

New Layby Weed Control Strategies for Peppers

- **Richard Smith, Vegetable Crop and Weed Science Farm Advisor, Monterey County**

Weed Control Materials Registered for Peppers in California


- **Preplant**
 - Paraquat
 - Roundup
 - Metam Sodium
 - **Preemergence**
 - Goal^{1,2}
 - Prefar
 - Devrinol
 - Treflan
 - Dual Magnum
 - Prowl H2O
 - **Layby**
 - Dacthal
 - Dual Magnum³
 - Prowl H2O
 - **Postemergence**
 - Sandea
 - Poast
 - Select Max
- 1-Preformed beds up to 30 days prior to transplanting, must work beds;
2-applied to shaped beds and tarped
3-label recently adjusted to specifically list layby use

Pepper Weed Control Studies



- Peppers are a long-season crop. Weeds can get out of control late in the season and it can be expensive to weed later in the growth cycle

Late Season Weeds

- 
- Malva infestation prior to harvest**
- Can be expensive to control
 - Can reduce quality of peppers

- **This presentation will focus on research that we have been conducting with flumioxazin as a layby material for peppers to provide weed control later into the growth cycle**
 - **Chateau 51 WDG**
 - **Broadstar 0.25 G**
- **Depending on the rate, these materials can provide long-term and effective weed control, particularly of troublesome weeds**

- **We chose this material because it does not have the lift off issue of Goal**
- **Our original work evaluated the use of Chateau and Broadstar at transplanting**
- **Chateau was clearly too phytotoxic as a pretransplant application to pepper transplants**
- **There seemed to be some hope for Broadstar**



2005 Evaluation

Treatments	Total Weeds 21 DAT	Time to weed (hrs/A) 21 DAT
Dual Magnum 7.62	0.9	1.4
Goal Tender 4F	2.8	3.2
Outlook 6.0	0.4	1.2
Broadstar	2.1	2.6
Devrinol	12.0	8.4
Untreated	13.3	7.7

2005 Evaluation

Treatments	Phyto 21 DAT	Phyto 28 DAT	Plants per plot 21 DAT
Dual Magnum 7.62	0.5	0.1	36.1
Goal Tender 4F	0.5	0.1	35.4
Outlook 6.0	1.3	1.0	35.5
Broadstar	1.2	0.8	35.7
Devrinol	0.0	0.0	35.8
Untreated	0.0	0.0	36.3



If a granule touched the base of the transplant it killed it

- **Clearly transplants were too tender for the granules to touch which could reduce the stand of peppers**
- **In 2007 we started looking at utilizing Chateau at layby. The plants are more hardened off at this point and the applications looked promising enough to follow up**

Layby Strategies with Chateau and Broadstar

- **Given the potential for damage to the peppers by layby applications of Chateau we used four strategies to apply the material**
 - **Chateau Applications**
 - **Directed Spray**
 - **Hooded Application**
 - **Water Repellent Adjuvant**
 - **Broadstar Granules**

2009 Layby Evaluations

Comparison Materials Weak on Malva

Treatment	Application	Material/A	Malva	Total weeds
Untreated	---	---	5.0	39.0
Dual Magnum	Directed	1.5 pints	4.3	24.0
Prowl H2O	Directed	2.0 pints	5.0	11.0
Dual Magnum + Prowl H2O	Directed	1.5 pints 2.0 pints	5.3	12.0
Outlook 6.0	Directed	14.0 oz	4.3	29.7

Treatment	Application	Material/A	Malva	Total weeds
Untreated	---	---	5.0	39.0
Dual Magnum + Prowl H2O	Directed	1.5 pints 2.0 pints	5.3	12.0
Chateau	Directed	3.0 oz	1.0	9.0
Chateau	Directed	6.0 oz	0.0	2.7
Chateau	Hooded	3.0 oz	1.7	6.0
Chateau	Hooded	6.0 oz	0.7	8.7
Chateau +DC 1-6184	Directed Water repellent	3.0 oz	0.0	7.7
Chateau 51WG +DC 1-6184	Directed Water repellent	6.0 oz	0.7	3.3
Broadstar 0.25G	Broadcast	37.6 lbs (=3.0 oz)	0.7	3.7

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Broadstar 0.25G	Broadcast	37.6 lbs (=3.0 oz)	0.7	3.7

Treatment	Application	Material/A	Total Weed Time
Untreated	---	---	24
Dual Magnum + Prowl H2O	Directed	1.5 pints 2.0 pints	10
Chateau	Directed	3.0 oz	8
Chateau	Directed	6.0 oz	6
Chateau	Hooded	3.0 oz	9
Chateau	Hooded	6.0 oz	6
Chateau +DC 1-6184	Directed Water repellent	3.0 oz	7
Chateau 51WG +DC 1-6184	Directed Water repellent	6.0 oz	6
Broadstar 0.25G	Broadcast	37.6 lbs (=3.0 oz)	7

Chateau Used Layby





Untreated



Chateau @ 3 & 6 oz



Untreated



Broadstar 37 lbs/A



2010 Evaluations

- **Broadstar is registered for ornamentals and its price structure will probably make it too expensive for use in vegetable crops**
- **However, on the Chateau label there is a provision for impregnating fertilizer with Chateau for use on mint, we would like to try that idea on peppers**

