1.0  | lb ai/a   | A         |
| 6       | Pendimethalin       | 3.8       | CS        | 1.0  | lb ai/a   | A         |
| 7       | V10142              | 75        | DF        | 0.4  | lb ai/a   | A         |
| 8       | Pendimethalin       | 3.3       | EC        | 0.75 | lb ai/a   | B         |
| 9       | Pendimethalin       | 3.8       | CS        | 0.75 | lb ai/a   | B         |
| 10      | V10142              | 75        | DF        | 0.2  | lb ai/a   | B         |
| 11      | Pendimethalin       | 3.3       | EC        | 1.0  | lb ai/a   | B         |
| 12      | Pendimethalin       | 3.8       | CS        | 1.0  | lb ai/a   | B         |
| 13      | V10142              | 75        | DF        | 0.4  | lb ai/a   | B         |

Application Code A = After dragging cap

Application Code B = Before dragging cap

### Application Description

|                                  | A             | B         |
|----------------------------------|---------------|-----------|
| <b>Crop State at application</b> | PRE-EMERGENCE |           |
| <b>Application Date:</b>         | 5/10/2006     | 5/10/2006 |
| <b>Time of Day:</b>              | MORNING       | MORNING   |
| <b>Application Method:</b>       | SPRAY         | SPRAY     |
| <b>Application Timing:</b>       | B* CAP        | A* CAP    |
| <b>Application Placement:</b>    | BROSOI        | BROSOI    |
| <b>Applied By:</b>               | JUSTIN        | JUSTIN    |
| <b>Air Temperature, Unit:</b>    | 57 F          | 75.6 F    |
| <b>% Relative Humidity:</b>      | 53.6          | 43.2      |
| <b>Wind Velocity, Unit:</b>      | 0. mph        | 2 MPH     |
| <b>Wind Direction:</b>           | NONE          | WEST      |
| <b>Dew Presence (Y/N):</b>       | N             | N         |
| <b>Soil Temperature, Unit:</b>   | 60 F          | 60 F      |
| <b>Soil Moisture:</b>            | MOIST         | MOIST     |
| <b>% Cloud Cover:</b>            | 0             | 0         |

\*A = Application made after dragging the cap

\*B = Application made before dragging the cap



## Application Equipment

|                                | <b>A</b> | <b>B</b> |
|--------------------------------|----------|----------|
| <b>Appl. Equipment:</b>        | BACKPACK | BACKPACK |
| <b>Operating Pressure:</b>     | 20 PSI   | 20 PSI   |
| <b>Nozzle Type:</b>            | TEEJET   | TEEJET   |
| <b>Nozzle Size:</b>            | 11002    | 11002    |
| <b>Nozzle Spacing, Unit:</b>   | 20 IN    | 20 IN    |
| <b>Nozzles/Row:</b>            | 2        | 2        |
| <b>Band Width, Unit:</b>       | 6 IN     | 6 IN     |
| <b>Boom Length, Unit:</b>      | 4 FT     | 4 FT     |
| <b>Boom Height, Unit:</b>      | 18 IN    | 18 IN    |
| <b>Ground Speed, Unit:</b>     | 2 MPH    | 2 MPH    |
| <b>Incorporation Equipment</b> | H2O      | H2O      |
| <b>Hours to incorporate</b>    | 2        | 2        |
| <b>Carrier:</b>                | H2O      | H2O      |
| <b>Spray Volume:</b>           | 20 GPA   | 20 GPA   |
| <b>Propellant:</b>             | CO2      | CO2      |

### Trt No Treatment Application Comment

- 412 NON-STAKE ROW TREATED WITH TRT 10  
 413 STAKE ROW TREATED WITH TRT 10 TWICE

## AOV Means Table

| Pest Code<br>Crop Code | CAPAN<br>5/17/200<br>6 | CAPAN<br>5/24/200<br>6 | PHYWR<br>5/24/200<br>6 | AMAPA<br>5/24/200<br>6 | IPOSS<br>5/24/200<br>6 | ANNPO<br>5/24/200<br>6 | CAPAN<br>6/5/200<br>6 | PHYWR<br>CAPAN<br>6/5/2006 |
|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|----------------------------|
| Rating Date            |                        |                        |                        |                        |                        |                        |                       |                            |
| Rating Data Type       | INJURY                 | INJURY                 | COUNT                  | COUNT                  | COUNT                  | COUNT                  | INJURY                | COVER                      |
| Rating Unit            | %                      | %                      | NUMBER                 | NUMBER                 | NUMBER                 | NUMBER                 | %                     | %                          |
| Treatment No.          |                        |                        |                        |                        |                        |                        |                       |                            |
| 1                      | 6.3 a                  | 0.0 b                  | 189.8 a                | 31.0 a                 | 3.3 a                  | 57.0 a                 | 2.5 a                 | 28.8 a                     |
| 2                      | 2.5 a                  | 0.0 b                  | 52.3 a                 | 13.3 a                 | 1.3 a                  | 53.8 a                 | 0.0 a                 | 16.3 abc                   |
| 3                      | 0.0 a                  | 0.0 b                  | 123.8 a                | 18.5 a                 | 1.0 a                  | 8.5 a                  | 6.3 a                 | 20.0 abc                   |
| 4                      | 3.8 a                  | 5.0 b                  | 29.8 a                 | 3.3 a                  | 0.3 a                  | 37.8 a                 | 16.3 a                | 9.3 bc                     |
| 5                      | 2.5 a                  | 0.0 b                  | 56.0 a                 | 7.5 a                  | 0.3 a                  | 40.8 a                 | 3.8 a                 | 17.5 abc                   |
| 6                      | 0.0 a                  | 0.0 b                  | 78.3 a                 | 14.5 a                 | 0.5 a                  | 33.0 a                 | 7.5 a                 | 18.8 abc                   |
| 7                      | 3.8 a                  | 17.5 a                 | 17.0 a                 | 2.0 a                  | 0.3 a                  | 13.0 a                 | 15.0 a                | 10.0 bc                    |
| 8                      | 7.5 a                  | 2.5 b                  | 91.3 a                 | 4.3 a                  | 3.3 a                  | 16.5 a                 | 8.8 a                 | 27.5 a                     |
| 9                      | 2.5 a                  | 5.0 b                  | 130.8 a                | 5.3 a                  | 2.5 a                  | 27.0 a                 | 27.5 a                | 25.0 ab                    |
| 10                     | 2.5 a                  | 2.5 b                  | 12.8 a                 | 3.3 a                  | 0.5 a                  | 22.8 a                 | 8.8 a                 | 6.3 c                      |
| 11                     | 7.5 a                  | 5.0 b                  | 224.5 a                | 7.3 a                  | 2.0 a                  | 25.5 a                 | 8.8 a                 | 26.3 ab                    |
| 12                     | 7.5 a                  | 2.5 b                  | 150.0 a                | 8.8 a                  | 2.0 a                  | 16.5 a                 | 15.0 a                | 23.8 ab                    |
| 13                     | 7.5 a                  | 2.5 b                  | 12.5 a                 | 3.3 a                  | 0.5 a                  | 21.3 a                 | 15.0 a                | 8.8 bc                     |
| LSD (P=.05)            | 8.98                   | 6.96                   | 131.84                 | 21.21                  | 2.05                   | 47.54                  | 15.26                 | 10.66                      |
| Standard Deviation     | 6.28                   | 4.87                   | 92.26                  | 14.84                  | 1.43                   | 33.27                  | 10.68                 | 7.46                       |
| CV                     | 151.91                 | 148.97                 | 102.64                 | 158.13                 | 106.59                 | 115.86                 | 102.8                 | 40.75                      |
| Bartlett's X2          | 11.453                 | 4.511                  | 47.451                 | 57.831                 | 21.333                 | 33.68                  | 40.622                | 5.536                      |
| P(Bartlett's X2)       | 0.323                  | 0.719                  | 0.001*                 | 0.001*                 | 0.046*                 | 0.001*                 | 0.001*                | 0.938                      |
| Replicate F            | 3.262                  | 3.108                  | 1.353                  | 0.962                  | 1.034                  | 2.446                  | 0.979                 | 1.584                      |
| Replicate Prob(F)      | 0.0325                 | 0.0384                 | 0.2726                 | 0.4214                 | 0.3893                 | 0.0797                 | 0.4136                | 0.2102                     |
| Treatment F            | 0.802                  | 3.757                  | 2.275                  | 1.227                  | 2.480                  | 0.822                  | 1.868                 | 4.353                      |
| Treatment Prob(F)      | 0.6458                 | 0.0010                 | 0.0284                 | 0.3031                 | 0.0176                 | 0.6271                 | 0.0734                | 0.0003                     |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

## AOV Means Table

| Pest Code<br>Crop Code | AMAPA<br>CAPAN | IPOSS    | ANNPO    | CAPAN     | CAPAN     | CAPAN     | CAPAN     |
|------------------------|----------------|----------|----------|-----------|-----------|-----------|-----------|
| Rating Date            | 6/5/2006       | 6/5/2006 | 6/5/2006 | 6/5/2006  | 6/16/2006 | 6/28/2006 | 7/18/2006 |
| Rating Data Type       | COVER          | COVER    | COVER    | HOE TIMES | HOE TIMES | HOE TIMES | HOE TIMES |
| Rating Unit            | %              | %        | %        | SECONDS   | SECONDS   | SECONDS   | SECONDS   |
| Treatment No.          |                |          |          |           |           |           |           |
| 1                      | 13.8 a         | 0.5 a    | 18.8 a   | 477.00 a  | 219.8 a   | 170.8 a   | 867.50 a  |
| 2                      | 13.0 a         | 0.0 a    | 17.5 a   | 369.25 a  | 234.3 a   | 139.8 a   | 743.25 a  |
| 3                      | 9.3 a          | 0.3 a    | 5.0 a    | 448.55 a  | 198.3 a   | 122.3 a   | 769.05 a  |
| 4                      | 6.8 a          | 0.0 a    | 13.8 a   | 260.50 a  | 144.0 a   | 95.8 a    | 500.25 a  |
| 5                      | 9.3 a          | 0.3 a    | 8.8 a    | 321.30 a  | 179.5 a   | 172.5 a   | 673.30 a  |
| 6                      | 10.0 a         | 0.3 a    | 15.0 a   | 341.05 a  | 206.8 a   | 150.3 a   | 698.05 a  |
| 7                      | 2.0 a          | 0.3 a    | 7.8 a    | 179.40 a  | 120.5 a   | 82.0 a    | 381.90 a  |
| 8                      | 8.8 a          | 0.0 a    | 11.3 a   | 313.00 a  | 170.0 a   | 137.3 a   | 620.25 a  |
| 9                      | 12.5 a         | 0.5 a    | 17.5 a   | 360.45 a  | 142.5 a   | 127.5 a   | 630.45 a  |
| 10                     | 9.3 a          | 0.0 a    | 16.3 a   | 200.00 a  | 176.0 a   | 95.0 a    | 471.00 a  |
| 11                     | 10.0 a         | 0.8 a    | 10.0 a   | 406.10 a  | 196.5 a   | 138.5 a   | 741.10 a  |
| 12                     | 17.5 a         | 0.0 a    | 10.0 a   | 366.25 a  | 188.5 a   | 128.3 a   | 683.00 a  |
| 13                     | 7.5 a          | 0.0 a    | 11.3 a   | 183.50 a  | 110.5 a   | 110.3 a   | 404.25 a  |
| LSD (P=.05)            | 10.85          | 0.81     | 10.27    | 219.628   | 71.76     | 52.60     | 283.153   |
| Standard Deviation     | 7.59           | 0.57     | 7.18     | 153.686   | 50.21     | 36.80     | 198.139   |
| CV                     | 76.21          | 269.41   | 57.38    | 47.27     | 28.54     | 28.65     | 31.48     |
| Bartlett's X2          | 5.846          | 7.71     | 14.447   | 12.283    | 11.777    | 11.27     | 7.262     |
| P(Bartlett's X2)       | 0.883          | 0.26     | 0.209    | 0.423     | 0.464     | 0.506     | 0.84      |
| Replicate F            | 0.130          | 4.164    | 0.423    | 2.187     | 12.552    | 6.332     | 5.634     |
| Replicate Prob(F)      | 0.9414         | 0.0125   | 0.7379   | 0.1065    | 0.0001    | 0.0015    | 0.0029    |
| Treatment F            | 0.981          | 0.750    | 1.417    | 1.571     | 2.233     | 2.271     | 2.250     |
| Treatment Prob(F)      | 0.4846         | 0.6947   | 0.2031   | 0.1449    | 0.0313    | 0.0286    | 0.0301    |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

## AOV Means Table

|                    |         |           |
|--------------------|---------|-----------|
| Pest Code          |         |           |
| Crop Code          |         | CAPAN     |
| Rating Date        |         | 9/21/2006 |
| Rating Data Type   |         | YIELD     |
| Rating Unit        |         | LB/A      |
| Treatment No.      |         |           |
| 1                  | 15313.5 | ab        |
| 2                  | 18410.1 | a         |
| 3                  | 11809.6 | ab        |
| 4                  | 8222.7  | ab        |
| 5                  | 17487.3 | a         |
| 6                  | 10767.8 | ab        |
| 7                  | 5075.7  | b         |
| 8                  | 9985.5  | ab        |
| 9                  | 11178.7 | ab        |
| 10                 | 15731.7 | ab        |
| 11                 | 7552.2  | ab        |
| 12                 | 11982.6 | ab        |
| 13                 | 7916.3  | ab        |
| LSD (P=.05)        | 6740.96 |           |
| Standard Deviation | 4717.05 |           |
| CV                 | 40.49   |           |
| Bartlett's X2      | 16.665  |           |
| P(Bartlett's X2)   | 0.163   |           |
| Replicate F        | 1.810   |           |
| Replicate Prob(F)  | 0.1627  |           |
| Treatment F        | 2.988   |           |
| Treatment Prob(F)  | 0.0055  |           |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

### ARM Action Codes

TY2 = 1.44195\*[16]

## 06-L-2 Treatment Plan

| Trt No. | Treatment Name                 | Form Conc | Form Type | Rate               | Rate Unit                   | Appl Code   |
|---------|--------------------------------|-----------|-----------|--------------------|-----------------------------|-------------|
| 1       | Hand-Weeded Control            |           |           |                    |                             |             |
| 2       | Pendimethalin                  | 3.8       | CS        | 0.75               | lb ai/a                     | A           |
| 3       | Pendimethalin                  | 3.8       | CS        | 1.0                | lb ai/a                     | A           |
| 4       | V10142<br>NIS                  | 75        | DF        | 0.1<br>0.25        | lb ai/a<br>% v/v            | A<br>A      |
| 5       | V10142<br>NIS                  | 75        | DF        | 0.2<br>0.25        | lb ai/a<br>% v/v            | A<br>A      |
| 6       | V10142<br>NIS                  | 75        | DF        | 0.3<br>0.25        | lb ai/a<br>% v/v            | A<br>A      |
| 7       | Pendimethalin<br>V10142<br>NIS | 3.8<br>75 | CS<br>DF  | 1.0<br>0.3<br>0.25 | lb ai/a<br>lb ai/a<br>% v/v | A<br>A<br>A |
| 8       | Pendimethalin                  | 3.8       | CS        | 0.75               | lb ai/a                     | B           |
| 9       | Pendimethalin                  | 3.8       | CS        | 1.0                | lb ai/a                     | B           |
| 10      | V10142<br>NIS                  | 75        | DF        | 0.1<br>0.25        | lb ai/a<br>% v/v            | B<br>B      |
| 11      | V10142<br>NIS                  | 75        | DF        | 0.2<br>0.25        | lb ai/a<br>% v/v            | B<br>B      |
| 12      | V10142<br>NIS                  | 75        | DF        | 0.3<br>0.25        | lb ai/a<br>% v/v            | B<br>B      |
| 13      | Pendimethalin<br>V10142<br>NIS | 3.8<br>75 | CS<br>DF  | 1.0<br>0.3<br>0.25 | lb ai/a<br>lb ai/a<br>% v/v | B<br>B<br>B |

Application Code A = Applied when chile is at the cotyledon stage of growth.  
 Application Code B = Applied when chile is at the 4 to 6 leaf stage of growth.

