

Elise Gornish

Cooperative Extension Specialist

University of Arizona



@RestoreCAL

Making restoration better

(Nothing in this presentation is true but its exactly how things are)



To err is **human**;
to forgive, **divine**.

– *Alexander Pope*



How have I messed up?



How have I messed up?

- Making assumptions about what works
- Not accommodating uncomfortable truths
- Overlooking simple for fancy



How have I messed up?

- **Making assumptions about what works**
- Not accommodating uncomfortable truths
- Overlooking simple for fancy

What drives success in dryland restoration?



What drives success in dryland restoration?

Precipitation

Plant material type

Plant material amount

Temperature

Soil type

Soil condition

Current site management

Historical management

Flood events

Fire

Seed bank

Extant vegetation type

Extant vegetation amount

Weeds

Soil chemistry

Soil compaction

Follow up management
and more.....

What drives success in dryland restoration?

Precipitation

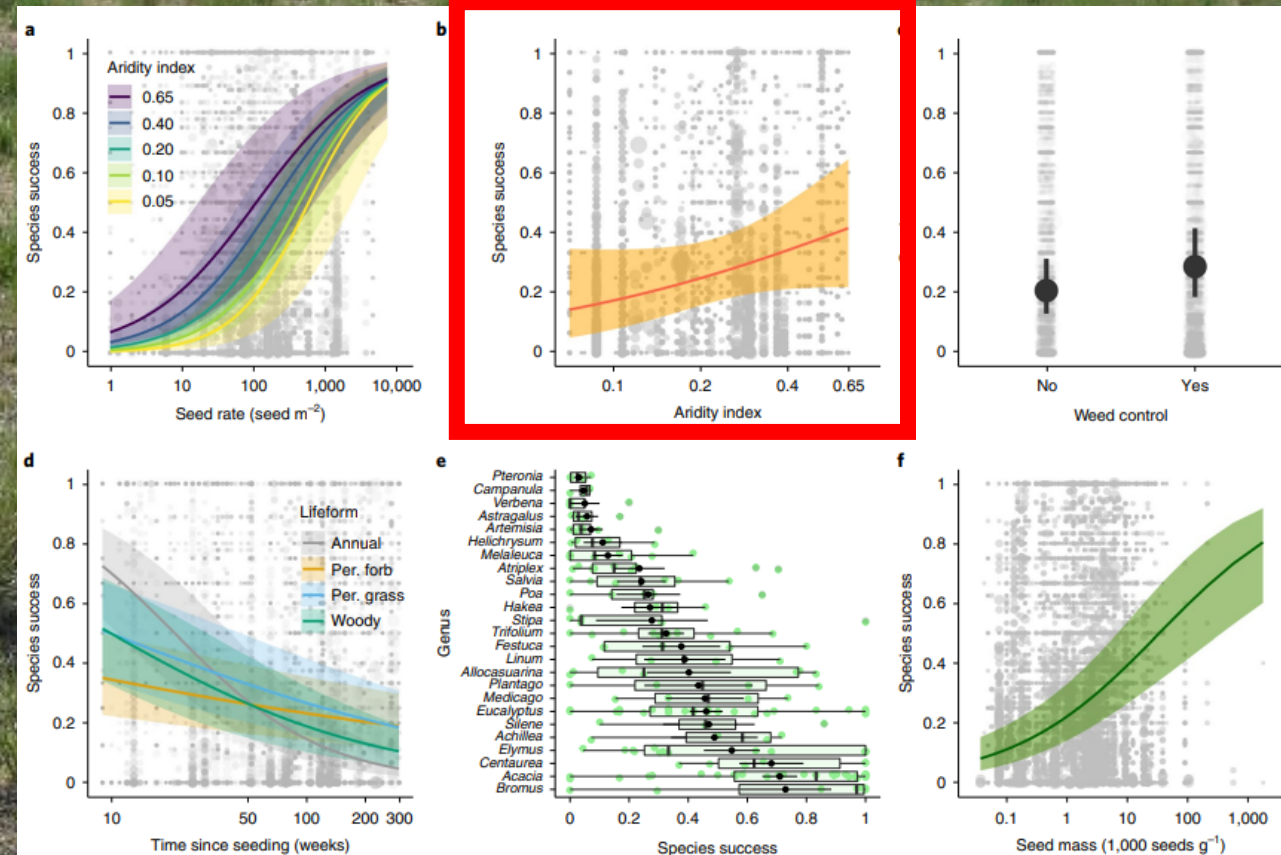
Plant material type
Plant material amount
Temperature
Soil type
Soil condition
Current site management
Historical management
Flood events
Fire

Seed bank
Extant vegetation type
Extant vegetation amount
Weeds
Soil chemistry
Soil compaction
Follow up management
and more.....

What drives success in dryland restoration?

Precipitation

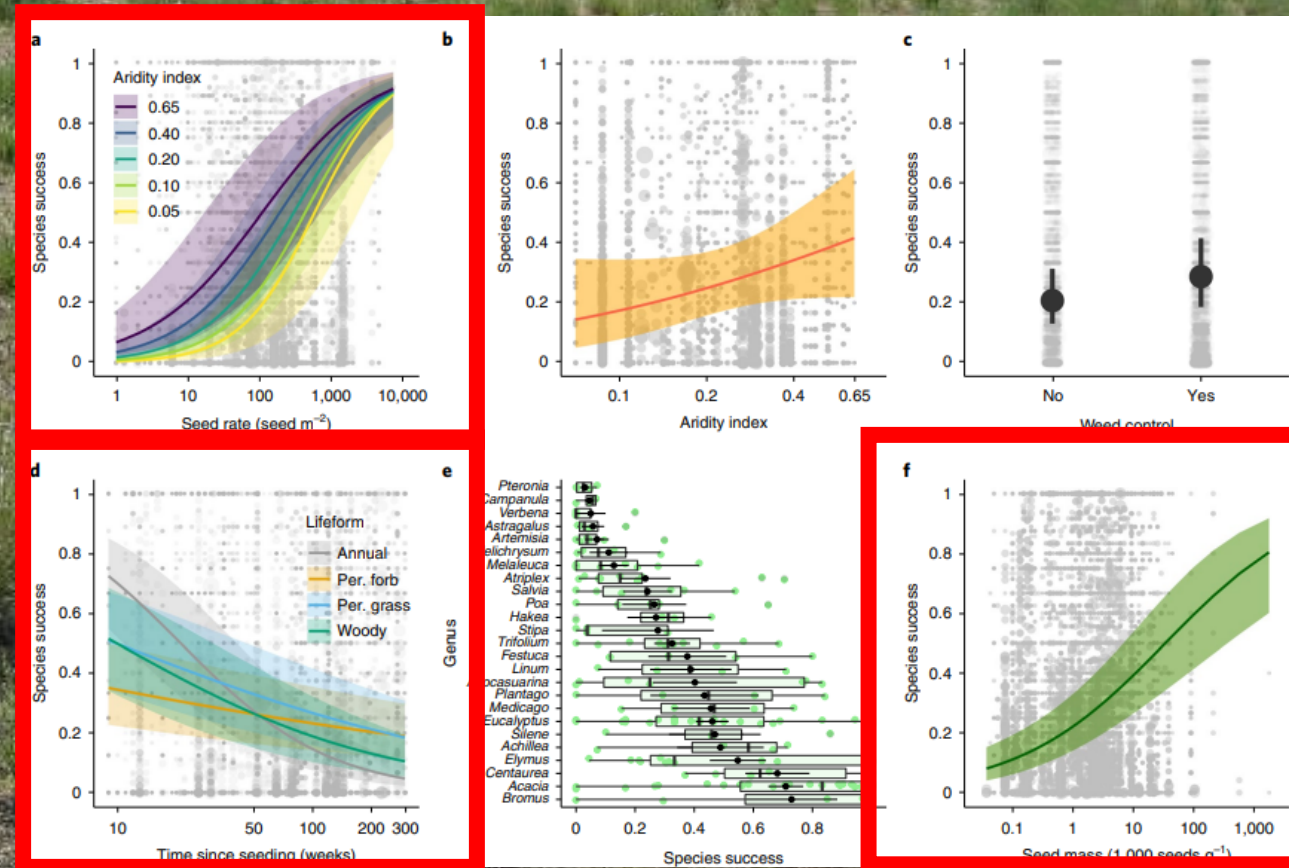
Plant material type
 Plant material amount
 Temperature
 Soil type
 Soil condition
 Current site management
 Historical management
 Flood events
 Fire

