

Organic Weed Control: Is it Possible?

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NEBRASKA TURF
CONFERENCE



January 7-9, 2020 • LaVista Conference Center

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Organic

- relating to, being, or dealt with by a branch of chemistry concerned with the carbon compounds of living beings and most other carbon compounds; containing carbon
- organic food is produced by methods that comply with the standards of organic farming. Standards vary worldwide, but organic farming features practices that cycle resources, promote ecological balance, and conserve biodiversity
- without employment of synthetic fertilizers, growth stimulants, antibiotics, or pesticides

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Why go organic?

- Perception
- Consumer demand
- Pesticide bans

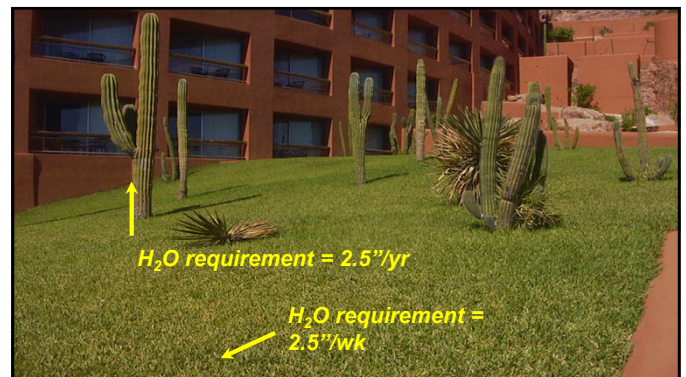
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Successful Weed Management Requires Proper Turfgrass Management

- **Irrigation**
 - Drainage
 - Frequency/duration
- **Mowing**
 - Limits seedheads
 - Promotes growth/lateral spread
- **Fertility**
 - Promotes competitive growth
- **Pests**
 - Disease/insect
- **Stress**
 - Traffic, drought, heat, cold etc.

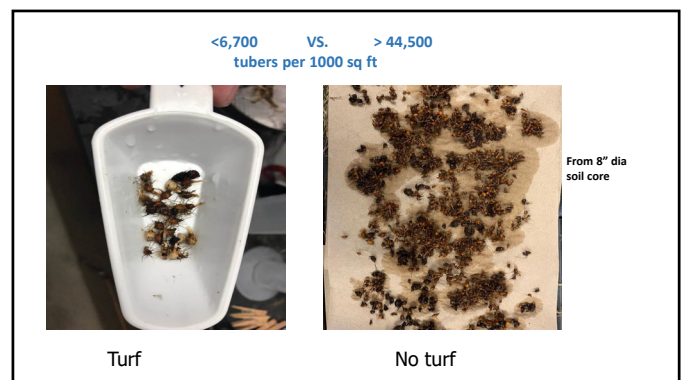
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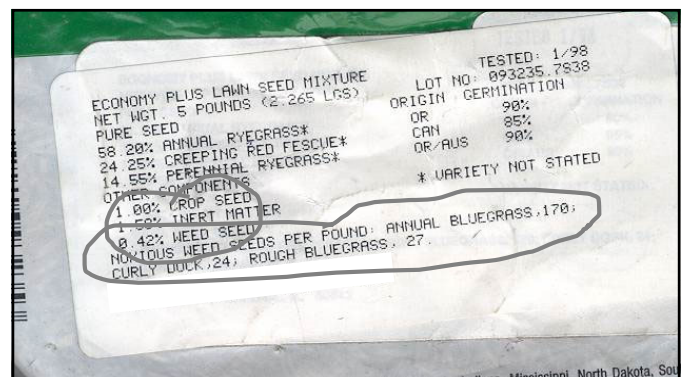


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Always use Certified Seed !!



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Organic/natural weed control options

- Preemergence
 - Corn gluten meal
 - Distiller grains
- Postemergence
 - multiple
- Non-selective
 - multiple

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Corn Gluten Meal

- Multiple years required to attain equivalent synthetic control (cumulative effect)
- Significant N input in first year
- Available mail order and limited retail

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Dried distiller grains (DDGs)

- Dried distiller grains (DDGs) are a co-product of the dry milling process, which currently accounts for approx 75 percent of the domestic ethanol production
- DDGs are used almost exclusively used as animal feed
- Much like corn gluten meal, weed control ,and fertilizer value has been documented
- DDGs contain an estimated 10% fatty oils that causes the byproduct to go rancid if not used in a relatively short time period
- Research by the USDA has been ongoing since 2008