## Application Description

|                                   | A         | B        |
|-----------------------------------|-----------|----------|
| <b>Crop State at application:</b> | COTYL     | 2-4 LEAF |
| <b>Application Date:</b>          | 5/23/2006 | 6/13/06  |
| <b>Time of Day:</b>               | 7:40 am   |          |
| <b>Application Method:</b>        | SPRAY     | SPRAY    |
| <b>Application Timing:</b>        | POST      | POST     |
| <b>Application Placement:</b>     | BROFOL    | BROFOL   |
| <b>Applied By:</b>                | JUSTIN    |          |
| <b>Air Temperature, Unit:</b>     | 74.5 F    |          |
| <b>% Relative Humidity:</b>       | 53.6%     |          |
| <b>Wind Velocity, Unit:</b>       | 0.03 MPH  |          |
| <b>Dew Presence (Y/N):</b>        | N         |          |
| <b>Soil Temperature, Unit:</b>    | 60 F      |          |
| <b>Soil Moisture:</b>             | DRY       |          |
| <b>% Cloud Cover:</b>             | 0         |          |

## Application Equipment

|                            | A        | B        |
|----------------------------|----------|----------|
| <b>Appl. Equipment:</b>    | BACKPACK | BACKPACK |
| <b>Operating Pressure:</b> | 20 PSI   | 20 PSI   |
| <b>Nozzle Type:</b>        | TEEJET   | TEEJET   |
| <b>Nozzle Size:</b>        | 11001    | 11001    |
| <b>Ground Speed, Unit:</b> | 2 MPH    | 2 MPH    |
| <b>Spray Volume:</b>       | 20 GPA   | 20 GPA   |
| <b>Propellant:</b>         | CO2      | CO2      |

## AOV Means Table

| Pest Code          | CAPAN    | AMAPA    | PHYWR    | IPOSS    | ANNPO    | CAPAN   | AMAPA   | PHYWR   |
|--------------------|----------|----------|----------|----------|----------|---------|---------|---------|
| Crop Code          |          |          |          |          |          |         |         |         |
| Rating Date        | 5/30/200 | 5/30/200 | 5/30/200 | 5/30/200 | 5/30/200 | 6/5/200 | 6/5/200 | 6/5/200 |
| Rating Data Type   | 6        | 6        | 6        | 6        | 6        | 6       | 6       | 6       |
| Rating Unit        | INJURY   | COVER    | COVER    | COVER    | COVER    | INJURY  | COVER   | COVER   |
| Treatment No.      | %        | %        | %        | %        | %        | %       | %       | %       |
| 1                  | 0.0 a    | 13.8 b   | 16.3 a   | 0.5 a    | 1.3 a    | 0.0 a   | 20.0 b  | 12.5 b  |
| 2                  | 0.0 a    | 30.0 a   | 27.5 a   | 0.8 a    | 0.3 a    | 2.5 a   | 43.8 a  | 13.8 b  |
| 3                  | 0.0 a    | 28.8 a   | 23.8 a   | 0.3 a    | 0.0 a    | 2.5 a   | 36.3 a  | 25.0 a  |
| 4                  | 2.5 a    | 7.5 b    | 7.5 a    | 0.3 a    | 0.0 a    | 1.3 a   | 17.5 b  | 16.3 ab |
| 5                  | 2.5 a    | 5.0 b    | 17.5 a   | 0.5 a    | 0.0 a    | 5.0 a   | 20.0 b  | 16.3 ab |
| 6                  | 3.8 a    | 6.3 b    | 15.0 a   | 0.5 a    | 0.8 a    | 3.8 a   | 11.3 b  | 18.8 ab |
| 7                  | 3.8 a    | 5.5 b    | 12.5 a   | 0.3 a    | 0.8 a    | 5.0 a   | 15.0 b  | 10.0 b  |
| LSD (P=.05)        | 2.92     | 7.81     | 12.46    | 0.90     | 1.54     | 5.71    | 9.50    | 7.69    |
| Standard Deviation | 1.97     | 5.26     | 8.39     | 0.60     | 1.04     | 3.84    | 6.39    | 5.18    |
| CV                 | 110.15   | 38.04    | 48.92    | 140.98   | 241.52   | 134.56  | 27.33   | 32.2    |
| Bartlett's X2      | 0.12     | 8.953    | 13.539   | 2.228    | 6.858    | 3.144   | 8.88    | 5.984   |
| P(Bartlett's X2)   | 0.989    | 0.176    | 0.035*   | 0.898    | 0.077    | 0.678   | 0.18    | 0.425   |
| Replicate F        | 1.538    | 2.010    | 1.049    | 1.304    | 3.022    | 0.483   | 2.818   | 3.956   |
| Replicate Prob(F)  | 0.2389   | 0.1486   | 0.3949   | 0.3036   | 0.0567   | 0.6981  | 0.0684  | 0.0250  |
| Treatment F        | 3.154    | 17.581   | 2.568    | 0.391    | 0.911    | 0.946   | 13.951  | 3.533   |
| Treatment Prob(F)  | 0.0271   | 0.0001   | 0.0563   | 0.8750   | 0.5091   | 0.4872  | 0.0001  | 0.0173  |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

\*9-13 NOT RATED DURING THIS TIME-PERIOD.

## AOV Means Table

| Pest Code<br>Crop Code | IPOSS<br>6/5/2006 | ANNPO<br>6/5/2006 | CAPAN<br>5/24/2006 | CAPAN<br>6/5/2006 | CAPAN<br>6/16/2006 | CAPAN<br>6/20/2006 | AMAPA<br>6/20/2006 |
|------------------------|-------------------|-------------------|--------------------|-------------------|--------------------|--------------------|--------------------|
| Rating Date            |                   |                   |                    |                   |                    |                    |                    |
| Rating Data Type       | COVER             | COVER             | HOE TIMES          | HOE TIMES         | HOE TIMES          | INJURY             | COVER              |
| Rating Unit            | %                 | %                 | SECONDS            | SECONDS           | SECONDS            | %                  | %                  |
| Treatment No.          |                   |                   |                    |                   |                    |                    |                    |
| 1                      | 0.0 a             | 5.0 a             | 309.6 a            | 284.3 a           | 205.3 a            |                    |                    |
| 2                      | 0.0 a             | 2.5 a             |                    | 339.5 a           | 112.5 a            |                    |                    |
| 3                      | 1.0 a             | 4.0 a             |                    | 362.0 a           | 120.8 a            |                    |                    |
| 4                      | 0.0 a             | 2.5 a             |                    | 280.0 a           | 157.0 a            |                    |                    |
| 5                      | 0.3 a             | 2.5 a             |                    | 294.0 a           | 162.3 a            |                    |                    |
| 6                      | 0.0 a             | 3.8 a             |                    | 241.0 a           | 108.3 a            |                    |                    |
| 7                      | 0.8 a             | 6.0 a             |                    | 250.5 a           | 105.0 a            |                    |                    |
| 8                      |                   |                   | 304.3 a            | 262.3 a           |                    | 0.0 a              | 23.8 a             |
| 9                      |                   |                   | 347.3 a            | 276.3 a           |                    | 0.0 a              | 15.0 a             |
| 10                     |                   |                   | 280.5 a            | 232.3 a           |                    | 0.5 a              | 7.5 a              |
| 11                     |                   |                   | 332.0 a            | 307.3 a           |                    | 0.3 a              | 7.5 a              |
| 12                     |                   |                   | 287.0 a            | 224.3 a           |                    | 0.3 a              | 11.3 a             |
| 13                     |                   |                   | 334.0 a            | 279.3 a           |                    | 0.0 a              | 4.3 a              |
| LSD (P=.05)            | 0.88              | 7.21              | 153.70             | 156.64            | 65.70              | 0.73               | 13.05              |
| Standard Deviation     | 0.59              | 4.86              | 103.02             | 109.61            | 44.22              | 0.48               | 8.66               |
| CV                     | 208.0             | 129.5             | 32.86              | 39.23             | 31.88              | 289.83             | 75.03              |
| Bartlett's X2          | 1.873             | 7.887             | 11.059             | 26.156            | 12.43              | 2.033              | 15.17              |
| P(Bartlett's X2)       | 0.392             | 0.247             | 0.087              | 0.01*             | 0.053              | 0.362              | 0.01*              |
| Replicate F            | 1.079             | 2.760             | 18.819             | 3.692             | 6.055              | 1.429              | 2.087              |
| Replicate Prob(F)      | 0.3831            | 0.0722            | 0.0001             | 0.0205            | 0.0049             | 0.2737             | 0.1449             |
| Treatment F            | 1.989             | 0.322             | 0.238              | 0.536             | 2.860              | 0.714              | 2.634              |
| Treatment Prob(F)      | 0.1207            | 0.9171            | 0.9576             | 0.8764            | 0.0389             | 0.6223             | 0.0667             |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.  
BLANK CELLS INDICATE DATA NOT COLLECTED

## AOV Means Table

| Pest Code          | PHYWR     | ANNPO     | CAPAN     | AMAPA     | PHYWR     | ANNPO     | CAPAN     |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Crop Code          |           |           |           |           |           |           |           |
| Rating Date        | 6/20/2006 | 6/20/2006 | 6/20/2006 | 6/20/2006 | 6/20/2006 | 6/20/2006 | 6/27/2006 |
| Rating Data Type   | COVER     | COVER     | INJURY    | COVER     | COVER     | COVER     | INJURY    |
| Rating Unit        | %         | %         | %         | %         | %         | %         | %         |
| Treatment No.      |           |           |           |           |           |           |           |
| 1                  |           |           | 0.0 a     | 2.5 a     | 4.0 a     | 0.0 a     | 11.7 ab   |
| 2                  |           |           | 2.5 a     | 3.0 a     | 4.5 a     | 0.3 a     | 0.0 b     |
| 3                  |           |           | 1.5 a     | 1.5 a     | 4.3 a     | 0.3 a     | 5.0 b     |
| 4                  |           |           | 0.8 a     | 2.8 a     | 3.0 a     | 0.0 a     | 5.0 b     |
| 5                  |           |           | 1.8 a     | 1.8 a     | 4.3 a     | 0.0 a     | 5.0 b     |
| 6                  |           |           | 1.8 a     | 1.8 a     | 2.5 a     | 0.0 a     | 10.0 ab   |
| 7                  |           |           | 2.8 a     | 1.8 a     | 2.5 a     | 0.3 a     |           |
| 8                  | 23.8 a    | 0.0 a     |           |           |           |           | 32.5 a    |
| 9                  | 18.8 a    | 0.0 a     |           |           |           |           | 33.8 a    |
| 10                 | 16.3 a    | 0.0 a     |           |           |           |           | 10.0 ab   |
| 11                 | 25.0 a    | 0.0 a     |           |           |           |           | 13.8 ab   |
| 12                 | 12.5 a    | 0.3 a     |           |           |           |           | 11.3 ab   |
| 13                 | 12.5 a    | 0.0 a     |           |           |           |           | 12.5 ab   |
| LSD (P=.05)        | 16.21     | 0.31      | 2.60      | 2.47      | 4.76      | 0.40      | 14.97     |
| Standard Deviation | 10.76     | 0.20      | 1.75      | 1.66      | 3.20      | 0.27      | 10.03     |
| CV                 | 59.36     | 489.9     | 111.24    | 77.67     | 89.64     | 249.44    | 80.05     |
| Bartlett's X2      | 2.966     | 0.0       | 10.621    | 0.267     | 3.379     | 0.0       | 20.425    |
| P(Bartlett's X2)   | 0.705     | .         | 0.059     | 1.00      | 0.76      | 0.001*    | 0.002*    |
| Replicate F        | 2.217     | 1.000     | 1.091     | 9.524     | 1.431     | 4.500     | 1.858     |
| Replicate Prob(F)  | 0.1284    | 0.4199    | 0.3783    | 0.0005    | 0.2666    | 0.0159    | 0.1750    |
| Treatment F        | 1.010     | 1.000     | 1.192     | 0.507     | 0.298     | 1.000     | 4.308     |
| Treatment Prob(F)  | 0.4458    | 0.4509    | 0.3543    | 0.7950    | 0.9296    | 0.4552    | 0.0036    |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
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BLANK CELLS INDICATE DATA NOT COLLECTED



