

# **Weed Control Options for Leaf Lettuce**

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

# **Importance of Kerb to Leaf Lettuce Industry**

- **It was first registered for use on lettuce in 1972**
- **Kerb is the most used herbicide on lettuce**
  - **158,400 acres of leaf lettuce**
  - **51% of acres treated with Kerb**

# Weeding Costs for Romaine Lettuce

Six row 80-inch beds\*

Operation	Costs/A
Herbicide (Prefar)	43
Cultivation 2x	8
Thinning	137
Handweeding	68**

\*2009 Sample Costs to Produce  
Romaine Hearts

# What Are the Alternatives?

# Leaf Lettuce Weed Control Strategies

<b>Chemical</b>	<b>Percent of Acreage</b>
<b>Prefar</b>	<b>17</b>
<b>Balan</b>	<b>4</b>
<b>Metam</b>	<b>2</b>

WEED	Balan	Prefar	Kerb
CHICKWEED	C	P	C
GOOSEFOOT	C	P	C
GROUNDSEL	N	N	N
HENBIT	N	N	C
LAMBSQUARTERS	C	C	C
<b>LONDON ROCKET</b>	N	N	C
MALVA	N	N	P
<b>MUSTARD</b>	N	N	C
NETTLE	N	P	C
<b>BLACK NIGHTSHADE</b>	N	N	C
<b>HAIRY NIGHTSHADE</b>	N	N	C
PIGWEEED	C	C	C
PINEAPPLE WEED	N	N	N
PURSLANE	C	C	C
<b>SHEPHERD'S PURSE</b>	N	N	C
SOWTHISTLE	N	N	N
SWINE CRESS	N	N	N
WILD RADISH	N	N	P
ANNUAL BLUEGRASS	C	C	C
LOVEGRASS	C	C	C
SPRANGLETOP	P	C	C

**Kerb**  
**More effective**  
**on mustards,**  
**nettle and**  
**nightshades**

WEED	Balan	Prefar
<b>CHICKWEED</b>	C	P
<b>GOOSEFOOT</b>	C	P
GROUNDSEL	N	N
HENBIT	N	N
LAMBSQUARTERS	C	C
LONDON ROCKET	N	N
MALVA	N	N
MUSTARD	N	N
<b>NETTLE</b>	N	P
BLACK NIGHTSHADE	N	N
HAIRY NIGHTSHADE	N	N
PIGWEEED	C	C
PINEAPPLE WEED	N	N
PURSLANE	C	C
SHEPHERD'S PURSE	N	N
SOWTHISTLE	N	N
SWINE CRESS	N	N
WILD RADISH	N	N
ANNUAL BLUEGRASS	C	C
LOVEGRASS	C	C
<b>SPRANGLETOP</b>	P	C

