



DATE: August 28, 2014
TO: All County Agricultural Commissioners
FROM: Plant Health and Pest Prevention Services
SUBJECT: **PEST EXCLUSION ADVISORY NO. 28-2014**
Branched Broomrape (*Orobanche ramosa*) Detected in San Joaquin County

On August 5, 2014, branched broomrape was detected in four fields for tomato processing in San Joaquin County. These detections mark the first branched broomrape finds in San Joaquin County since the 1970s. In response, the Department has formed an Incident Command with the USDA, San Joaquin County Agricultural Commissioner, and the University of California Cooperative Extension. The infested fields have been placed on hold and appropriate safeguards have been implemented to prevent the movement of branched broomrape seeds on equipment and personnel leaving the field. Trace back and trace forward activities are being conducted on seed and equipment. Because each of the four tomato fields was lightly infested, tomato harvesters, haulers, and processors were given mitigation standards, such as thorough sanitation of equipment, safeguarding haulers, processing tomatoes separately, and separate handling and disposing of waste water. The processors were unable to meet the mitigation requirements. Therefore, the four fields have been placed on hold and will be destroyed.

Branched broomrape is an obligate parasite of roughly 30 broadleaf crops, such as bell pepper, cabbage, carrot, tomato, and potato. This parasitic plant extracts all its nutrients and moisture from host plants, causing stunting, yellowing, and unthrifty host crops. Because it does not photosynthesize, it can only grow in the presence of appropriate host plants and spends the first portion of its life cycle underground, making it difficult to detect. When the flower spikes emerge from the ground, it is easier to detect. The flower spikes can produce viable seeds as soon as two weeks after the onset of flowering. A single plant can produce over 100,000 seeds that are tiny (~0.3 mm long). They are also sticky and can adhere to other seeds, plant material, fruit, farm equipment, clothing (especially footwear), and vehicles. These seeds can also be spread internally in livestock and during movement of water, soil, and air and have been known in California to be viable for over 25 years.

Broomrape should also be scouted for when conducting PQ field walks for host crops. This parasitic plant is more easily detected when the host plants are young or when the



Pest Exclusion Advisory No. 28-2014

Page 2

August 28, 2014

broomrape is in flower. Use the statistical method to collect broomrape samples as outlined in Section 3, Page 8 of the CDFA County Pest Exclusion Training Manual.

If you have any questions concerning this advisory, please contact Keith Okasaki at (916) 654-0312 or by email at keith.okasaki@cdfa.ca.gov.

Branched Broomrape (*Orobanche ramosa*)

Branched broomrape is an annual and sometimes perennial parasitic plant that has no chlorophyll and lacks conspicuous leaves. It attaches to plant roots and is visible above ground only when flowering and inhabits ornamental and vegetable crop fields and margins, especially tomato fields. Branched broomrape is found in the San Francisco Bay region, northern San Joaquin Valley, eastern South Coast Ranges, and Southwestern regions up to an elevation of about 160 feet (50 m). It is an A-rated ("A"—Eradication, containment, rejection, or other holding action at the state-county level. Quarantine interceptions to be rejected or treated at any point in the state) noxious weed in California. If you find it, contact your agricultural commissioner.

Seedling

Seedlings grow below ground.

Young plant

The young plant looks like a yellowish spear or spike.

Mature plant

The mature plant is 4 to 12 inches (10–30 cm) tall. The aboveground parts are pale to bright yellow. Stems are slender, covered with very short glandular hairs, and have many branches arising from the base. Leaves are reduced to scales that alternate along the stem.

Flowers

Branched broomrape blooms from October through November. Flowers resemble small snapdragons, ranging in color from white to blue or violet. Twenty or more flowers cluster to form a spike-shaped flower head. Upper flowers are stalkless and lower flowers are short stalked. Stems and flower heads are covered with very short glandular hairs.

Fruits

The fruit is a one-chambered capsule that opens by two valves at the tip.

Seed

Seeds are angular to egg shaped and yellowish brown, with a dull and netlike surface.

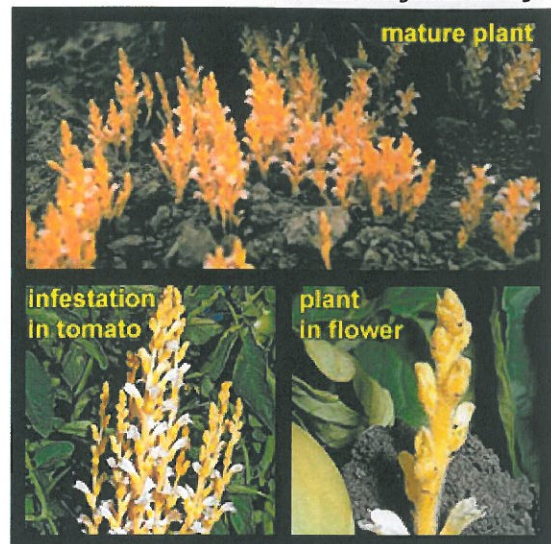
Reproduction

Branched broomrape reproduces by seed, which spread in water and in contaminated soil.

MORE INFORMATION

- [Broadleaf ID \(ID/brdlfchar.html\)](http://www.ipm.ucdavis.edu/ID/brdlfchar.html) illustration
- [Calflora's \(http://www.calflora.org/cgi-bin/species_query.cgi?where-calrecnum=5979\)](http://www.calflora.org/cgi-bin/species_query.cgi?where-calrecnum=5979) distribution map
- For agriculture: UC IPM [Pest Management Guidelines \(pmg-info.html\)](http://www.ipm.ucdavis.edu/pmg-info.html)

Click on images to enlarge



Identify a weed

http://www.ipm.ucanr.edu/PMG/weeds_int

List of all weeds

http://www.ipm.ucanr.edu/PMG/weeds_all

Key to weeds in turf

<http://www.ipm.ucanr.edu/TOOLS/TURF/P>

For noncommercial purposes only, any Web site may link directly to this page. FOR ALL OTHER USES or more information, read [Legal Notices](#). Unfortunately, we cannot provide individual solutions to specific pest problems. See our [Home page](#), or in the U.S., contact your [local Cooperative Extension office](#) for assistance. /PMG/WEEDS/broomrape.html Revised: April 25, 2014.

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