

Pumpkin Herbicide Options

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Pumpkin Weed

Control Strategies

- Preplant or Preemergence Herbicides
 - Annual Grasses
 - Small Seeded Broadleaf Weeds
- Postemergence
 - Large Seeded Broadleaf Weeds
 - Escapes
- Cultivation
 - Escapes
- NT
 - Residue / Mulch – Weed Suppression

Pumpkin Weed Control

- Preplant Burndown
 - Aim 2EC @ up to 2 fl oz/A (transplanted only)
 - ET @ 1 to 2 fl oz/A
 - Glyphosate
 - Follow label for formulation you are using
 - Paraquat
 - Firestorm, Parazone 3SL @ 1.3 to 2.7 pints/A
 - Gramoxone 2SL @ 2 to 4 pints/A

Pumpkin Weed Control

- PRE
 - Curbit 3EC @ 3 to 4.5 pints/A, PRE
 - Dual Magnum 7.64EC @ 1 to 1.33 pints/A (not over row)
 - Prefar 4EC @ 5 to 6 quarts/A, PPI
 - Reflex 2EC @ 8 to 24 fl oz/A, PRE
NC 8 to 10 fl oz/A
 - Sandea 75DG @ 0.5 to 0.67 oz/A, PRE
 - Strategy 2.1L @ 2 to 6 pints/A, PRE

Pumpkin Weed Control

- POST
 - Halosulfuron-methyl @ 0.5 to 0.75 oz/A (0.67 oz/A) (?)
 - Sandea
 - Profine 75
 - Poast 1.5EC @ 1 to 1.5 pints/A
 - Select 2EC @ 6 to 8 fl oz/A
 - Arrow, Clethodim, etc.
 - Select Max 1EC @ 9 to 16 fl oz/A
 - Intensity One

Pumpkin Weed Control

- POST-Directed
 - Aim 2EC @ up to 2 fl oz/A
 - Glyphosate
 - Follow label for formulation you are using
 - Halosulfuron-methyl @ 0.5 to 1 oz/A
 - Sandea
 - Profine 75
 - Treflan 4EC @ 1 to 1.5 pints/A

Issues

- No “strong” stand alone products.
- Must combine all strategies.
- Limited POST options.
- Two and three way combinations are the best.
- What are the best options for the weeds you are trying to control?

Reflex

- Received Federal Tolerance in Fall of 2013.
 - Labeling is a 24c Label;
 - State by state
 - Virginia received indemnified label during 2015.
 - An indemnified label means you must agree not to hold the company liable for injury or crop loss
 - You must go to the FARM ASSIST website to print the label.

Locations in 2013

- Montgomery County
 - NT
 - Variety
 - ‘Apollo’
 - Did not get yield
 - Already windrowed part of the plot area.
 - No stand differences among treatments
 - Essentially 100% weed control from all treatments
 - Some late season ground cherry.
- Chowan County, NC
 - NT
 - Variety
 - Rep 1
 - ‘Apollo’
 - Rep 2
 - ‘Cronus’
 - Rep 3
 - ‘Field Trip’
 - Rep 4
 - ‘Magic Wand’

