Can Tree and Vine Herbicide be Effective for Medusahead?

Tom Getts UC ANR

Weed Ecology and Cropping Systems Advisor: Lassen, Modoc, Sierra, and Plumas Counties

Office: 530-251-2650 Email: tjgetts@ucanr.edu

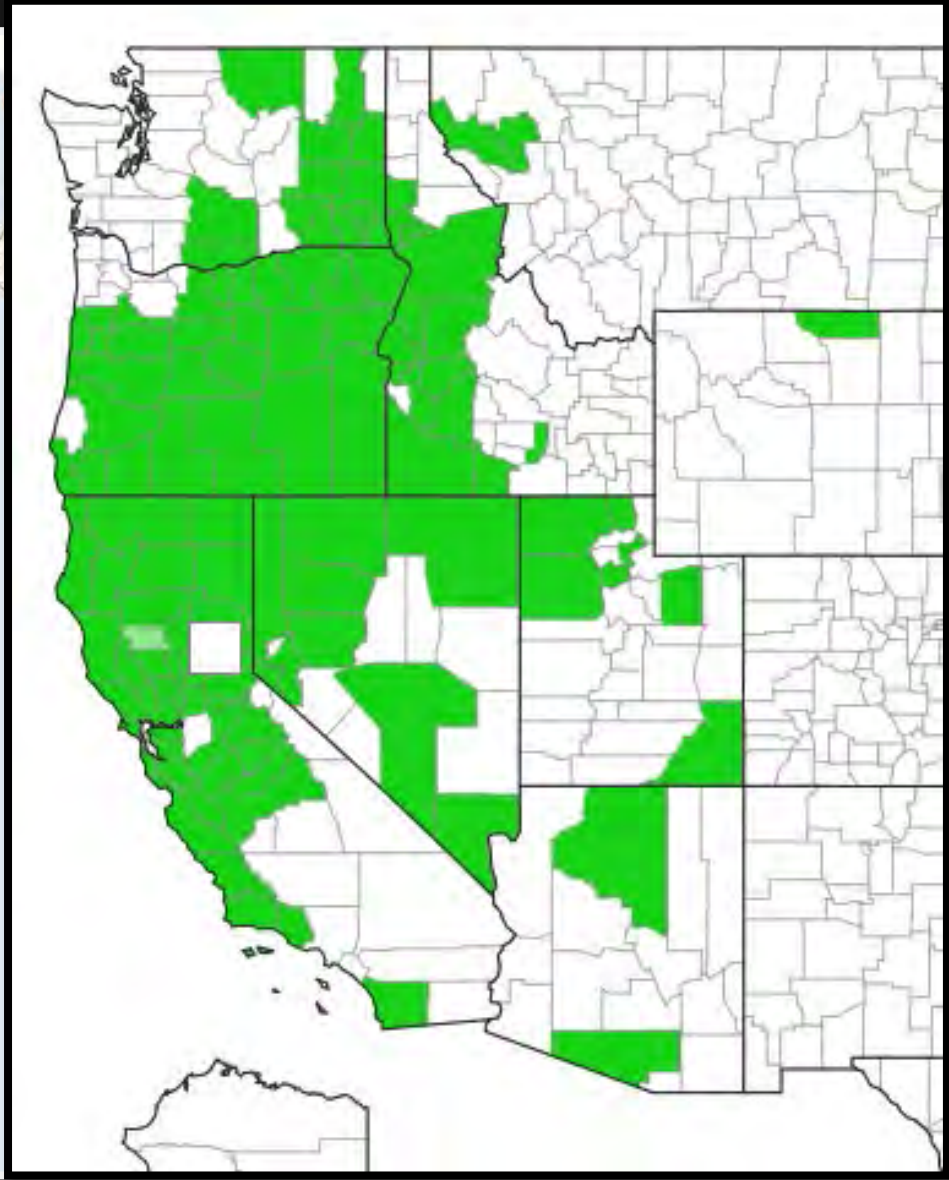
University *of* California
Agriculture and Natural Resources

Outline

- Medusahead
  - Background/impacts
  - Indaziflam
- California Trials
  - Fall Pre
  - Fall Post
  - Spring-Reseed

Medusahead

- *Taeniatherum caput-medusae* (L.)
- List C noxious weed
- Winter annual
- Native range - Mediterranean

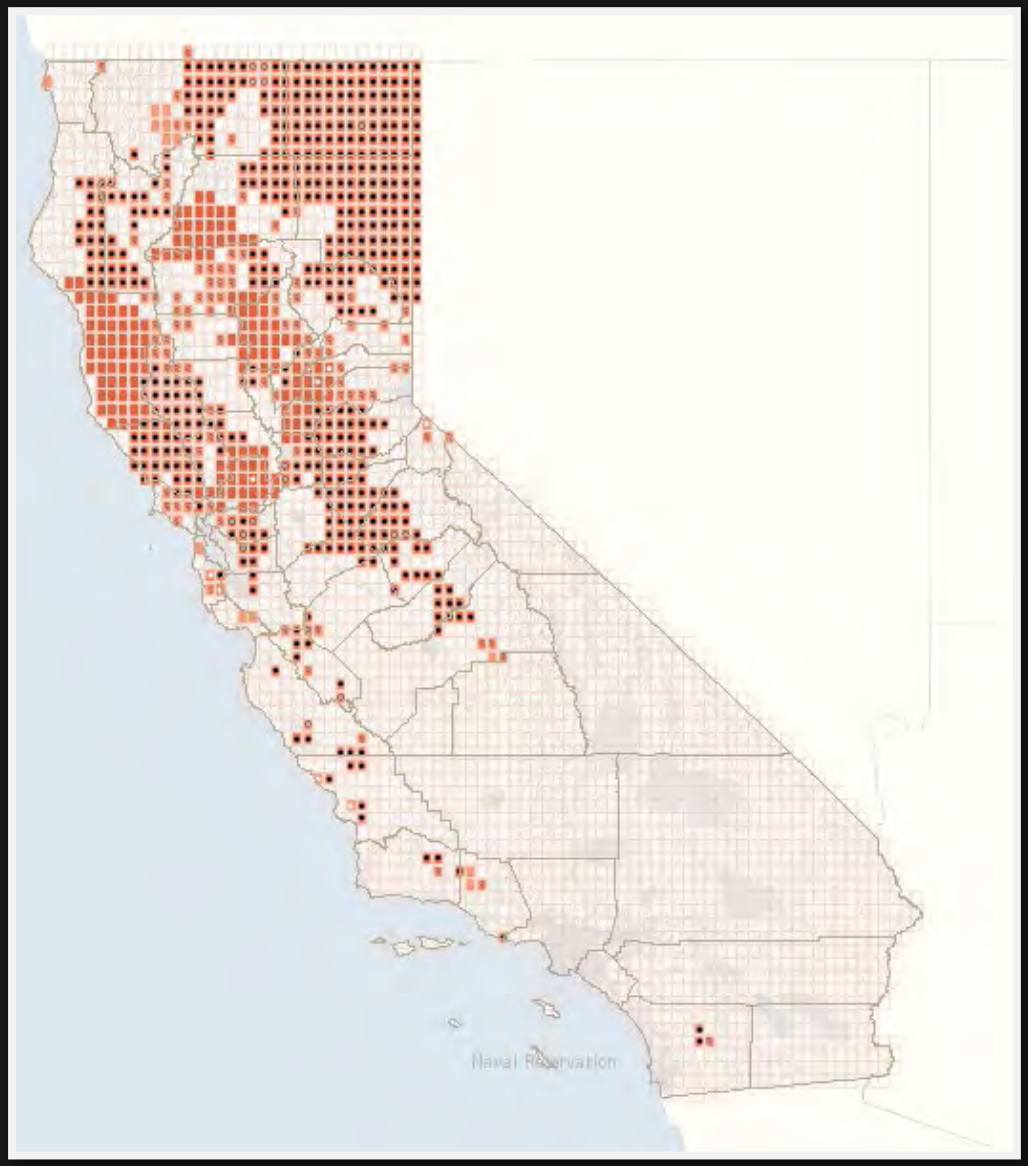


Map courtesy of: Edd Maps

University *of* California
Agriculture and Natural Resources

Medusahead

- *Taeniatherum caput-medusae* (L.)
- List C noxious weed
- Winter annual
- Native range - Mediterranean



Map courtesy of: Cal Weed Mapper

University *of* California
Agriculture and Natural Resources

Impacts

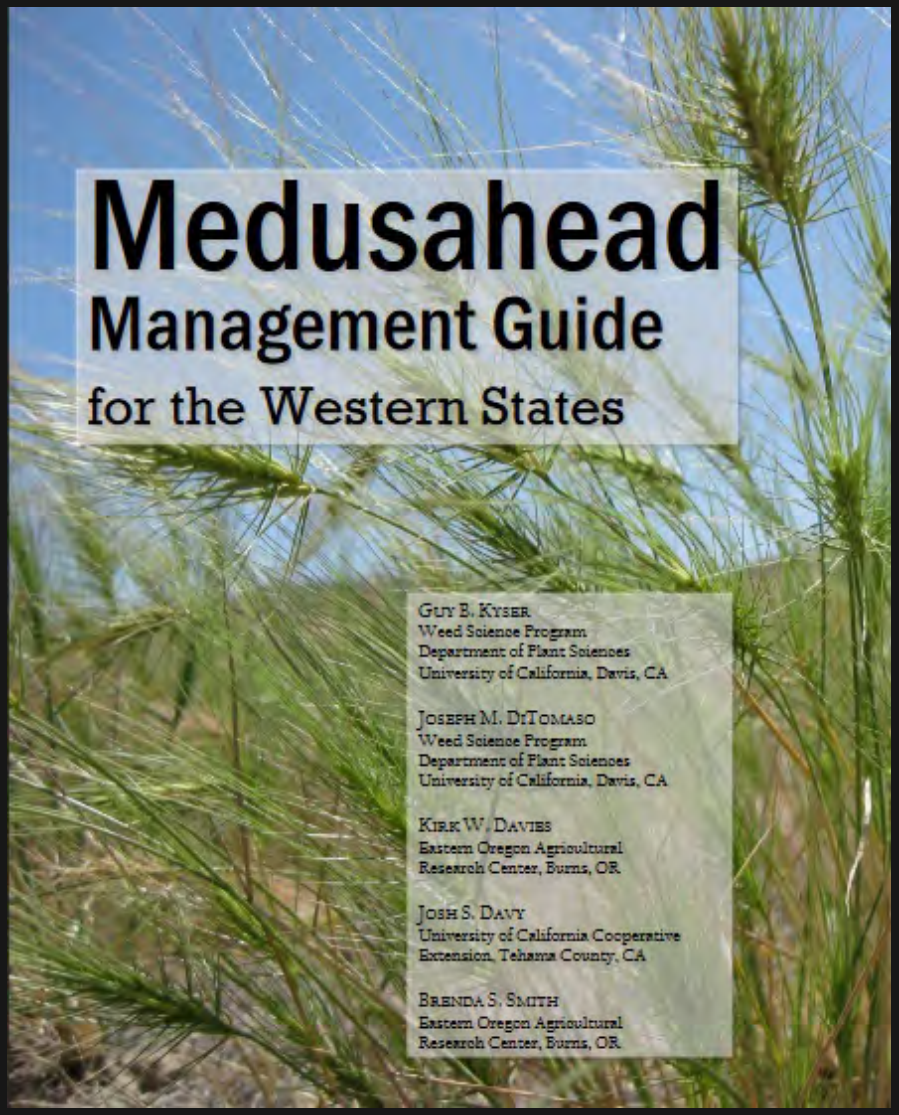
- Monocultures
- Thick persistent litter layer
  - Altered fire regime
  - Soil moisture
  - Decomposition
- Wildlife
  - Species displacement
  - Fire
  - Sage grouse
- Poor forage
  - Silica accumulator
  - Barbed seeds

