Dead Weeds Walking:
The effects of herbicide and smoke on stinknet seed germination
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What is Stinknet?
• *Oncosiphon piluliferum* (Asteraceae)
• Native to South Africa
• At high risk of becoming invasive in California
• Widespread in Riverside, San Diego, Orange Counties

Why it’s a problem
• Stinknet degrades foraging habitat for coastal cactus wrens, California gnatchatchers, and other native species
• Stinknet adds fine fuels to coastal sage scrub habitat, making it more fire prone.

Questions
1. Will seeds from sprayed plants germinate?
   • Treated once (Transline and Gallery SC)
   • Treated twice
   • Treated with Roundup
   • Malformed (Fig. 2)
2. Do seeds germinate more when exposed to smoke?

What did we find?
• Seeds treated with herbicide still germinated, but at lower rates than untreated control groups (Fig. 1)
• Smoke treatment seeds germinated at the highest rate of all groups (Fig. 4)

Conclusions
• Transline and Gallery SC are somewhat effective in the control of stinknet
• While stinknet is not a fire activated seed, it does have higher germination rates when exposed to the chemicals in smoke.
• In a recently burned habitat, stinknet could outcompete native species for space.

Fig. 1: Germination rates over time for experimental groups.
Fig. 2: Normal and malformed seeds.
Fig. 3: Map of stinknet collection sites.
Fig. 4: Smoke treated seeds germinated significantly more than control seeds.