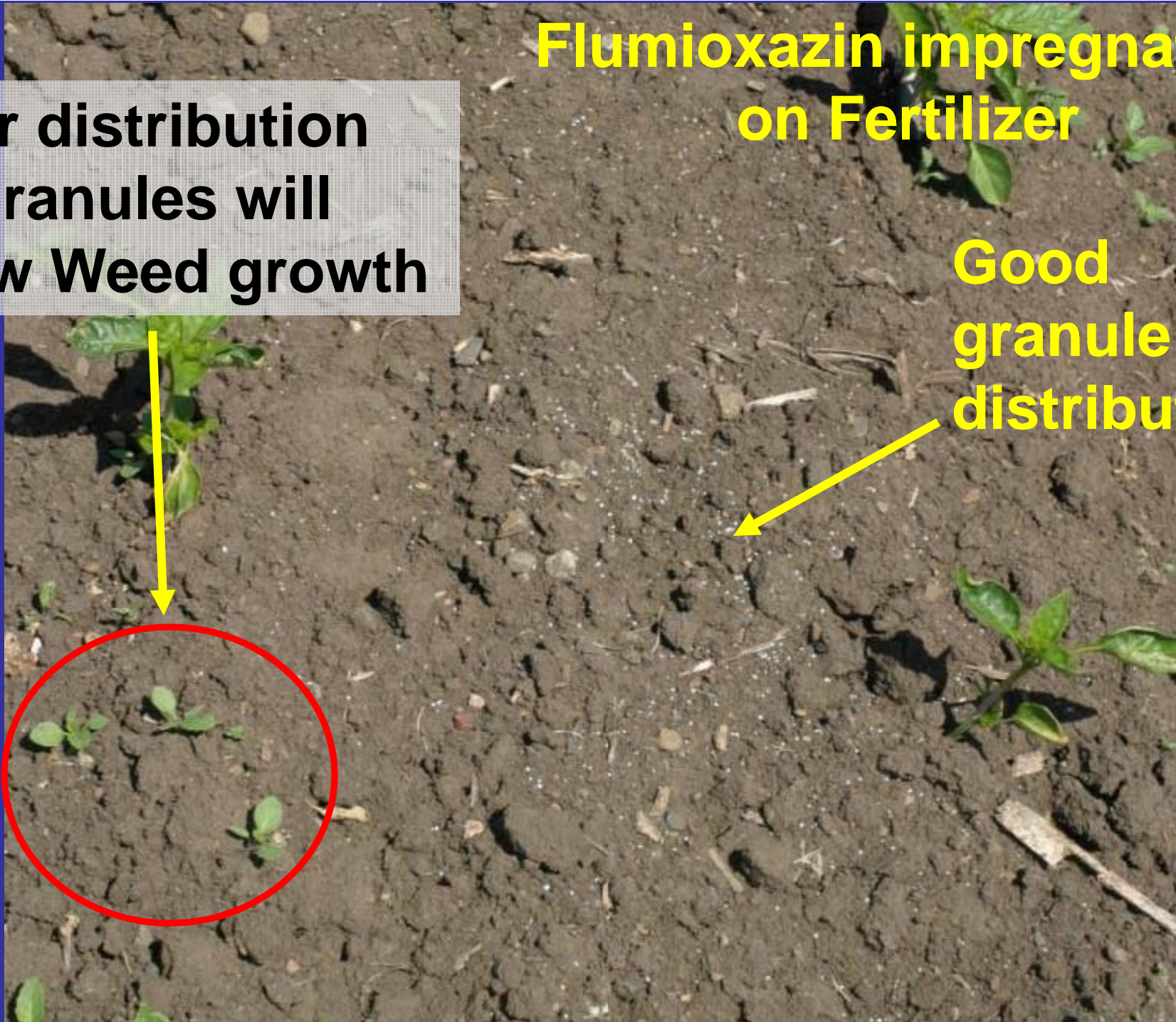
2010 Evaluations

- **We have talked with Valent Corp. representatives and they have agreed to support this work**
- **We intend to obtain a research authorization to be able to treat 10 acres of peppers with flumioxazin impregnated on fertilizer**

Flumioxazin impregnated on Fertilizer

Poor distribution
of Granules will
allow Weed growth

Good
granule
distribution





Vegetable Crops & Weed Science

Conduct an applied research and educational program in vegetable crop production and weed science for crops grown in Monterey, Santa Cruz

and San Benito Counties. Production issues include soil fertility, abiotic problem diagnosis, cover crop management and new crop development. Weed identification services are provided, as well as research on weed control.



Viticulture

Has cross-county Extension program Santa Cruz County

industry.



Youth Development

Youth development youth, youth service organizations in the

natural resource education, and

Programs

Vegetable Crops & Weed Science

Monterey County Crop Notes

2009 Irrigation & Nutrient Management & Cover Crop & Water Quality Field Day

2008 Irrigation & Nutrient Mgmt. Mtg. - February 19

2007 Irrigation & Nutrient Management Meeting Reports

Vegetable Crops & Weed Science Links

Conference Presentations

Weed Reports

Cultural Practice Reports

Calendar

For more information Google Cooperative Extension Monterey

Peppers

- [2009 Pepper Weed Control](#)
- [2008 Pepper Weed Control](#)
- [2007 Dual Post Emergence Use on Peppers Evaluation](#)
- [2007 Pepper Weed Control](#)
- [2006 Pepper Weed Control](#)
- [2005 Pepper Weed Control Trials](#)

Acknowledgements

- **Guidotti Farms, Soledad**
- **B&T Farms, Gilroy**
- **Crop Production Services**
- **California Pepper Commission**