Difficult to Control

- Late flowering
- Fire
  - Low elevations vs high elevations
  - Thatch
- Grazing
  - High density short stocking
  - Not often economically feasible
- Mechanical
  - Effective, but Practical?
  - Tillage hand pulling
  - Rocks rangeland

Control

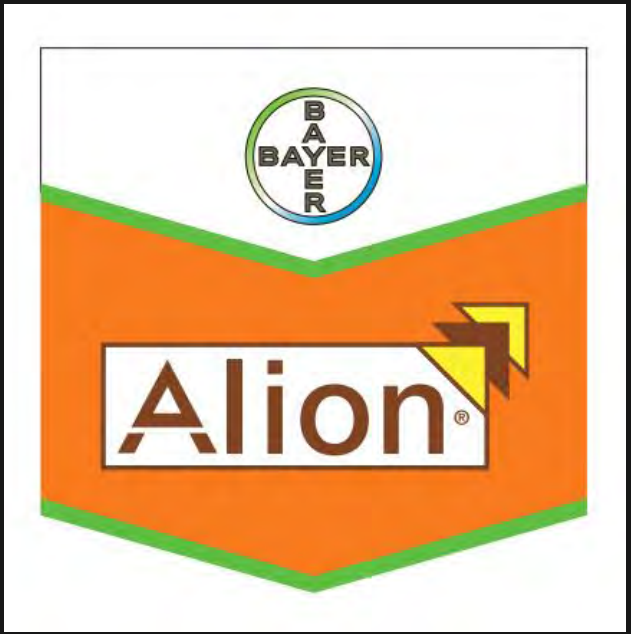
- Chemical
  - Roundup
  - Plateau (NA CA)
  - Matrix
  - Oust
  - Milestone?
  - Esplanade?



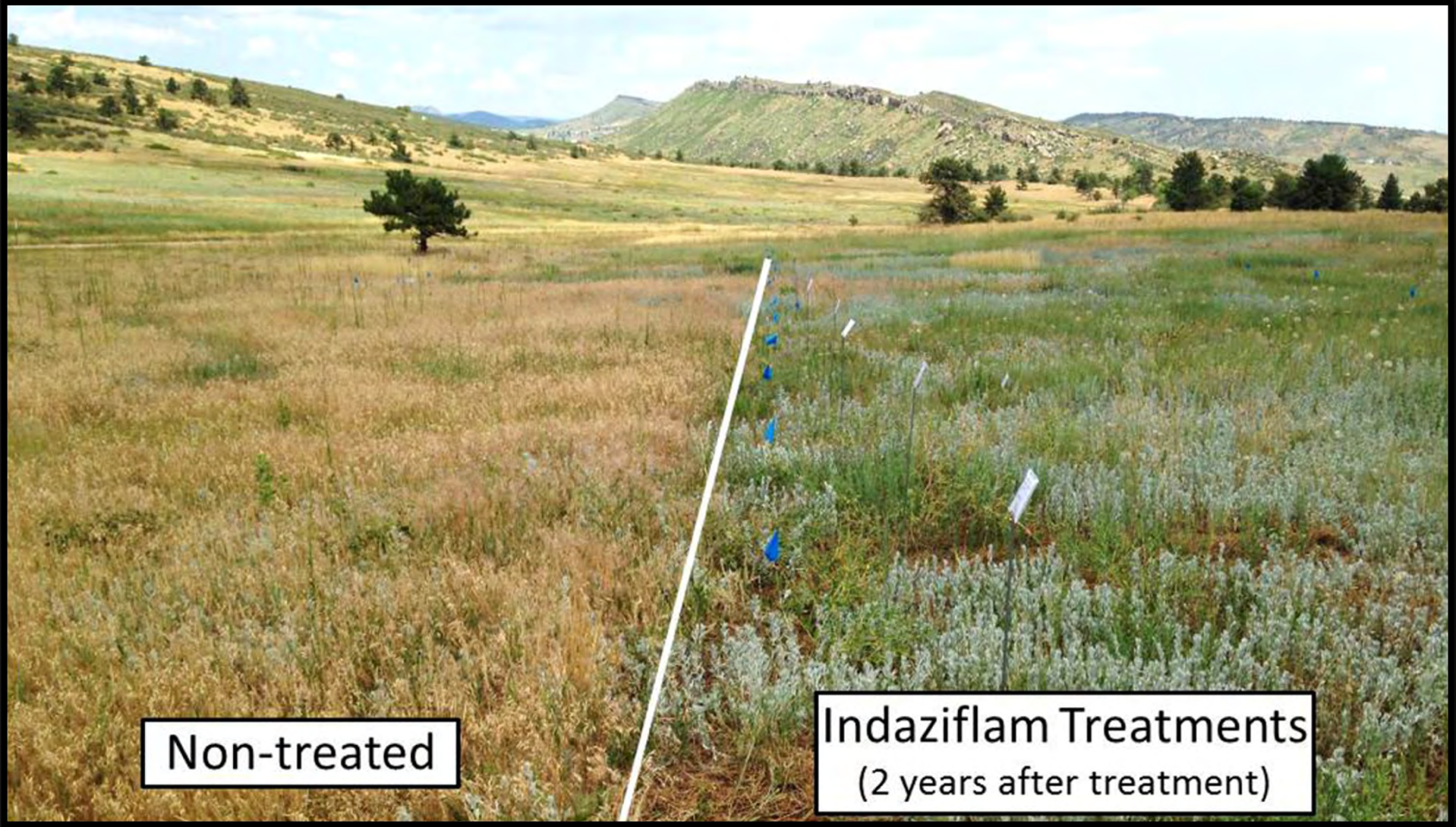
University *of* California
Agriculture and Natural Resources

Tree and Vine Herbicide

- Indazlflam
- Group 29 herbicide
  - Inhibit Cellulose Biosynthesis
- Alion-
  - Tree and Vine Market
- Esplanade 200 SC
  - Non-Crop, Wildlife/Natural areas
  - NO GRAZING TOLERANCE
  - Yet!

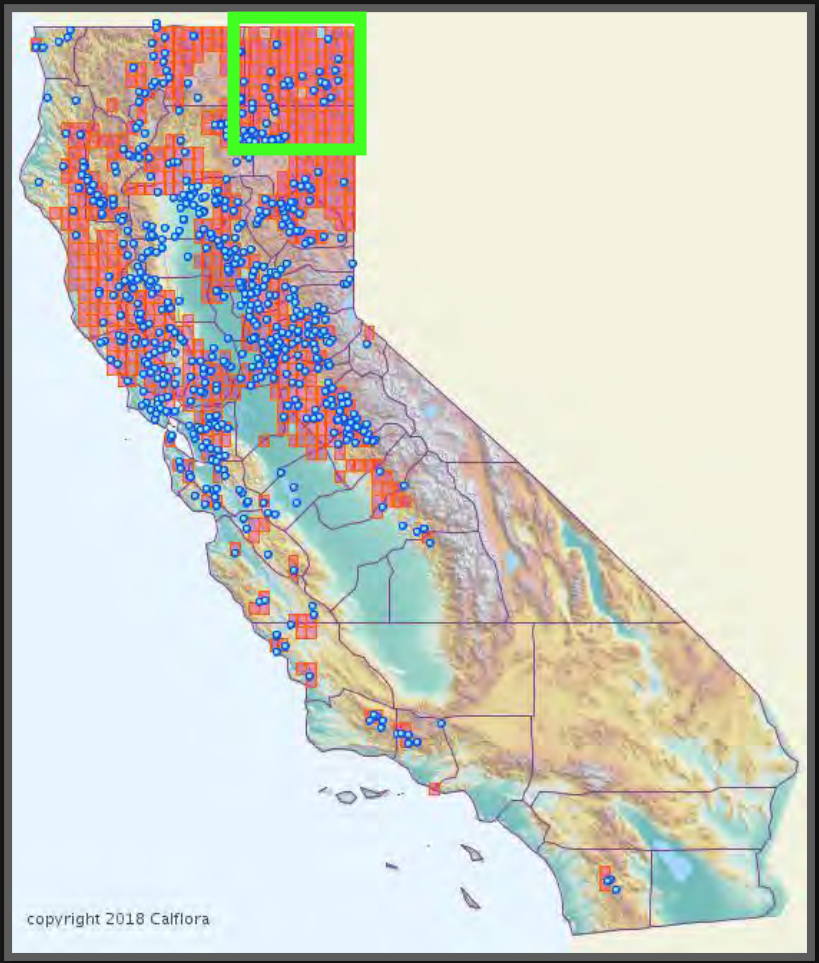


Sebastian et. al. 2017



NE California: 2016 Trials

- Intermountain Region
  - 4000-5000 ft.
- Fall 2016
  - Pre-emergent treatments
    - Two locations
  - Post-emergent treatments
    - Two trials
- Spring 2016
  - Reseeding trials
  - Two locations
- Four Replicaitons
  - 10*20 ft. plots
  - RCBD



University *of* California
Agriculture and Natural Resources

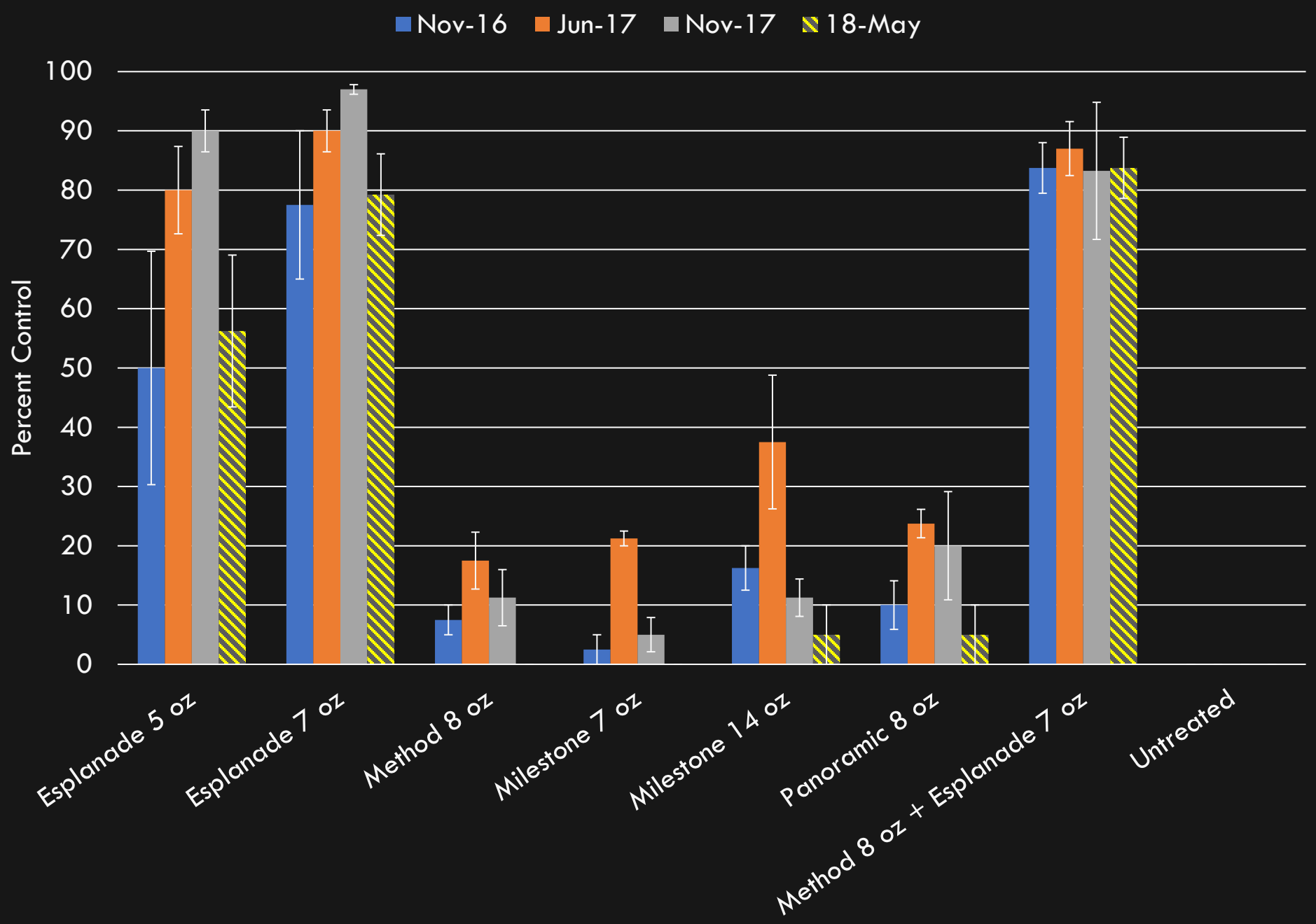
Fall Pre-Emergence Treatments
(With Some Perennial Grasses Established)
September 2016