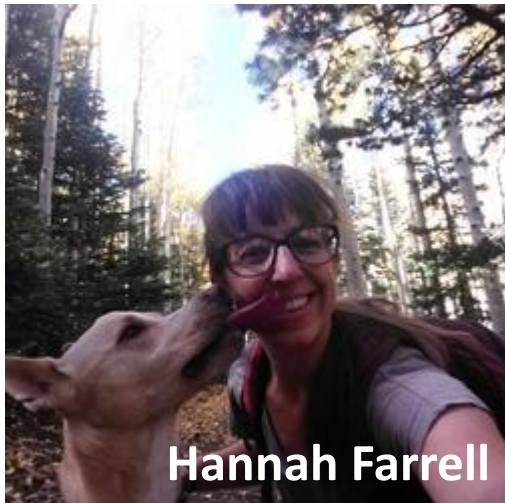


What drives success in dryland restoration?

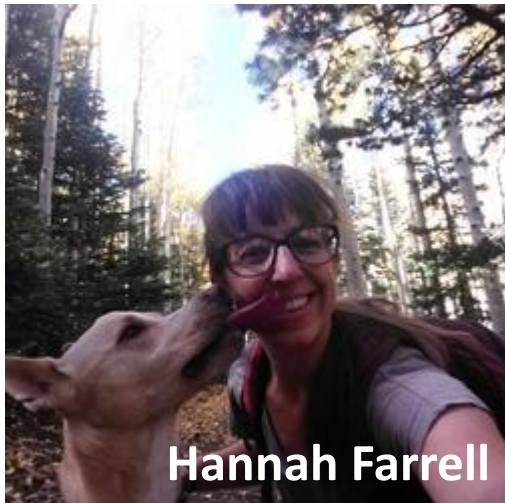
Precipitation

Plant material type
 Plant material amount
 Temperature
 Soil type
 Soil condition
 Current site management
 Historical management
 Flood events



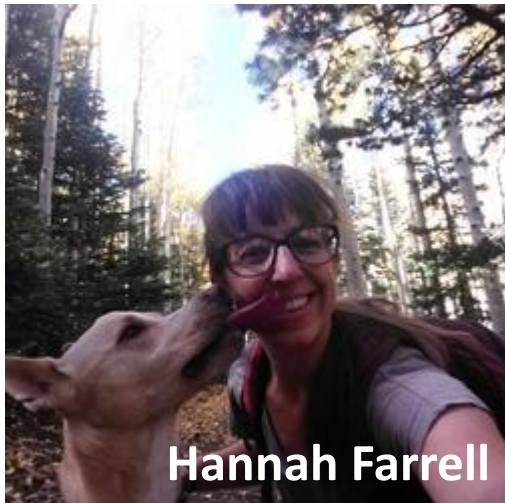


Hannah Farrell



Hannah Farrell





Hannah Farrell

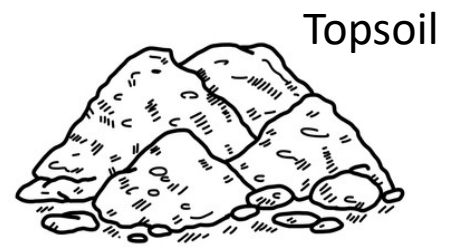


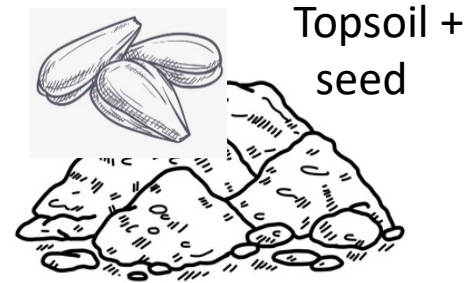
Goal: to identify how restoration approaches might modify pipeline revegetation outcomes



Hannah Farrell

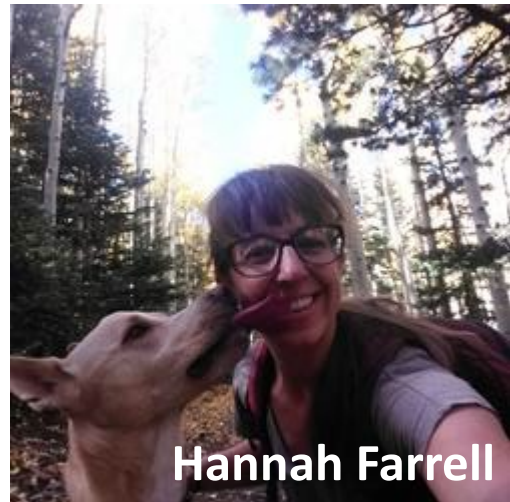
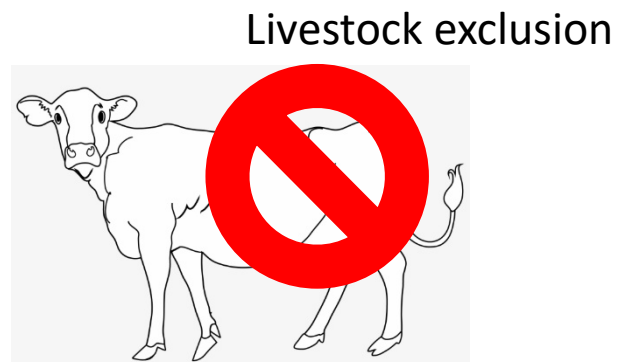