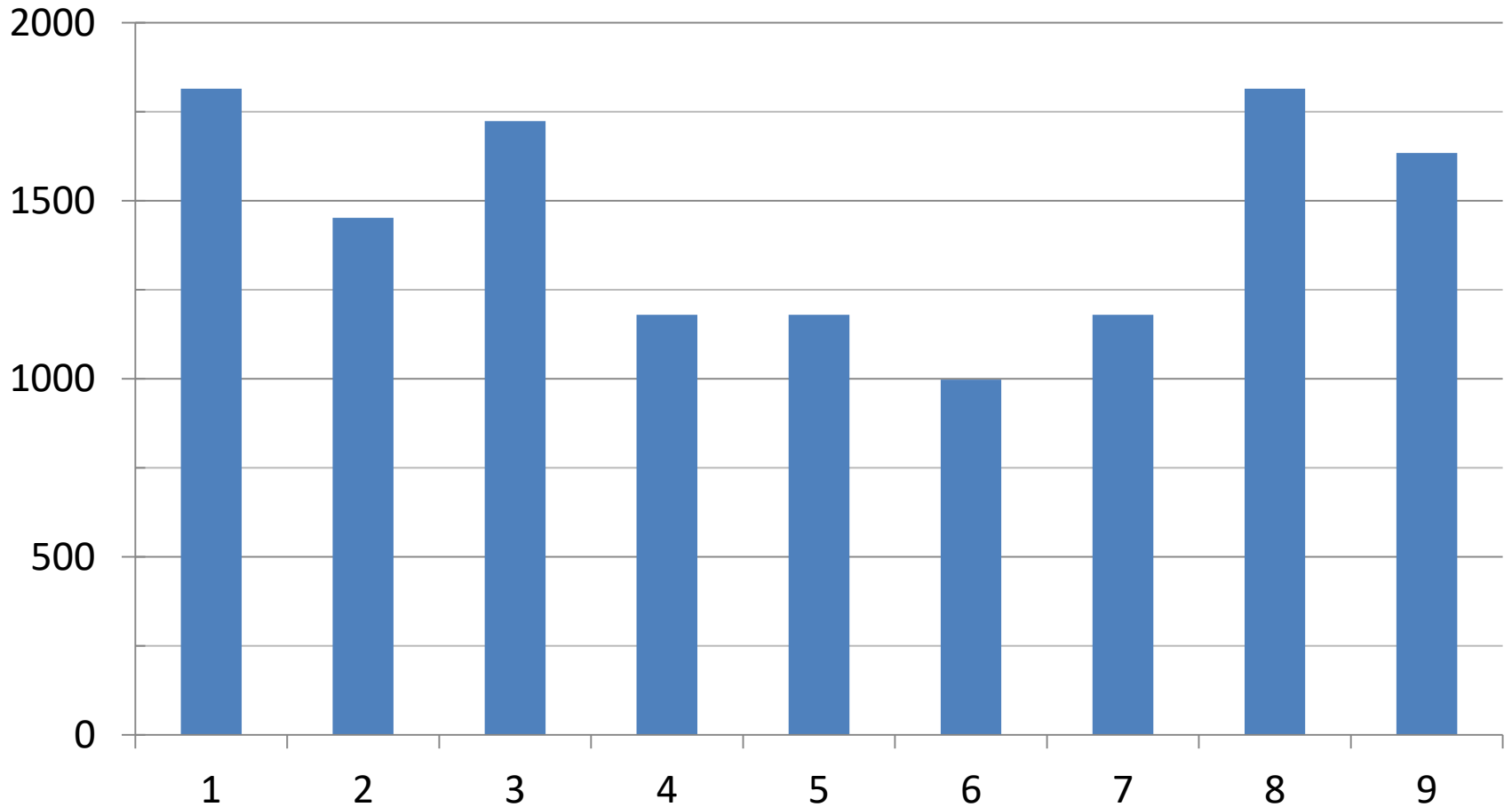
Herbicide Treatments, 2013

1. UTC
2. Dual Magnum @ 1.5 pints/A
3. Dual Magnum @ 1.5 pints/A plus Reflex @ 1.5 pints/A
4. Dual Magnum @ 1.5 pints/A plus Reflex @ 2 pints/A
5. Dual Magnum @ 1.5 pints/A plus Reflex @ 3 pints/A