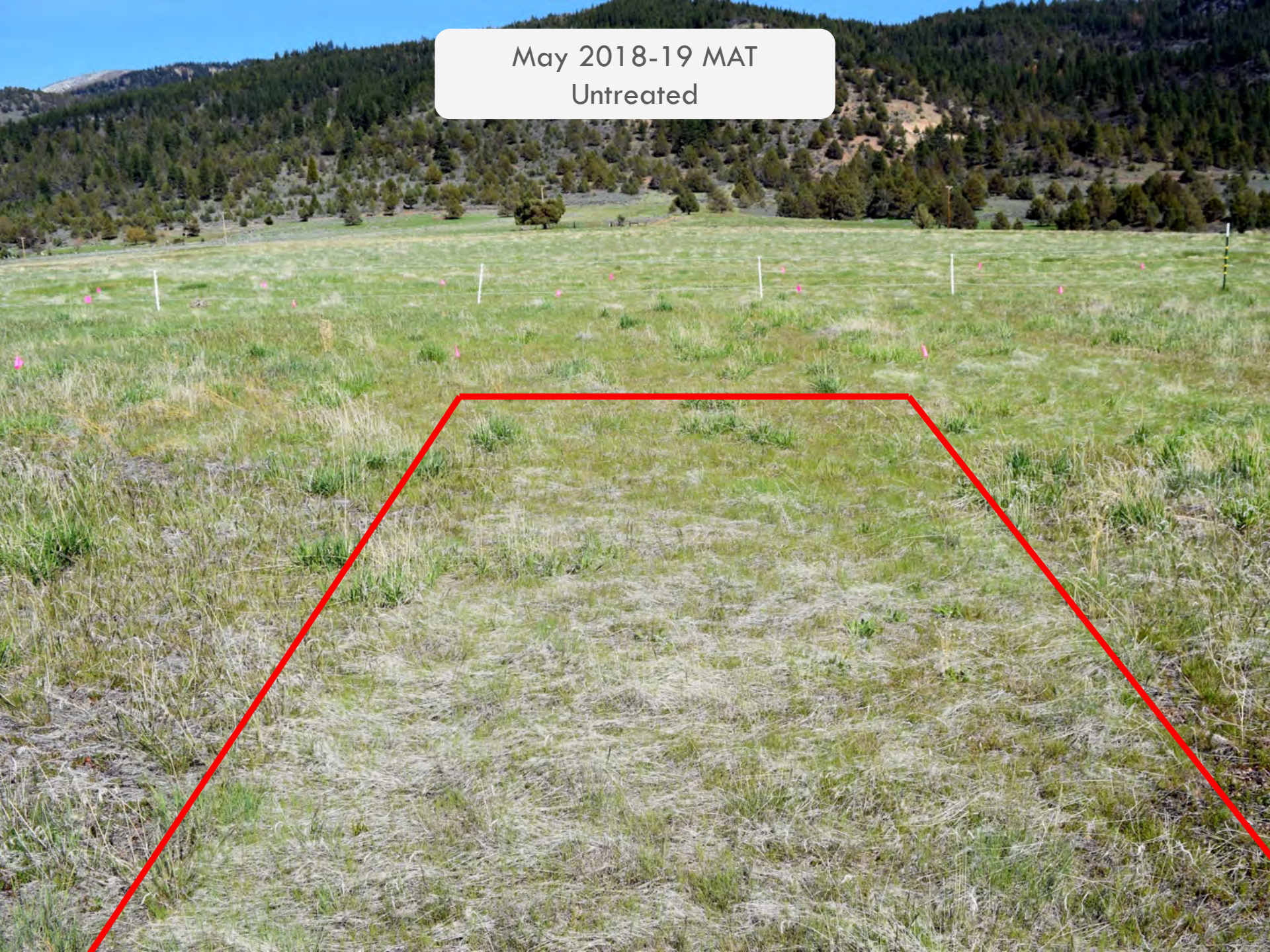
University of California
Agriculture and Natural Resources


June 2017- 8 MAT
Panoramic 8oz


June 2017- 8 MAT
Esplanade 7oz

Willow Creek: Pre-Emergent Medusahead Control




May 2018-19 MAT
Untreated


May 2018-19 MAT
Esplanade 7oz

2019- Electric Fence went down….

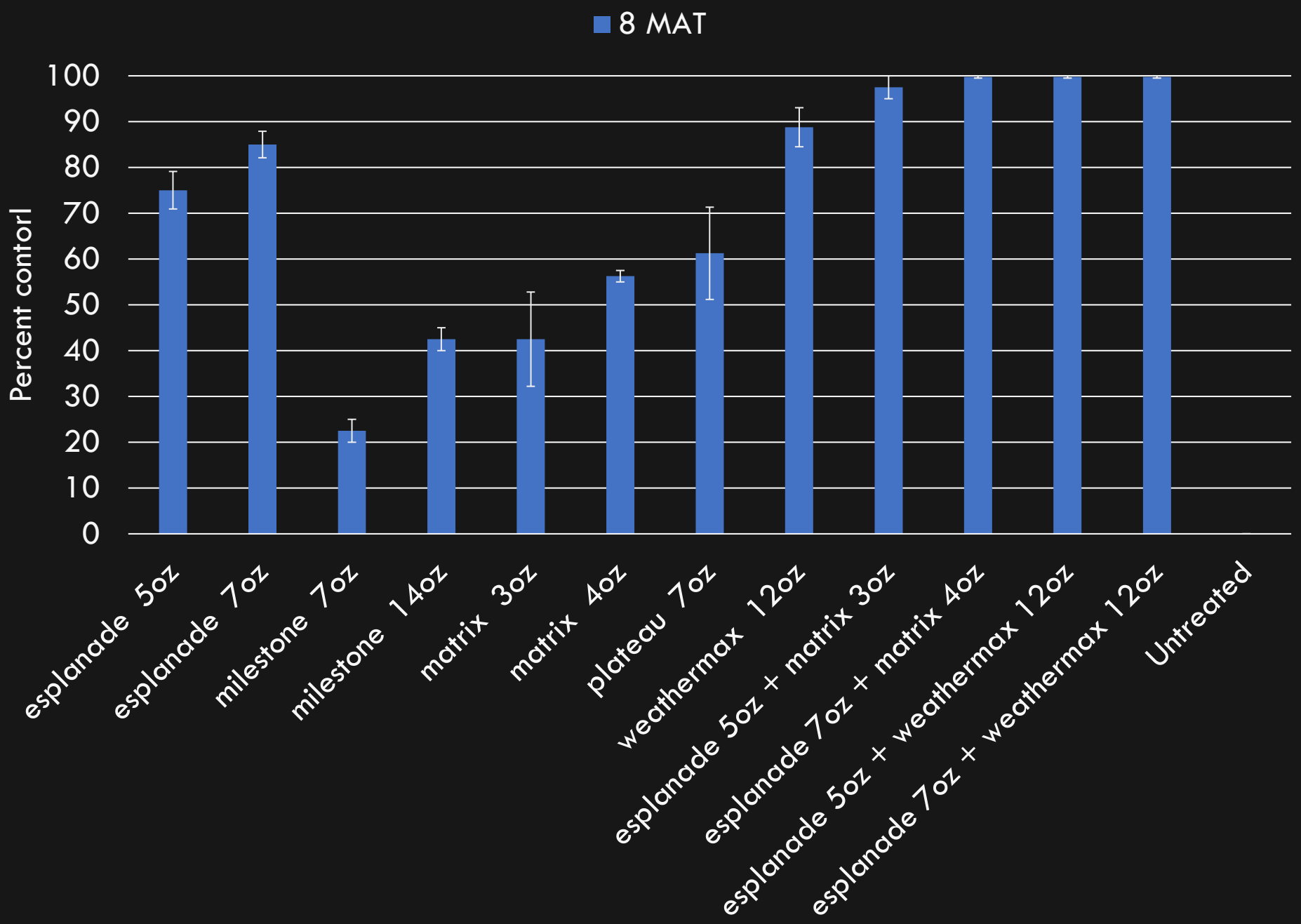
Sites With Established Perennials

- Good Perennial Safety
- Good Medushead Control
  - Better than other treatments
- Potential to release perennial vegetation
- Not perfect