## AOV Means Table

| Pest Code          | AMAPA     | PHYWR     | CAPAN     | CAPAN     | AMAPA     | PHYWR     | CAPAN     |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Crop Code          |           |           |           |           |           |           |           |
| Rating Date        | 6/27/2006 | 6/27/2006 | 6/28/2006 | 7/11/2006 | 7/11/2006 | 7/11/2006 | 7/25/2006 |
| Rating Data Type   | COVER     | COVER     | HOE TIMES | INJURY    | COVER     | COVER     | HOE TIMES |
| Rating Unit        | %         | %         | SECONDS   | %         | %         | %         | SECONDS   |
| Treatment No.      |           |           |           |           |           |           |           |
| 1                  | 11.7 a    | 0.0 c     | 168.0 b   | 0.0 a     | 8.8 a     | 13.8 a    | 905.8 ab  |
| 2                  | 10.0 a    | 1.0 bc    | 100.0 b   |           |           |           | 552.0 ab  |
| 3                  | 5.0 a     | 3.0 a     | 114.3 b   |           |           |           | 597.0 ab  |
| 4                  | 15.0 a    | 1.0 bc    | 138.3 b   |           |           |           | 575.3 ab  |
| 5                  | 15.0 a    | 2.0 ab    | 154.8 b   |           |           |           | 611.0 ab  |
| 6                  | 10.0 a    | 3.0 a     | 84.3 b    |           |           |           | 433.5 b   |
| 7                  |           |           | 77.0 b    |           |           |           | 432.5 b   |
| 8                  | 28.8 a    | 0.0 c     | 521.5 a   | 0.3 a     | 8.8 a     | 10.0 a    | 1088.0 a  |
| 9                  | 15.0 a    | 0.0 c     | 289.0 ab  | 0.0 a     | 6.5 a     | 8.8 a     | 912.5 ab  |
| 10                 | 20.0 a    | 0.5 bc    | 337.5 ab  | 0.0 a     | 6.3 a     | 7.5 a     | 850.3 ab  |
| 11                 | 22.5 a    | 0.0 c     | 224.5 b   | 0.8 a     | 7.5 a     | 12.5 a    | 863.8 ab  |
| 12                 | 16.3 a    | 1.0 bc    | 205.0 b   | 1.5 a     | 3.8 a     | 10.0 a    | 716.3 ab  |
| 13                 | 11.3 a    | 0.5 bc    | 173.8 b   | 1.0 a     | 9.0 a     | 7.8 a     | 787.0 ab  |
| LSD (P=.05)        | 15.89     | 1.04      | 193.98    | 0.99      | 8.04      | 7.33      | 319.32    |
| Standard Deviation | 10.65     | 0.69      | 135.74    | 0.67      | 5.41      | 4.93      | 223.45    |
| CV                 | 70.84     | 69.22     | 68.19     | 133.93    | 75.01     | 49.16     | 31.15     |
| Bartlett's X2      | 5.358     | 3.375     | 40.431    | 2.983     | 12.701    | 6.233     | 14.465    |
| P(Bartlett's X2)   | 0.499     | 0.185     | 0.001*    | 0.394     | 0.048*    | 0.398     | 0.272     |
| Replicate F        | 1.233     | 0.232     | 3.132     | 4.779     | 0.932     | 5.616     | 8.003     |
| Replicate Prob(F)  | 0.3284    | 0.8728    | 0.0374    | 0.0128    | 0.4457    | 0.0067    | 0.0003    |
| Treatment F        | 1.433     | 10.245    | 3.334     | 3.159     | 0.488     | 0.909     | 3.271     |
| Treatment Prob(F)  | 0.2445    | 0.0001    | 0.0025    | 0.0269    | 0.8089    | 0.5106    | 0.0029    |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

BLANK CELLS INDICATE DATA NOT COLLECTED

## AOV Means Table

|                    |           |         |   |
|--------------------|-----------|---------|---|
| Crop Code          | CAPAN     |         |   |
| Rating Date        | 9/21/2006 |         |   |
| Rating Data Type   | YIELD     |         |   |
| Rating Unit        | LB/A      |         |   |
| Treatment No.      |           |         |   |
|                    | 1         | 20753.3 | a |
|                    | 2         | 15933.5 | a |
|                    | 3         | 16041.7 | a |
|                    | 4         | 22047.4 | a |
|                    | 5         | 18038.8 | a |
|                    | 6         | 16135.4 | a |
|                    | 7         | 19902.5 | a |
|                    | 8         | 24668.2 | a |
|                    | 9         | 29073.3 | a |
|                    | 10        | 18395.7 | a |
|                    | 11        | 18720.1 | a |
|                    | 12        | 15324.3 | a |
|                    | 13        | 19015.7 | a |
| LSD (P=.05)        | 8005.84   |         |   |
| Standard Deviation | 5602.16   |         |   |
| CV                 | 28.67     |         |   |
| Bartlett's X2      | 8.633     |         |   |
| P(Bartlett's X2)   | 0.734     |         |   |
| Replicate F        | 1.562     |         |   |
| Replicate Prob(F)  | 0.2155    |         |   |
| Treatment F        | 1.956     |         |   |
| Treatment Prob(F)  | 0.0598    |         |   |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

### ARM Action Codes

TY2 = 1.44195\*[30]

## 06-L-3 Treatment Plan

| Trt No. | Treatment Name                     | Form Conc | Form Type | Rate                     | Rate Unit                   | Appl Code   |
|---------|------------------------------------|-----------|-----------|--------------------------|-----------------------------|-------------|
| 1       | Hand-Weeded Control                |           |           |                          |                             |             |
| 2       | Oxyfluorofen<br>COC                | 2         | EC        | 0.125<br>1               | lb ai/a<br>% v/v            | A<br>A      |
| 3       | Oxyfluorofen<br>COC                | 2         | EC        | 0.25<br>1                | lb ai/a<br>% v/v            | A<br>A      |
| 4       | Sulfentrazone<br>COC               | 75        | DG        | 0.15<br>1                | lb ai/a<br>% v/v            | A<br>A      |
| 5       | Sulfentrazone<br>COC               | 75        | DG        | 0.25<br>1                | lb ai/a<br>% v/v            | A<br>A      |
| 6       | V-10142<br>COC                     | 75        | DG        | 0.1<br>1                 | lb ai/a<br>% v/v            | A<br>A      |
| 7       | V-10142<br>COC                     | 75        | DG        | 0.2<br>1                 | lb ai/a<br>% v/v            | A<br>A      |
| 8       | V-10142<br>COC                     | 75        | DG        | 0.3<br>1                 | lb ai/a<br>% v/v            | A<br>A      |
| 9       | Flumioxazin<br>COC                 | 51        | DF        | 0.09562<br>1             | lb ai/a<br>% v/v            | A<br>A      |
| 10      | V-10142<br>Flumioxazin<br>COC      | 75<br>51  | DG<br>DF  | 0.1<br>0.09562<br>1      | lb ai/a<br>lb ai/a<br>% v/v | A<br>A<br>A |
| 11      | V-10142<br>Flumioxazin<br>COC      | 75<br>51  | DG<br>DF  | 0.2<br>0.09562<br>1      | lb ai/a<br>lb ai/a<br>% v/v | A<br>A<br>A |
| 12      | Oxyfluorofen<br>Flumioxazin<br>COC | 2<br>51   | EC<br>DF  | 0.25<br>0.09562<br>1     | lb ai/a<br>lb ai/a<br>% v/v | A<br>A<br>A |
| 13      | Halosulfuron<br>Flumioxazin<br>NIS | 75<br>51  | DF<br>DF  | 0.047<br>0.09562<br>0.25 | lb ai/a<br>lb ai/a<br>% v/v | A<br>A<br>A |
| 14      | Halosulfuron<br>NIS                | 75        | DF        | 0.047<br>0.25            | lb ai/a<br>% v/v            | A<br>A      |

Application Code A = Treatments applied directed at the soil at layby.

## Application Description

|                                   | <b>A</b>  |
|-----------------------------------|-----------|
| <b>Crop State at application:</b> | FRUIT SET |
| <b>Application Date:</b>          | 7/21/06   |
| <b>Time of Day:</b>               | 9:25 am   |
| <b>Application Method:</b>        | SPRAY     |
| <b>Application Timing:</b>        | LAYBY     |
| <b>Application Placement:</b>     | DIRECTED  |
| <b>Applied By:</b>                | PHILLIP   |
| <b>Air Temperature, Unit:</b>     | 90° F     |
| <b>% Relative Humidity:</b>       | 18%       |
| <b>Wind Velocity, Unit:</b>       | 5 MPH     |
| <b>Dew Presence (Y/N):</b>        | N         |
| <b>Soil Temperature, Unit:</b>    | 80° F     |
| <b>Soil Moisture:</b>             | MOIST     |
| <b>% Cloud Cover:</b>             | 1%        |

## Application Equipment

|                              | <b>A</b> |
|------------------------------|----------|
| <b>Appl. Equipment:</b>      | BACKPACK |
| <b>Operating Pressure:</b>   | 18 PSI   |
| <b>Nozzle Type:</b>          | TEEJET   |
| <b>Nozzle Size:</b>          | 8002E    |
| <b>Nozzle Spacing, Unit:</b> | SINGLE   |
| <b>Nozzles/Row:</b>          | 2        |
| <b>Band Width, Unit:</b>     | 18 IN    |
| <b>Boom Length, Unit:</b>    |          |
| <b>Boom Height, Unit:</b>    | 18 IN    |
| <b>Ground Speed, Unit:</b>   | 2 MPH    |
| <b>Carrier:</b>              | H2O      |
| <b>Spray Volume:</b>         | 20 GPA   |
| <b>Propellant:</b>           | CO2      |

## Chile Rating Injury Symptoms August 18, 2006

|                 | Treatment numbers |   |   |   |   |   |    |    |    |    |
|-----------------|-------------------|---|---|---|---|---|----|----|----|----|
| Injury Symptoms | 2                 | 4 | 5 | 6 | 7 | 9 | 10 | 11 | 12 | 13 |
| Chlorosis       |                   |   | X |   |   |   | X  |    | X  |    |
| Necrosis        | X                 | X | X |   |   | X | X  | X  | X  | X  |
| Stunting        | X                 | X | X | X | X | X | X  | X  | X  | X  |

## AOV Means Table

| Pest Code          | CPSAN     | PHYWR     | CPSAN     | AMAPA     | PHYWR     | LEFFI     | CPSAN      |
|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| Crop Code          |           |           |           |           |           |           |            |
| Rating Date        | 8/18/2006 | 8/18/2006 | 9/18/2006 | 9/18/2006 | 9/18/2006 | 9/18/2006 | 9/21/2006  |
| Rating Data Type   | INJURY    | CONTROL   | INJURY    | CONTROL   | CONTROL   | CONTROL   | YIELD      |
| Rating Unit        | %         | %         | %         | %         | %         | %         | LB/A       |
| Crop Stage Scale   | POD SET   | FLOWERIN  | GREEN     | FLOWER    | FLOWER    | FLOWER    |            |
| Treatment No.      |           |           |           |           |           |           |            |
| 1                  | 0.0 a     | 0.0 b     | 0.0 a     | 0.0 c     | 0.0 b     | 0.0 a     | 16286.8 ab |
| 2                  | 1.3 a     | 88.8 a    | 0.0 a     | 50.0 ab   | 62.5 a    | 75.0 a    | 22379.1 a  |
| 3                  | 1.3 a     | 92.5 a    | 0.0 a     | 25.0 bc   | 80.0 a    | 50.0 a    | 11514.0 ab |
| 4                  | 7.5 a     | 72.5 ab   | 0.0 a     | 70.0 ab   | 67.5 a    | 25.0 a    | 20901.1 ab |
| 5                  | 7.5 a     | 50.0 ab   | 0.0 a     | 100.0 a   | 57.5 ab   | 27.5 a    | 10277.5 b  |
| 6                  | 2.5 a     | 18.8 ab   | 0.0 a     | 97.5 a    | 66.3 a    | 62.5 a    | 17797.3 ab |
| 7                  | 2.5 a     | 40.0 ab   | 0.0 a     | 100.0 a   | 72.5 a    | 40.0 a    | 19852.0 ab |
| 8                  | 0.0 a     | 40.0 ab   | 0.0 a     | 100.0 a   | 43.8 ab   | 50.0 a    | 20738.8 ab |
| 9                  | 5.0 a     | 90.0 a    | 0.0 a     | 100.0 a   | 83.8 a    | 58.8 a    | 16099.4 ab |
| 10                 | 6.3 a     | 75.0 ab   | 0.0 a     | 100.0 a   | 92.5 a    | 50.0 a    | 12433.2 ab |
| 11                 | 7.5 a     | 100.0 a   | 0.0 a     | 75.0 ab   | 95.0 a    | 68.8 a    | 13583.2 ab |
| 12                 | 3.8 a     | 97.5 a    | 0.0 a     | 100.0 a   | 83.8 a    | 47.5 a    | 18590.3 ab |
| 13                 | 6.3 a     | 95.0 a    | 0.0 a     | 100.0 a   | 85.0 a    | 62.5 a    | 18222.6 ab |
| 14                 | 5.0 a     | 61.3 ab   | 0.0 a     | 62.5 ab   | 36.3 ab   | 75.0 a    | 16914.1 ab |
| LSD (P=.05)        | 6.17      | 49.60     | 0.00      | 36.63     | 43.63     | 62.76     | 6640.46    |
| Standard Deviation | 4.32      | 34.71     | 0.00      | 25.63     | 30.53     | 43.92     | 4646.72    |
| CV                 | 107.54    | 52.74     | 0.0       | 33.23     | 46.15     | 88.78     | 27.61      |
| Bartlett's X2      | 6.286     | 27.436    | 0.0       | 11.111    | 22.228    | 1.546     | 12.03      |
| P(Bartlett's X2)   | 0.854     | 0.004*    | .         | 0.049*    | 0.035*    | 1.00      | 0.525      |
| Replicate F        | 1.618     | 0.664     | 0.000     | 4.124     | 0.897     | 2.613     | 0.180      |
| Replicate Prob(F)  | 0.2008    | 0.5789    | 1.0000    | 0.0124    | 0.4514    | 0.0648    | 0.9094     |
| Treatment F        | 1.657     | 3.353     | 0.000     | 6.439     | 2.837     | 0.913     | 2.560      |
| Treatment Prob(F)  | 0.1108    | 0.0017    | 1.0000    | 0.0001    | 0.0059    | 0.5481    | 0.0117     |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