Herbicide Treatments, 2013

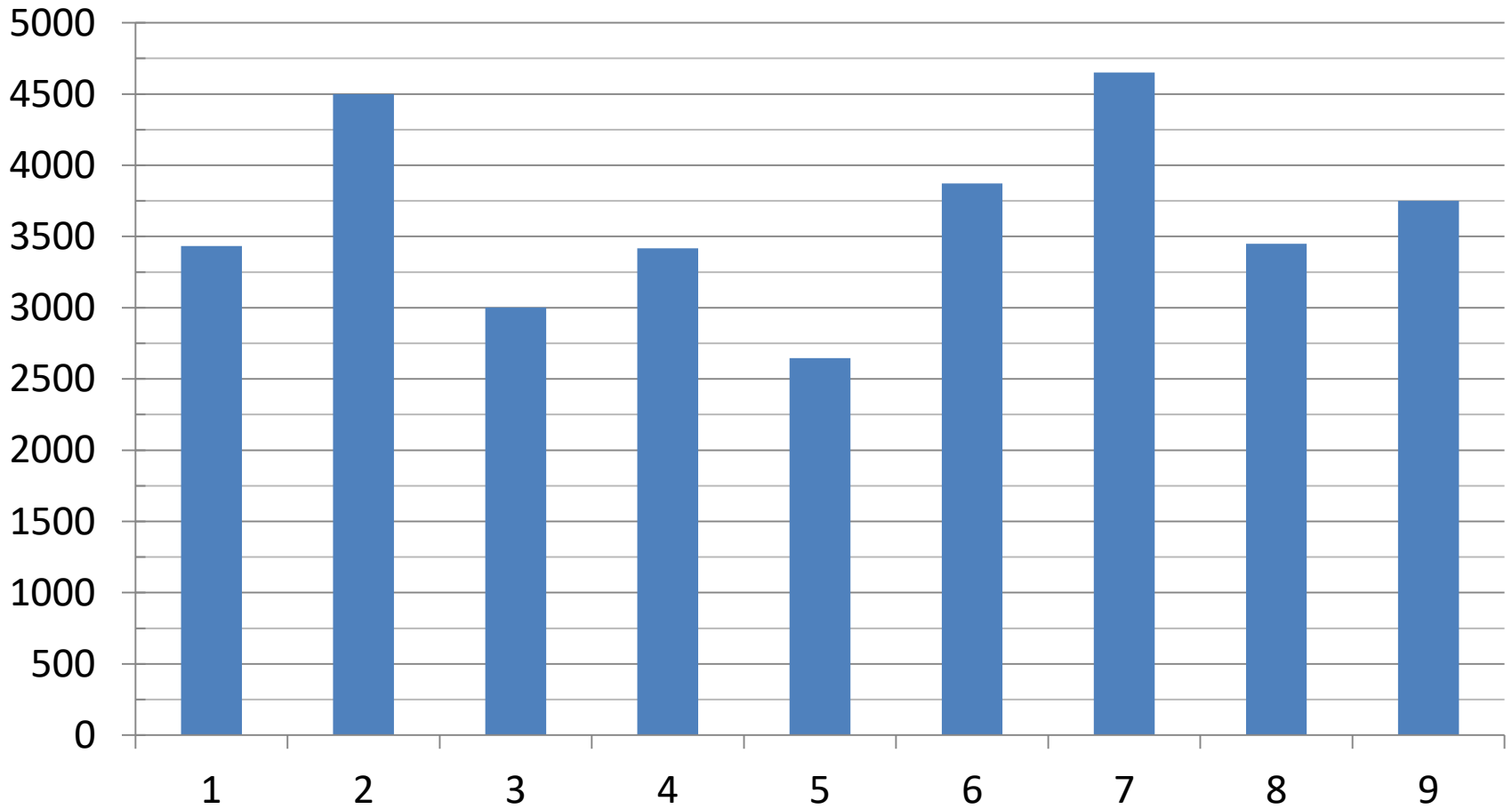
6. Dual Magnum @ 1 pints/A plus Command 3ME @ 1 pint/A plus Reflex @ 1.5 pints/A
7. Dual Magnum @ 1 pints/A plus Command 3ME @ 1 pint/A plus Reflex @ 2 pints/A
8. Dual Magnum @ 1 pints/A plus Command 3ME @ 1 pint/A plus Sandea @ 2/3 oz/A
9. Command 3ME @ 21 fl oz/A plus Curbit @ 4 pints/A

Plant Stand – no./A Chowan County, NC



Yield – no./A

Chowan County, NC



Conclusions

- Reflex @ 1.5 and 2 pints/A appears to relatively safe.
- Reflex @ 3 pints/A appears to cause some yield reduction.
- The three way combinations provided excellent weed control.

Gourds

- Have seen stand reductions
- Consider:
 - Command @ 16 to 21 fl oz/A
 - Dual Magnum @ 1 to 1 1/3 pints/A
 - Sandea @ 1/2 to 2/3 oz/A

C. Maxima

- Concern over stand establishment
- Variety Sensitivity to Curbit
- Seed size / Reflex
- Consider:
 - Command @ 16 to 21 fl oz/A
 - Dual Magnum @ 1 to 1 1/3 pints/A
 - Sandea @ 1/2 to 2/3 oz/A

What weeds do you have?

- Option A
 - Command @ 1 to 1 1/3 pints/A
 - Dual Magnum @ 1 to 1 1/3 pints/A
 - Reflex 1 1/2 to 2 pints/A
- Option B
 - Command @ 1 to 1 1/3 pints/A
 - Dual Magnum @ 1 to 1 1/3 pints/A
 - Sandea @ 1/2 to 2/3 oz/A

Observations in 2018

4 Way Combination

Coarse Textured Soils

- Command @ 1 pint/A
- Dual Magnum @ 1 to 1 1/3 pints/A
- Reflex @ 1 ½ to 2 pints/A
- Sandea @ ½ to 2/3 oz/A