Fall Post-Emergence Treatments
Few Perennials Established On Site
November 2016

University of California
Agriculture and Natural Resources

Fall Post-Emergence Application Trial: Medusahead Control

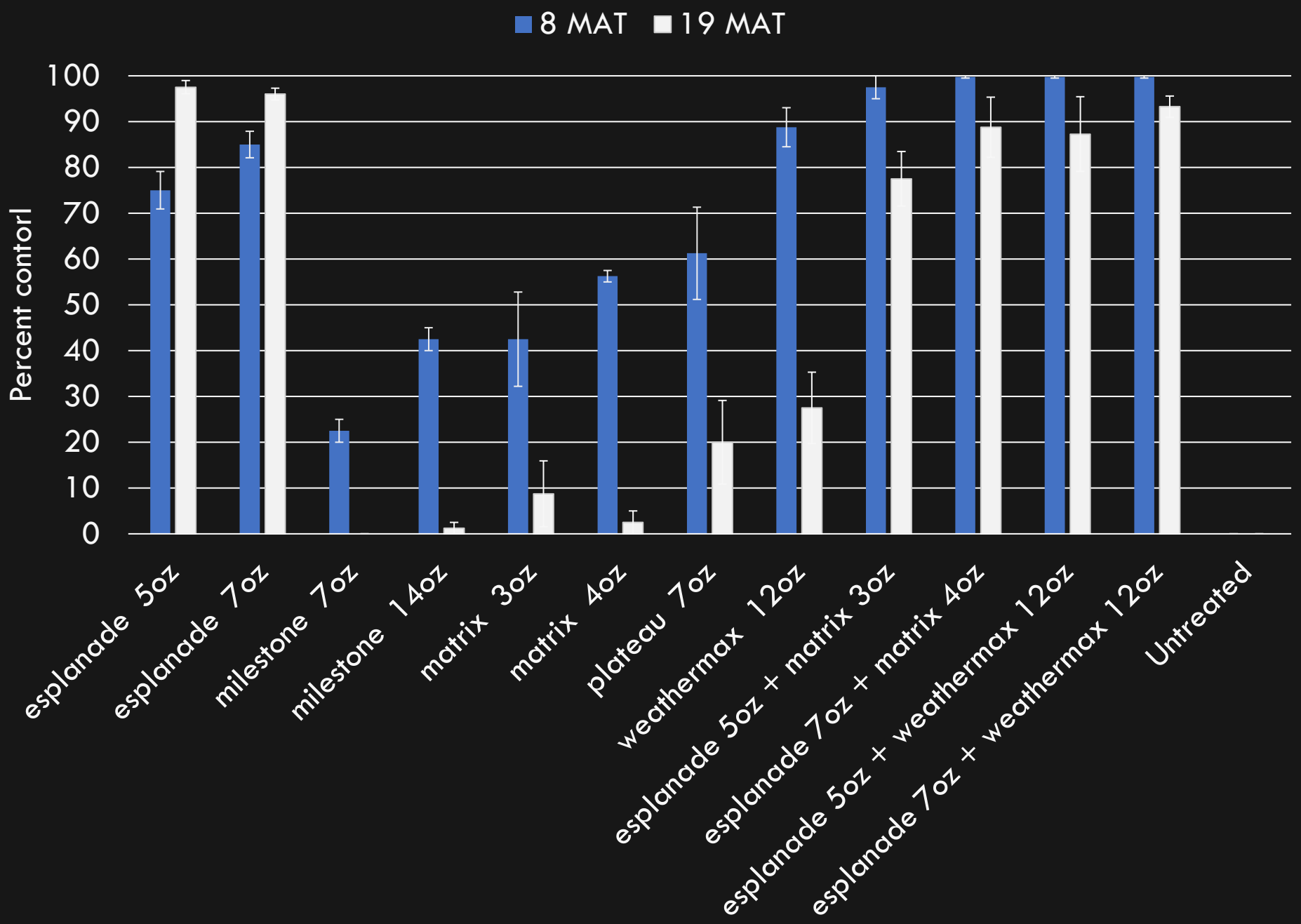


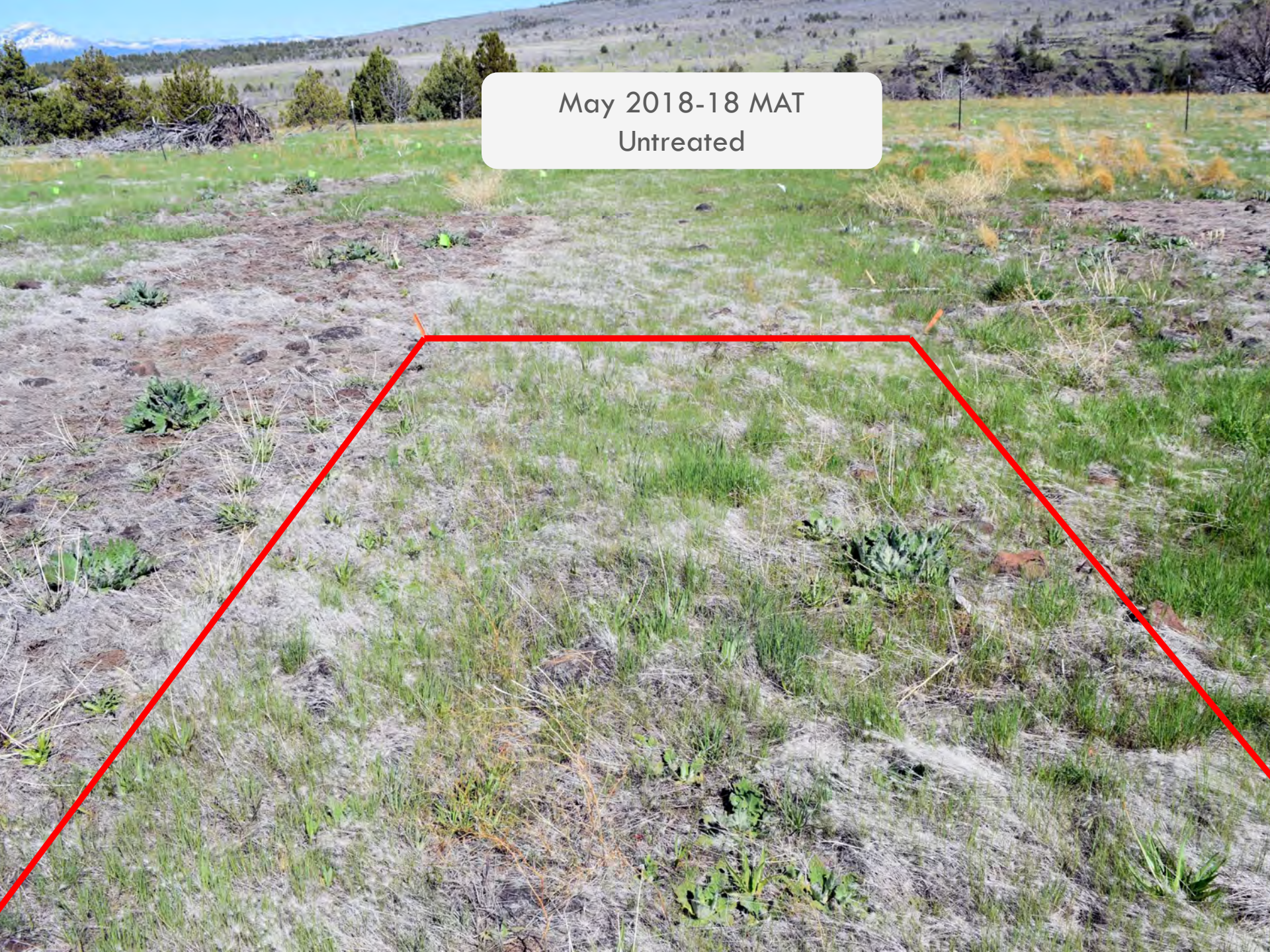

June 2017-7 MAT
Untreated

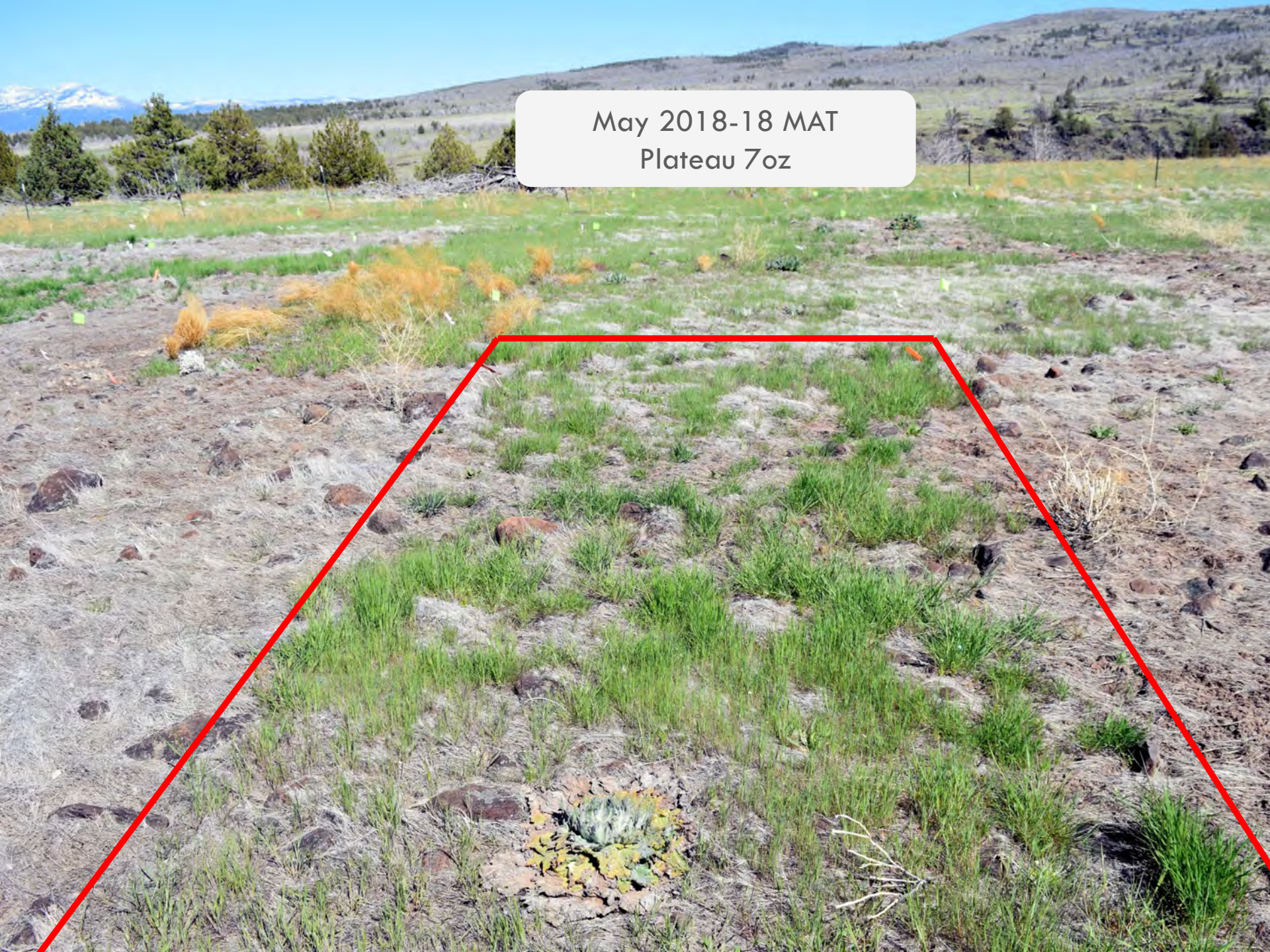

June 2017-7 MAT
Matrix 4oz


June 2017-7 MAT
Esplanade 7oz

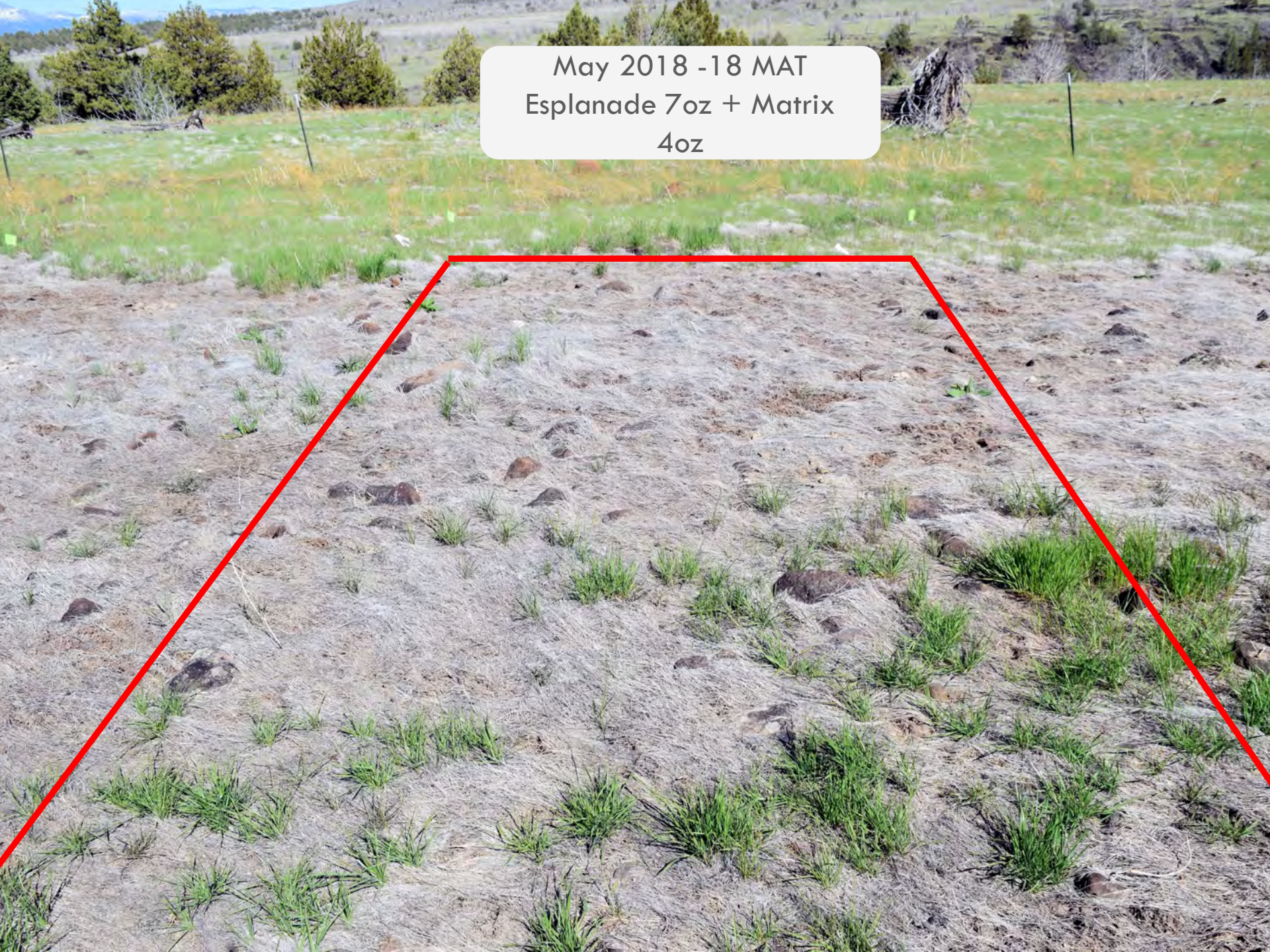
Fall Post-Emergence Application Trial: Medusahead Control



