



August 8th, 2019

Dear California Processing Tomato Grower and/or Industry Representative,

You are receiving this bulletin because you are in a position and have the power to change the trajectory of our broomrape problem in California. If you are in need of, or find yourself wanting, a primer on the topic I've attached a letter (Addendum 1) which was sent to all processors prior to the 2019 fresh pack season.

The unfortunate reality is that there is a continued presence of Branched broomrape in processing tomato fields in 2019. No actor in the processing tomato supply chain in California will be exempt from loss if this weed becomes widespread.

We are still in the window where eradication is possible, but your help is needed to achieve this:

- **We have the resources and the plan to do the needed research but we need more field sites. If you, or someone you knows, has an impacted field please encourage them to get in contact with the CTRI (530-405-9469) prior to field burn-down.** There are significant research dollars available and an engaged research team to determine the most efficient and cost effective practices around detection, eradication and long term management. These resources cannot be fully utilized if we don't have sufficient field sites.
- **Broomrape is easily spread by equipment, boots and water and our standard cleaning procedures do not work for this weed seed. The following cleaning procedures should be followed with ALL equipment in areas of high concern:**
 1. A designated area for cleaning should be assigned and solely utilized;
 2. Soil and plant debris should be knocked off of all machinery using scrapers, air compressors and pressure washers (**in that order**);
 3. Quaternary ammonium, **NOT BLEACH**, is the cleaning agent which is proven to inhibit seed germination. Locally this can be bought under the labels: Clorox Pro Quaternary or MG 4-Quat. A solution of 1% is necessary for efficacy and should be used to spray down the equipment after soil and plant debris has been knocked off and pressure washing is completed. These quaternary ammonium products can be purchased at your local farm supply or Wilbur Ellis outlets.

The above procedure is time consuming and expensive, but in areas of high concern it is necessary to reduce the risk of spread to your own fields and the fields of others by your equipment.

As stated in the pre-season bulletins to processors and PCAs, and in our 2019 newsletter - should broomrape be discovered in a field, the grower should be contacted immediately, who should in turn contact their respective county Agricultural Commissioner. In addition to this, the above specific actions should be taken to drive the needed research work forward and to reduce the risk of future spread.

If you have questions or concerns around this please reach out to Zach Bagley at 530-405-9469 or zach@tomatonet.org.

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June 18th, 2019

Dear Processor Representative,

You may be aware of the recent occurrences of the parasitic weed, Broomrape, in processing tomato fields in Yolo, Solano and San Joaquin Counties. Although these findings have been isolated, it is vital that growers, in addition to industry personnel, are able to identify Broomrape, understand what should be done if it is found, and understand the implications of the spread of this parasitic weed to an individual ranch and the industry as a whole. **As an industry, we do not want this weed to spread throughout the state.**

Some considerations around Broomrape:

- Broomrape is classified as a Class A pest by the CDFA. Because of this classification, although the outcome for any given processing tomato field which is infested with broomrape is up to the Ag Commissioner of the county in which the find is made, the State of California strongly suggests a "hold" order on the field in question for a period of at least 2 years. In practice this means that the entire crop revenue will be lost in the year of the find and in the subsequent years only those rotational crops designated by the Ag Commissioner may be grown, harvested and sold.
- Broomrape is easily spread by equipment, boots and water.
- Broomrape is a prolific seed producer. One plant can produce over 100,000 seeds only 0.3 mm long. Broomrape seed has been documented to last in the soil for at least 35 years.
- The host range of broomrape covers a number of economically important rotational crops in the Central Valley: safflower, sunflower, carrot, bell pepper, several brassica species, lettuce, several bean crops (chick pea, faba bean, vetch, clover), melon, potato, olive and many common weeds.
- Although broomrape is a weed which other processing tomato producing regions outside of the U.S. deal with (recent studies from Chile and Greece suggest a potential 80% crop loss) there has been no findings to date of resistance genes. The methods of control which are in use elsewhere are complicated, costly and use chemistries which are not yet registered for use in tomatoes in the state of California.

Should you discover Broomrape in a field, please contact the grower immediately, who should in turn contact their respective county Agricultural Commissioner. The harvest of infested fields or blocks, because of the biology of this weed and it's standing CDFA Class A status, is extremely ill-advised.

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As an industry we are working on both short and long term solutions in the following areas: ongoing talks with the USDA to get instances related to broomrape included under Federal Crop Insurance, using the existing platform of the California Tomato Research Institute (CTRI) to direct and fund research around both spread reduction and long term management (3 grants funded for ongoing work in 2019), and finally; determining the most effective route towards eradication of broomrape seed in known infested fields. **Although these industry efforts are important, the most effective means to control the spread of this pest is active concern for the presence of this weed in processing tomato fields.**

Please share this information with those in your organization who are spending time in the field.

More information on this pest can be found at the UC IPM website. In addition, retired Farm Advisor, Gene Miyao, wrote a helpful article on the Sacramento Valley Field Crops blog in June of 2018 which can be found under the title, "Broomrape in field crops".

Sincerely,



Zach Bagley
Managing Director



Photos of Branched Broomrape in a California processing tomato field. Taken in 2018. This weed can be found in isolated areas of a field, in dense patches or significantly dispersed throughout.