Heavier Soils

- Command @ 1 to 1 1/3 pints/A
- Dual Magnum @ 1 to 1 1/3 pints/A
- Reflex 1 ½ pints/A
- Sandea @ 2/3 oz/A (?)
(1 oz/A)

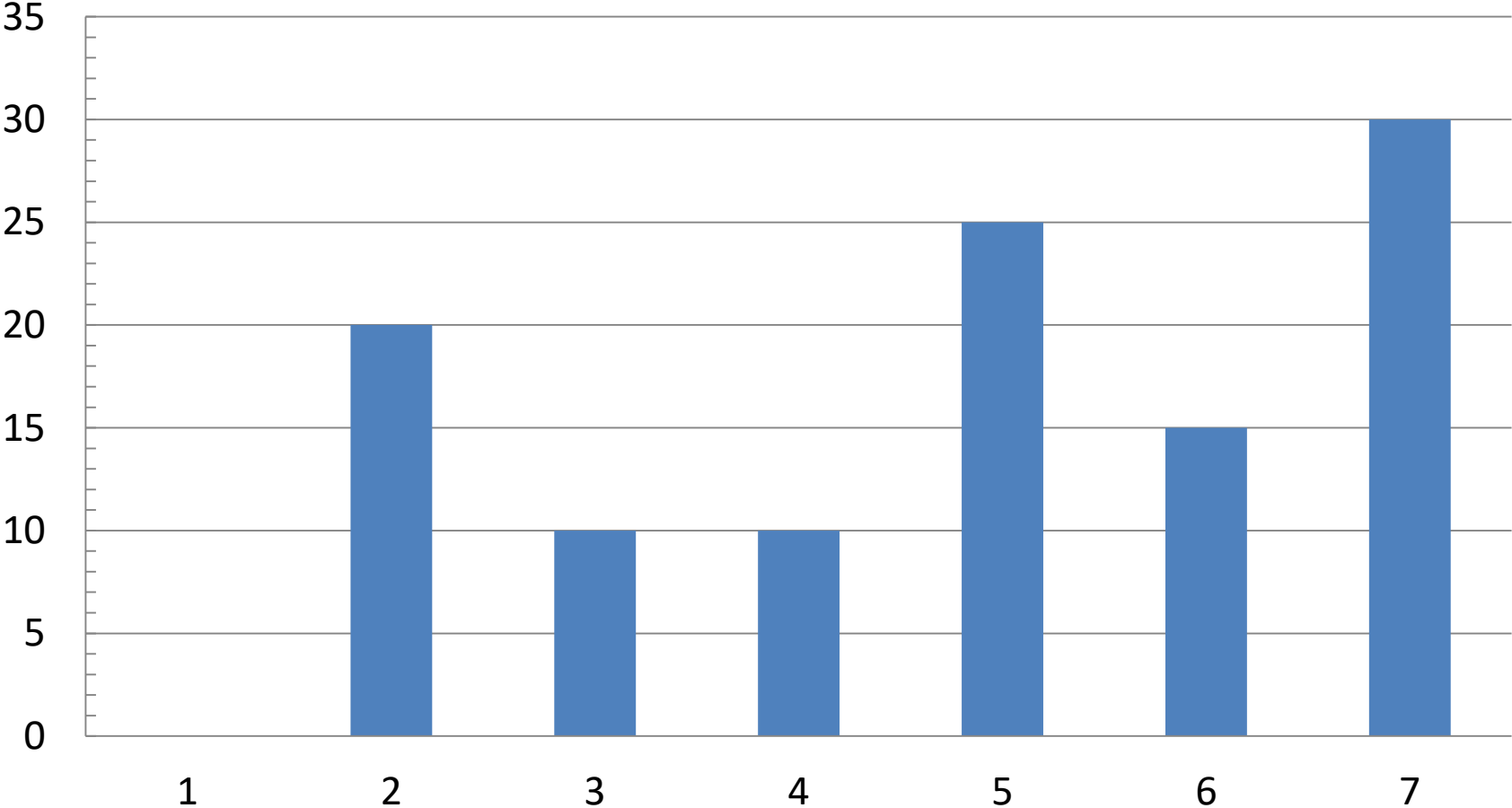
Postemergence Trial, 2013

- Even with our best herbicide treatments we are always going to have some escapes.
- Postemergence Products
 - Sandea
 - Poast
 - Select Max
 - Generics
- Over the past couple of years we have toyed with the idea of Basagran.
- Grower friend in MS that had tried it a couple of years ago with good success.
- So we tried in 2013.