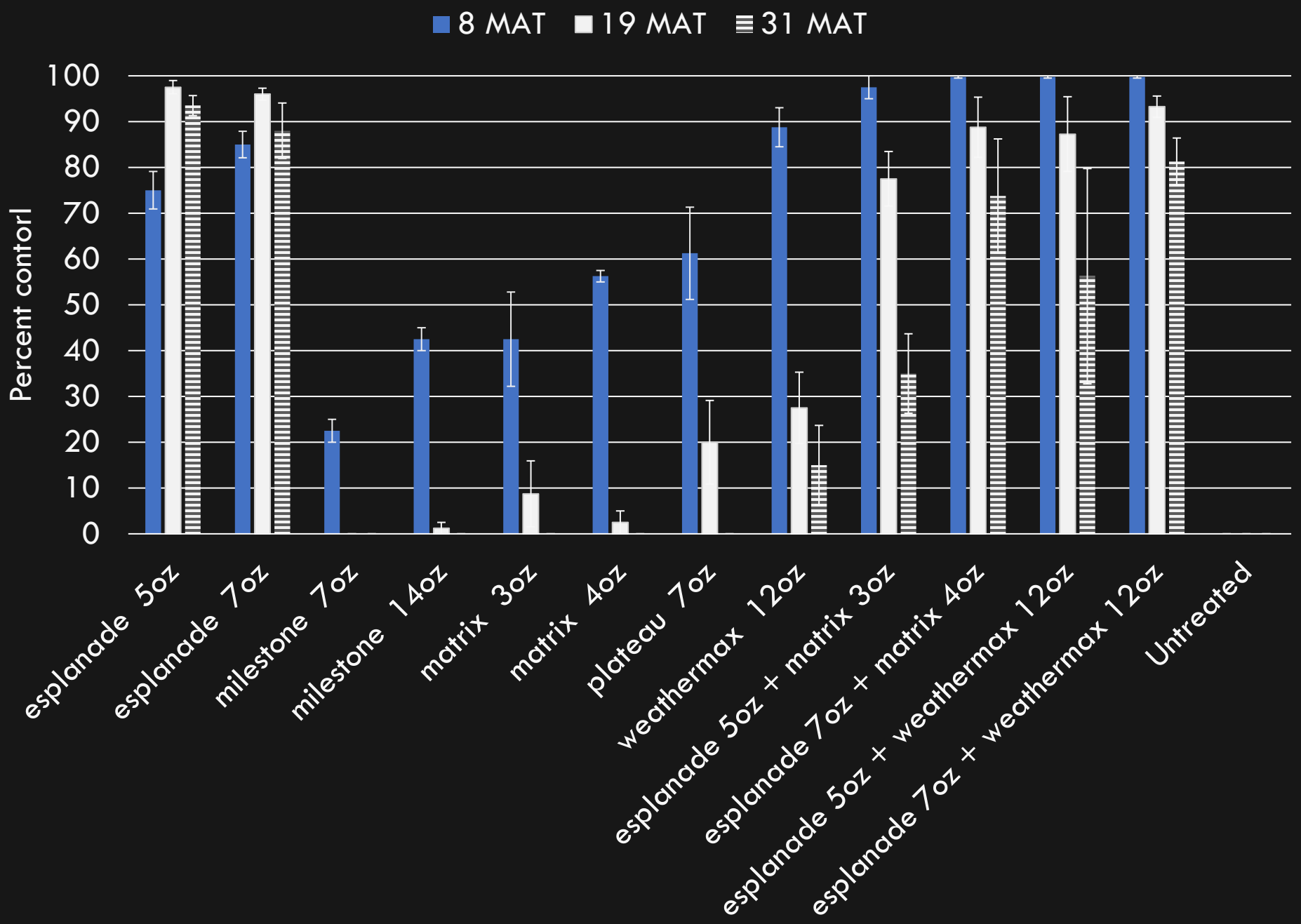

May 2018-18 MAT
Untreated


May 2018-18 MAT
Plateau 7oz

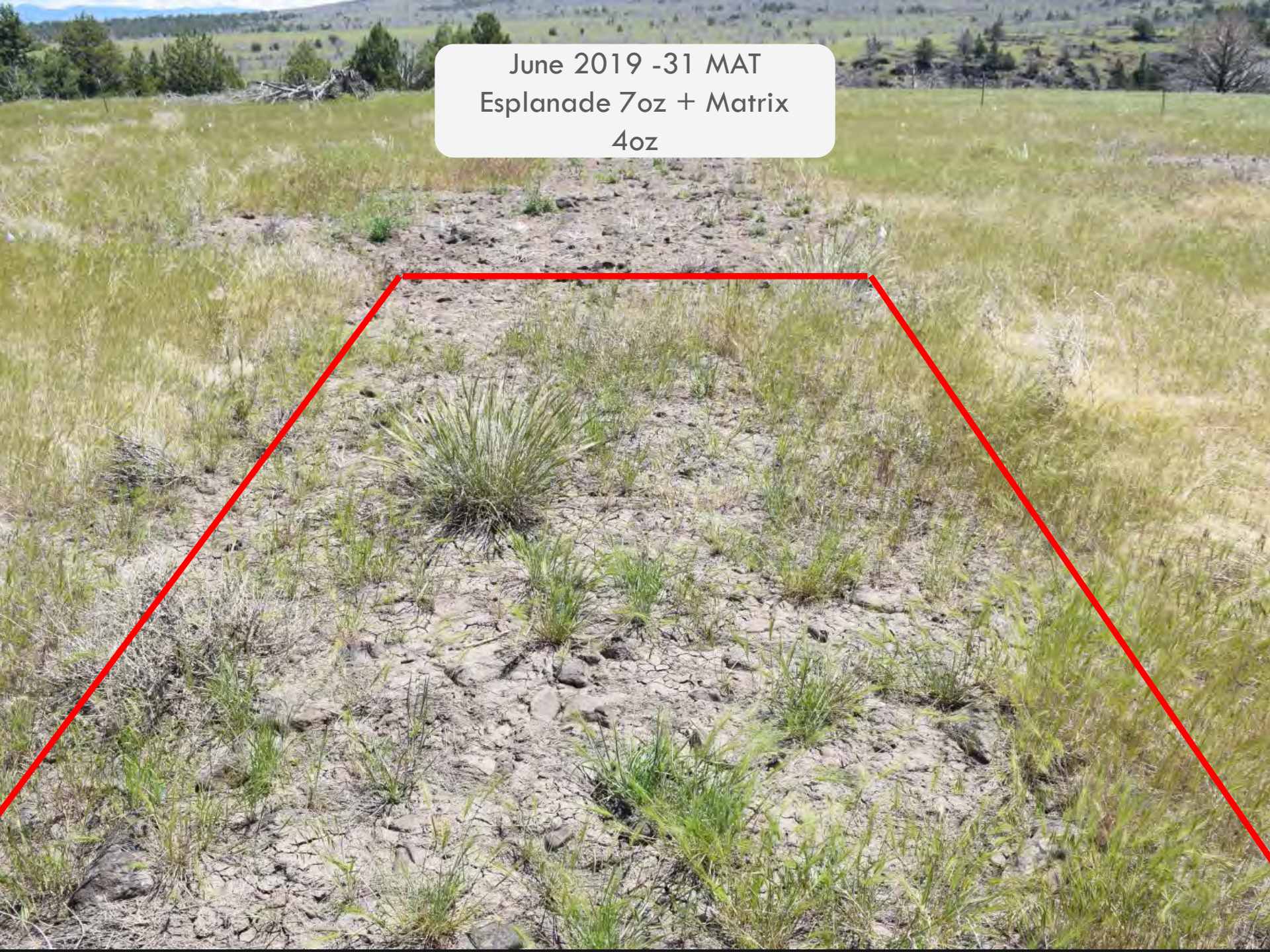

May 2018-18 MAT
Esplanade 7oz


May 2018 -18 MAT
Esplanade 7oz + Matrix
4oz

Fall Post-Emergence Application Trial: Medusahead Control

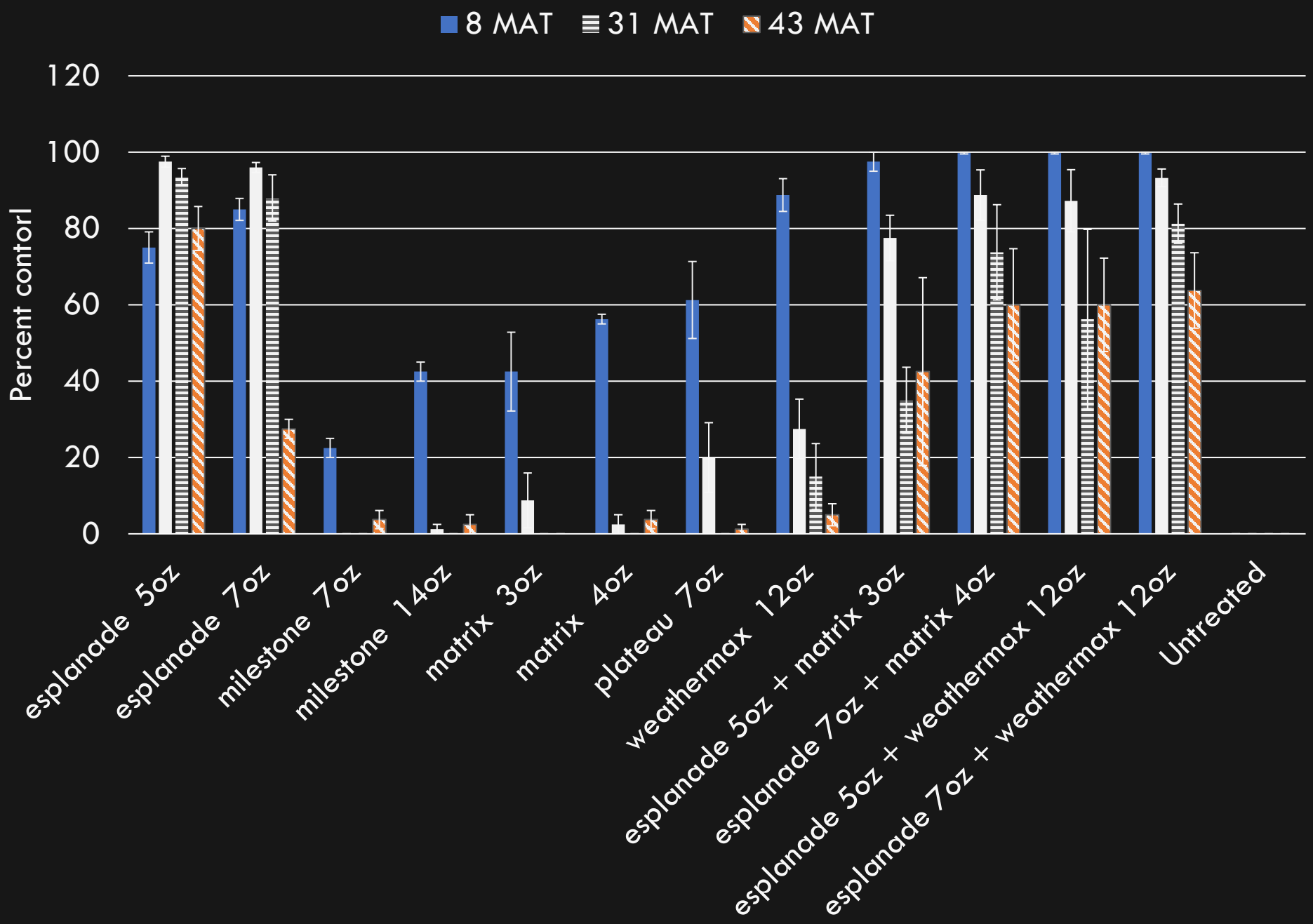


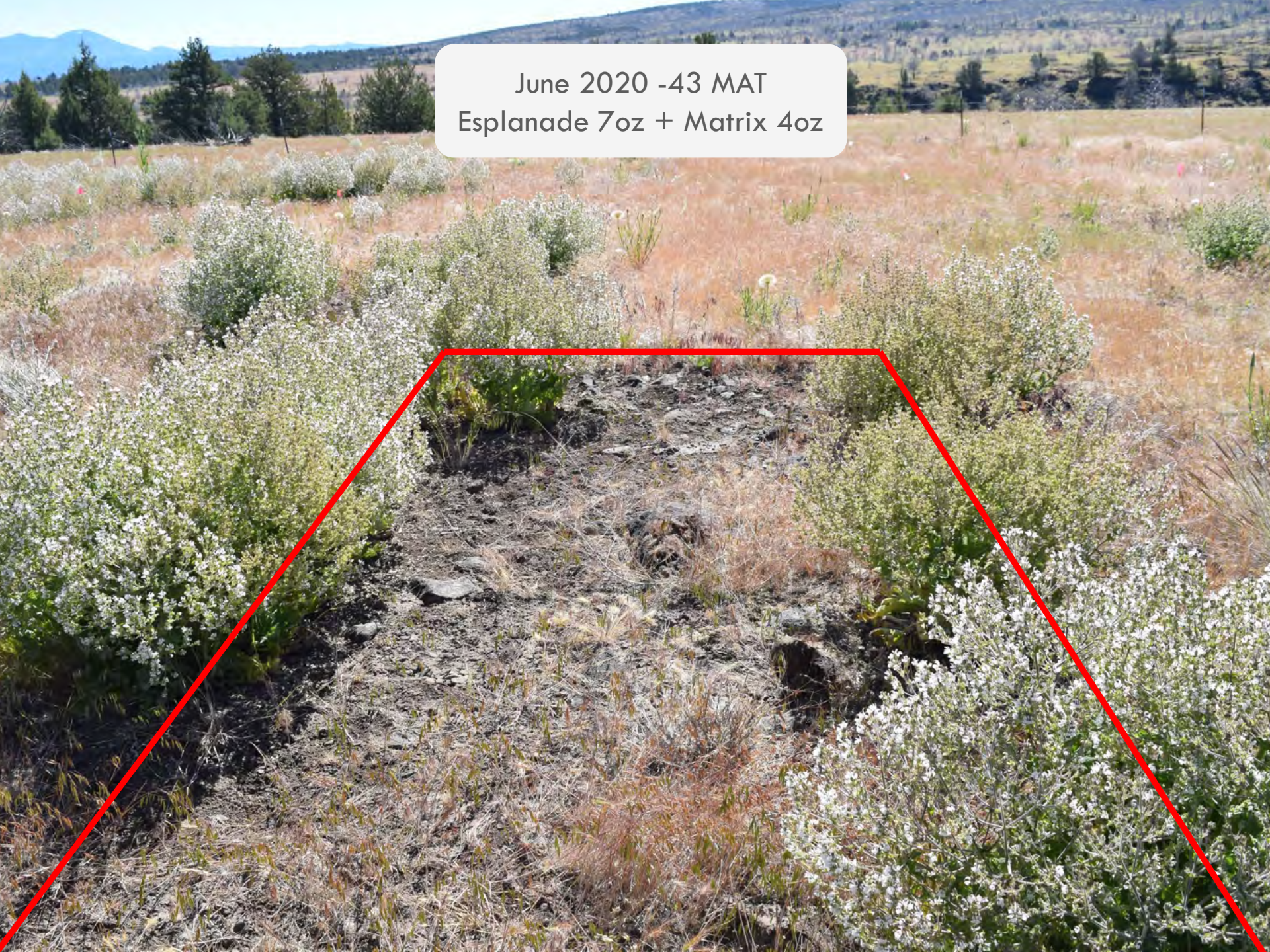

June 2019-31 MAT
Plateau 7oz

