Grape Growers Organic Field Day 2026
Native California Grass Cover Establishment

Study Design

Banded replicates of seven California native perennial grass mixes (Table 1) were seeded Fall 2025 within a fallow block at Opus One, Oakville, CA. Replicates are placed along a distance gradient parallel to the Napa River (Figure 1).

Methods

Fieldwork

Establishment surveys were conducted May 2026 when diagnostic characters were available for identification. A 300ft transect tape was placed in the middle of each replicate (Figure 1). Plants were identified every 12ft from 0 to 300ft using point-line intercept method (Figure 2B).

Data Analysis

An establishment rate was determined by counting the presence of a target plant (the planted seed mix in each replicate) along the transect within each replicate.

Table 1. Seed mix used for trial.

Seed Mix
1. California Brome
2. Meadow Barley
3. Diego Bentgrass
4. Purple Needle Grass
5. California Oat
6. Short Grass Cocktail (Equal parts 1, 2, 3)
7. Short and Tall Grass Cocktail (Equal parts 1-5)

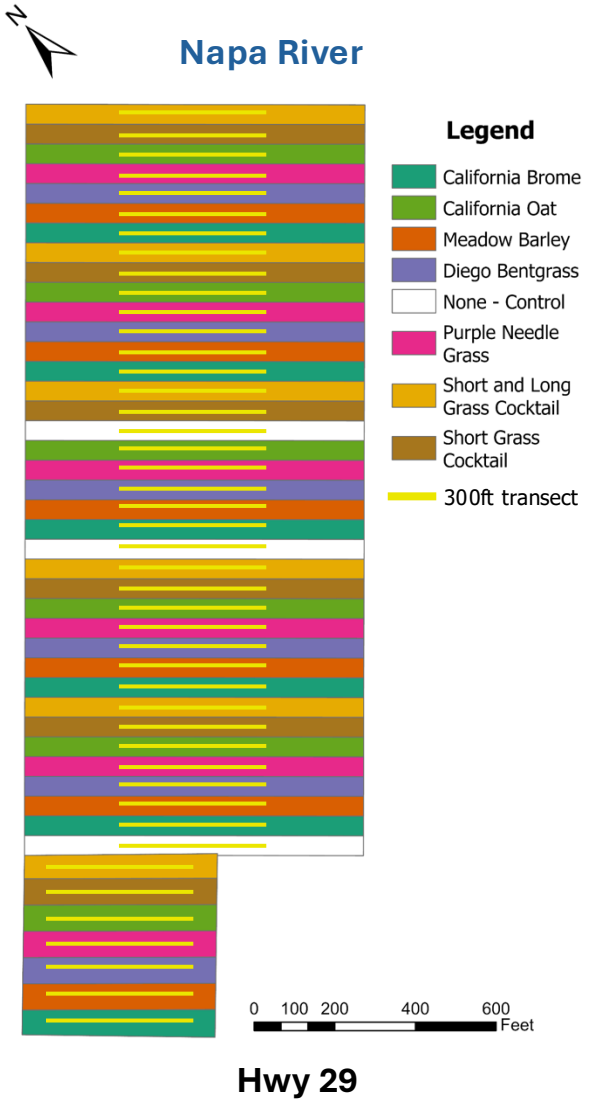

Figure 1. Map of seed trial depicting banded replicates and placement of 300ft transects.