Basagran Trial, 2013

1. UTC
2. Basagran @ 1 pint/A plus NIS @ $\frac{1}{4}\%$ v/v
3. Basagran @ 1.5 pints/A plus NIS @ $\frac{1}{4}\%$ v/v
4. Basagran @ 2 pints/A plus NIS @ $\frac{1}{4}\%$ v/v
5. Basagran @ 1 pint/A plus COC @ 1% v/v
6. Basagran @ 1.5 pints/A plus COC @ 1% v/v
7. Basagran @ 2 pints/A plus COC @ 1% v/v

Basagran % Injury Results, 2013



Injury ratings taken 7 days after treatment

Basagran Results, 2013

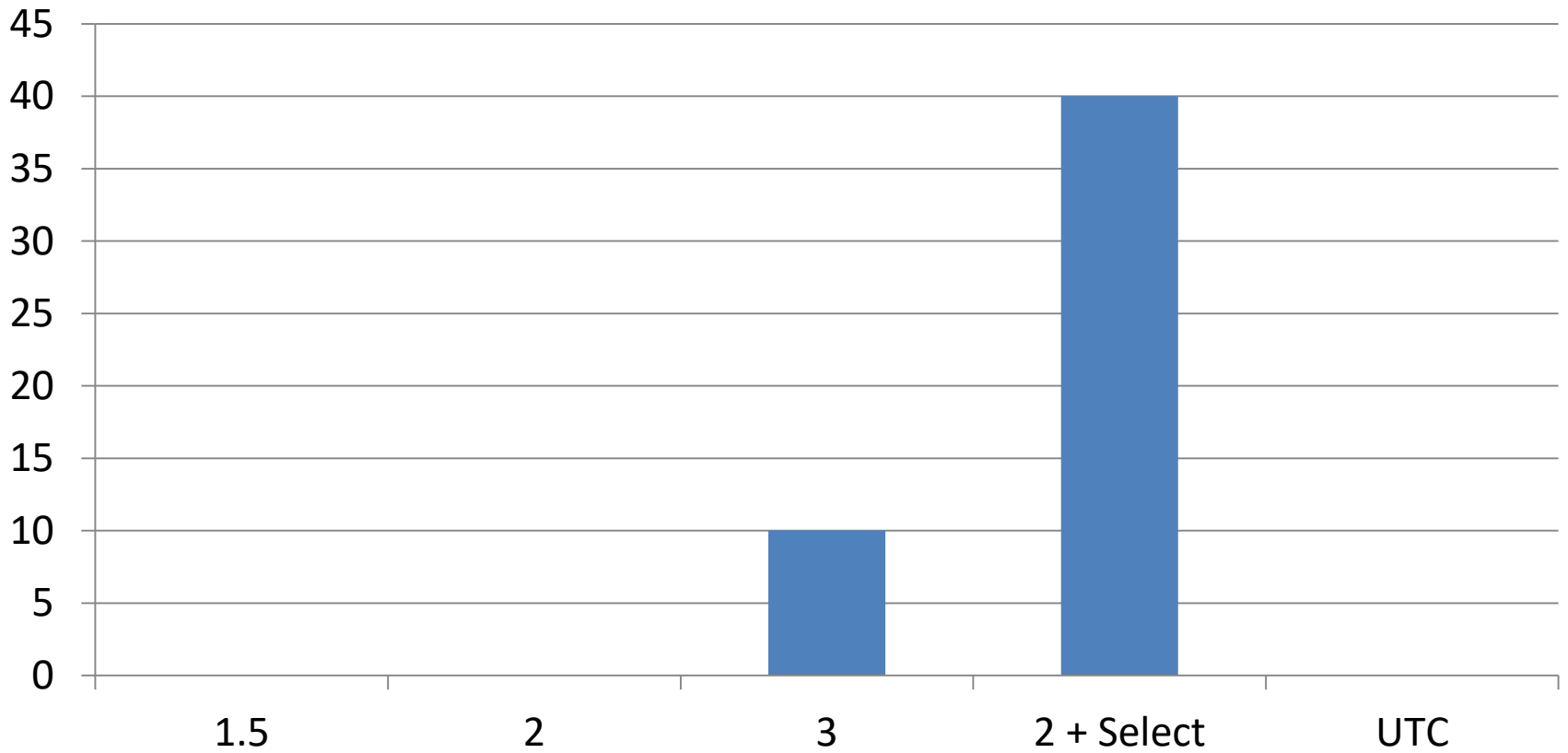
- Crop oil concentrate caused more injury than non-ionic surfactant.
- By 21 days, almost no injury was observed.
- No differences in yields among treatments.
- Appears to be fine on Jack-O-Lanterns.
- Do not use on C. Maxima – Prize Winner
- **Remember Basagran is not labeled for Pumpkins.**