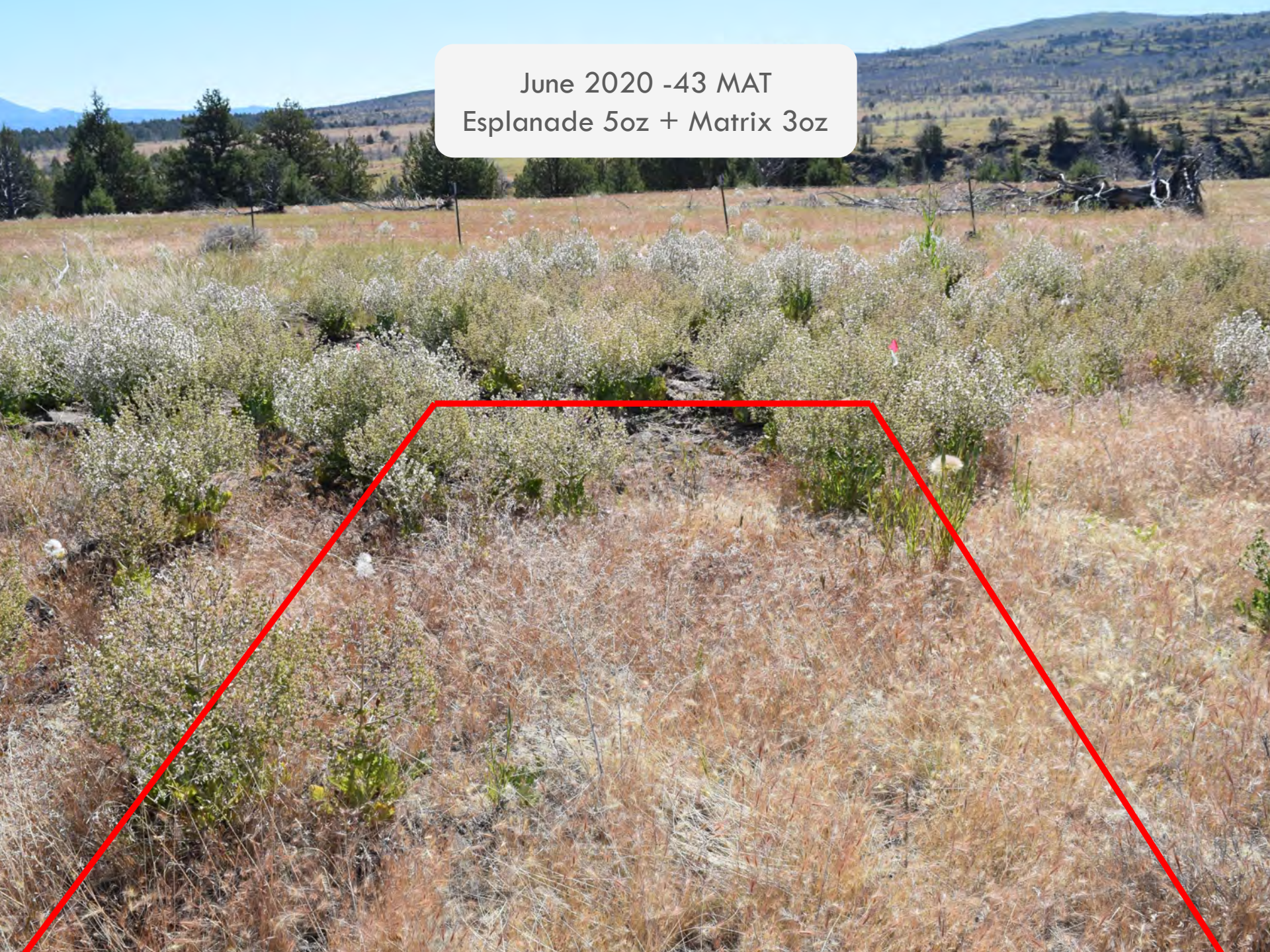

June 2019 -31 MAT
Esplanade 7oz + Matrix
4oz


June 2019-31 MAT
Esplanade 7oz

Fall Post-emergance Applicaiton trial: Medusahead Control




June 2020 -43 MAT
Esplanade 7oz + Matrix 4oz


June 2020 -43 MAT
Esplanade 5oz + Matrix 3oz

Esplanade/Indaziflam

- Powerful Tool for Annual Grass Suppression!
- No Perennial Plant - Bare Ground
- Need Revegetation Efforts