### ARM Action Codes

TY2 = 1.44195\*[7]

## Trial ID: 06-L-4 Three chile varieties tolerance to pyriithiobac

Location: Plant Science Research Center

### General Trial Information

**Investigator:** Dr. Mark Renz      **Title:** Weed Specialist      **E-mail:** mrenz@wisc.edu  
**Affiliation:** New Mexico State University      **Postal Code:** 88003

### Crop Description

**Planting Date:** 3/31/21      **Planting Method:** Direct seeded

|                    |                         |                    |   |
|--------------------|-------------------------|--------------------|---|
| <b>Crop:</b> Chile | <b>Variety:</b> NM64    | <b>Code:</b> CAPAN | <b>Latin Binomial:</b> <i>Capsicum annuum</i> |
| <b>Crop:</b> Chile | <b>Variety:</b> Garnett | <b>Code:</b> CAPAN | <b>Latin Binomial:</b> <i>Capsicum annuum</i> |
| <b>Crop:</b> Chile | <b>Variety:</b> LB25    | <b>Code:</b> CAPAN | <b>Latin Binomial:</b> <i>Capsicum annuum</i> |

### Weed Description

|  |   |
|--|---|
| <b>Code:</b> ANNPO                       | <b>Latin Binomial:</b>                          |
| <b>Common Name:</b> Annual grasses       |   |
| <b>Code:</b> ANVCR                       | <b>Latin Binomial:</b> <i>Anoda cristata</i>    |
| <b>Common Name:</b> Anoda, spurred       | <b>Description:</b> summer annual               |
| <b>Code:</b> PHYWR                       | <b>Latin Binomial:</b> <i>Physalis wrightii</i> |
| <b>Common Name:</b> Groundcherry, Wright | <b>Description:</b> summer annual               |

### Site and Design

**Plot Width, Unit:** 6.66 FT      **Site Type:** FIELD      **Plot Length, Unit:** 25 FT  
**Tillage Type:** CONVENTIONAL-TILL      **Replications:** 3      **Study Design:** Randomized Complete Block  
**2005 Previous crop:** Sudangrass

### 2006 Field Prep and Maintenance

|      |                        |
|------|------------------------|
| 2/8  | laser                  |
| 2/15 | list                   |
| 3/6  | cultivate              |
| 3/21 | harrow                 |
| 4/10 | De-cap and cultivate   |
| 5/1  | cultivate              |
| 5/19 | cultivate              |
| 6/21 | cultivate              |
| 7/7  | Quardris (7.8 oz/acre) |

**2006 Fertilizer Applied**

February Fertilize  
 May Urea  
 June Urea and foliar feed

**Moisture Conditions**

**Closest Weather Station:** Plant Science Research Center Weather Station

\*rain measured at field rain gauge significantly different from PSRC Weather station

**Distance:** .05 miles from plots

**Location:** 15 miles South of Las Cruces, NM

**Elevation:** 1168 m

**Latitude:** 32° 13' 0.00" N

**Longitude:** 106° 45' 0.00" W

| Furrow Irrigation | Rain dates and amount |             |      |             |       |             |
|-------------------|-----------------------|-------------|------|-------------|-------|-------------|
|                   | Date                  | Inches      | Date | Inches      | Date  | Inches      |
| 2006              |                       |             |      |             |       |             |
| 2/17              | 1/25                  | 0.03        | 7/14 | 0.20        | 8/18  | 0.26        |
| 3/22              | 2/19                  | 0.01        | 7/15 | 0.11        | 8/19* | 2.0         |
| 4/10              | 2/23                  | 0.19        | 7/16 | 0.01        | 8/20  | 0.01        |
| 5/01              | 2/24                  | 0.05        | 7/23 | 0.01        | 8/21  | 0.27        |
| 519/              | 4/11                  | 0.01        | 7/28 | 0.22        | 8/30  | 0.03        |
| 6/01              | 5/15                  | 0.10        | 7/30 | 0.06        | 8/31  | 0.69        |
| 6/12              | 5/16                  | 0.01        | 7/31 | 0.85        | 9/1   | 0.64        |
| 6/22              | 6/9                   | 0.08        | 8/1  | 0.28        | 9/2   | 0.02        |
| 6/30              | 6/28                  | 0.02        | 8/3  | 0.08        | 9/3   | 1.68        |
| 7/14              | 7/4                   | 0.04        | 8/4  | 0.05        | 9/4*  | 1.90        |
| 7/25              | 7/5                   | 0.25        | 8/5  | 0.01        | 9/5   | 0.01        |
|                   | 7/6                   | 0.05        | 8/14 | 0.02        | 9/13  | 0.46        |
|                   | 7/8                   | 0.04        | 8/15 | 0.06        | 9/14  | 0.05        |
|                   | 7/9                   | 0.23        | 8/16 | 0.74        |       |             |
| Total             |                       | <b>1.10</b> |      | <b>2.70</b> |       | <b>8.02</b> |

## 06-L-4 Treatment Plan

| No. | Treatment Name      | Form Conc | Form Type | Rate  | Unit    | Code |
|-----|---------------------|-----------|-----------|-------|---------|------|
| 1   | Hand-Weeded Control |           |           |       |         |      |
| 2   | Pyrithiobac         | 85        | WP        | 0.033 | lb ai/a | A    |
|     | COC                 |           |           | 1     | % v/v   | A    |
| 3   | Pyrithiobac         | 85        | WP        | 0.033 | lb ai/a | B    |
|     | COC                 |           |           | 1     | % v/v   | B    |
| 4   | Pyrithiobac         | 85        | WP        | 0.033 | lb ai/a | A    |
|     | COC                 |           |           | 1     | % v/v   | A    |
|     | Pyrithiobac         | 85        | WP        | 0.033 | lb ai/a | C    |
|     | COC                 |           |           | 1     | % v/v   | C    |
| 5   | Trifluralin         | 4         | EC        | 0.75  | lb ai/a | C    |
|     | S-Metolachlor       | 7.62      | EC        | 1.27  | lb ai/a | C    |

## Application Description

|                                | A                 | B          | C         |
|--------------------------------|-------------------|------------|-----------|
| <b>Application Date:</b>       | 4/30/2006         | 5/23/2006  | 5/24/2006 |
| <b>Time of Day:</b>            | MORNING           | MORNING    | MORNING   |
| <b>Application Method:</b>     | SPRAY             | SPRAY      | SPRAY     |
| <b>Application Timing:</b>     | COTY              | 2-4 LEAF   | 2-4 LEAF  |
| <b>Application Placement:</b>  | BROFOL            | BRODIR     | DIRECTED  |
| <b>Applied By:</b>             | RENZ              | NORSWORTHY | F. BARRON |
| <b>Air Temperature, Unit:</b>  | 52 F              | 85 F       | 64.3 F    |
| <b>% Relative Humidity:</b>    |                   | 52         | 43.7      |
| <b>Wind Velocity, Unit:</b>    | 1 MPH             | 2 MPH      | 0         |
| <b>Dew Presence (Y/N):</b>     |                   | N          | N         |
| <b>Water Hardness:</b>         | Data not recorded | 0          |           |
| <b>Soil Temperature, Unit:</b> |                   | 70 F       | 52 F      |
| <b>Soil Moisture:</b>          |                   | WET        | WET       |
| <b>% Cloud Cover:</b>          |                   | 0          | 0         |

## Crop State at Each Application

|                          | A         | B        | C        |
|--------------------------|-----------|----------|----------|
| <b>Majority of crop:</b> | Cotyledon | 2-4 leaf | 2-4 leaf |



## Application Equipment

|                              | <b>A</b> | <b>B</b> | <b>C</b> |
|------------------------------|----------|----------|----------|
| <b>Appl. Equipment:</b>      | BACKPACK | BACKPACK | BACKPACK |
| <b>Operating Pressure:</b>   | 20       | 20       | 20       |
| <b>Pressure Unit:</b>        | PSI      | PSI      | PSI      |
| <b>Nozzle Type:</b>          | TEEJET   | TEEJET   | TEEJET   |
| <b>Nozzle Size:</b>          | 11001    | 11001    | 11001    |
| <b>Nozzle Spacing, Unit:</b> | 20 IN    | 20 IN    | 0. .     |
| <b>Nozzles/Row:</b>          | 2        | 2        | 1        |
| <b>Band Width, Unit:</b>     | 20 IN    | 20 IN    | 0. .     |
| <b>Boom Length, Unit:</b>    | 80 IN    | 80 IN    | 0. .     |
| <b>Boom Height, Unit:</b>    | 18 IN    | 18 IN    | 0. .     |
| <b>Ground Speed, Unit:</b>   | 2 MPH    | 2 MPH    | 2 MPH    |
| <b>Carrier:</b>              | H2O      | H2O      | H2O      |
| <b>Spray Volume:</b>         | 20       | 20       | 20       |
| <b>Volume Unit:</b>          | GAL/ACRE | GAL/ACRE | GAL/ACRE |
| <b>Spray pH:</b>             | 0        | 0        | 0        |
| <b>Propellant:</b>           | CO2      | CO2      | CO2      |

### Trt No Treatment Application Comment

2 SPRAYED TREATMENT 3 PLOT 301 INSTEAD OF TREATMENT 2 PLOT 302 FOR NM64 VARIETY

## AOV Means Table

| Crop Code Variety             | CAPAN NM64 |   | CAPAN Garnett |   | CAPAN LB25 |   | CAPAN NM64 |    | CAPAN Garnett |    | CAPAN LB25 |    | CAPAN NM64 |    |
|-------------------------------|------------|---|---------------|---|------------|---|------------|----|---------------|----|------------|----|------------|----|
| Rating Date                   | 5/6/200    |   | 5/6/200       |   | 5/6/200    |   | 5/13/200   |    | 5/13/200      |    | 5/13/200   |    | 5/22/200   |    |
| Rating Data Type              | 6          |   | 6             |   | 6          |   | 6          |    | 6             |    | 6          |    | 6          |    |
| Rating Unit                   | Injury %   |   | Injury %      |   | Injury %   |   | Injury %   |    | Injury %      |    | Injury %   |    | Injury %   |    |
| Days After First/Last Applic. | 6          | 6 | 6             | 6 | 6          | 6 | 13         | 13 | 13            | 13 | 13         | 13 | 22         | 22 |
| Treatment No.                 |            |   |               |   |            |   |            |    |               |    |            |    |            |    |
| 1                             | 0.0        | a | 0.0           | a | 0.0        | b | 0.0        | a  | 0.0           | a  | 0.0        | a  | 0.0        | a  |
| 2                             | 0.7        | a | 1.0           | a | 0.7        | b | 9.3        | a  | 12.0          | a  | 8.7        | a  | 23.3       | a  |
| 3                             | 0.0        | a | 0.0           | a | 10.0       | a | 0.0        | a  | 0.0           | a  | 15.0       | a  | 0.0        | a  |
| 4                             | 1.5        | a | 0.5           | a | 1.0        | b | 16.0       | a  | 12.3          | a  | 16.3       | a  | 25.0       | a  |
| 5                             | 0.0        | a | 0.0           | a | 0.3        | b | 0.0        | a  | 0.0           | a  | 0.0        | a  | 0.0        | a  |
| LSD (P=.05)                   | 1.45       |   | 0.95          |   | 1.73       |   | 20.90      |    | 13.99         |    | 14.68      |    | 132.47     |    |
| Standard Deviation            | 0.56       |   | 0.37          |   | 0.67       |   | 8.04       |    | 5.38          |    | 5.65       |    | 37.70      |    |
| CV                            | 128.72     |   | 121.72        |   | 27.78      |   | 158.77     |    | 110.61        |    | 70.61      |    | 390.05     |    |
| Bartlett's X2                 | 0.053      |   | 0.0           |   | 0.0        |   | 0.739      |    | 0.341         |    | 4.579      |    | 0.061      |    |
| P(Bartlett's X2)              | 0.818      |   | .             |   | 1.00       |   | 0.39       |    | 0.559         |    | 0.032*     |    | 0.805      |    |
| Replicate F                   | 0.375      |   | 0.375         |   | 0.000      |   | 0.499      |    | 0.858         |    | 0.307      |    | 0.008      |    |
| Replicate Prob(F)             | 0.7155     |   | 0.7155        |   | 1.0000     |   | 0.6502     |    | 0.5073        |    | 0.7562     |    | 0.9919     |    |
| Treatment F                   | 4.232      |   | 4.500         |   | 122.775    |   | 2.489      |    | 4.599         |    | 5.803      |    | 0.370      |    |
| Treatment Prob(F)             | 0.1328     |   | 0.1234        |   | 0.0012     |   | 0.2399     |    | 0.1202        |    | 0.0902     |    | 0.8189     |    |