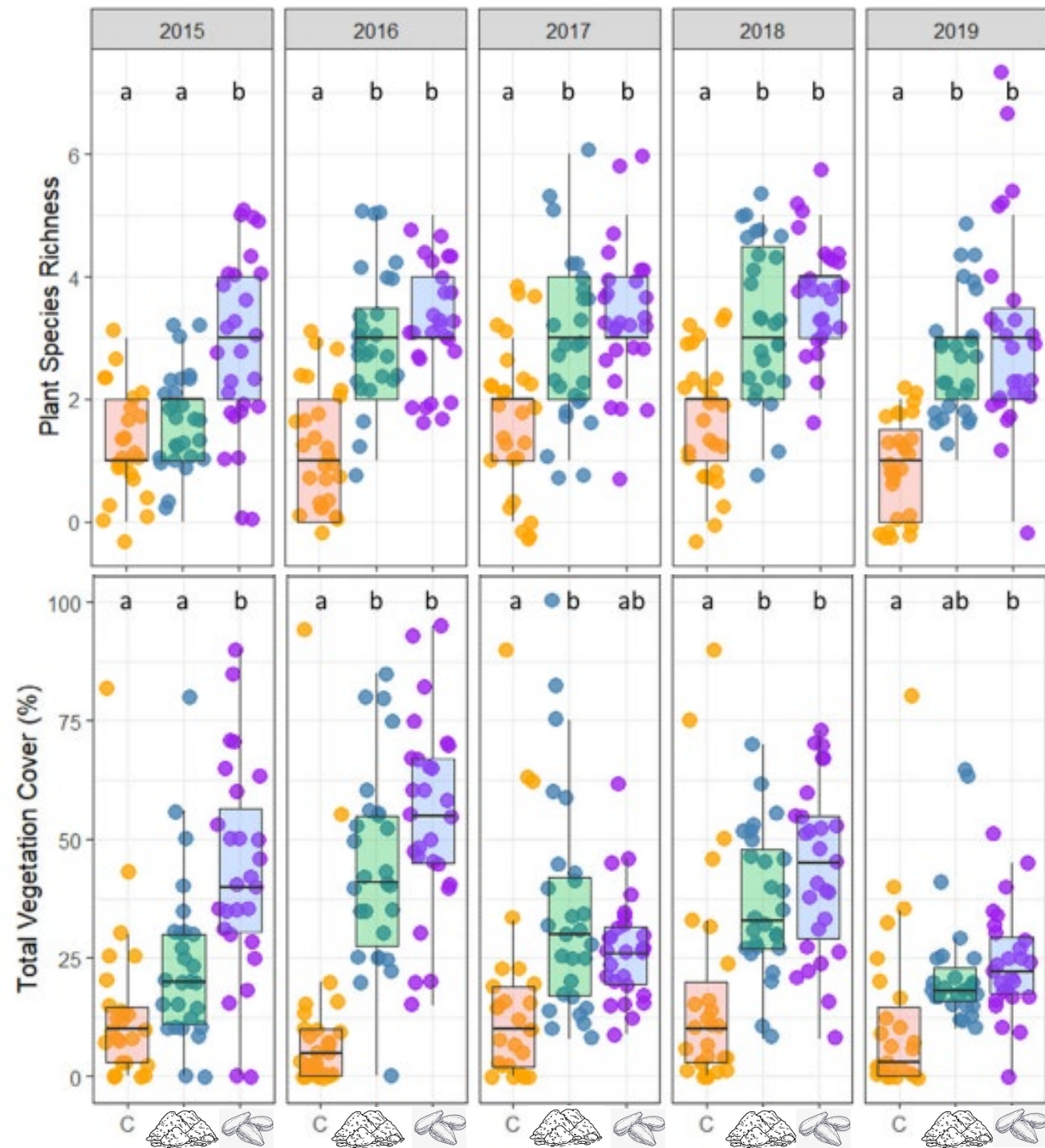


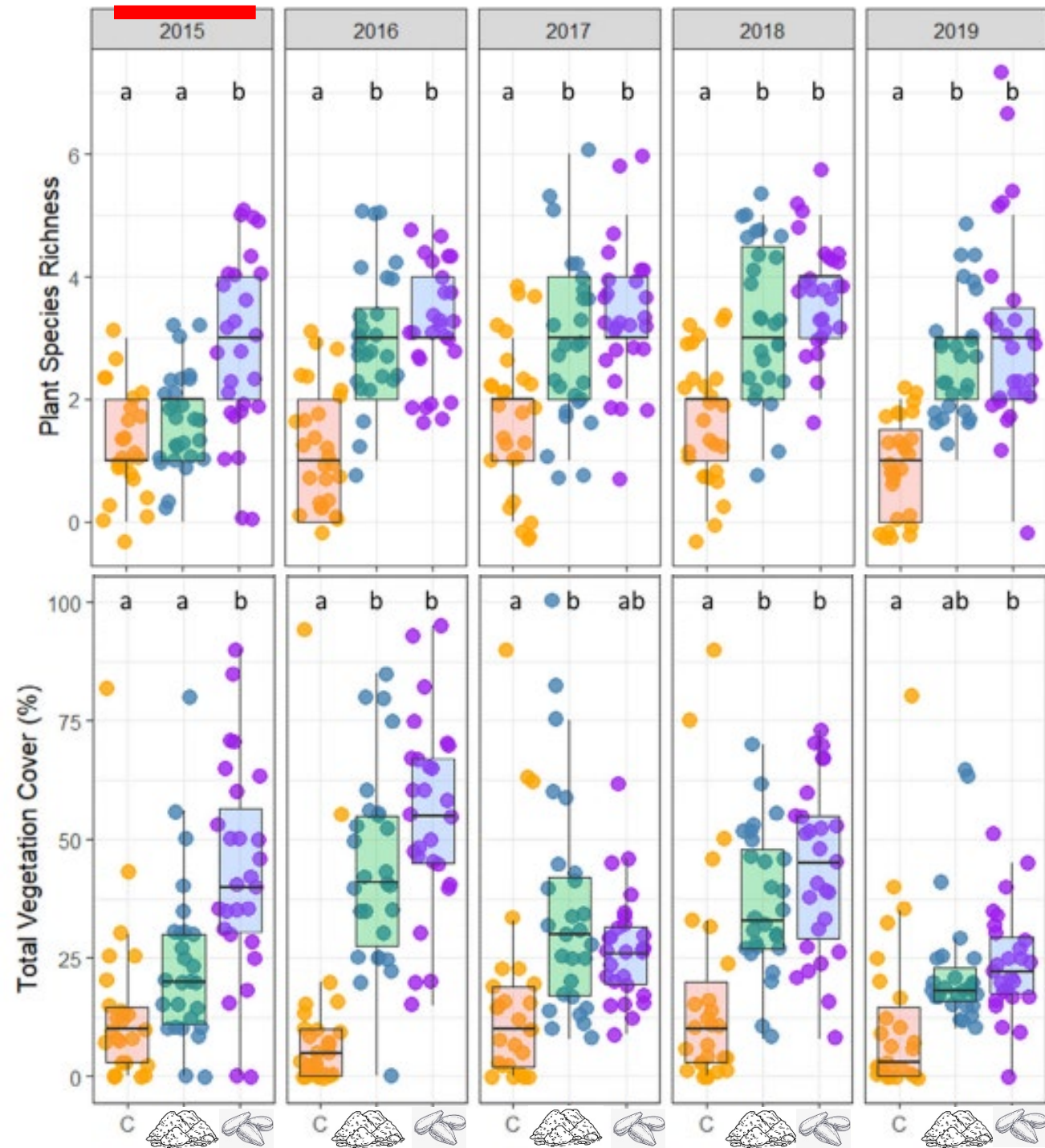
Hannah Farrell

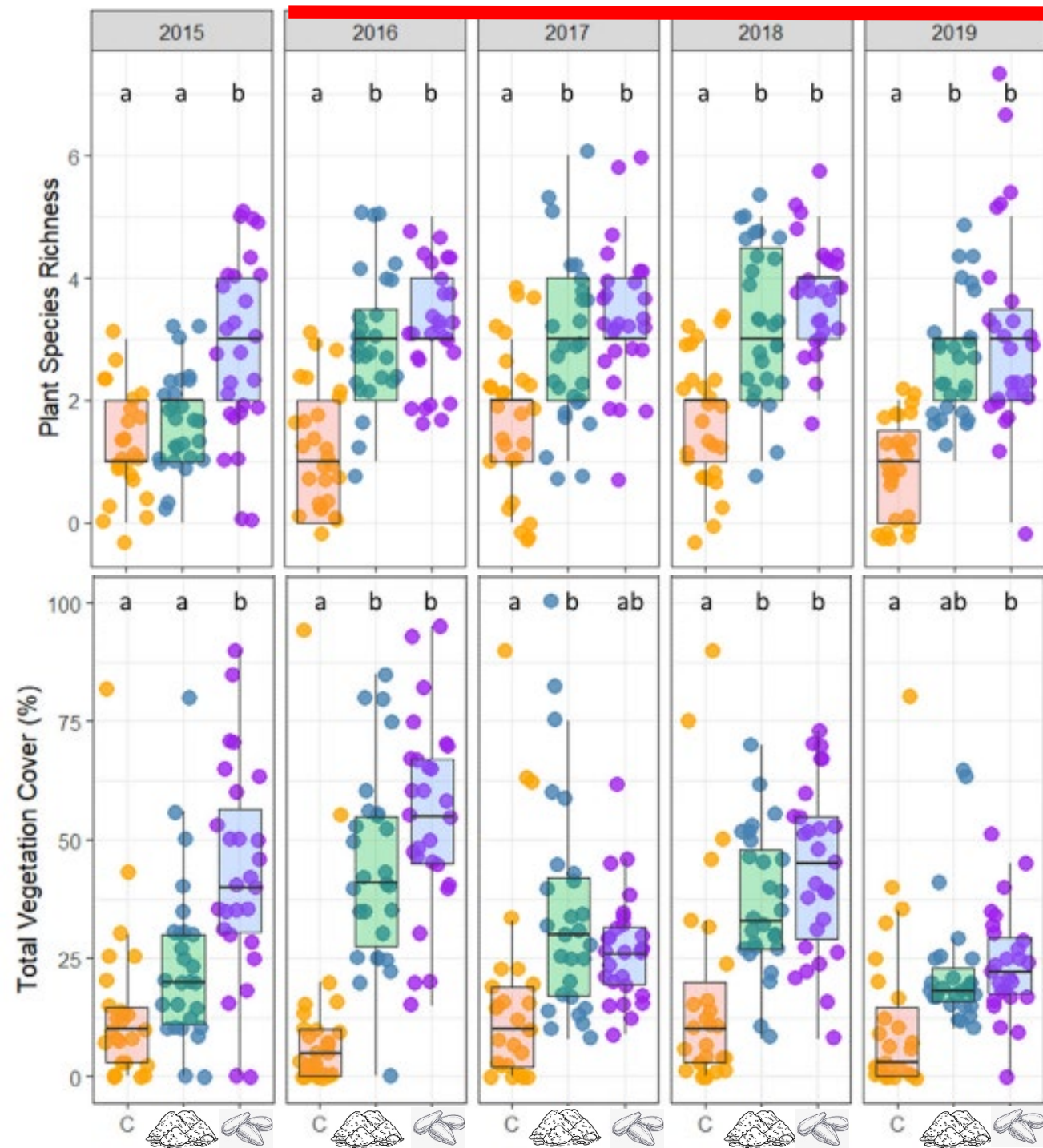


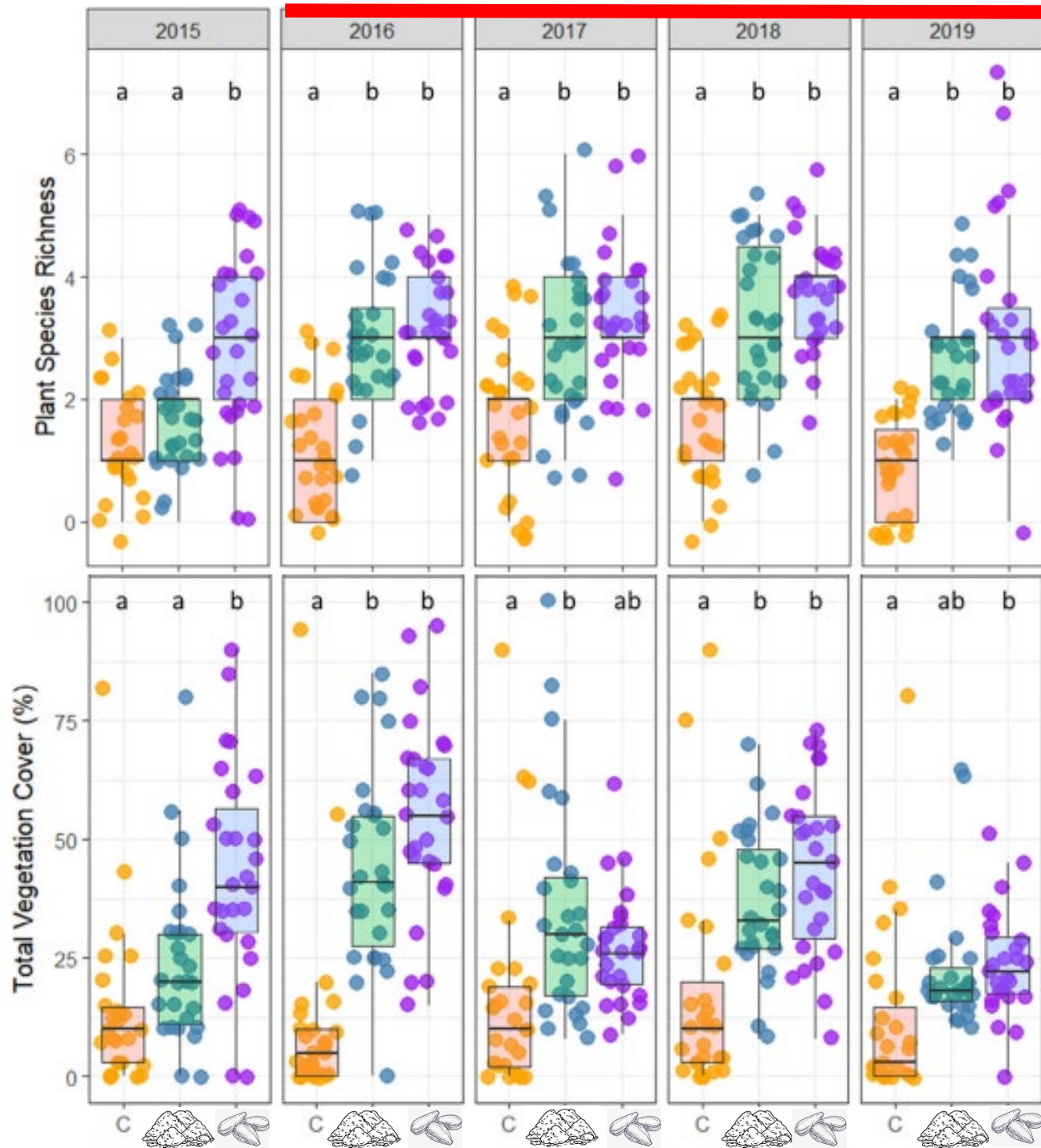