Spring 2016

- Perennial Grass Seeding Study (two locations)
- Four replications
- Applications - March 2016
  - Glyphosate included in tank
  - Kill not consistent
  - Second application glyphosate only (May 2016)


April 2017-14 MAT
Panoramic 12oz

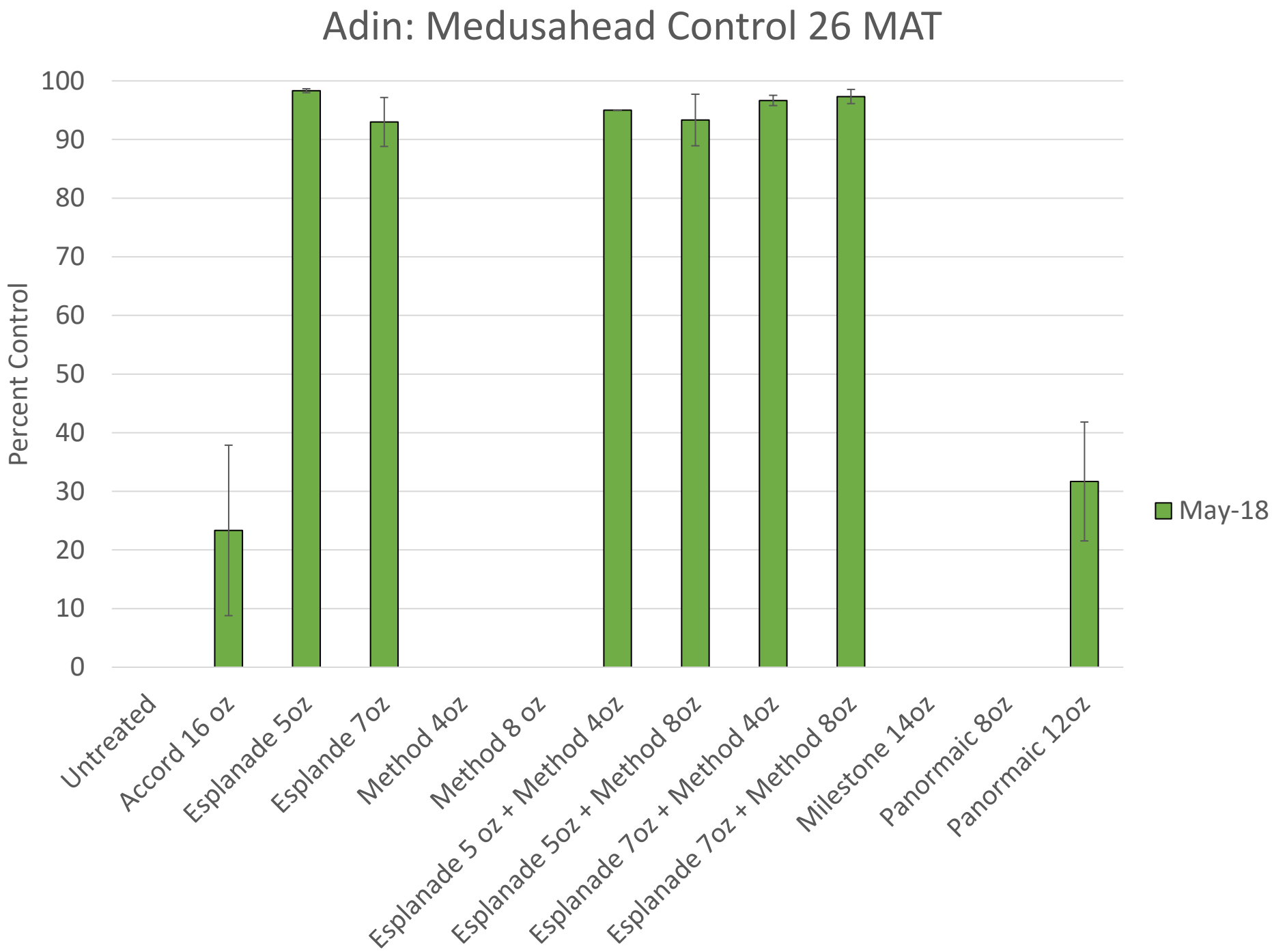

April 2017-14 MAT
Esplanade 7oz

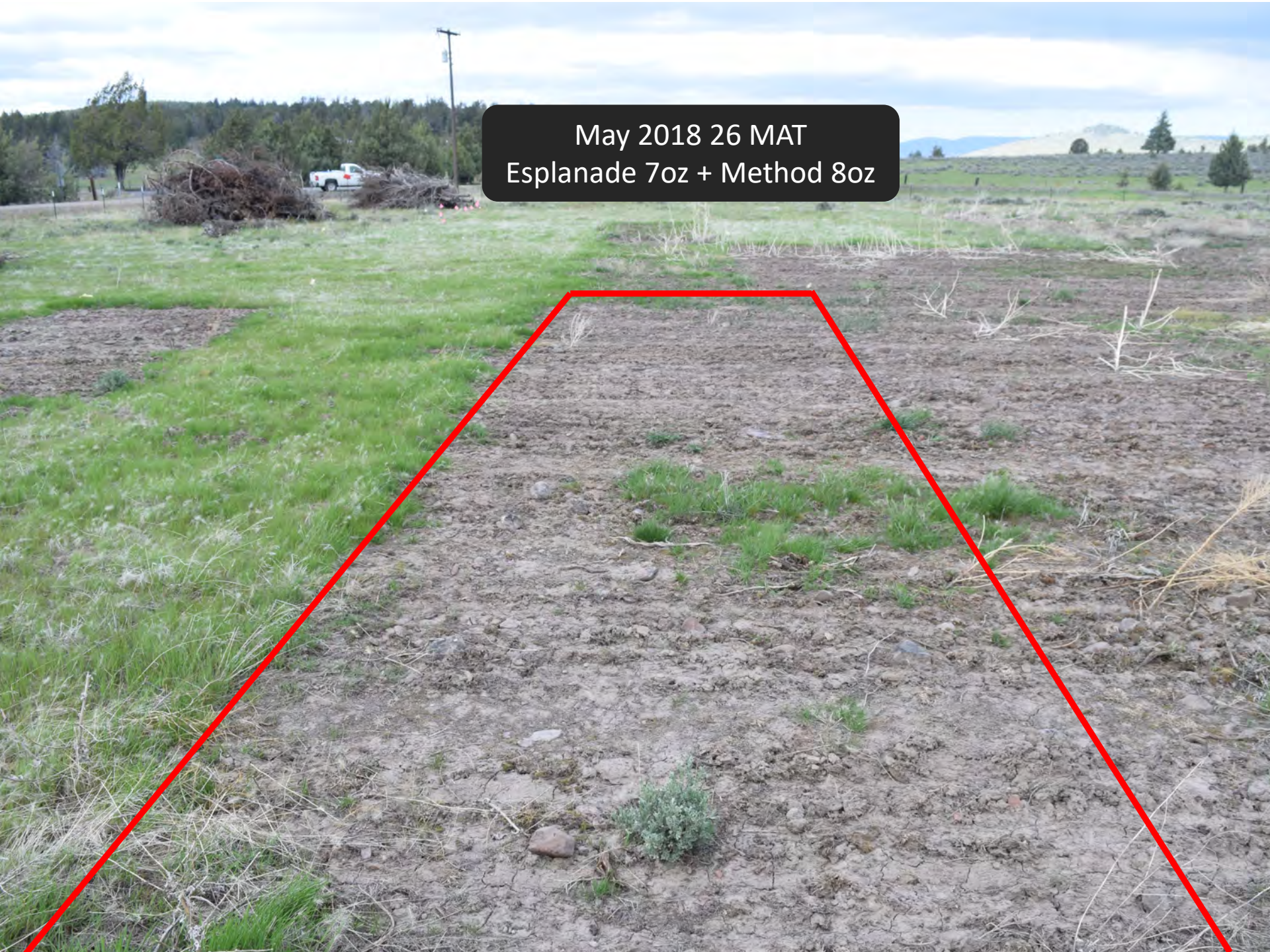
Drill Seeding

- May 2017
- 8 species
  - 5 Native
  - 3 Introduced
- Randomized
- Little to No Precipitation or Germination

Species	Pounds of Live Seed/Acre
Sherman big blue	3
Blue bunch wheatgrass	8
Hycrest crested	5
Basin wildrye	8
Intermediate wheatgrass	12
Russian wildrye	6
Squirrel tail	7
Western wheatgrass	6

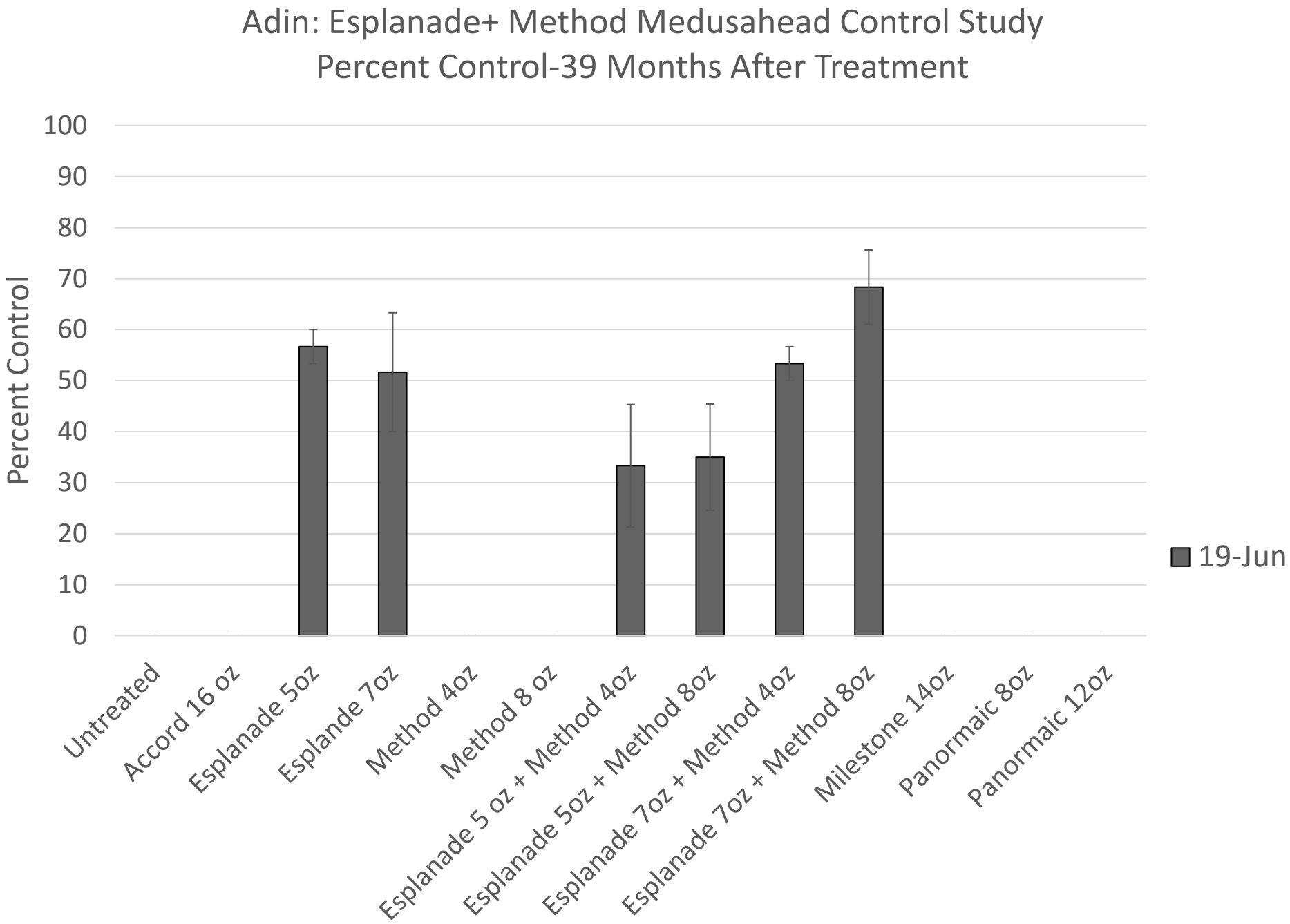

November 2017
20 MAT


Adin: Medusahead Control 26 MAT
Percent Control
100
90
80
70
60
50
40
30
20
10
0
Untreated
Accord 16 oz
Esplanade 5oz
Esplande 7oz
Method 4oz
Method 8 oz
Esplanade 5 oz + Method 4oz
Esplanade 5oz + Method 8oz
Esplanade 7oz + Method 4oz
Esplanade 7oz + Method 8oz
Milestone 14oz
Panormaic 8oz
Panormaic 12oz
May-18