| Crop Code Variety             | CAPAN Garnett |    | CAPAN LB25 |    | CAPAN LB25   |   | CAPAN Garnett |   | CAPAN LB25 |   | CAPAN NM64 |    | CAPAN Garnett |    |
|-------------------------------|---------------|----|------------|----|--------------|---|---------------|---|------------|---|------------|----|---------------|----|
| Rating Date                   | 5/22/200      |    | 5/22/200   |    | 5/30/200     |   | 5/30/200      |   | 5/30/200   |   | 6/11/200   |    | 6/11/200      |    |
| Rating Data Type              | 6             |    | 6          |    | 6            |   | 6             |   | 6          |   | 6          |    | 6             |    |
| Rating Unit                   | Injury %      |    | Injury %   |    | Count Number |   | Injury %      |   | Injury %   |   | Injury %   |    | Injury %      |    |
| Days After First/Last Applic. | 22            | 22 | 22         | 22 | 30           | 6 | 30            | 6 | 30         | 6 | 42         | 18 | 42            | 18 |
| Treatment No.                 |               |    |            |    |              |   |               |   |            |   |            |    |               |    |
| 1                             | 0.0           | a  | 0.0        | a  | 5.7          | a | 10.0          | a | 6.7        | a | 4.0        | a  | 3.7           | a  |
| 2                             | 29.3          | a  | 33.3       | a  | 12.0         | a | 15.0          | a | 11.7       | a | 26.7       | a  | 28.3          | a  |
| 3                             | 0.0           | a  | 50.0       | a  | 9.3          | a | 10.0          | a | 16.7       | a | 16.0       | a  | 13.3          | a  |
| 4                             | 28.3          | a  | 40.0       | a  | 4.0          | a | 20.0          | a | 26.7       | a | 28.3       | a  | 26.7          | a  |
| 5                             | 17.5          | a  | 0.0        | a  | 6.7          | a | 5.0           | a | 3.3        | a | 1.7        | a  | 3.3           | a  |
| LSD (P=.05)                   | 68.14         |    | 35.92      |    | 5.92         |   | 20.41         |   | 25.72      |   | 22.95      |    | 17.07         |    |
| Standard Deviation            | 26.23         |    | 13.82      |    | 3.14         |   | 10.84         |   | 13.66      |   | 12.19      |    | 9.06          |    |
| CV                            | 174.47        |    | 56.04      |    | 41.73        |   | 90.33         |   | 105.1      |   | 79.5       |    | 60.16         |    |
| Bartlett's X2                 | 0.801         |    | 1.946      |    | 11.771       |   | 1.479         |   | 3.933      |   | 7.348      |    | 7.855         |    |
| P(Bartlett's X2)              | 0.67          |    | 0.163      |    | 0.019*       |   | 0.83          |   | 0.415      |   | 0.119      |    | 0.097         |    |
| Replicate F                   | 0.013         |    | 0.244      |    | 1.464        |   | 0.043         |   | 0.241      |   | 4.924      |    | 3.774         |    |
| Replicate Prob(F)             | 0.9870        |    | 0.7975     |    | 0.2873       |   | 0.9586        |   | 0.7913     |   | 0.0404     |    | 0.0701        |    |
| Treatment F                   | 0.915         |    | 8.512      |    | 3.029        |   | 0.830         |   | 1.348      |   | 3.095      |    | 5.306         |    |
| Treatment Prob(F)             | 0.5515        |    | 0.0548     |    | 0.0853       |   | 0.5422        |   | 0.3324     |   | 0.0814     |    | 0.0219        |    |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

### AOV Means Table

|                               |          |        |          |    |          |    |          |    |
|-------------------------------|----------|--------|----------|----|----------|----|----------|----|
| Crop Code                     | CAPAN    |        | CAPAN    |    | CAPAN    |    | CAPAN    |    |
| Variety                       | LB25     |        | NM64     |    | Garnett  |    | LB25     |    |
| Rating Date                   | 6/11/200 |        | 6/20/200 |    | 6/20/200 |    | 6/20/200 |    |
| Rating Date                   | 6        |        | 6        |    | 6        |    | 6        |    |
| Rating Data Type              | Injury   |        | Injury   |    | Injury   |    | Injury   |    |
| Rating Unit                   | %        |        | %        |    | %        |    | %        |    |
| Days After First/Last Applic. | 42       | 18     | 51       | 27 | 51       | 27 | 51       | 27 |
| Treatment No.                 |          |        |          |    |          |    |          |    |
|                               | 1        | 3.7 a  | 2.3 a    |    | 0.7 b    |    | 0.7 a    |    |
|                               | 2        | 16.7 a | 17.3 a   |    | 15.0 a   |    | 12.3 a   |    |
|                               | 3        | 23.3 a | 8.0 a    |    | 7.3 ab   |    | 10.0 a   |    |
|                               | 4        | 38.3 a | 21.7 a   |    | 18.3 a   |    | 23.3 a   |    |
|                               | 5        | 3.3 a  | 0.7 a    |    | 0.7 b    |    | 0.0 a    |    |
| LSD (P=.05)                   | 25.77    |        | 14.79    |    | 10.21    |    | 16.17    |    |
| Standard Deviation            | 13.69    |        | 7.86     |    | 5.42     |    | 8.59     |    |
| CV                            | 80.21    |        | 78.57    |    | 64.53    |    | 92.66    |    |
| Bartlett's X2                 | 6.156    |        | 10.184   |    | 9.77     |    | 6.936    |    |
| P(Bartlett's X2)              | 0.188    |        | 0.037*   |    | 0.044*   |    | 0.074    |    |
| Replicate F                   | 0.342    |        | 4.105    |    | 2.205    |    | 0.014    |    |
| Replicate Prob(F)             | 0.7203   |        | 0.0593   |    | 0.1727   |    | 0.9857   |    |
| Treatment F                   | 3.441    |        | 4.128    |    | 6.712    |    | 3.740    |    |
| Treatment Prob(F)             | 0.0644   |        | 0.0419   |    | 0.0113   |    | 0.0532   |    |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

## Trial ID: 06-L-5 Three chile varieties tolerance to pyriithobac in a local growers field

Location: Not reported

### General Trial Information

**Investigator:** Mark Renz

**Title:** Weed Specialist

**E-mail:** mrenz@wisc.edu

**Affiliation:** New Mexico State University

**Postal Code:** 88003

### Crop Description

**Planting Date and Method :** Not reported

**Crop:** Chile      **Variety:** NM64      **Code:** CPSAN      **Latin Binomial:** *Capsicum annuum*

**Crop:** Chile      **Variety:** Garnett      **Code:** CPSAN      **Latin Binomial:** *Capsicum annuum*

**Crop:** Chile      **Variety:** LB25      **Code:** CPSAN      **Latin Binomial:** *Capsicum annuum*

### 06-L-5 Treatment plan

| Trt No. | Treatment Name      | Form Conc | Form Type | Rate  | Rate Unit          | Appl Code |
|---------|---------------------|-----------|-----------|-------|--------------------|-----------|
| 1       | Non treated control |           |           |       |                    |           |
| 2       | Pyriithobac COC     | 85        | WP        | 0.033 | lb ai/a<br>1 % v/v | A<br>A    |
| 3       | Pyriithobac COC     | 85        | WP        | 0.033 | lb ai/a<br>1 % v/v | B<br>B    |
| 4       | Pyriithobac COC     | 85        | WP        | 0.033 | lb ai/a<br>1 % v/v | A<br>A    |
|         | Pyriithobac COC     | 85        | WP        | 0.033 | lb ai/a<br>1 % v/v | C<br>C    |
| 5       | Trifluralin         | 4         | EC        | 0.75  | lb ai/a            | C         |
|         | S-Metolachlor       | 7.62      | EC        | 1.27  | lb ai/a            | C         |

### Application Description

|                                | A         | B         | C         |
|--------------------------------|-----------|-----------|-----------|
| <b>Application Date:</b>       | 4/22/2006 | 5/15/2006 | 5/24/2006 |
| <b>Time of Day:</b>            | MORNING   | MORNING   | MORNING   |
| <b>Application Method:</b>     | SPRAY     | SPRAY     | SPRAY     |
| <b>Application Timing:</b>     | COT-2 LF  |           | 2-4 LEAF  |
| <b>Application Placement:</b>  | BRODFOL   | BRODFOL   | DIRECTED  |
| <b>Applied By:</b>             | RENZ      |           | JUSTIN    |
| <b>Air Temperature, Unit:</b>  | 79 F      | F         | 70.4 F    |
| <b>% Relative Humidity:</b>    | 30        |           | 43.2      |
| <b>Wind Velocity, Unit:</b>    | 5 MPH     | MPH       | 2.02 MPH  |
| <b>Dew Presence (Y/N):</b>     | N         |           | N         |
| <b>Soil Temperature, Unit:</b> |           | F         | 56.6 F    |
| <b>Soil Moisture:</b>          |           | MOIST     | MOIST     |
| <b>% Cloud Cover:</b>          |           | 0         | 0         |

## Application Equipment

|                              | A        | B        | C        |
|------------------------------|----------|----------|----------|
| <b>Appl. Equipment:</b>      | BACKPACK | BACKPACK | BACKPACK |
| <b>Operating Pressure:</b>   |          |          | 20       |
| <b>Pressure Unit:</b>        |          |          | PSI      |
| <b>Nozzle Type:</b>          | TEEJET   | TEEJET   | TEEJET   |
| <b>Nozzle Size:</b>          |          |          | 11001    |
| <b>Nozzle Spacing, Unit:</b> | 20 IN    | 20 IN    |          |
| <b>Nozzles/Row:</b>          | 2        | 2        | 1        |
| <b>Band Width, Unit:</b>     | 20 IN    | 20 IN    |          |
| <b>Boom Length, Unit:</b>    | 80 IN    | 80 IN    |          |
| <b>Boom Height, Unit:</b>    |          |          |          |
| <b>Ground Speed, Unit:</b>   | 2 MPH    | 2 MPH    | 2 MPH    |
| <b>Carrier:</b>              | H2O      | H2O      | H2O      |
| <b>Spray Volume:</b>         | 20       | 20       | 20       |
| <b>Volume Unit:</b>          | GAL/ACRE | GAL/ACRE | GAL/ACRE |
| <b>Spray pH:</b>             | 0        | 0        | 0        |
| <b>Propellant:</b>           | CO2      | CO2      | CO2      |

## AOV Means Table

| Crop Code                     | CAPAN     |   | CAPAN     |   | CAPAN     |    | CAPAN    |    | CAPAN    |    | CAPAN    |       |        |
|-------------------------------|-----------|---|-----------|---|-----------|----|----------|----|----------|----|----------|-------|--------|
| Crop Variety                  | NM64      |   | GARNETT   |   | LB25      |    | NM64     |    | GARNETT  |    | LB25     |       |        |
| Rating Date                   | 4/29/2006 |   | 4/29/2006 |   | 4/29/2006 |    | 5/6/2006 |    | 5/6/2006 |    | 5/6/2006 |       |        |
| Rating Data Type              | Injury    |   | Injury    |   | Injury    |    | Injury   |    | Injury   |    | Injury   |       |        |
| Rating Unit                   | %         |   | %         |   | %         |    | %        |    | %        |    | %        |       |        |
| Days After First/Last Applic. | 7         | 7 | 7         | 7 | 7         | 7  | 14       | 14 | 14       | 14 | 14       | 14    |        |
| Treatment No.                 |           |   |           |   |           |    |          |    |          |    |          |       |        |
| 1                             |           |   |           |   |           |    |          |    |          |    |          | 0.0 b |        |
| 2                             | 3.3       | a | 5.3       | a | 4.3       | ab | 36.7     | a  | 35.0     | a  | 33.3     | ab    | 55.0 a |
| 3                             | 0.0       | a | 0.0       | b | 0.0       | b  | 0.0      | b  | 0.0      | b  | 0.0      | b     | 7.0 b  |
| 4                             | 5.0       | a | 5.7       | a | 6.0       | a  | 43.3     | a  | 45.0     | a  | 46.7     | a     | 53.3 a |
| 5                             | 0.0       | a | 0.0       | b | 0.0       | b  | 0.0      | b  | 0.0      | b  | 0.0      | b     | 0.0 b  |
| LSD (P=.05)                   | 4.74      |   | 2.94      |   | 3.67      |    | 22.29    |    | 15.91    |    | 28.89    |       | 25.40  |
| Standard Deviation            | 1.83      |   | 1.13      |   | 1.41      |    | 8.58     |    | 6.12     |    | 11.12    |       | 12.10  |
| CV                            | 87.64     |   | 41.11     |   | 54.74     |    | 42.9     |    | 30.62    |    | 55.59    |       | 52.46  |
| Bartlett's X2                 | 0.03      |   | 1.575     |   | 0.332     |    | 1.055    |    | 0.548    |    | 4.021    |       | 3.896  |
| P(Bartlett's X2)              | 0.862     |   | 0.21      |   | 0.564     |    | 0.304    |    | 0.459    |    | 0.045*   |       | 0.143  |
| Replicate F                   | 0.100     |   | 0.587     |   | 0.167     |    | 1.104    |    | 1.167    |    | 0.657    |       | 2.085  |
| Replicate Prob(F)             | 0.9077    |   | 0.6094    |   | 0.8538    |    | 0.4373   |    | 0.4219   |    | 0.5798   |       | 0.2196 |
| Treatment F                   | 5.625     |   | 23.717    |   | 14.042    |    | 22.038   |    | 44.000   |    | 13.663   |       | 16.688 |
| Treatment Prob(F)             | 0.0949    |   | 0.0136    |   | 0.0285    |    | 0.0152   |    | 0.0056   |    | 0.0296   |       | 0.0043 |