Hannah Farrell









Making assumptions about what works

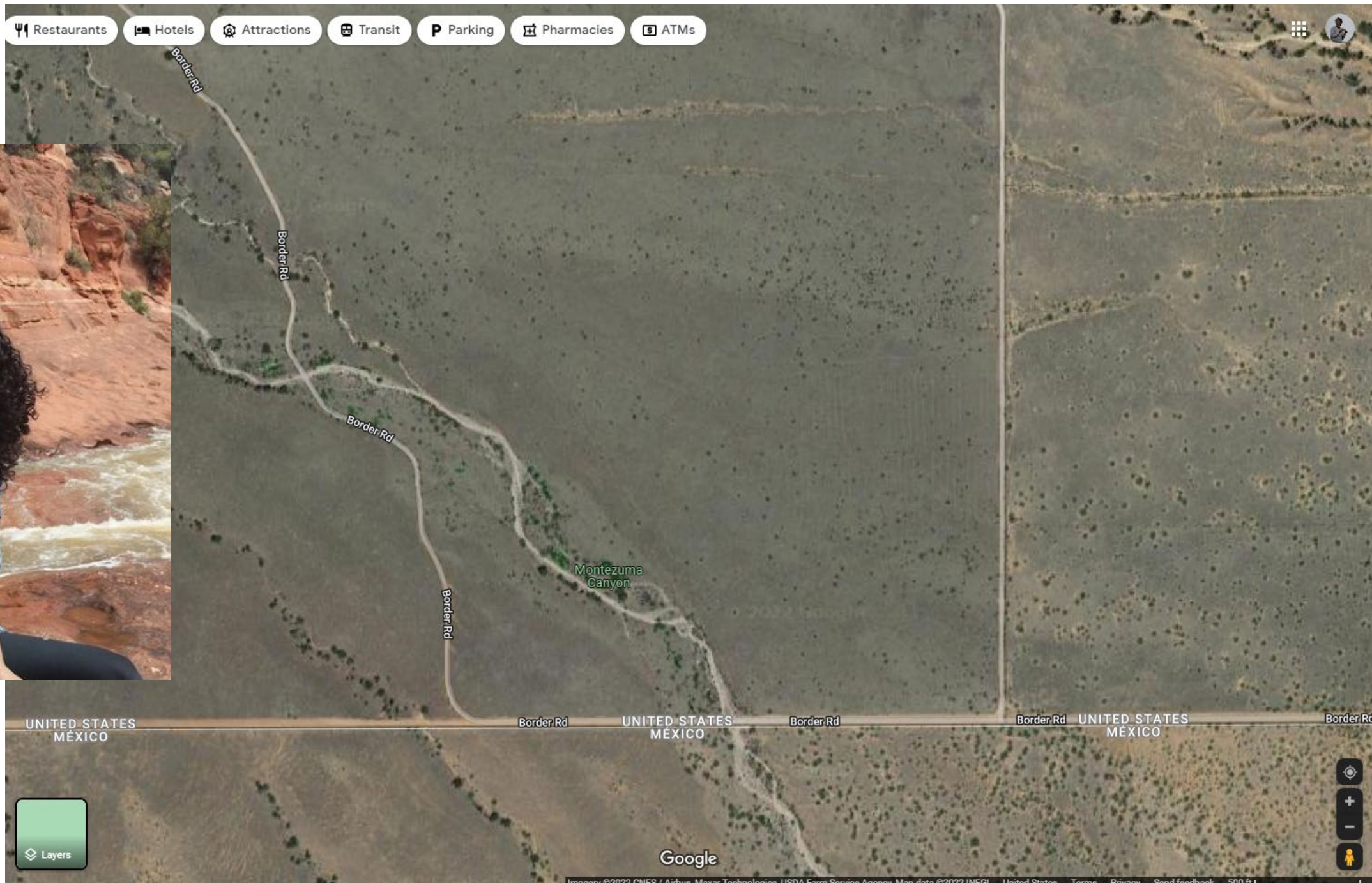


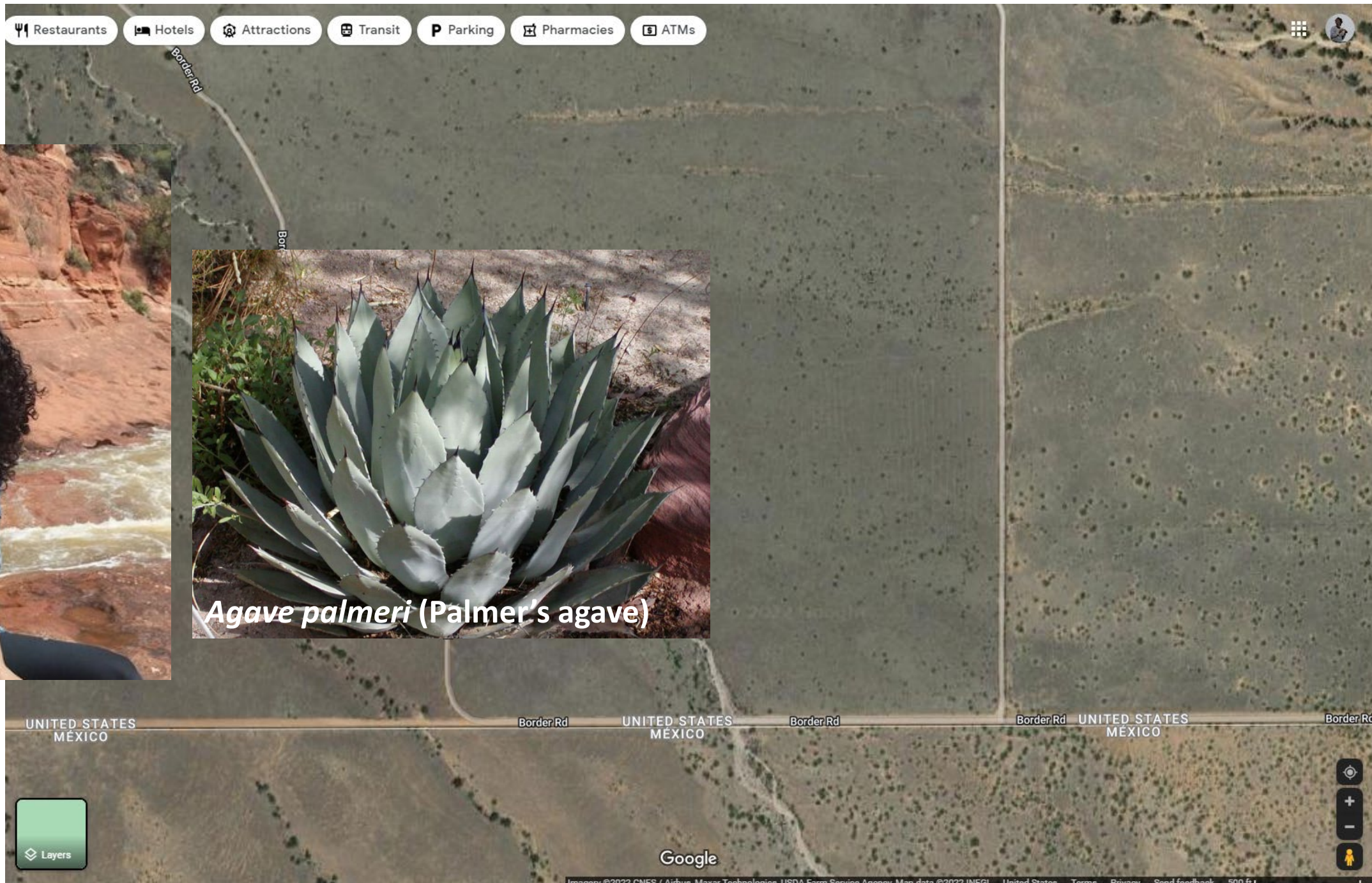
How have I messed up?

- Making assumptions about what works
- **Not accommodating uncomfortable truths**
- Overlooking simple for fancy

Amy Gill









Agave palmeri (Palmer's agave)