May 2018 26 MAT
Esplanade 7oz + Method 8oz

Seeding

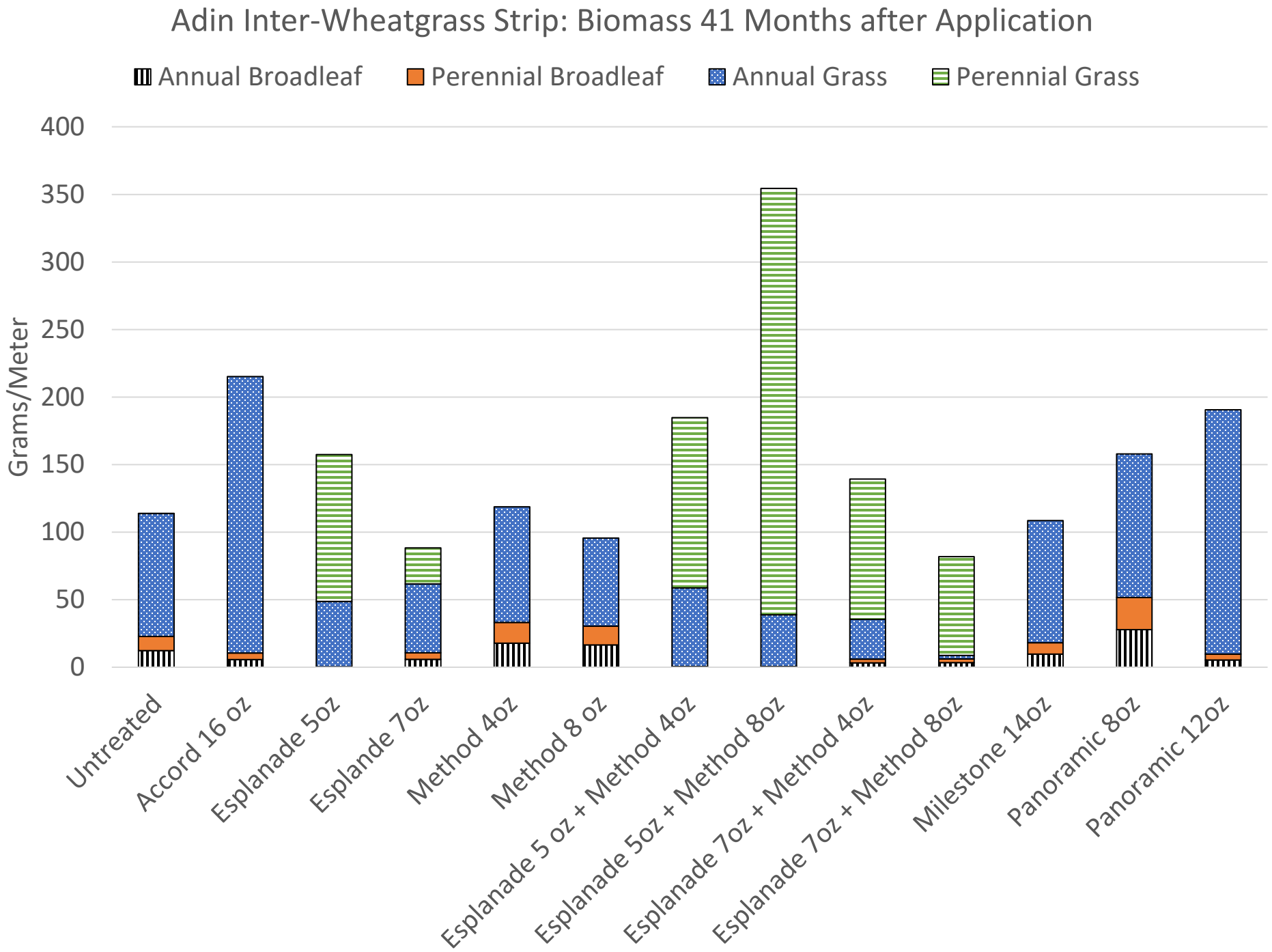
- Reseeded
- Same grasses
- April 2018

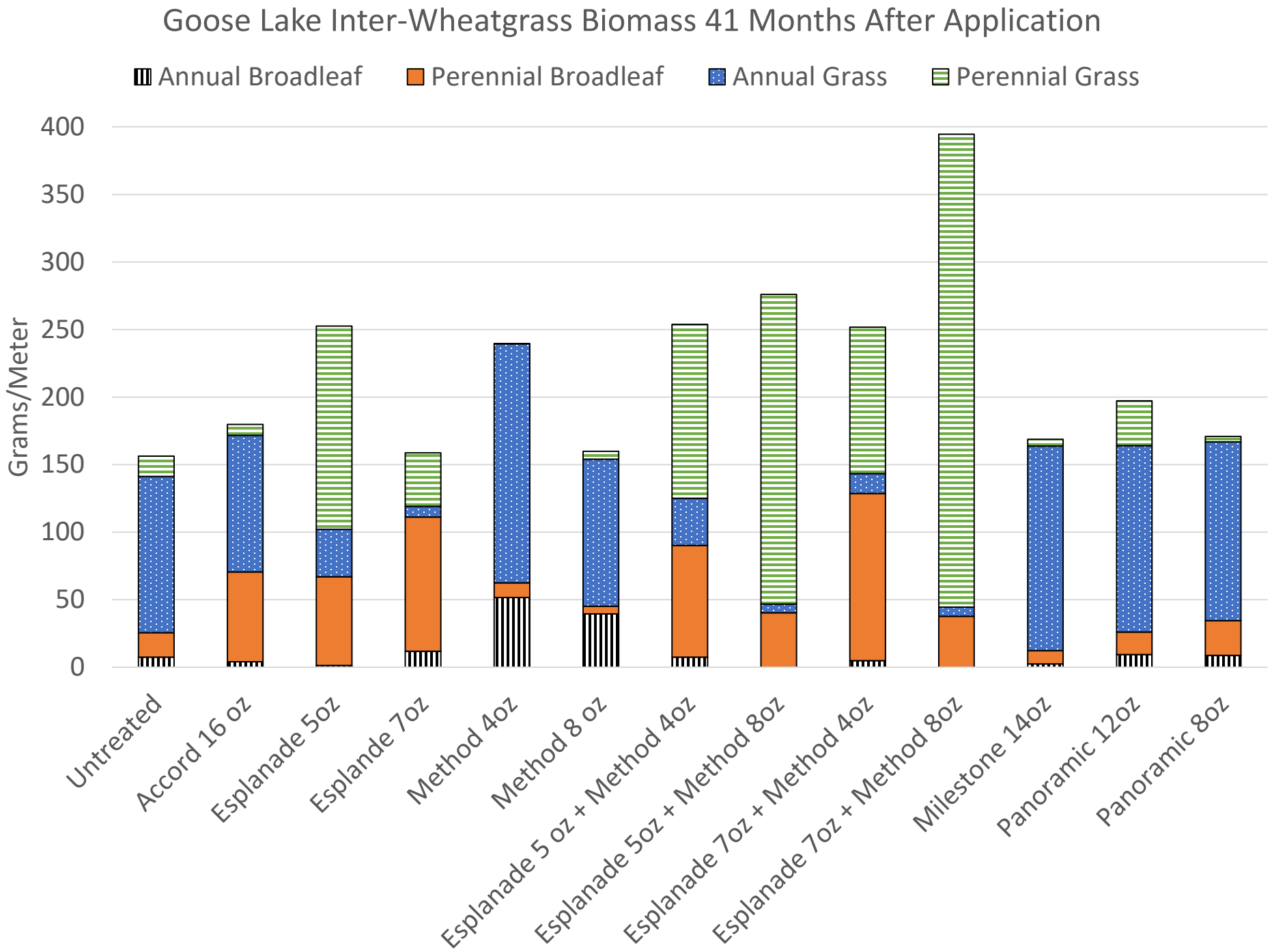

Adin: Esplanade+ Method Medusahead Control Study
Percent Control-39 Months After Treatment
Percent Control
100
90
80
70
60
50
40
30
20
10
0
Untreated
Accord 16 oz
Esplanade 5oz
Esplande 7oz
Method 4oz
Method 8 oz
Esplanade 5 oz + Method 4oz
Esplanade 5oz + Method 8oz
Esplanade 7oz + Method 4oz
Esplanade 7oz + Method 8oz
Milestone 14oz
Panormaic 8oz
Panormaic 12oz
19-Jun


May 2019 (38 Months after)
Esplanade 5oz


May 2019 (38 Months after)
Esplanade 5oz


May 2019 (38 Months after)
Esplanade 7oz


Adin Inter-Wheatgrass Strip: Biomass 41 Months after Application
Annual Broadleaf
Perennial Broadleaf
Annual Grass
Perennial Grass
Grams/Meter
400
350
300
250
200
150
100
50
0
Untreated
Accord 16 oz
Esplanade 5oz
Esplande 7oz
Method 4oz
Method 8 oz
Esplanade 5 oz + Method 4oz
Esplanade 5oz + Method 8oz
Esplanade 7oz + Method 4oz
Esplanade 7oz + Method 8oz
Milestone 14oz
Panoramic 8oz
Panoramic 12oz


Goose Lake Inter-Wheatgrass Biomass 41 Months After Application
Annual Broadleaf
Perennial Broadleaf
Annual Grass
Perennial Grass
Grams/Meter
400
350
300
250
200
150
100
50
0
Untreated
Accord 16 oz
Esplanade 5oz
Esplande 7oz
Method 4oz
Method 8 oz
Esplanade 5 oz + Method 4oz
Esplanade 5oz + Method 8oz
Esplanade 7oz + Method 4oz
Esplanade 7oz + Method 8oz
Milestone 14oz
Panoramic 12oz
Panoramic 8oz

Conclusions

- Esplanade/Indaziflam
- Release perennials from Medusahead
- No Perennials = Parking Lot
- Multiple year opportunity for drill seeding
- NO CA GRAZING LABEL (Yet!)

Questions?

University *of* California
Agriculture and Natural Resources

Tom Getts UC ANR
Weed Ecology and Cropping Systems Advisor: Lassen, Modoc, Sierra, and Plumas Counties
Office: 530-251-2650 Email: tjgetts@ucanr.edu