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Selective postemergence trial

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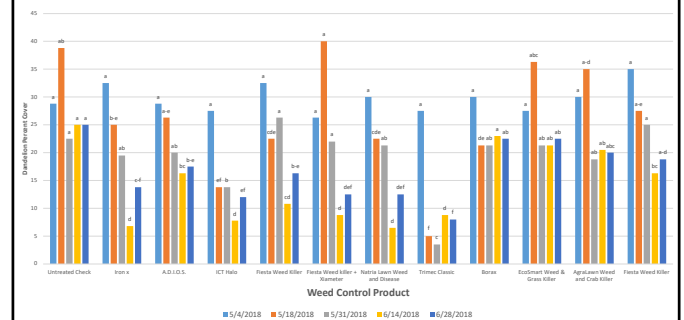
Materials and Methods

Spring Applications: May 4 and May 31, 2018 (4 weeks after initial treatment)
Fall Applications: September 13 and October 5, 2018

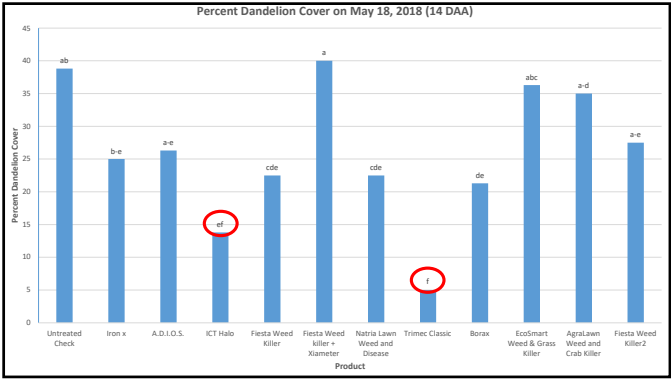
Product	Active Ingredient	Rate
Untreated Check	N/A	N/A
Iron X	26.52% Iron HEDTA	25.2 oz/M
A.D.I.O.S.	Sodium chloride + NIS	1 lb product/gallon
ICT Halo	Eugenol, Clove Oil	10 oz/M
Fiesta Weed Killer	26.52% Iron HEDTA	12.6 fl oz/M or 25.2 fl oz/M
Fiesta Weed Killer + Xiameter OFX-0309	26.52% Iron HEDTA and Silicon Adjuvant	12.6 oz/M
Natria Lawn Weed and Disease Control	26.52% Iron HEDTA	25.2 fl oz/M
Trimec Classic	2,4-D	4 pt/A
Borax	Boric Acid	Spray to runoff
EcoSmart Weed & Grass Killer	Rosemary Oil	Spray to runoff
AgraLawn Weed and Crab Killer	Cinnamon	Shake on foliage

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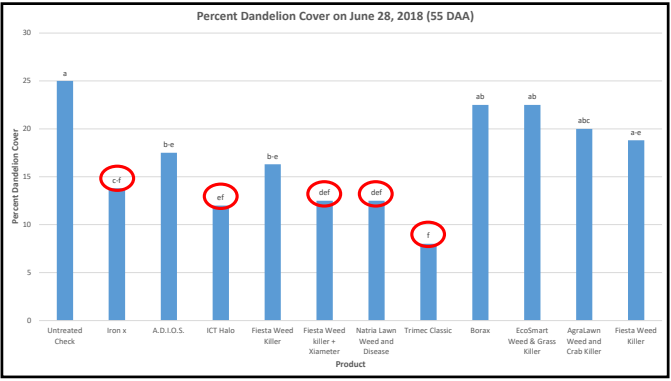
Spring 2018 Organic Weed Control Trial
Visual Percent Dandelion Cover