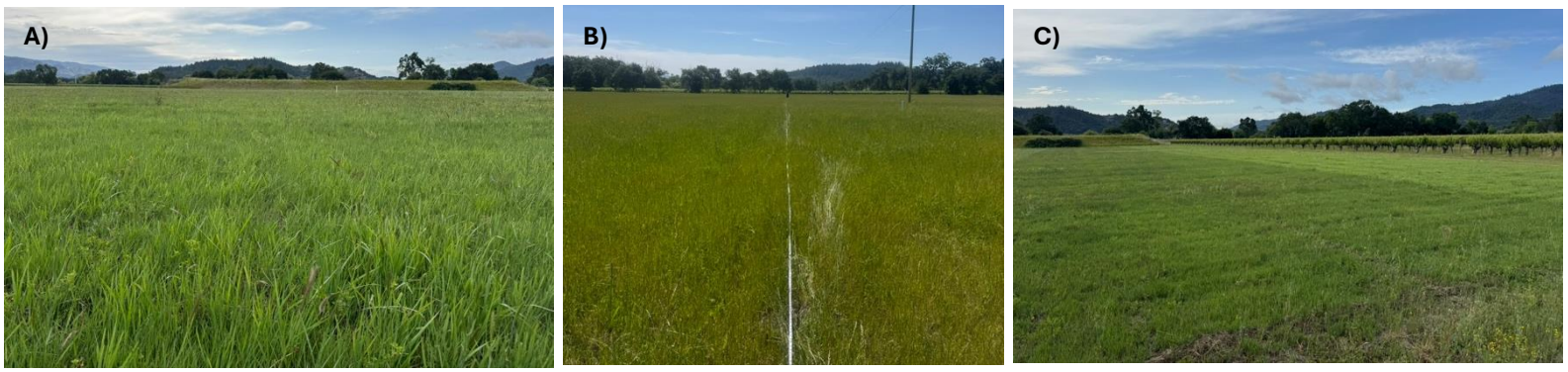

Figure 2. Photos of native California grass cover trial . A) California Brome replicate #1 showing good establishment. B) Transect tape in the middle of replicate. C) Clear banding between replicates 1 and 2 highlighting establishment between seed mixes.

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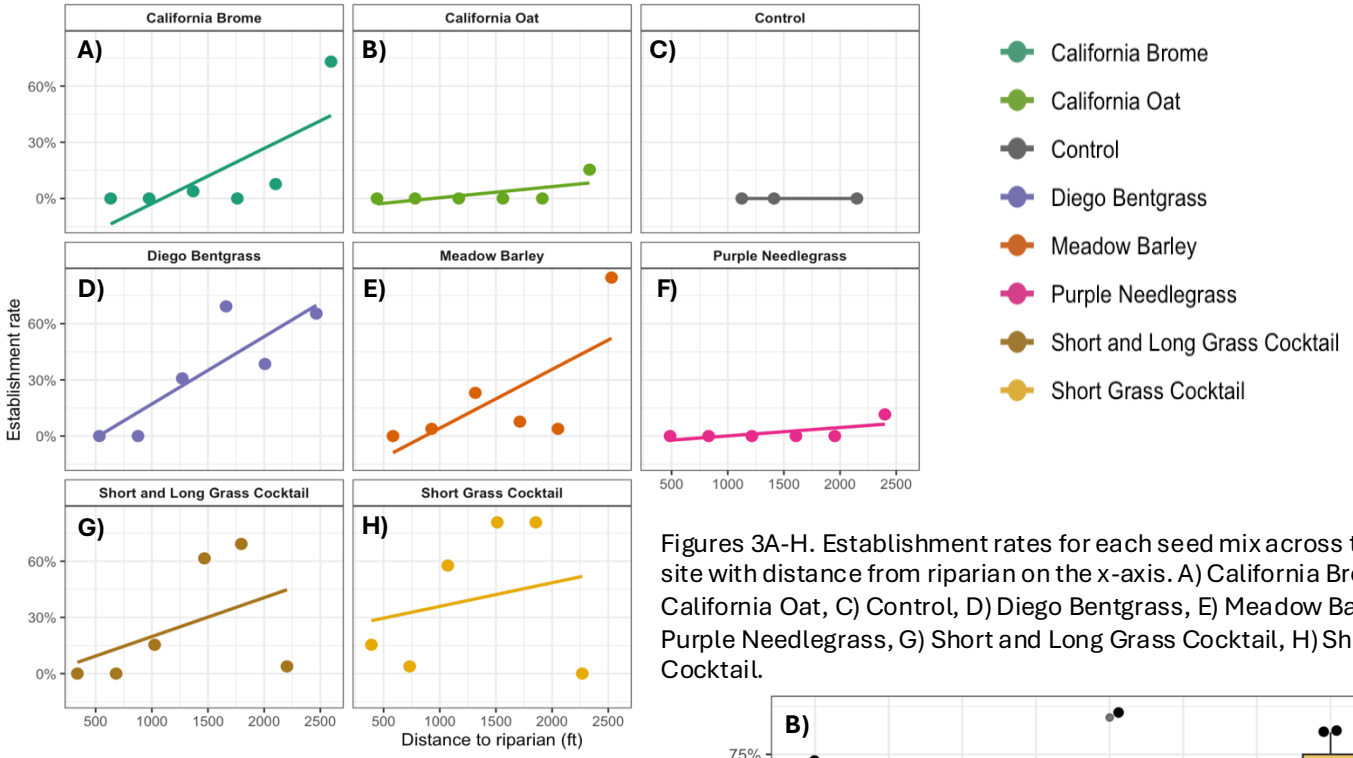
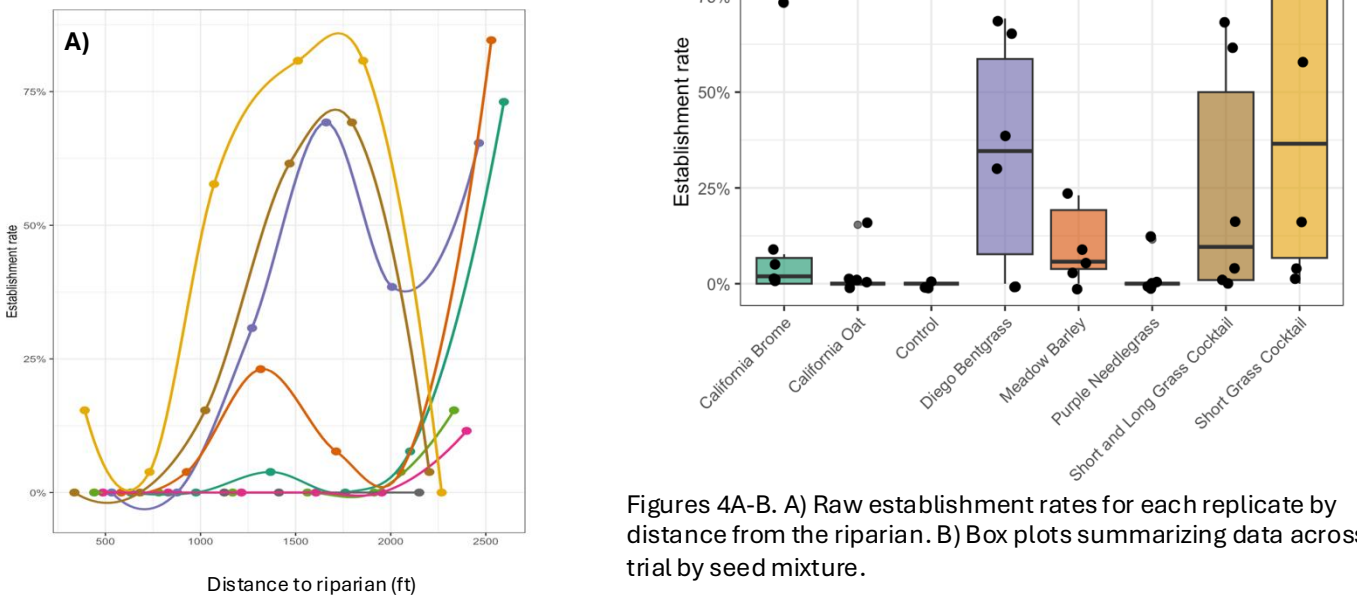
Results & Discussion

- Establishment generally decreased closer to the Napa River (Figures 3A–H; Figure 4A).
- The Short Grass Cocktail had the highest overall establishment but also the greatest variability (Figure 4B). Diego Bentgrass consistently had moderate establishment across the site (Figure 4B). Meadow Barley achieved the highest establishment in a single replicate (Figure 4B).
- California Oat had relatively low establishment, consistent with its slower germination rate (Figure 3B).

- Management practices that reduce competition from non-native vegetation (e.g., mowing or grazing) are expected to improve establishment.
- Due to perennial grass selection, establishment is expected to improve as plants mature.
- First-year establishment may have been underestimated, as dense patches of seeded plants along the trial edges were observed but not captured by the transect sampling.



Figures 3A-H. Establishment rates for each seed mix across the trial site with distance from riparian on the x-axis. A) California Brome, B) California Oat, C) Control, D) Diego Bentgrass, E) Meadow Barley, F) Purple Needlegrass, G) Short and Long Grass Cocktail, H) Short Grass Cocktail.



Figures 4A-B. A) Raw establishment rates for each replicate by distance from the riparian. B) Box plots summarizing data across the trial by seed mixture.

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Document created by Selena Vengco, UCCE Napa, June 2026.
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