## AOV Means Table

| Crop Code                     | CAPAN<br>GARNETT |   | CAPAN<br>LB25 |   | CAPAN<br>NM64 |   | CAPAN<br>GARNETT |   | CAPAN<br>LB25 |   | CAPAN<br>NM64 |   |
|-------------------------------|------------------|---|---------------|---|---------------|---|------------------|---|---------------|---|---------------|---|
| Crop Variety                  | 5/22/2006        |   | 5/22/2006     |   | 5/30/2006     |   | 5/30/2006        |   | 5/30/2006     |   | 6/11/2006     |   |
| Rating Date                   | Injury           |   | Injury        |   | Injury        |   | Injury           |   | Injury        |   | Injury        |   |
| Rating Data Type              | %                |   | %             |   | %             |   | %                |   | %             |   | %             |   |
| Rating Unit                   | 30 7             |   | 30 7          |   | 38 6          |   | 38 6             |   | 38 6          |   | 50 18         |   |
| Days After First/Last Applic. |                  |   |               |   |               |   |                  |   |               |   |               |   |
| Treatment No.                 |                  |   |               |   |               |   |                  |   |               |   |               |   |
| 1                             | 0.0              | b | 0.0           | b | 31.0          | a | 33.5             | a | 21.9          | a | 0.0           | b |
| 2                             | 58.3             | a | 56.7          | a | 26.7          | a | 33.3             | a | 38.3          | a | 31.7          | a |
| 3                             | 7.0              | b | 6.7           | b | 6.7           | a | 11.7             | a | 6.7           | a | 4.7           | b |
| 4                             | 55.0             | a | 65.3          | a | 50.0          | a | 60.0             | a | 60.0          | a | 33.3          | a |
| 5                             | 0.0              | b | 0.0           | b | 8.3           | a | 6.7              | a | 5.0           | a | 0.0           | b |
| LSD (P=.05)                   | 19.74            |   | 19.06         |   | 47.98         |   | 41.84            |   | 46.14         |   | 12.19         |   |
| Standard Deviation            | 9.40             |   | 9.08          |   | 24.85         |   | 21.67            |   | 23.89         |   | 6.31          |   |
| CV                            | 39.07            |   | 35.29         |   | 101.24        |   | 74.61            |   | 90.59         |   | 45.32         |   |
| Bartlett's X2                 | 3.035            |   | 1.926         |   | 3.99          |   | 2.445            |   | 5.544         |   | 1.647         |   |
| P(Bartlett's X2)              | 0.219            |   | 0.382         |   | 0.407         |   | 0.655            |   | 0.136         |   | 0.439         |   |
| Replicate F                   | 2.265            |   | 1.975         |   | 0.757         |   | 1.432            |   | 0.089         |   | 2.495         |   |
| Replicate Prob(F)             | 0.1994           |   | 0.2332        |   | 0.5038        |   | 0.3010           |   | 0.9158        |   | 0.1520        |   |
| Treatment F                   | 30.371           |   | 38.321        |   | 1.552         |   | 2.875            |   | 2.810         |   | 21.916        |   |
| Treatment Prob(F)             | 0.0011           |   | 0.0006        |   | 0.2868        |   | 0.1058           |   | 0.1105        |   | 0.0005        |   |

| Crop Code                     | CAPAN<br>GARNETT |   | CAPAN<br>LB25 |   | CAPAN<br>NM64 |   | CAPAN<br>GARNETT |   | CAPAN<br>LB25 |   |
|-------------------------------|------------------|---|---------------|---|---------------|---|------------------|---|---------------|---|
| Crop Variety                  | 6/11/2006        |   | 6/11/2006     |   | 6/20/2006     |   | 6/20/2006        |   | 6/20/2006     |   |
| Rating Date                   | Injury           |   | Injury        |   | Injury        |   | Injury           |   | Injury        |   |
| Rating Data Type              | %                |   | %             |   | %             |   | %                |   | %             |   |
| Rating Unit                   | 50 18            |   | 50 18         |   | 59 27         |   | 59 27            |   | 59 27         |   |
| Days After First/Last Applic. |                  |   |               |   |               |   |                  |   |               |   |
| Treatment No.                 |                  |   |               |   |               |   |                  |   |               |   |
| 1                             | 5.5              | b | 1.9           | b | 0.0           | b | 3.5              | c | 1.1           | b |
| 2                             | 35.0             | a | 36.7          | a | 26.7          | a | 33.3             | a | 31.7          | a |
| 3                             | 9.0              | b | 5.0           | b | 4.0           | b | 7.3              | c | 7.3           | b |
| 4                             | 36.7             | a | 43.3          | a | 18.3          | a | 21.7             | b | 33.3          | a |
| 5                             | 0.0              | b | 0.0           | b | 1.7           | b | 0.0              | c | 1.7           | b |
| LSD (P=.05)                   | 15.46            |   | 17.52         |   | 12.07         |   | 11.21            |   | 11.03         |   |
| Standard Deviation            | 8.01             |   | 9.07          |   | 6.25          |   | 5.81             |   | 5.71          |   |
| CV                            | 46.44            |   | 52.23         |   | 61.68         |   | 44.13            |   | 38.0          |   |
| Bartlett's X2                 | 1.8              |   | 0.071         |   | 6.795         |   | 1.622            |   | 6.872         |   |
| P(Bartlett's X2)              | 0.407            |   | 0.79          |   | 0.079         |   | 0.445            |   | 0.143         |   |
| Replicate F                   | 7.318            |   | 1.384         |   | 2.336         |   | 6.104            |   | 0.561         |   |
| Replicate Prob(F)             | 0.0193           |   | 0.3115        |   | 0.1670        |   | 0.0292           |   | 0.5944        |   |
| Treatment F                   | 13.979           |   | 15.858        |   | 10.608        |   | 17.360           |   | 23.995        |   |
| Treatment Prob(F)             | 0.0019           |   | 0.0013        |   | 0.0043        |   | 0.0010           |   | 0.0003        |   |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

### AOV Means Table

| Pest Code          | CAPAN        |             | CYPSS     |           | CYPSS     |             |
|--------------------|--------------|-------------|-----------|-----------|-----------|-------------|
| Crop Name          | COTYL - 2 LF | COTYL - 4LF | 6 IN      | 12 IN     | 6-8 IN    | 3 IN -BLOOM |
| Description        |              |             |           |           |           |             |
| Rating Date        | 5/18/2006    | 5/25/2006   | 6/13/2006 | 6/13/2006 | 6/27/2006 | 6/27/2006   |
| Rating Data Type   | % INJURY     | % INJURY    | %INJURY   | %CONTROL  | %INJURY   | %CONTROL    |
| Treatment No.      |              |             |           |           |           |             |
| 1                  | 0.0 b        | 0.0 a       | 0.0 b     | 0.0 a     | 0.0 b     | 0.0 c       |
| 2                  | 12.5 ab      | 13.8 a      | 12.5 ab   | 0.0 a     | 16.3 ab   | 48.8 b      |
| 3                  | 6.3 ab       | 5.0 a       | 8.8 ab    | 5.0 a     | 22.5 ab   | 50.0 b      |
| 4                  | 15.0 ab      | 11.3 a      | 30.0 ab   | 16.3 a    | 48.8 a    | 83.8 a      |
| 5                  |              |             | 12.5 ab   | 7.5 a     | 12.5 ab   | 80.0 a      |
| 6                  |              |             | 23.8 ab   | 6.3 a     | 28.8 ab   | 86.3 a      |
| 7                  |              |             | 6.3 ab    | 1.3 a     | 27.5 ab   | 78.8 a      |
| 8                  | 6.3 ab       | 3.8 a       | 21.3 ab   | 6.1 a     | 32.5 ab   | 85.0 a      |
| 9                  | 17.5 a       | 8.8 a       | 40.0 a    | 31.3 a    | 42.5 a    | 91.3 a      |
| 10                 | 10.0 ab      | 5.0 a       | 27.5 ab   | 9.5 a     | 37.5 a    | 92.5 a      |
| LSD (P=.05)        | 9.99         | 15.23       | 23.45     | 21.99     | 22.22     | 20.91       |
| Standard Deviation | 6.70         | 10.25       | 16.16     | 15.10     | 15.31     | 14.41       |
| CV                 | 69.38        | 151.12      | 88.56     | 181.63    | 56.97     | 20.7        |
| Bartlett's X2      | 6.085        | 14.018      | 10.17     | 39.406    | 11.36     | 15.39       |
| P(Bartlett's X2)   | 0.298        | 0.003*      | 0.253     | 0.001*    | 0.182     | 0.052       |
| Replicate F        | 5.735        | 0.736       | 7.462     | 1.022     | 4.660     | 1.704       |
| Replicate Prob(F)  | 0.0067       | 0.5442      | 0.0009    | 0.3995    | 0.0095    | 0.1897      |
| Treatment F        | 3.185        | 0.849       | 2.330     | 1.558     | 3.663     | 16.186      |
| Treatment Prob(F)  | 0.0278       | 0.5493      | 0.0432    | 0.1824    | 0.0042    | 0.0001      |

| Pest Code          | CYPSS     |            | CYPSS        |               | CAPAN     |            |
|--------------------|-----------|------------|--------------|---------------|-----------|------------|
| Crop Name          | 6-12 IN   | 3-11" TALL | 18-24 IN/POD | EMERG - BLOOM | MATUARE   | CAPAN      |
| Description        |           |            |              |               |           | FRESH WGTS |
| Rating Date        | 7/10/2006 | 7/10/2006  | 7/24/2006    | 7/24/2006     | 9/12/2006 | 9/14/2006  |
| Rating Data Type   | %INJURY   | %CONTROL   | %INJURY      | %CONTROL      | %INJURY   | YIELD LB/A |
| Treatment No.      |           |            |              |               |           |            |
| 1                  | 0.0 c     | 0.0 c      | 0.0 c        | 0.0 c         | 0.0 a     | 17155.6 a  |
| 2                  | 8.8 c     | 42.5 b     | 6.3 bc       | 77.5 ab       | 0.0 a     | 12750.4 a  |
| 3                  | 12.5 bc   | 56.3 ab    | 17.5 abc     | 62.5 b        | 2.5 a     | 16600.5 a  |
| 4                  | 42.5 a    | 81.3 ab    | 28.8 ab      | 80.0 ab       | 16.3 a    | 14361.8 a  |
| 5                  | 7.5 c     | 82.5 ab    | 8.8 bc       | 72.5 ab       | 7.5 a     | 11250.8 a  |
| 6                  | 11.3 bc   | 71.3 ab    | 21.3 abc     | 77.3 ab       | 13.8 a    | 12130.4 a  |
| 7                  | 26.3 abc  | 75.0 ab    | 23.8 abc     | 88.5 a        | 16.3 a    | 10306.3 a  |
| 8                  | 20.0 bc   | 83.8 ab    | 20.0 abc     | 92.5 a        | 16.3 a    | 7761.3 a   |
| 9                  | 35.0 ab   | 91.3 a     | 35.0 a       | 91.3 a        | 28.8 a    | 7422.4 a   |
| 10                 | 11.3 bc   | 67.5 ab    | 17.5 abc     | 87.3 a        | 12.5 a    | 12043.9 a  |
| LSD (P=.05)        | 16.51     | 26.59      | 16.29        | 15.38         | 18.53     | 11991.38   |
| Standard Deviation | 11.38     | 18.33      | 11.22        | 10.60         | 12.77     | 8264.31    |
| CV                 | 65.01     | 28.14      | 62.8         | 14.54         | 112.25    | 67.86      |
| Bartlett's X2      | 2.962     | 16.829     | 5.266        | 21.018        | 11.548    | 8.859      |
| P(Bartlett's X2)   | 0.937     | 0.032*     | 0.729        | 0.007*        | 0.116     | 0.45       |
| Replicate F        | 1.172     | 4.171      | 1.037        | 6.417         | 2.079     | 0.027      |
| Replicate Prob(F)  | 0.3388    | 0.0150     | 0.3921       | 0.0020        | 0.1265    | 0.9940     |
| Treatment F        | 5.494     | 8.687      | 3.528        | 26.434        | 1.997     | 0.624      |
| Treatment Prob(F)  | 0.0003    | 0.0001     | 0.0052       | 0.0001        | 0.0797    | 0.7661     |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

**Trial ID: 06-R-1**  
**Rimsulfuron for weed control in pecans in New Mexico**

**General Trial Information**

**Investigator:** Jill Schroeder      **Title:** PI  
**Affiliation:** New Mexico State University      **Postal Code:** 88003      **E-mail:** jischroe@NMSU.edu

**Trial Location**

Rincon, NM

**Cooperator/Landowner**

**Cooperator:** Philip A Banks  
**Organization:** MARATHON-Agric. & Environ. Consulting

**Crop Description**

**Crop :** CYAIL  
**Common Name:** Pecan

**Latin Binomial:** *Carya illinoensis*  
**Varieties:** Wichita  
Mohawk  
Western Schley

**Pest Description**

**Code:** KOCSC  
**Common Name:** Kochia

**Latin Binomial:** *Kochia scoparia*  
**Description:** Annual

**Code:** CHESS  
**Common Name:** Goosefoot

**Latin Binomial:** *Chenopodium sp.*  
**Description:** Annual

**Code:** ECHCO  
**Common Name:** Junglerice

**Latin Binomial:** *Echinochloa colonum*  
**Description:** Summer annual

**Type:** W    **Code:** AMAPA  
**Common Name:** Palmer amaranth

**Latin Binomial:** *Amaranthus palmeri*  
**Description:** Summer annual

**Code:** LEPFI  
**Common Name:** Mexican sprangle top

**Latin Binomial:** *Leptochloa univervia*  
**Description:** Annual

**Site and Design**

**Plot Width, Unit:** 24    FT  
**Plot Length, Unit:** 45    FT  
**Study Design:** Randomized Complete Block

**Site Type:** Orchard  
**Replications:** 3



## Maintenance Weed Control

### Date

May 18 2006

Glyphosate

Control Kochia, lambsquarter, London rocket

### Field Prep./Maintenance:

6/21/06

Hoed Large Weeds

7/12/06

Disc all Weeds

## Soil Description

**Sand:** 55.2% **Silt:** 26.0% **Clay:** 18.8% **OM:** 1.3% **Texture:** Sandy loam  
**pH:** 7.8 **% CEC:** 24.6

## Fertilizer Applied

4/19/06 Zinc Sulfate 35% 3 Tbsp/2 gal water

5/3/06 Zinc Sulfate 35% 3 Tbsp/2 gal water

11-52-0 400 lb/a

## Moisture Conditions

**Closest Weather Station:** Weather data collected on site

## Irrigation

|          |      |    |
|----------|------|----|
| 12/01/05 | Well | 6" |
| 01/16/06 | Well | 6" |
| 03/28/06 | Well | 6" |
| 05/03/06 | Well | 6" |
| 06/06/06 | Well | 6" |
| 06/27/06 | Well | 6" |