**BAT CONSERVATION
INTERNATIONAL**



Goal: to understand biotic and abiotic factors important for agave restoration

Goal: to understand biotic and abiotic factors important for agave restoration



Goal: to understand biotic and abiotic factors important for agave restoration

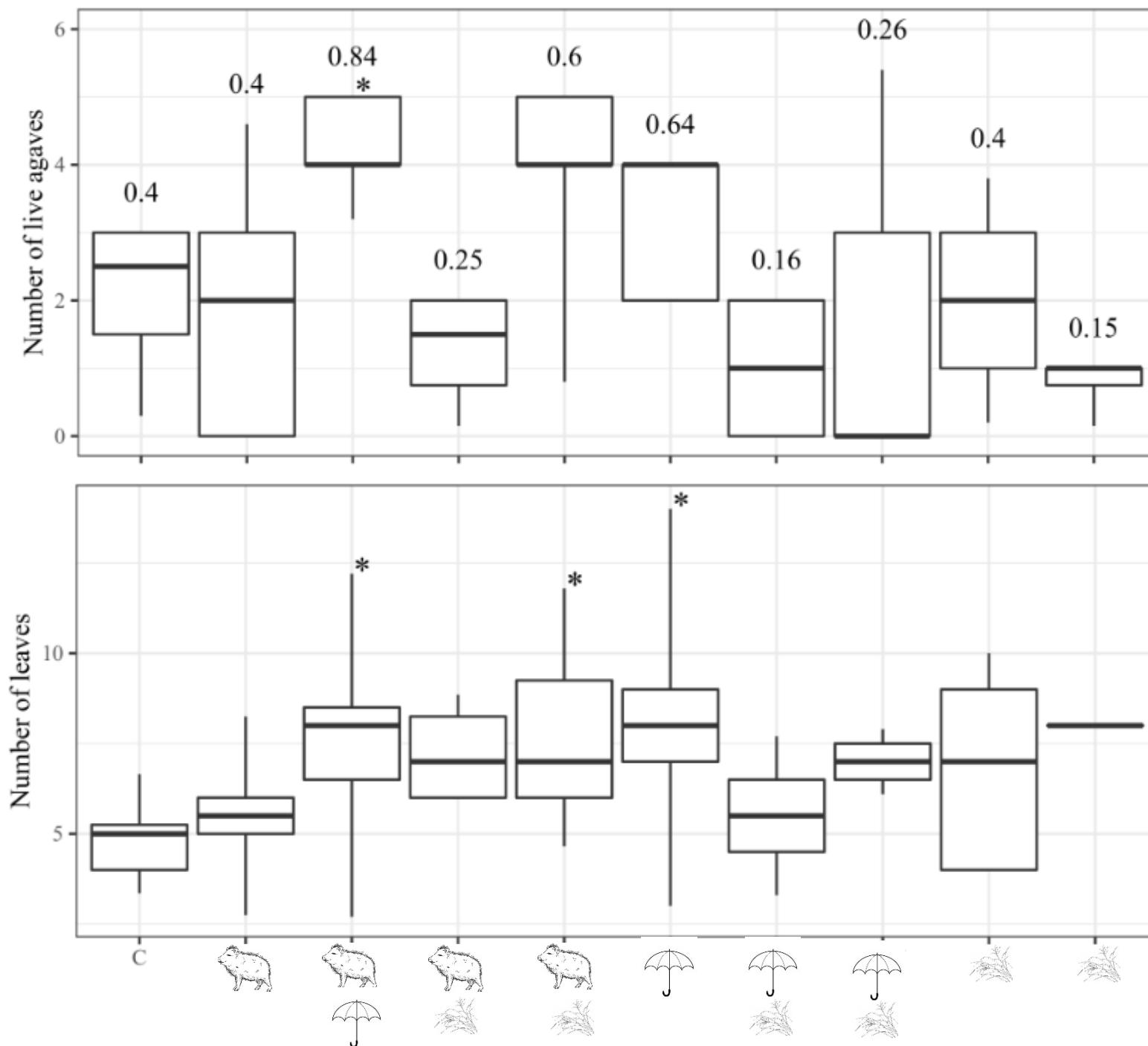


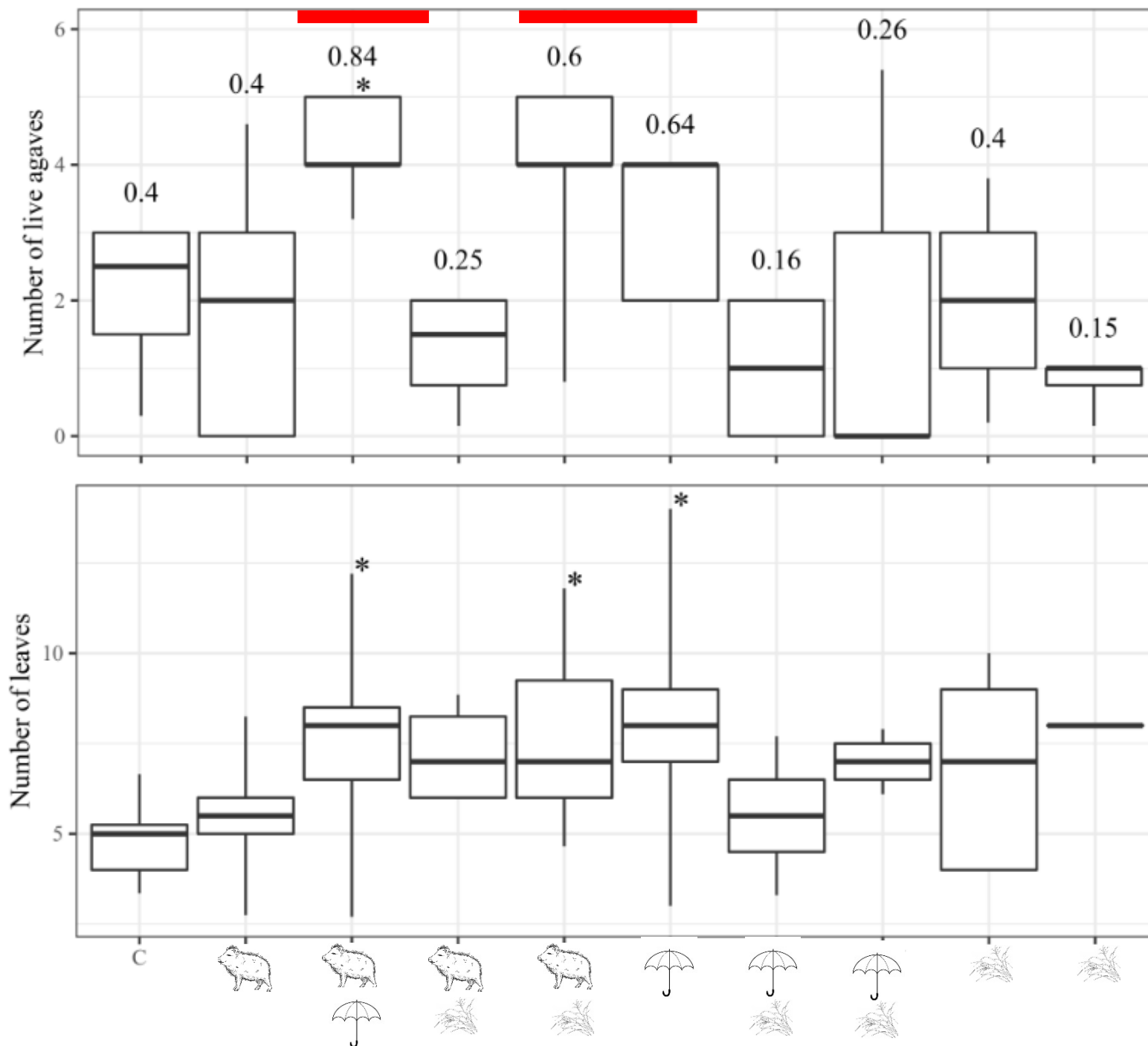
Goal: to understand biotic and abiotic factors important for agave restoration