Basagran Trial, 2016

- Basagran
 - 1 ½ pints/A
 - 2 pints/A
 - 3 pints/A
 - 2 pints/A plus Select Max at 1 pint/A
 - UTC
 - NIS @ ¼% v/v
- Varieties
 - Field Trip
 - Warty Goblin
 - Gladiator
 - Kratos

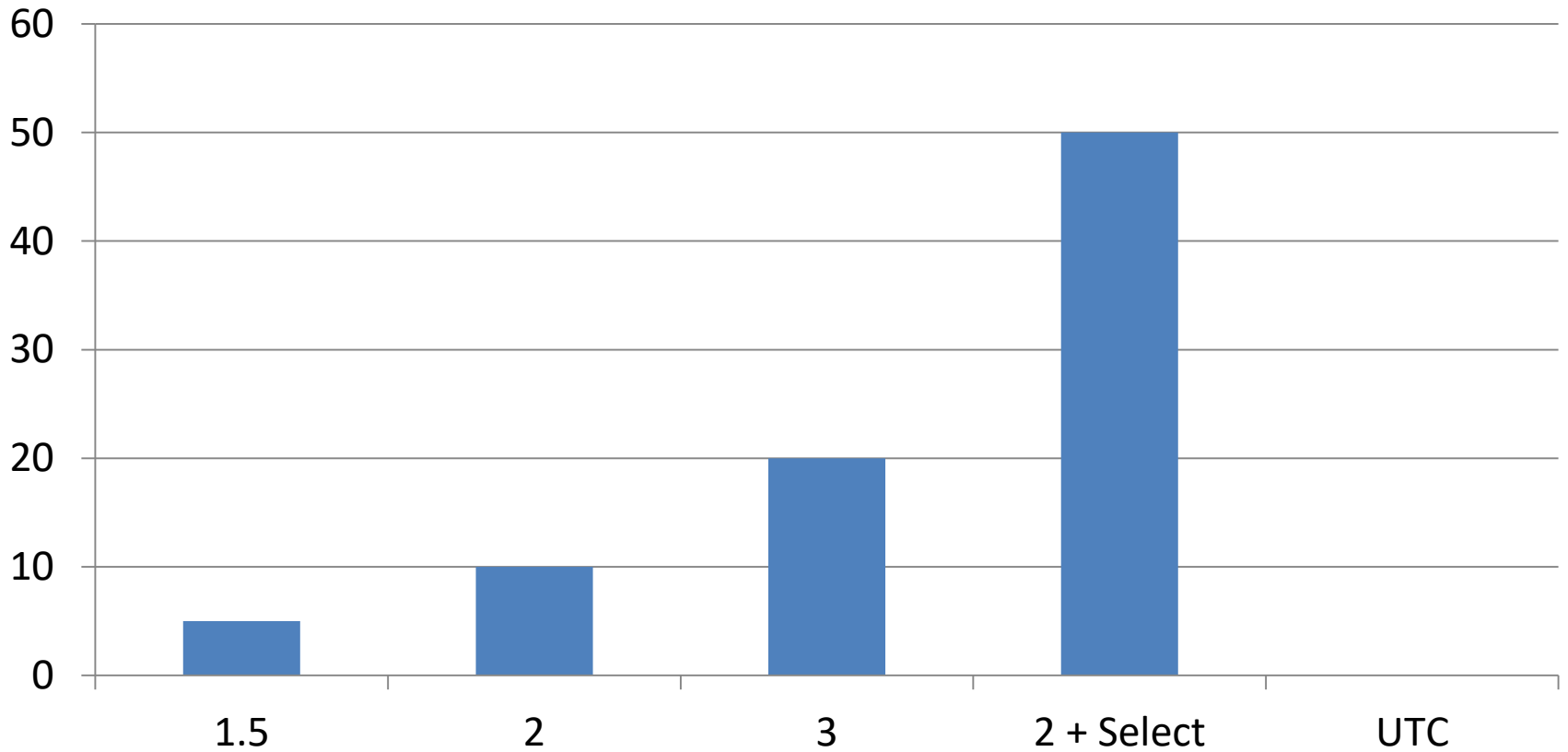
Field Trip

Injury



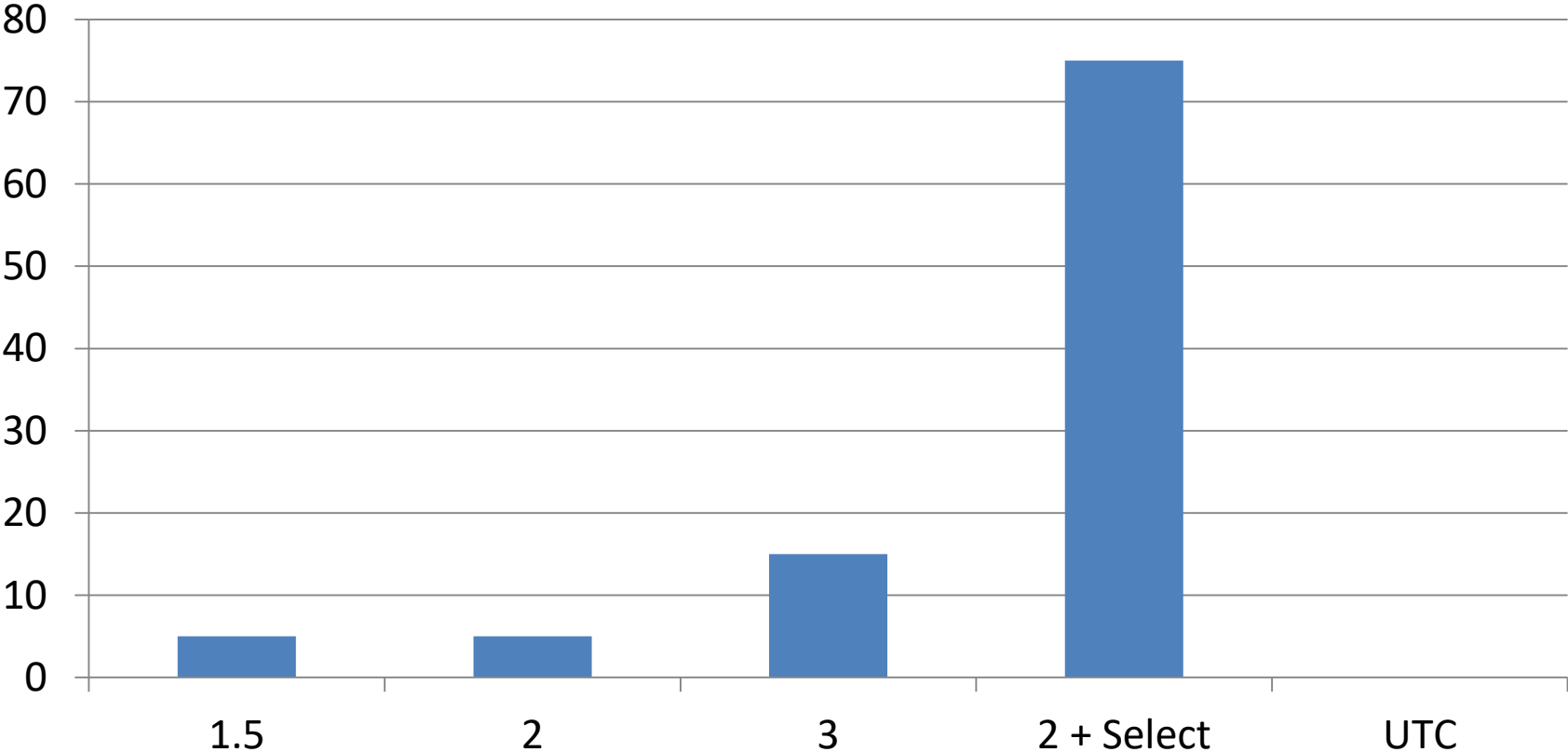
Warty Goblin

Injury



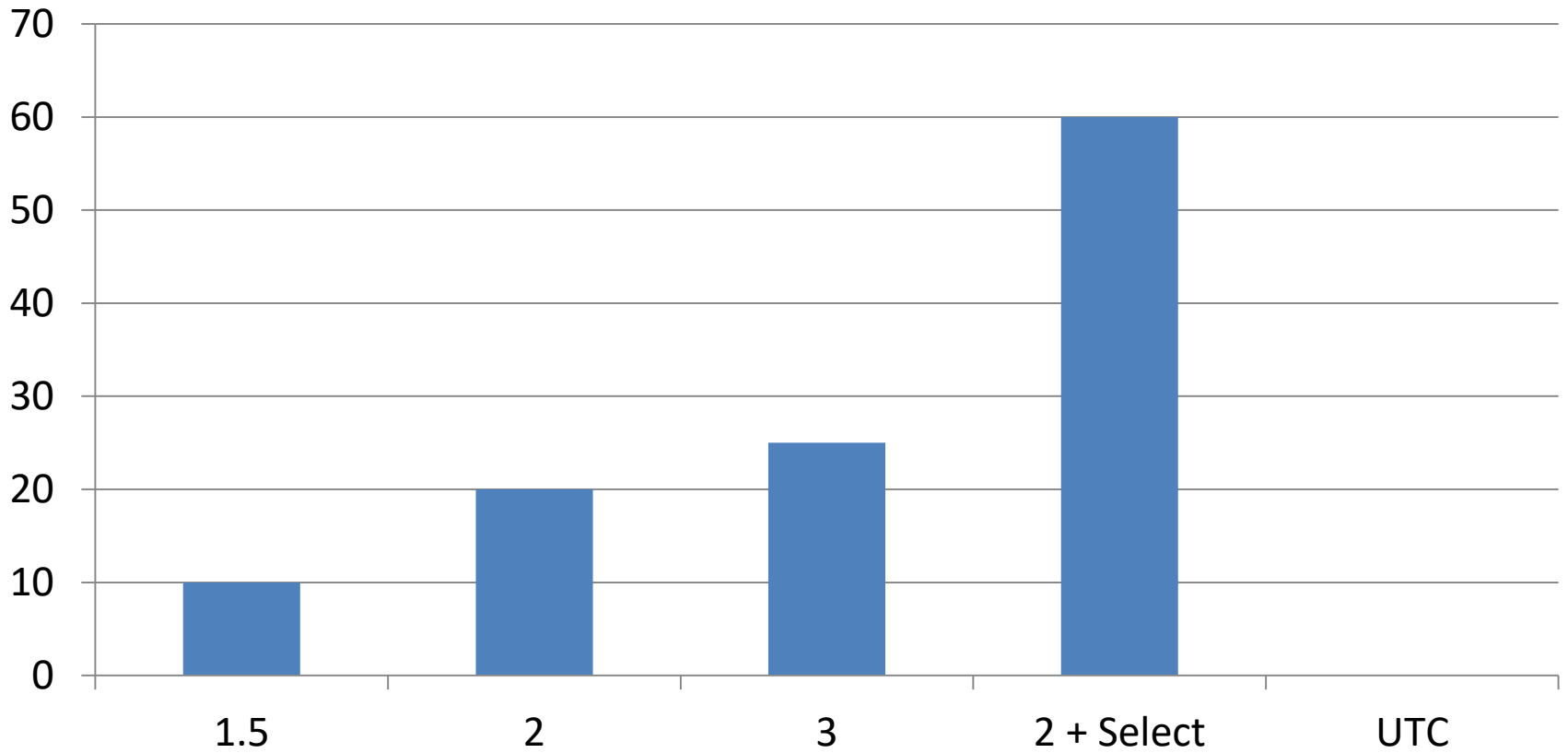
Gladiator

Injury



Kratos

Injury



Conclusions

- 1.5 to 2 pint rate of Basagran relatively safe
- 3 pint/A rate more injury 7 dat
- Addition of Select Max increased injury significantly
- 14 dat most injury was less
- 21 dat almost all injury gone except Select Max

Conclusions (cont.)

- No differences in yields among treatments.
- Appears to be fine on Jack-O-Lanterns.
- Do not use on C. Maxima – (round stems)
 - Prize Winner, Polar Bear, etc.
- **Remember Basagran is not labeled for Pumpkins.**

Paraquat

- EPA has added new restrictions for products containing paraquat
 - Firestorm 3SL
 - Gramoxone 2SL
 - Parazone 3SL
- Were to have started in 2019
- But due to the government shutdown will likely begin in 2020.
- Backpack applications probably gone after 2019.

Paraquat Restrictions

- New closed-system packaging designed to prevent transfer or removal of the pesticide except directly into proper application equipment. This will prevent spills, mixing, pouring the pesticide into other containers or other actions that could lead to paraquat exposure.
- Specialized training for certified applicators who use paraquat to emphasize that the chemical should not be transferred to or stored in improper containers.

Paraquat Restrictions (cont.)

- Changes to the pesticide label and distribution of supplemental warning materials to highlight the toxicity and risks associated with paraquat products.
- Restricting the use of paraquat to certified pesticide applicators only. Individuals working under the supervision of a certified applicator are prohibited from using paraquat.

Questions?

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