## Rainfall

### 2005

November 0 inch

December 0 inch

### 2006

January 0.13 inch

February 0.18 inch

March 0.02 inch

April 0.21 inch

May 0.35 inch

June 0.54 inch

July 1.59 inch

## 06-R-1 Treatment Plan

| Trt No. | Treatment Name   | Form Conc | Form Type | Rate  | Rate Unit  | Appl Code |
|---------|------------------|-----------|-----------|-------|------------|-----------|
| 1       | UNTREATED CHECK  |           |           |       |            | A         |
| 2       | MATRIX           | 25        | WG        |       | 1 oz ai/a  | C         |
|         | KARMEX DF        | 80        | WG        | 25.60 | oz ai/a    | C         |
|         | ROUNDUP*         | 5.5       | SL        |       | 1 lb ai/a  | C         |
|         | NIS/LATRON AG-98 | 1         | SL        |       | 0.25 % v/v | C         |
| 3       | MATRIX           | 25        | WG        |       | 1 oz ai/a  | C         |
|         | ROUNDUP*         | 5.5       | SL        |       | 1 lb ai/a  | C         |
|         | SURFLAN AS       | 4         | SC        |       | 4 lb ai/a  | C         |
|         | NIS/LATRON AG-98 | 1         | SL        |       | 0.25 % v/v | C         |
| 4       | MATRIX           | 25        | WG        |       | 1 oz ai/a  | B         |
|         | SURFLAN AS       | 4         | SC        |       | 2 lb ai/a  | B         |
|         | ROUNDUP*         | 5.5       | SL        |       | 1 lb ai/a  | B         |
|         | NIS/LATRON AG-98 | 1         | SL        |       | 0.25 % v/v | B         |
|         | MATRIX           | 25        | WG        |       | 1 oz ai/a  | D         |
|         | SURFLAN AS       | 4         | SC        |       | 2 lb ai/a  | D         |
|         | ROUNDUP*         | 5.5       | SL        |       | 1 lb ai/a  | D         |
|         | NIS/LATRON AG-98 | 1         | SL        |       | 0.25 % v/v | D         |
| 5       | MATRIX           | 25        | WG        |       | 1 oz ai/a  | C         |
|         | ROUNDUP*         | 5.5       | SL        |       | 1 lb ai/a  | C         |
|         | NIS/LATRON AG-98 | 1         | SL        |       | 0.25 % v/v | C         |
| 6       | MATRIX           | 25        | WG        |       | 2 oz ai/a  | C         |
|         | ROUNDUP*         | 5.5       | SL        |       | 1 lb ai/a  | C         |
|         | NIS/LATRON AG-98 | 1         | SL        |       | 0.25 % v/v | C         |
| 7       | GOAL 2 XL*       | 2         | EC        |       | 1 lb ai/a  | C         |
|         | SURFLAN AS       | 4         | SC        |       | 4 lb ai/a  | C         |
|         | ROUNDUP*         | 5.5       | SL        |       | 1 lb ai/a  | C         |
|         | NIS/LATRON AG-98 | 1         | SL        |       | 0.25 % v/v | C         |

## Application Description

|                                | B          | C         | D         |
|--------------------------------|------------|-----------|-----------|
| <b>Application Date:</b>       | 11/22/2005 | 1/11/2006 | 3/23/2006 |
| <b>Time of Day:</b>            | 10:30 am   | 8:30 AM   | MORNING   |
| <b>Application Method:</b>     | SPRAY      | SPRAY     | SPRAY     |
| <b>Application Timing:</b>     | DORMANT    | DORMANT   | EARLY     |
| <b>Application Placement:</b>  | BROSOIL    | BROSOIL   | BROSOIL   |
| <b>Applied By:</b>             | S. BARRON  | C. FIORE  | S. BARRON |
| <b>Air Temperature, Unit:</b>  | 57 F       | 65.5 F    | 62 F      |
| <b>% Relative Humidity:</b>    | 14         | 0         | 20        |
| <b>Wind Velocity, Unit:</b>    | 2 MPH      | 2.2 MPH   | 0.8 MPH   |
| <b>Soil Temperature, Unit:</b> | 52 F       | 52 F      | 52 F      |
| <b>% Cloud Cover:</b>          | 25         | 5         | 10        |

## Pest Stage At Each Application

No weeds were reported at Application B and C Kochia was observed at Application D

## Application Equipment

|                              | <b>B</b> | <b>C</b> | <b>D</b> |
|------------------------------|----------|----------|----------|
| <b>Appl. Equipment:</b>      | BACKPACK | BACKPACK | BACKPACK |
| <b>Operating Pressure:</b>   | 17       | 22       | 18       |
| <b>Pressure Unit:</b>        | PSI      | PSI      | PSI      |
| <b>Nozzle Type:</b>          | TEEJET   | TEEJET   | TEEJET   |
| <b>Nozzle Size:</b>          | 11002    | 11002    | 11002    |
| <b>Nozzle Spacing, Unit:</b> | 20 IN    | 19 IN    | 20 IN    |
| <b>Nozzles/Row:</b>          | 16       | 12       | 16       |
| <b>Band Width, Unit:</b>     | 80 IN    | 19 IN    | 80 IN    |
| <b>Boom Length, Unit:</b>    | 80 IN    | 57 IN    | 80 IN    |
| <b>Boom Height, Unit:</b>    | 18 IN    | 13 IN    | 18 IN    |
| <b>Ground Speed, Unit:</b>   | 2 MPH    | 2 MPH    | 2 MPH    |
| <b>Carrier:</b>              | WATER    | WATER    | WATER    |
| <b>Spray Volume:</b>         | 20       | 20       | 20       |
| <b>Volume Unit:</b>          | GPA      | GPA      | GPA      |
| <b>Propellant:</b>           | C02      | C02      | C02      |

| <b>Date</b> | <b>By</b> | <b>Notes</b>      |
|-------------|-----------|-------------------|
| 1/30/2006   | Fiore, C. | No weeds to rate. |
| 2/09/2006   | Fiore, C. | No weeds to rate. |
| 2/22/2006   | Fiore, C. | No weeds to rate  |

## AOV Means Table

| Pest Code          | KCHSC     | CHES      | KCHSC     | KCHSC     | CHES      | ECHCO      | AMAPA     |
|--------------------|-----------|-----------|-----------|-----------|-----------|------------|-----------|
| Description        | 1-4"      | 1-8"      | 1 - 10"   | 4 - 24"   | 6 - 12"   | 2 - 5 LEAF | SEEDLING  |
| Rating Date        | 3/23/2006 | 3/23/2006 | 4/24/2006 | 5/18/2006 | 5/18/2006 | 6/27/2006  | 6/27/2006 |
| Rating Data Type   | CONTROL   | CONTROL   |           |           |           |            |           |
| Rating Unit        | PERCENT   | PERCENT   |           |           |           |            |           |
| Treatment No.      |           |           |           |           |           |            |           |
| 1                  | 0.0 b     | 0.0 b     | 32.7 b    | 65.0 a    | 66.3 a    | 0.0 b      | 0.0 b     |
| 2                  | 96.7 a    | 100.0 a   | 84.3 a    | 91.7 a    | 100.0 a   | 16.7 b     | 50.0 ab   |
| 3                  | 99.0 a    | 98.3 a    | 97.7 a    | 96.7 a    | 98.3 a    | 91.7 a     | 50.0 ab   |
| 4                  | 99.3 a    | 100.0 a   | 99.3 a    | 100.0 a   | 99.7 a    | 96.3 a     | 98.0 a    |
| 5                  | 96.7 a    | 100.0 a   | 88.3 a    | 73.3 a    | 100.0 a   | 0.0 b      | 0.0 b     |
| 6                  | 98.7 a    | 99.3 a    | 88.3 a    | 86.7 a    | 100.0 a   | 0.0 b      | 0.0 b     |
| 7                  | 98.3 a    | 99.3 a    | 97.3 a    | 99.7 a    | 100.0 a   | 98.0 a     | 99.7 a    |
| LSD (P=.05)        | 4.18      | 1.94      | 37.81     | 37.01     | 38.29     | 19.67      | 45.27     |
| Standard Deviation | 2.35      | 1.09      | 21.25     | 20.80     | 21.52     | 11.05      | 25.44     |
| CV                 | 2.8       | 1.28      | 25.3      | 23.76     | 22.68     | 25.57      | 59.84     |
| Bartlett's X2      | 10.707    | 2.261     | 30.869    | 24.559    | 22.368    | 13.525     | 22.095    |
| P(Bartlett's X2)   | 0.058     | 0.323     | 0.001*    | 0.001*    | 0.001*    | 0.004*     | 0.001*    |
| Replicate F        | 3.521     | 3.240     | 2.471     | 2.626     | 1.144     | 1.193      | 1.734     |
| Replicate Prob(F)  | 0.0626    | 0.0750    | 0.1263    | 0.1132    | 0.3508    | 0.3369     | 0.2179    |
| Treatment F        | 746.373   | 3565.000  | 3.622     | 1.286     | 1.031     | 59.236     | 9.175     |
| Treatment Prob(F)  | 0.0001    | 0.0001    | 0.0275    | 0.3337    | 0.4518    | 0.0001     | 0.0007    |

| Pest Code          | AMAPA     | ECHCO     | LEPFI     |
|--------------------|-----------|-----------|-----------|
| Description        | 6 - 8"    | 6 - 8"    | 6 - 8"    |
| Rating Date        | 7/10/2006 | 7/10/2006 | 7/10/2006 |
| Rating Data Type   |           |           |           |
| Rating Unit        |           |           |           |
| Treatment No.      |           |           |           |
| 1                  | 0.0 b     | 0.0 b     | 0.0 b     |
| 2                  | 51.7 ab   | 10.0 b    | 20.0 b    |
| 3                  | 86.7 a    | 89.3 a    | 93.3 a    |
| 4                  | 92.7 a    | 98.3 a    | 98.0 a    |
| 5                  | 41.7 ab   | 0.0 b     | 0.0 b     |
| 6                  | 20.0 ab   | 16.7 b    | 13.3 b    |
| 7                  | 97.0 a    | 97.0 a    | 98.3 a    |
| LSD (P=.05)        | 50.42     | 25.05     | 21.43     |
| Standard Deviation | 28.34     | 14.08     | 12.04     |
| CV                 | 50.91     | 31.65     | 26.1      |
| Bartlett's X2      | 14.445    | 13.396    | 17.018    |
| P(Bartlett's X2)   | 0.013*    | 0.009*    | 0.002*    |
| Replicate F        | 0.039     | 0.186     | 0.025     |
| Replicate Prob(F)  | 0.9622    | 0.8324    | 0.9757    |
| Treatment F        | 5.368     | 34.286    | 47.074    |
| Treatment Prob(F)  | 0.0066    | 0.0001    | 0.0001    |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)  
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

## Trial ID: 06-R-2 Nutsedge control in chile

**Investigator:** Jill Schroeder

**Title:** PI, Weed Science

**Affiliation:** New Mexico State University

**Postal Code:** 88003

**E-mail:** jischroe@NMSU.Edu

### Trial Location

**City:** Rincon

**State/Prov.:** NM

### Cooperator/Landowner

**Cooperator:** Philip A Banks

MARATHON-Agric. & Environ. Consulting

### Crop Description

**Crop code:** CAPAN **Crop:** Chile **Capsicum annuum** **Variety:** Big Jim

**Planting Date:** 4/21/06

**Planting Method:** Direct Seed

**Rate:** 10 lb/acre

**Depth:** ~1 in

**Row Spacing, Unit:** 40 in

**Seed Bed:** FINE

**Soil Moisture:** ABOVE NORMAL

**Emergence Date:** 5/3/06

**Harvest Date:** 9/14/2006

**Harvest Equipment:** Hand

**Harvested Width:** 2 rows

**Harvested Length:** 10 ft / row

### Weed Description

**Code:** CYPRO

**Common Name:** purple nutsedge

**Latin binomial:** *Cyperus rotundus*

**Code:** CYPES

**Common Name:** yellow nutsedge

**Latin Binomial:** *Cyperus esculentus*

### Site and Design

**Plot Width, Unit:** 6.66 FT **Site Type:** FIELD

**Plot Length, Unit:** 25 FT **Tillage Type:** CONVENTIONAL-TILL

**Replications:** 4 **Study Design:** Randomized Complete Block

**Previous Crops:** Cotton

## Maintenance Pesticides

|        |                                 |                 |
|--------|---------------------------------|-----------------|
| 5/1/06 | Command 4 EC (clomazone)        | 0.7 lb ai/acre  |
| 5/1/06 | Roundup Weathermax (glyphosate) | 2.25 lb ae/acre |

## Maintenance and Field Prep

|          |   |
|----------|---|
| 05/02/06 | Harrow cap off chile                    |
| 05/08/06 | Hoe weeds                               |
| 05/24/06 | Hoe weeds                               |
| 06/01/06 | Cultivate                               |
| 06/14/06 | Cultivate                               |
| 06/16/06 | Thin Chile plants 10 to 12 inch spacing |
| 06/17/06 | Cultivate                               |
| 06/22/06 | Cultivate                               |
| 07/14/06 | Hoe weeds                               |
| 07/19/06 | Cultivate                               |
| 08/02/06 | Hoe weeds                               |

## Soil Description

**Sand:** 36% **Silt:** 46% **Clay:** 18% **OM:** 1.3% **pH:** 8.1 **CEC:** 25.1 Loam

## Fertilizer Applied

|          |         |             |
|----------|---------|-------------|
| 04/13/06 | 11-52-0 | 440 lb/acre |
| 06/06/06 | UAN     | 30 gal/acre |

## Rainfall 2006

|           |       |
|-----------|-------|
| March     | 0.02" |
| April     | 0.35" |
| May       | 0.35" |
| June      | 0.54" |
| July      | 1.59" |
| August    | 6.37' |
| September | 4.08" |

### Furrow Irrigation

03/28/06 EBID  
 05/03/06 EBID  
 05/15/06 WELL  
 05/23/06 WELL  
 06/06/06 EBID  
 08/03/06 EBID  
 06/17/06 WELL  
 06/27/06 EBID  
 07/10/06 WELL  
 07/19/06 WELL