# Key Weeds Uncontrolled by Prefar or Balan



Shepherd's  
Purse



Hairy and Black  
Nightshade

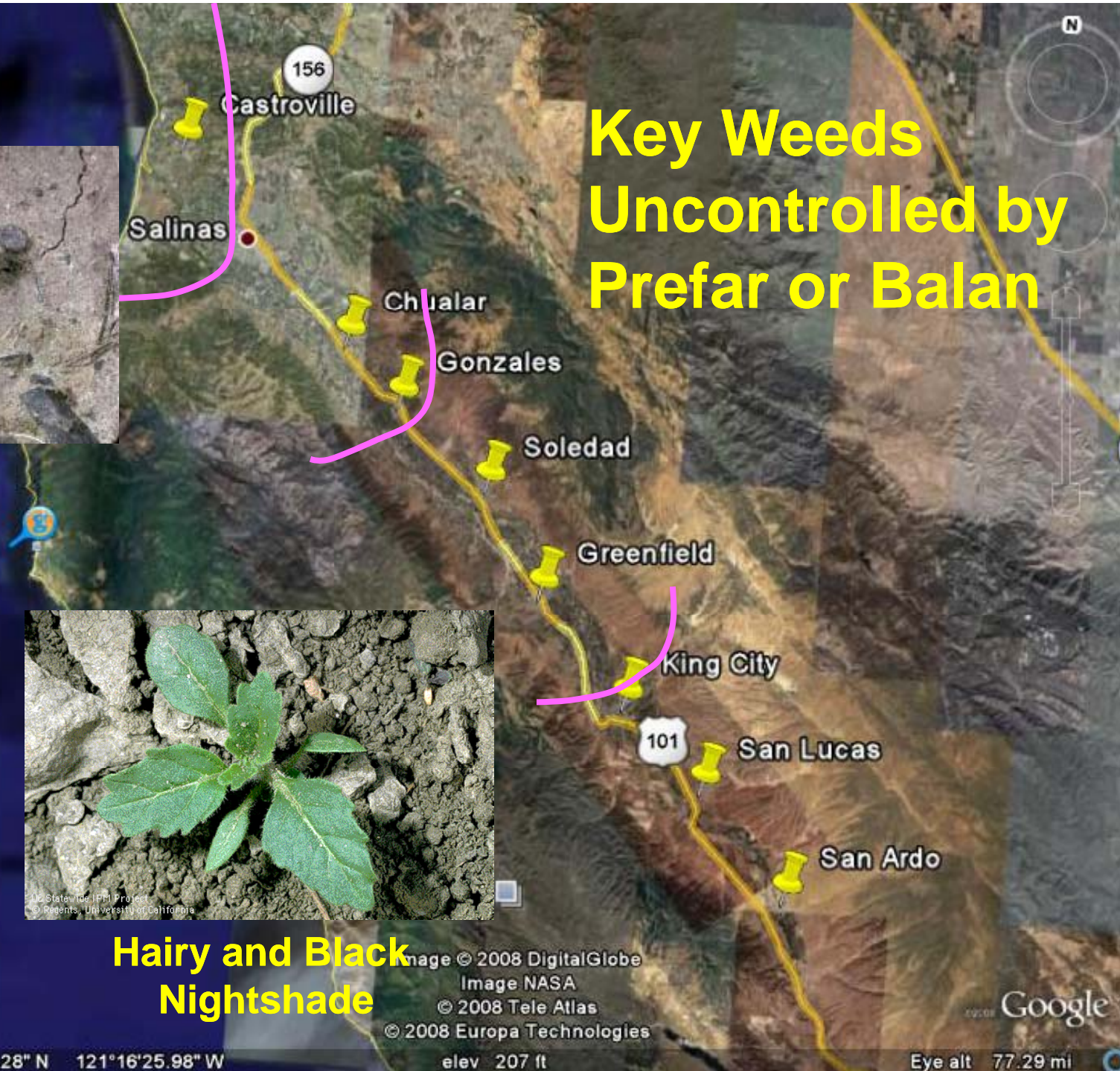


Image © 2008 DigitalGlobe  
Image NASA  
© 2008 Tele Atlas  
© 2008 Europa Technologies

36°23'03.28" N 121°16'25.98" W

elev 207 ft

Eye alt 77.29 mi

# Leaf Lettuce Weed Control Strategies

- Fumigation
  - Metam sodium
  - Rotation with Strawberries



**Blading Vapam on 80 inch beds**

# Transplanting Leaf Lettuce

May be useful in early planting slots

- **Use of Transplants**
  - Transplants give a jump on the weeds
  - It has been easier to find herbicides for transplanted lettuce
- **Prowl H2O &**
- **Dual Magnum**
  - Both are in the registration process for use on transplanted lettuce



Photo: Eric Brennan

# Vegetable Weed Control Strategies

## Back to the Basics

- **Cultural & Mechanical**
  - **Preirrigation**
  - **Rotations**
  - **Sanitation**
  - **Cultivation strategies**

# Preirrigation of listed beds can reduce weed emergence by up to 50%

No preirrigation



Preirrigation



Shem Tov and Fennimore

- **Aggressive weed control programs that include not allowing weeds to set seed reduced weed populations to low levels**
- **These approaches will be very helpful in the absence of our most effective herbicide**



**Purslane in bags  
carried to edge of field**

**Closer cultivation with precision guidance can reduce weed pressure close to the seedline and reduce subsequent weeding costs**



# Focus on Shepherd's Purse and Do Not Allow it to Set Seed



Setting seed in winter broccoli



Plants up against Lettuce following weeding

# Other Options: Tillet<sup>®</sup> Cultivator



# Summary

- **This is a very difficult situation with no easy solutions**
- **Using a combination of approaches and paying attention to the basics will be helpful**
- **The main issue is to keep weeds contained to keep hand weeding costs at a manageable level**