

Notes from Cal-IPC *Dittrichia graveolens* (stinkwort) Working Group
Held October 12, 2012 at annual Cal-IPC symposium in Rohnert Park
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Workgroup was led by David Bakke, USFS and Rachel Brownsey, UC Davis
Copy of powerpoint presentation is available.

Background

- 1984 first collection in Bay Area
- From Bay Area spread to Central Valley
- San Diego is separate introduction
- Also invasive in Australia, New Zealand and South Africa
- Likes disturbed areas
- Unstudied up until recently, not much information available
- Behavior in native range?
- Weedy ruderal plants, seem to be expanding range through human-mediated spread

Impacts

- Livestock mortality and contact dermatitis (humans)
- Number of counties with *Dittrichia* rising rapidly
- Where will *Dittrichia* spread?
- Cal-IPC has done some modeling based on different climate change scenarios, see cal-ipc.org for updates
- Still a lot of California with potential to spread

Lifecycle and management

See powerpoint for graphic of life cycle and best treatment timing

Plants last 1 year based on field studies by UC Davis

Germination November to March

Rosette March to May

Moderate growth June to July, exponential growth July to September

Flowering August to December

Flowering starts in September and goes through December

Trigger for flowering seems to be day length, which should mean the timing is consistent from year to year.

Seed dispersal mechanism?

Has a bristly seed pappus so falls to ground and blows along the ground

Attaches to vehicles and shoes

Spread by water, around rivers and reservoirs

Establishes well along roadsides with low competition

Could be a relationship with higher soil moisture next to roads

Control timing

Pre-emergent, October to December. Should be done earlier than March when most managers are starting.

Hand pull, May to July

Post-emergent, March to June

Rachel Brownsey study with rhizotron (root probe)

Compared root growth to annual grasses

Roots similar to yellow starthistle and *Holocarpha*, but grow later in season

This could be why it can't compete well with annual grasses for early season moisture

Does not tolerate shade

Management considerations (from powerpoint)

- Seedling emergence throughout fall, winter, early spring
- Seed production and viability are high; primary dormancy is very low or absent
- Seed longevity is 2+ years with the majority of viable seeds germinating in the same year as dispersal
- Early season detection of new populations is challenging
- Resprouting if cut in spring and early summer
- Seed production on cut material with flowers
- Flowering starts in early- mid September
- Sticky-oily leaf surface affects the activity of herbicides and causes contact-dermatitis

Where does it establish away from disturbance?

Found recently in Mid-Peninsula Open Space District in Santa Cruz Mountains

In shrub and chaparral areas without disturbance

Also in bare zones around *Baccharis*

East Bay riparian areas and saltmarsh upland transition zone (habitat where it was first collected)

In Australia it occurs in open riparian areas

Dave Bakke discussion on regional Dittrichia management

When should we shift from local eradication to regional management?

What do we do differently at the regional level?

Are there different strategies for different places?

Dave sent out survey to some list-serves, received 6 responses

Strategies being used are: eradication, containment, treatment of outliers, keeping it off property

Types of management, everything

Combinations of herbicides, mechanical

What should we do as a state to manage this weed?

What do we need to know?

What should our strategies be based on location?

Why should we care about this plant? Is it only along roadsides?

Also occurs in riparian areas (mentioned as such in San Diego Co.)

Production of biomass is an issue, it crowds out other species; represents a fire risk along roads

Seems to be spreading outside roads into disturbed rangeland in San Mateo/Santa Clara county border area

Moved into vineyards in Alexander Valley which were not sprayed one year

Would help to document areas where it is invading away from roadsides

Management strategies

One goal is to keep it out of a watershed

Tracking it along roads where it crosses a disturbed firebreak and could move along there.

Roadside management

Current management promotes spread of Dittrichia

Need better coordination with Caltrans and other roadside managers

Problem is the timing needed for Dittrichia management does not work with their current practices

In Sacramento County hard to coordinate with Caltrans, County road maintenance and cities.

Sacramento and Elk Grove and doing nothing in their cities to control it along roadsides. Some come to WMA meetings, but the group is currently inactive. Only way to get action is to constantly contact them about it.

Alameda County, problem along roads and power lines. Also comes in to areas with cattle grazing after cows are removed for the year.

Big issue for roadside management -- Biology is different than what we are used to

Roadside spray or mow in May or June removes competition, then management agencies are not prepared to do another late season spray.

Management notes

East Bay Regional Parks uses a torch on it in July and August after mowing

Mowing in August, sprouts after that

Mowing in June works better, also weed whacker works well at that time

After mowing growth is more prostrate (like yellow starthistle)

Additional control ideas:

Milestone partially successful, 75%

Mulch should be tried or weed mats

Need more site-specific distribution to determine leading edge and unoccupied habitat, as well as what types of occupied habitats outside of road edges

Please add more details to current distribution in Calflora

Rachel B. was aware of a location at 3,000 feet; group participant reported an area at 4,500 feet in Plumas County

Orange county observation in construction site

May be present in Los Angeles and Ventura counties, someone needs to look for it

Next step, make a plan for statewide strategy

Form a *Dittrichia* taskforce to gather/disseminate information, organize our thoughts as a framework to an eventual state-wide strategy document

Dave Bakke can be email contact, dbakke@fs.fed.us; he will send out e-mail to group asking for information, suggestions, along with notes from meeting.

High priority areas, do education

Need some educational materials to distribute, especially for early detection in counties where it may not yet be (e.g., "Have you seen this plant? flyers").

Need additional distribution data, especially at higher elevations, off roadways, counties on edge of existing Cal-IPC maps (inside and outside current distribution).

Be proactive, don't wait for it to infest additional areas

Are there additional research needs? Those should be identified in the strategy