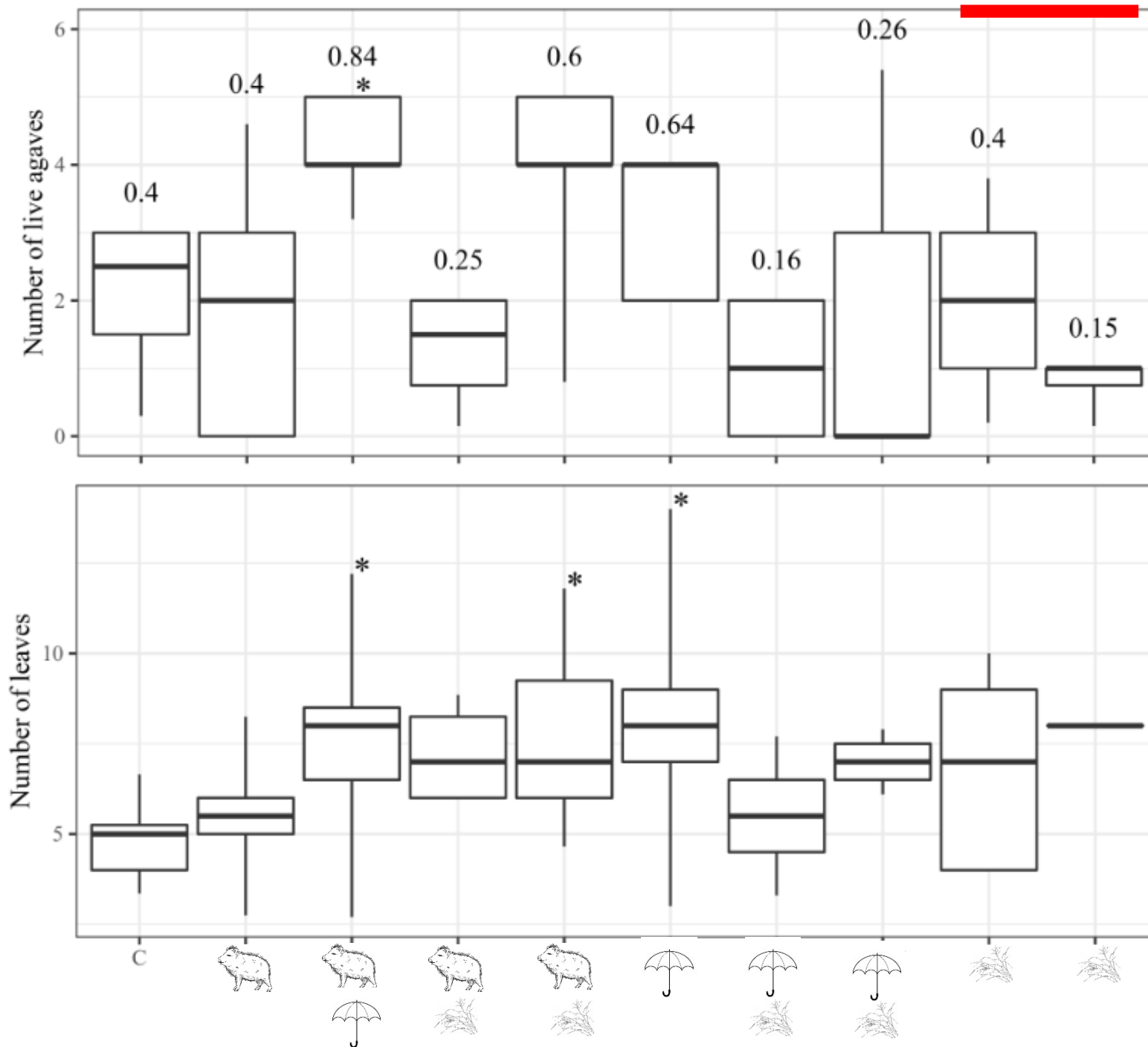


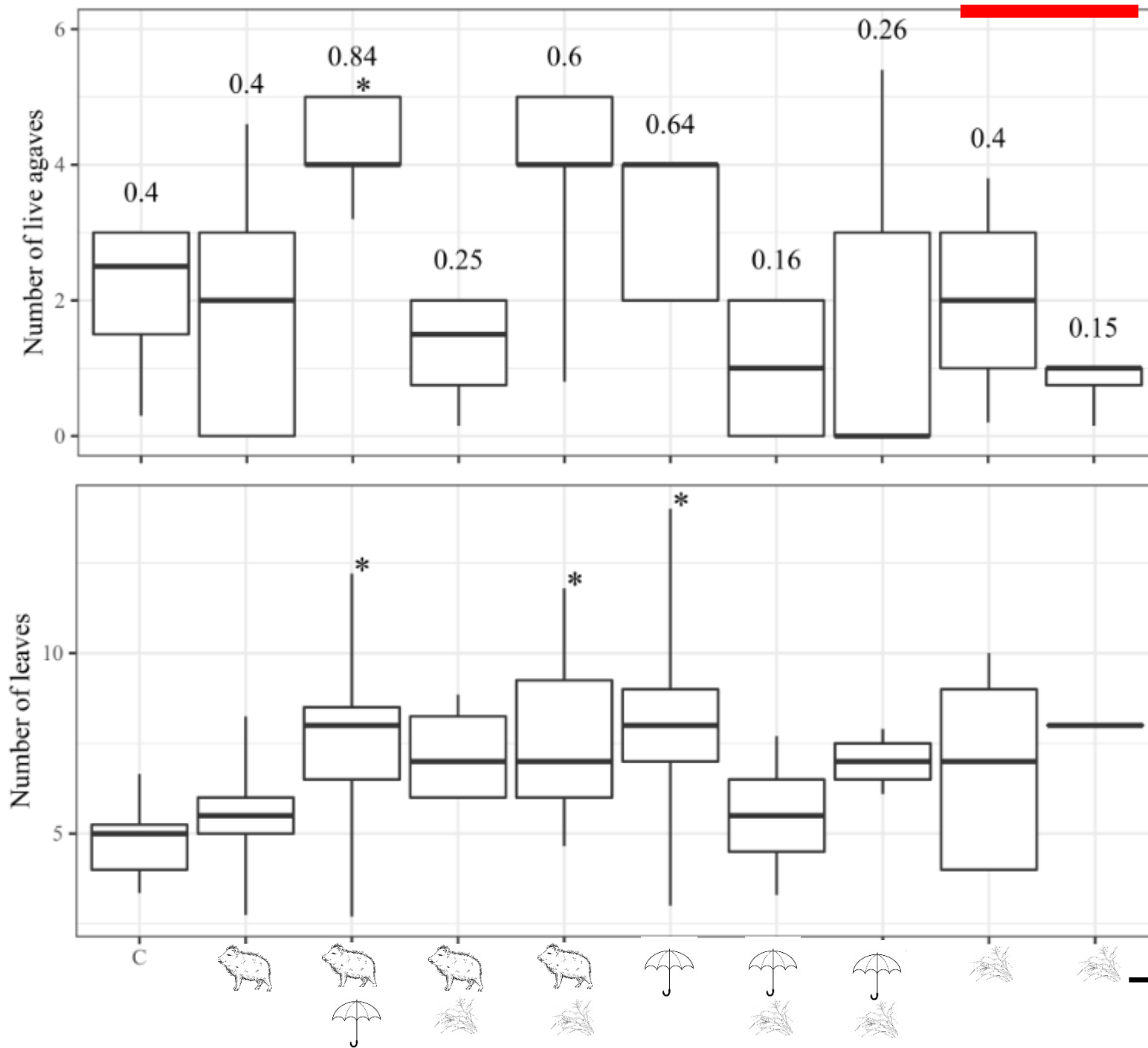
Goal: to understand biotic and abiotic factors important for agave restoration