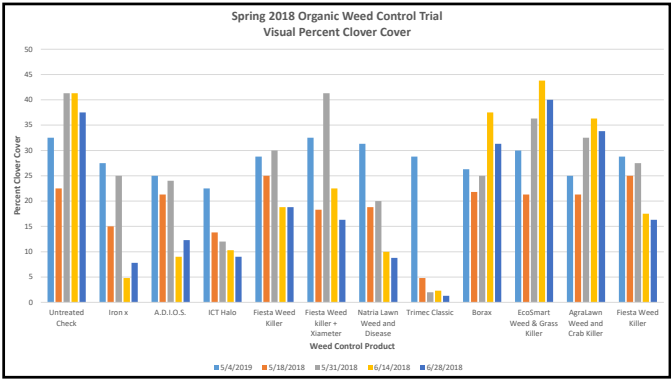
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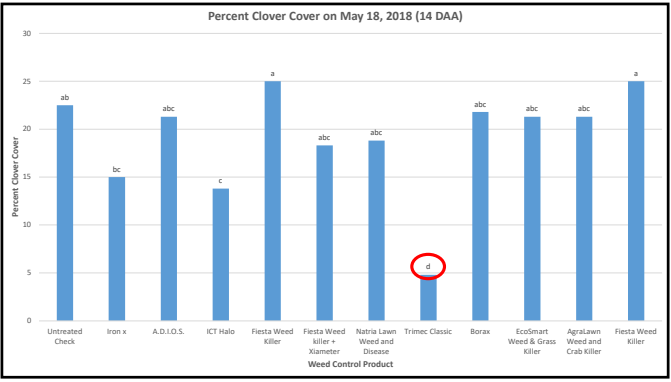
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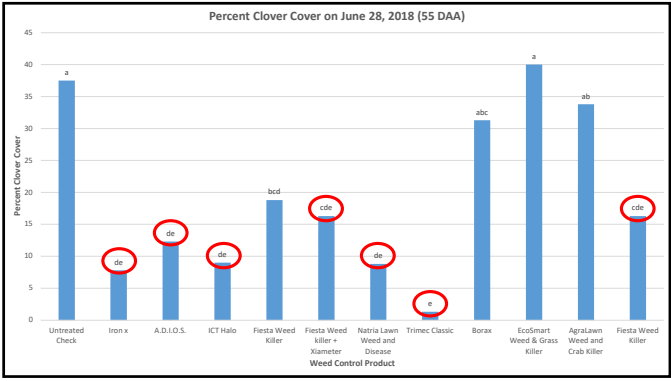
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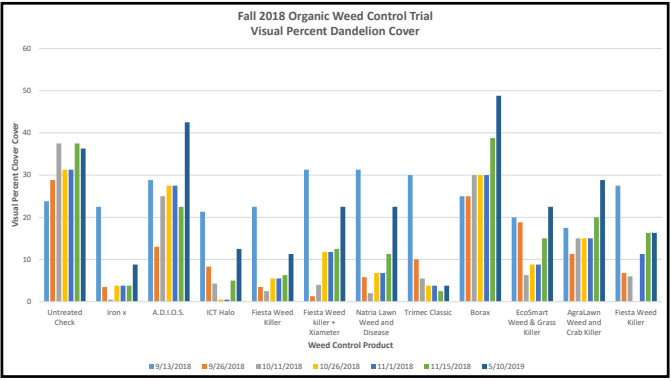
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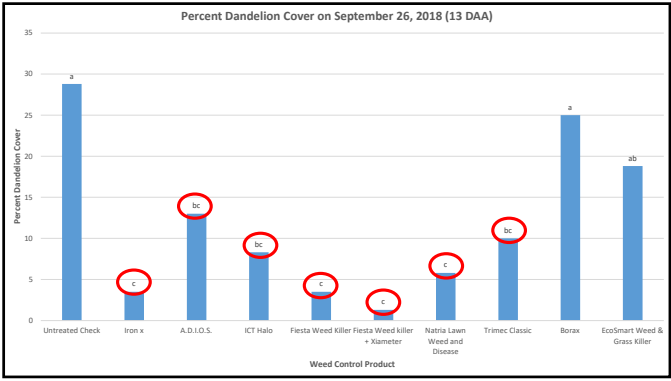
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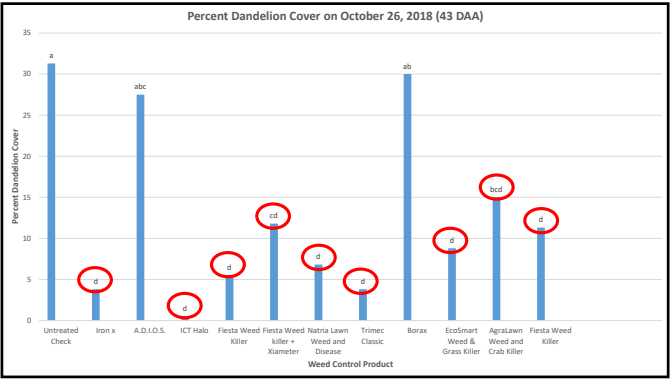
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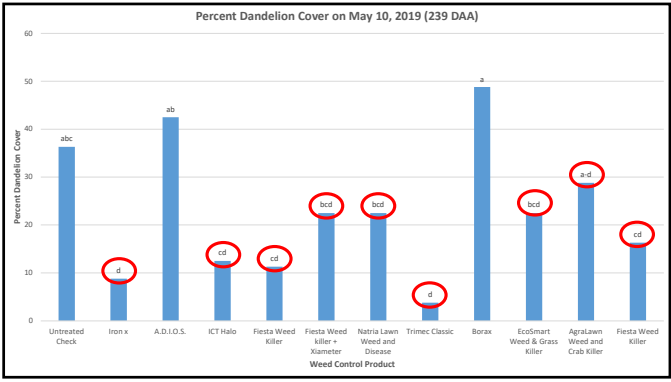
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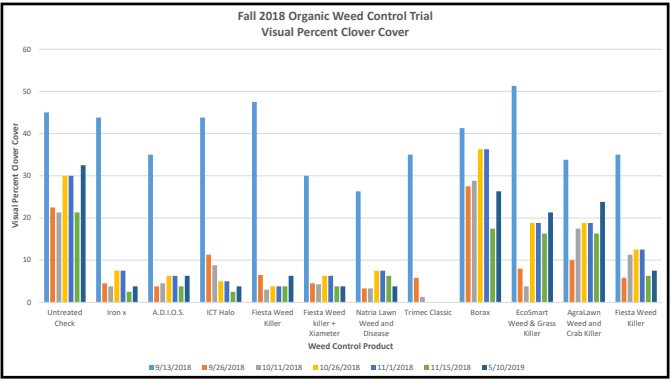
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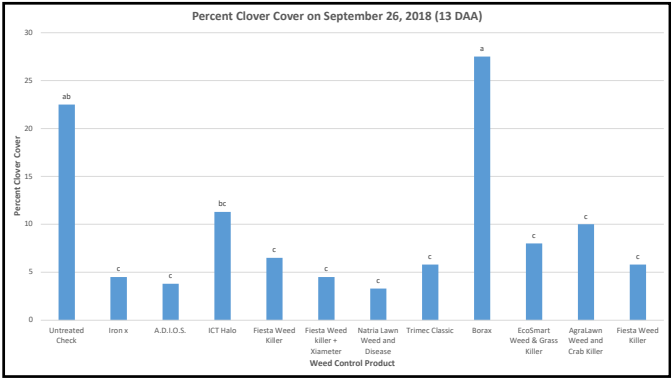