Approximately 6 inches of water was applied at each irrigation date

### 06-R-2 Treatment Plan

| Trt No. | Treatment Name      | Form Conc | Form Type | Rate  | Rate Unit | Appl Code |
|---------|---------------------|-----------|-----------|-------|-----------|-----------|
| 1       | Hand-Weeded Control |           |           |       |           |           |
| 2       | V-10142             | 75        | WG        | 0.2   | lb ai/a   | A         |
| 3       | V-10142             | 75        | WG        | 0.3   | lb ai/a   | A         |
| 4       | V-10142             | 75        | WG        | 0.4   | lb ai/a   | A         |
| 5       | V-10142             | 75        | WG        | 0.2   | lb ai/a   | B         |
|         | NIS                 |           |           | 0.25  | % v/v     | B         |
| 6       | V-10142             | 75        | WG        | 0.3   | lb ai/a   | B         |
|         | NIS                 |           |           | 0.25  | % v/v     | B         |
| 7       | Halosulfuron        | 75        | DF        | 0.047 | lb ai/a   | C         |
| 8       | V-10142             | 75        | WG        | 0.2   | lb ai/a   | A         |
|         | V-10142             | 75        | WG        | 0.2   | lb ai/a   | B         |
|         | NIS                 |           |           | 0.25  | % v/v     | B         |
| 9       | V-10142             | 75        | WG        | 0.3   | lb ai/a   | A         |
|         | V-10142             | 75        | WG        | 0.3   | lb ai/a   | B         |
|         | NIS                 |           |           | 0.25  | % v/v     | B         |
| 10      | V-10142             | 75        | WG        | 0.4   | lb ai/a   | A         |
|         | V-10142             | 75        | WG        | 0.2   | lb ai/a   | B         |
|         | NIS                 |           |           | 0.25  | % v/v     | B         |

Application Code A = Pre-emergence  
 Application Code B = Post-emergence over the top  
 Application Code C = Post-directed

## Application Description

|                                | <b>A</b>  | <b>B</b> | <b>C</b>    |
|--------------------------------|-----------|----------|-------------|
| <b>Application Date:</b>       | 4/30/2006 | 6/5/2006 | 6/13/2006   |
| <b>Time of Day:</b>            | 7:00 AM   | 9:00 AM  | 9:00 AM     |
| <b>Application Method:</b>     | SPRAY     | SPRAY    | SPRAY       |
| <b>Application Timing:</b>     | PREPOS    | POSPOS   | POSPOS      |
| <b>Application Placement:</b>  | SOIL/FOLI | FOLIAR   | FOLIAR      |
| <b>Applied By:</b>             | C.FIORE   | C.FIORE  | C.FIORE/JIM |
| <b>Air Temperature, Unit:</b>  | 46.5 F    | 89 F     | 87 F        |
| <b>% Relative Humidity:</b>    | 50        | 8        | 12          |
| <b>Wind Velocity, Unit:</b>    | 0         | 3.5 MPH  | 3 MPH       |
| <b>Dew Presence (Y/N):</b>     | N         | N        | N           |
| <b>Soil Temperature, Unit:</b> | 62 F      | 80 F     | 76 F        |
| <b>Soil Moisture:</b>          | MOIST     | DRY      | MOIST       |
| <b>% Cloud Cover:</b>          | 0         | 0        | 25          |

## Crop Stage At Each Application

|                      | <b>A</b>  | <b>B</b>  | <b>C</b> |
|----------------------|-----------|-----------|----------|
| <b>Crop Code</b>     | CAPAN     | CAPAN     | CAPAN    |
| <b>Growth Stage:</b> | PRE-EMERG | 2-10 LEAF | 6 INCH   |

## Weed Stage At Each Application

|                      | <b>A</b> | <b>B</b> | <b>C</b> |
|----------------------|----------|----------|----------|
| <b>Code:</b>         | CYPRO    | CYPRO    | CYPRO    |
| <b>Growth Stage:</b> | 2-4"     | 10 lf    | 12 "     |
| <b>Code:</b>         | CYPES    | CYPES    | CYPES    |
| <b>Growth Stage:</b> | 2-4"     | 6-8 lf   | 12"      |



## Application Equipment

|                            | <b>A</b> | <b>B</b> | <b>C</b> |
|----------------------------|----------|----------|----------|
| <b>Appl. Equipment:</b>    | BACKPACK | BACKPACK | BACKPACK |
| <b>Operating Pressure:</b> | 30 PSI   | 20 PSI   | 22 PSI   |
| <b>Nozzle Type:</b>        | Teejet   | Teejet   | Teejet   |
| <b>Nozzle Size:</b>        | 11002 XR | 11002 VS | 8002E    |
| <b>Nozzle Spacing:</b>     | 20 IN    | 20 IN    |          |
| <b>Nozzles/Row:</b>        | 2        | 2        | 2        |
| <b>Band Width:</b>         | 20 IN    | 20 IN    |          |
| <b>Boom Length:</b>        | 80 IN    | 80 IN    |          |
| <b>Boom Height:</b>        | 18 IN    | 18 IN    | 18 IN    |
| <b>Ground Speed:</b>       | 2 MPH    | 2 MPH    | 2 MPH    |
| <b>Carrier:</b>            | WATER    | WATER    | WATER    |
| <b>Spray Volume:</b>       | 20 GPA   | 20 GPA   | 20 GPA   |
| <b>Propellant:</b>         | CO2      | CO2      | CO2      |

### Trt No Treatment Application Comment

#### Date Notes

5/25/2006 Plots 210, 406, 407 and 410 have a 50% stand reduction due to planter problems.

6/13/2006 Application C applied directed to the soil with a single nozzle boom

06-R-2 Rating Herbicide Injury Symptom to chile

-- At least one of the 4 plots in this treatment show signs of injury --

| TRT | May 18 |   | May 25 |  | June 13 |   | June 27 |   | July 10 |   | July 24 |   | Sept 12 |   |   |
|-----|--------|---|--------|--|---------|---|---------|---|---------|---|---------|---|---------|---|---|
| 2   |        | S | R      |  | S       | R |         | S | R       | C | S       | R |         | S | R |
| 3   |        | S |        |  | S       |   |         | S | R       | C | S       | R | C       | S | R |
| 4   |        | S | R      |  | S       | R |         | S | R       | C | S       | R | C       | S | R |
| 5   |        |   |        |  |         |   |         | S | R       |   | S       | R |         | S | R |
| 6   |        |   |        |  |         |   | C       | S | R       |   | S       | R | C       | S | R |
| 7   |        |   |        |  |         |   |         | S |         |   | S       | R | C       | S | R |
| 8   |        | S | R      |  | S       | R |         | S | R       | C | S       | R | C       | S | R |
| 9   |        | S | R      |  | S       |   |         | S | R       | C | S       | R |         | S | R |
| 10  |        | S | R      |  | S       | R | C       | S | R       |   | S       | R |         | S | R |

C = chlorosis  
 S = stunting  
 R = stand reduction

At the September 12<sup>th</sup> rating *Verticillium* was noted in plots 207, 208, 309, 310, 408 and 409

The borders around the plots in this study were also sprayed with V-10142 at 0.4 lb ai/a alone and tank mixed with halosulfuon at 0.023 lb ai/a on 6/27/06 to chile at the 12 inch stage. No injury was noted on the crop.

## AOV Means Table

| Pest Code          | CAPAN        |    | CAPAN       |   | CAPAN     |    | CYPSS     |   | CAPAN     |    | CYPSS       |   |
|--------------------|--------------|----|-------------|---|-----------|----|-----------|---|-----------|----|-------------|---|
| Crop Name          | COTYL - 2 LF |    | COTYL - 4LF |   | 6 IN      |    | 12 IN     |   | 6-8 IN    |    | 3 IN -BLOOM |   |
| Description        | 5/18/2006    |    | 5/25/2006   |   | 6/13/2006 |    | 6/13/2006 |   | 6/27/2006 |    | 6/27/2006   |   |
| Rating Date        | % INJURY     |    | % INJURY    |   | %INJURY   |    | %CONTROL  |   | %INJURY   |    | %CONTROL    |   |
| Rating Data Type   |              |    |             |   |           |    |           |   |           |    |             |   |
| Treatment No.      |              |    |             |   |           |    |           |   |           |    |             |   |
| 1                  | 0.0          | b  | 0.0         | a | 0.0       | b  | 0.0       | a | 0.0       | b  | 0.0         | c |
| 2                  | 12.5         | ab | 13.8        | a | 12.5      | ab | 0.0       | a | 16.3      | ab | 48.8        | b |
| 3                  | 6.3          | ab | 5.0         | a | 8.8       | ab | 5.0       | a | 22.5      | ab | 50.0        | b |
| 4                  | 15.0         | ab | 11.3        | a | 30.0      | ab | 16.3      | a | 48.8      | a  | 83.8        | a |
| 5                  |              |    |             |   | 12.5      | ab | 7.5       | a | 12.5      | ab | 80.0        | a |
| 6                  |              |    |             |   | 23.8      | ab | 6.3       | a | 28.8      | ab | 86.3        | a |
| 7                  |              |    |             |   | 6.3       | ab | 1.3       | a | 27.5      | ab | 78.8        | a |
| 8                  | 6.3          | ab | 3.8         | a | 21.3      | ab | 6.1       | a | 32.5      | ab | 85.0        | a |
| 9                  | 17.5         | a  | 8.8         | a | 40.0      | a  | 31.3      | a | 42.5      | a  | 91.3        | a |
| 10                 | 10.0         | ab | 5.0         | a | 27.5      | ab | 9.5       | a | 37.5      | a  | 92.5        | a |
| LSD (P=.05)        | 9.99         |    | 15.23       |   | 23.45     |    | 21.99     |   | 22.22     |    | 20.91       |   |
| Standard Deviation | 6.70         |    | 10.25       |   | 16.16     |    | 15.10     |   | 15.31     |    | 14.41       |   |
| CV                 | 69.38        |    | 151.12      |   | 88.56     |    | 181.63    |   | 56.97     |    | 20.7        |   |
| Bartlett's X2      | 6.085        |    | 14.018      |   | 10.17     |    | 39.406    |   | 11.36     |    | 15.39       |   |
| P(Bartlett's X2)   | 0.298        |    | 0.003*      |   | 0.253     |    | 0.001*    |   | 0.182     |    | 0.052       |   |
| Replicate F        | 5.735        |    | 0.736       |   | 7.462     |    | 1.022     |   | 4.660     |    | 1.704       |   |
| Replicate Prob(F)  | 0.0067       |    | 0.5442      |   | 0.0009    |    | 0.3995    |   | 0.0095    |    | 0.1897      |   |
| Treatment F        | 3.185        |    | 0.849       |   | 2.330     |    | 1.558     |   | 3.663     |    | 16.186      |   |
| Treatment Prob(F)  | 0.0278       |    | 0.5493      |   | 0.0432    |    | 0.1824    |   | 0.0042    |    | 0.0001      |   |

| Pest Code          | CAPAN     |     | CYPSS      |    | CAPAN        |     | CYPSS        |    | CAPAN     |   | CAPAN      |   |
|--------------------|-----------|-----|------------|----|--------------|-----|--------------|----|-----------|---|------------|---|
| Crop Name          | 6-12 IN   |     | 3-11" TALL |    | 18-24 IN/PO> |     | EMERG - BLO> |    | MATUARE   |   | FRESH WGTS |   |
| Description        | 7/10/2006 |     | 7/10/2006  |    | 7/24/2006    |     | 7/24/2006    |    | 9/12/2006 |   | 9/14/2006  |   |
| Rating Date        | %INJURY   |     | %CONTROL   |    | %INJURY      |     | %CONTROL     |    | %INJURY   |   | YIELD LB/A |   |
| Rating Data Type   |           |     |            |    |              |     |              |    |           |   |            |   |
| Treatment No.      |           |     |            |    |              |     |              |    |           |   |            |   |
| 1                  | 0.0       | c   | 0.0        | c  | 0.0          | c   | 0.0          | c  | 0.0       | a | 17155.6    | a |
| 2                  | 8.8       | c   | 42.5       | b  | 6.3          | bc  | 77.5         | ab | 0.0       | a | 12750.4    | a |
| 3                  | 12.5      | bc  | 56.3       | ab | 17.5         | abc | 62.5         | b  | 2.5       | a | 16600.5    | a |
| 4                  | 42.5      | a   | 81.3       | ab | 28.8         | ab  | 80.0         | ab | 16.3      | a | 14361.8    | a |
| 5                  | 7.5       | c   | 82.5       | ab | 8.8          | bc  | 72.5         | ab | 7.5       | a | 11250.8    | a |
| 6                  | 11.3      | bc  | 71.3       | ab | 21.3         | abc | 77.3         | ab | 13.8      | a | 12130.4    | a |
| 7                  | 26.3      | abc | 75.0       | ab | 23.8         | abc | 88.5         | a  | 16.3      | a | 10306.3    | a |
| 8                  | 20.0      | bc  | 83.8       | ab | 20.0         | abc | 92.5         | a  | 16.3      | a | 7761.3     | a |
| 9                  | 35.0      | ab  | 91.3       | a  | 35.0         | a   | 91.3         | a  | 28.8      | a | 7422.4     | a |
| 10                 | 11.3      | bc  | 67.5       | ab | 17.5         | abc | 87.3         | a  | 12.5      | a | 12043.9    | a |
| LSD (P=.05)        | 16.51     |     | 26.59      |    | 16.29        |     | 15.38        |    | 18.53     |   | 11991.38   |   |
| Standard Deviation | 11.38     |     | 18.33      |    | 11.22        |     | 10.60        |    | 12.77     |   | 8264.31    |   |
| CV                 | 65.01     |     | 28.14      |    | 62.8         |     | 14.54        |    | 112.25    |   | 67.86      |   |
| Bartlett's X2      | 2.962     |     | 16.829     |    | 5.266        |     | 21.018       |    | 11.548    |   | 8.859      |   |
| P(Bartlett's X2)   | 0.937     |     | 0.032*     |    | 0.729        |     | 0.007*       |    | 0.116     |   | 0.45       |   |
| Replicate F        | 1.172     |     | 4.171      |    | 1.037        |     | 6.417        |    | 2.079     |   | 0.027      |   |
| Replicate Prob(F)  | 0.3388    |     | 0.0150     |    | 0.3921       |     | 0.0020       |    | 0.1265    |   | 0.9940     |   |
| Treatment F        | 5.494     |     | 8.687      |    | 3.528        |     | 26.434       |    | 1.997     |   | 0.624      |   |
| Treatment Prob(F)  | 0.0003    |     | 0.0001     |    | 0.0052       |     | 0.0001       |    | 0.0797    |   | 0.7661     |   |

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.