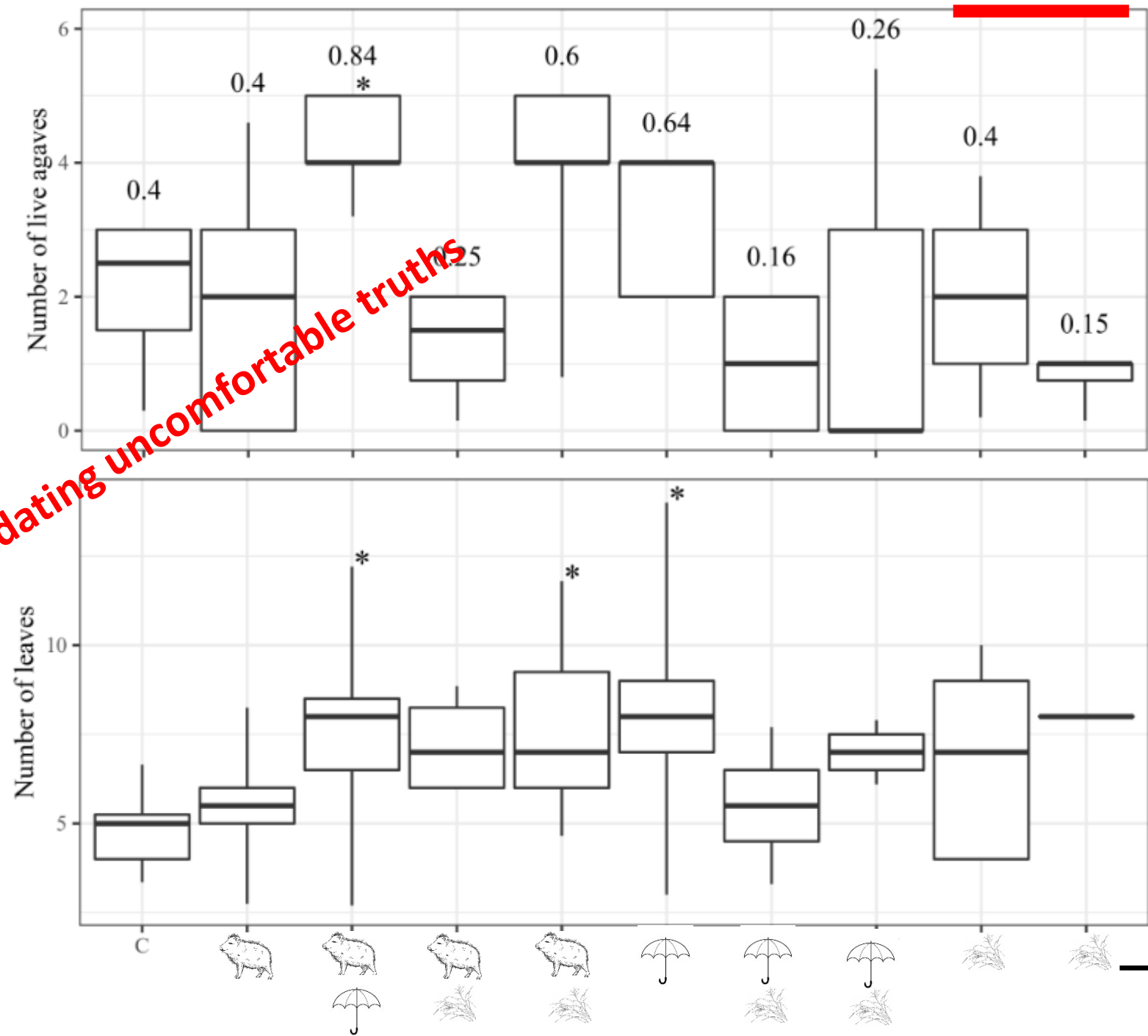








Not accommodating uncomfortable truths



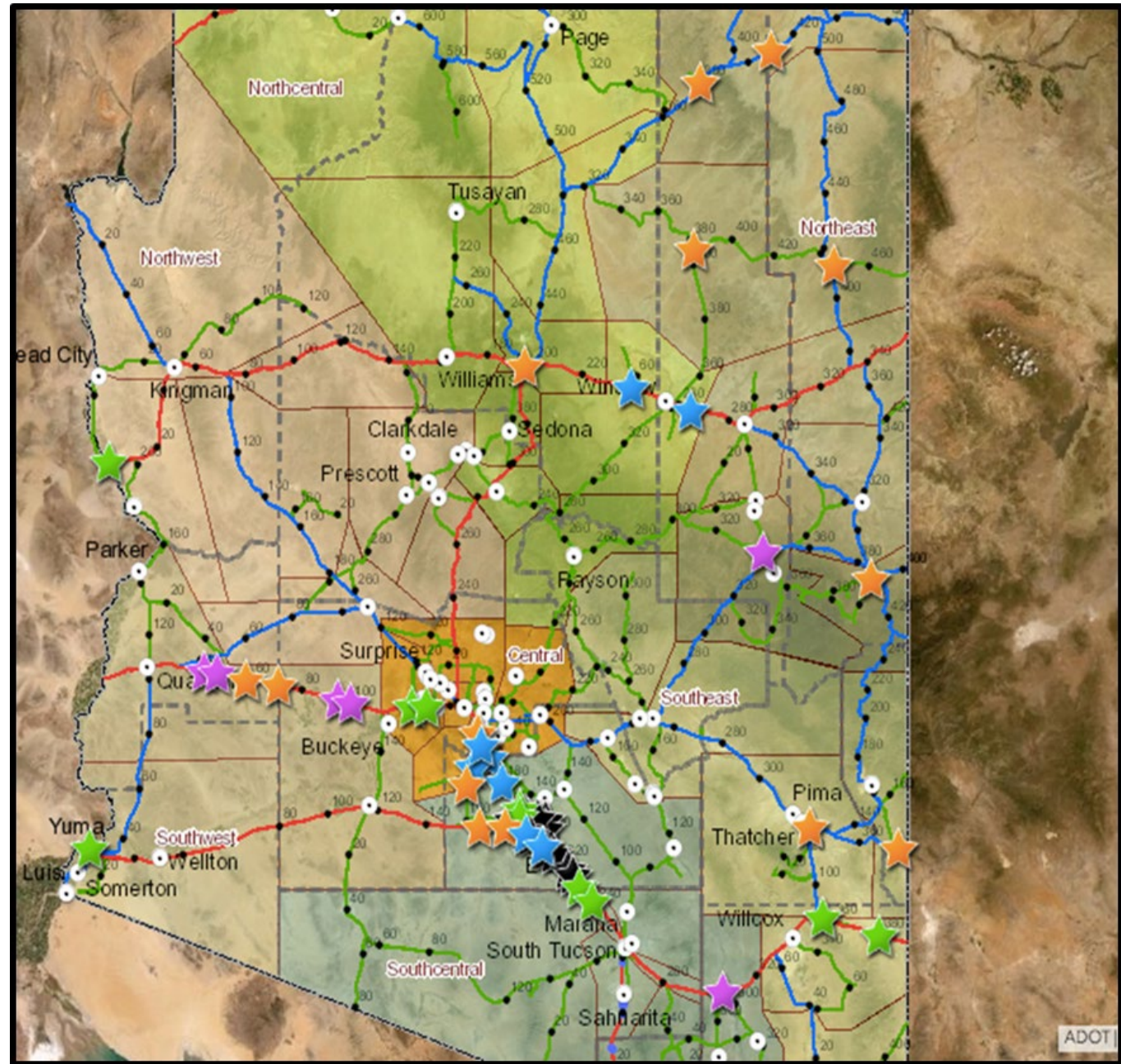


How have I messed up?

- Making assumptions about what works
- Not accommodating uncomfortable truths
- **Overlooking simple for fancy**

Arizona Department of Transportation (ADOT) Automobile Accident Data

Stars show high proportion of dust-related automobile accidents. Black, green, and blue stars show most dangerous hot spots.





- **Restoration approaches for dust mitigation that only consider physics and chemistry usually fail.**
- **Need to integrate expertise across atmospheric physics, hydrology, soil physics, soil chemistry, soil microbiology, plant biology, and ecosystem ecology.**





- 1.Existing soil microbial community
- 2.MICROP[®] cyanobacterial inoculant
- 3.EM-1[®] lactic acid/photosynthetic bacterial inoculant
- 4.AM120[®] mycorrhizal inoculant

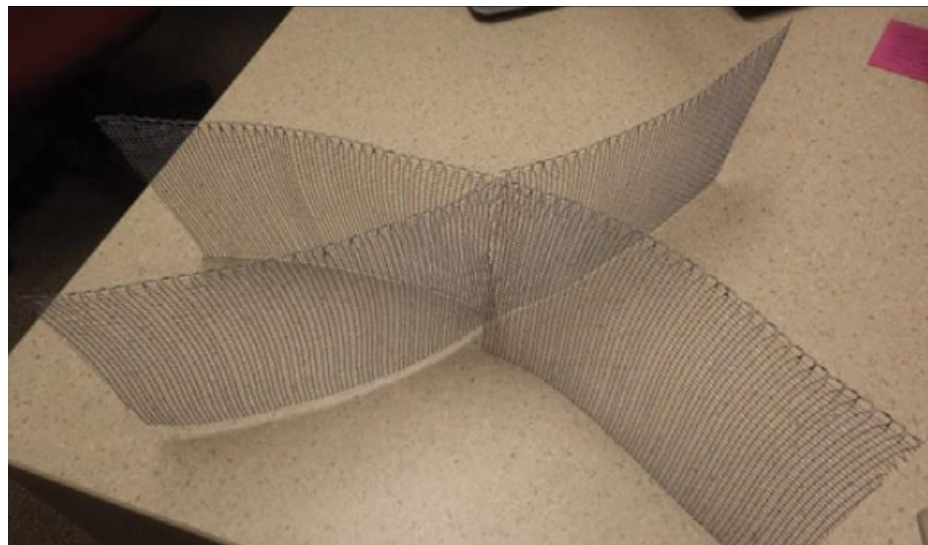
Soil inoculation = complete failure











E



F





Overlooking simple for fancy?



Elise Gornish

Cooperative Extension Specialist

University of Arizona



@RestoreCAL

Making restoration better

(Nothing in this presentation is true but its exactly how things are)