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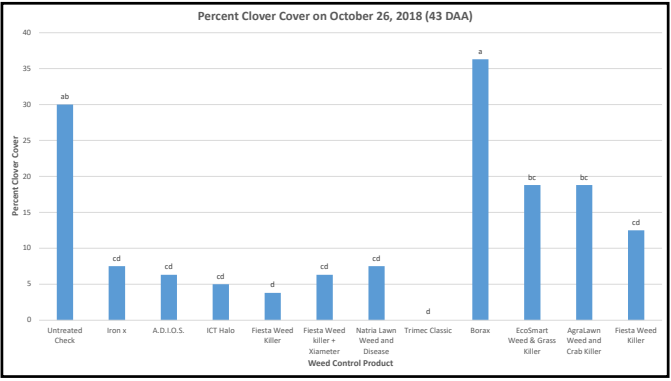
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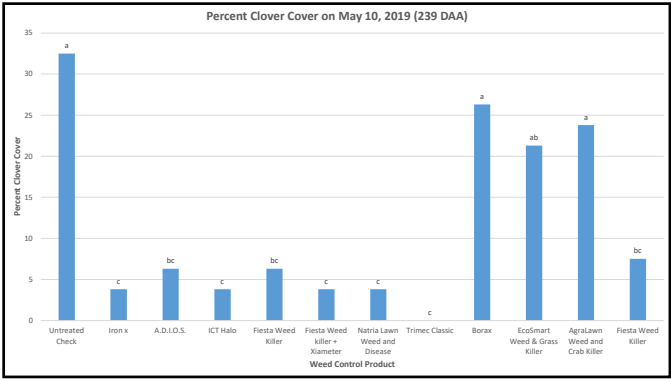
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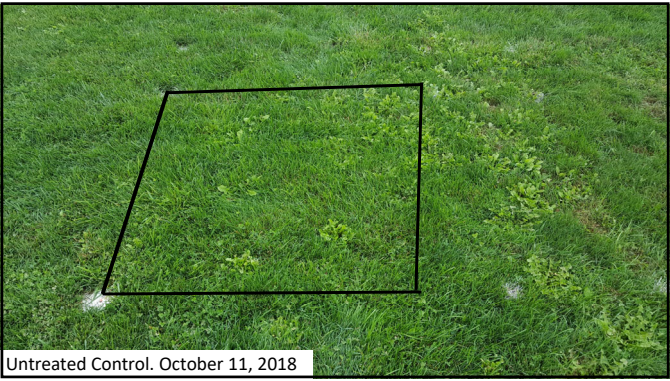
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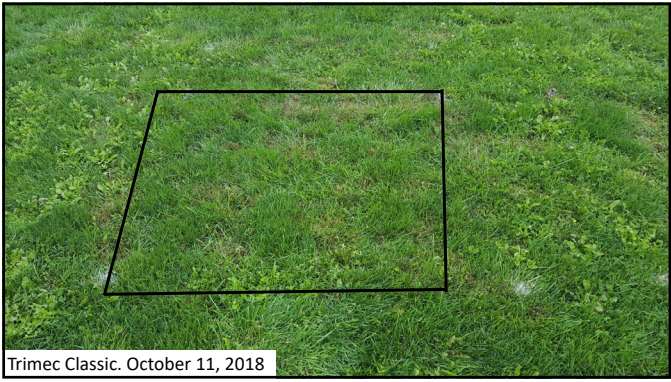
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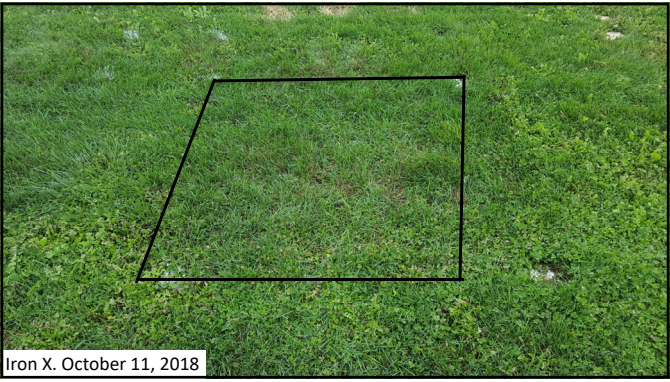
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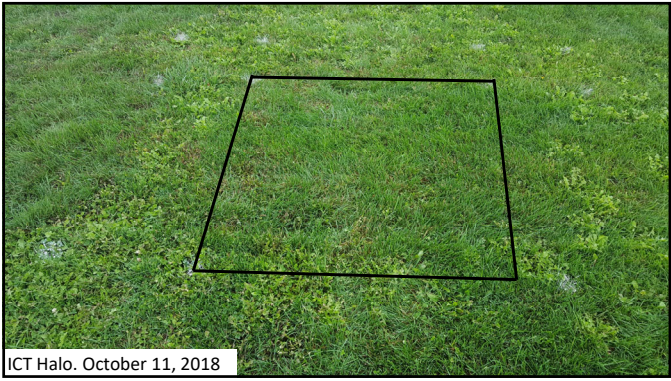
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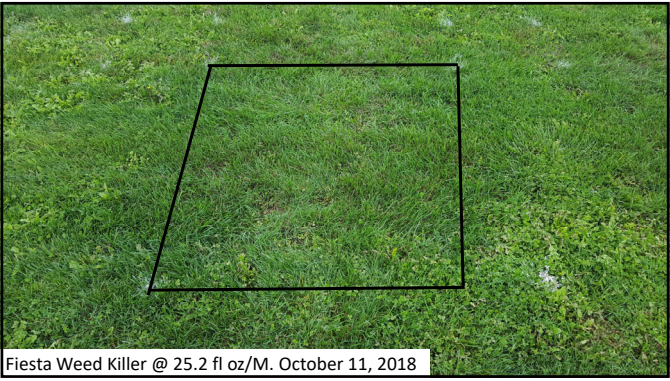
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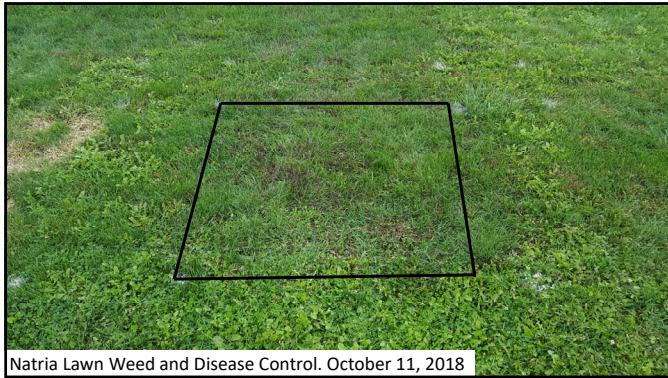
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Materials and Methods		
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Fall Applications: September 13 and October 5, 2018		
Product	Active Ingredient	Rate
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Iron X	26.52% Iron HEDTA	25.2 oz/M
A.D.I.O.S.	Sodium chloride + NIS	1 lb product
ICT Halo	Eugenol, Clove Oil	10 oz/M
Fiesta Weed Killer	26.52% Iron HEDTA	25.2 fl oz/M
Fiesta Weed Killer + Xiameter OPX-0309	26.52% Iron HEDTA and Silicon Adjuvant	12.6 oz/M
Natria Lawn Weed and Disease Control	26.52% Iron HEDTA	25.2 fl oz/M
Trimec Classic	2,4-D	4 pt/A
Borax	Boric Acid	Spray to runoff
EcoSmart Weed & Grass Killer	Rosemary Oil	Spray to runoff
AgraLawn Weed and Crab Killer	Cinnamon	Shake on foliage
Fiesta Weed Killer	26.52% Iron HEDTA	12.6 fl oz/M

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Conclusions

- Trimec Classic was always numerically the top performer for both trials
- Products containing **iron HEDTA** and **ICT Halo** often were statistically as effective as Trimec Classic
 - Iron X
 - Fiesta Weed Killer (full rate or w/ Xiameter)
 - Natria Lawn Weed and Disease Control
- When using most organics, multiple applications will be required
 - Unpublished UNL study showed significantly diminished effectiveness if no reapplication is made

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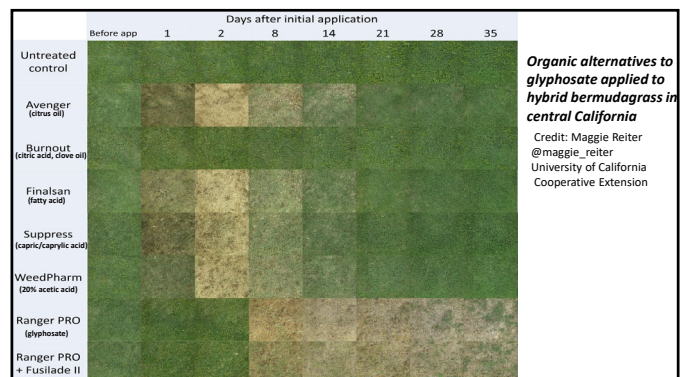
Cost Analysis

Product	Rate	Cost per 1000 sq. ft.
Untreated Check	N/A	--
Iron X	25.2 oz/M	\$102.00
A.D.I.O.S.	1 lb product/gallon	\$202.74
ICT Halo (name changed to Branch Creek Weed Shield)	10 oz/M	\$6.58
Fiesta Weed Killer	25.2 fl oz/M	\$16.73
Fiesta Weed Killer + Xiameter OPX-0309	12.6 oz/M	\$38.78
Natria Lawn Weed and Disease Control	25.2 fl oz/M	\$17.85
Trimec Classic	4 pt/A	\$0.61
Borax	Spray to runoff	\$5.00/ 64 oz
EcoSmart Weed & Grass Killer	Spray to runoff	\$25/ 64 oz
AgraLawn Weed and Crab Killer	Shake on foliage	\$23/ 2 lb
Fiesta Weed Killer	12.6 fl oz/M	\$8.37

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Organic glyphosate alternatives (non-selective)

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