

UCCE Sacramento Valley Processing Tomato Production Meeting: **Broomrape Update**

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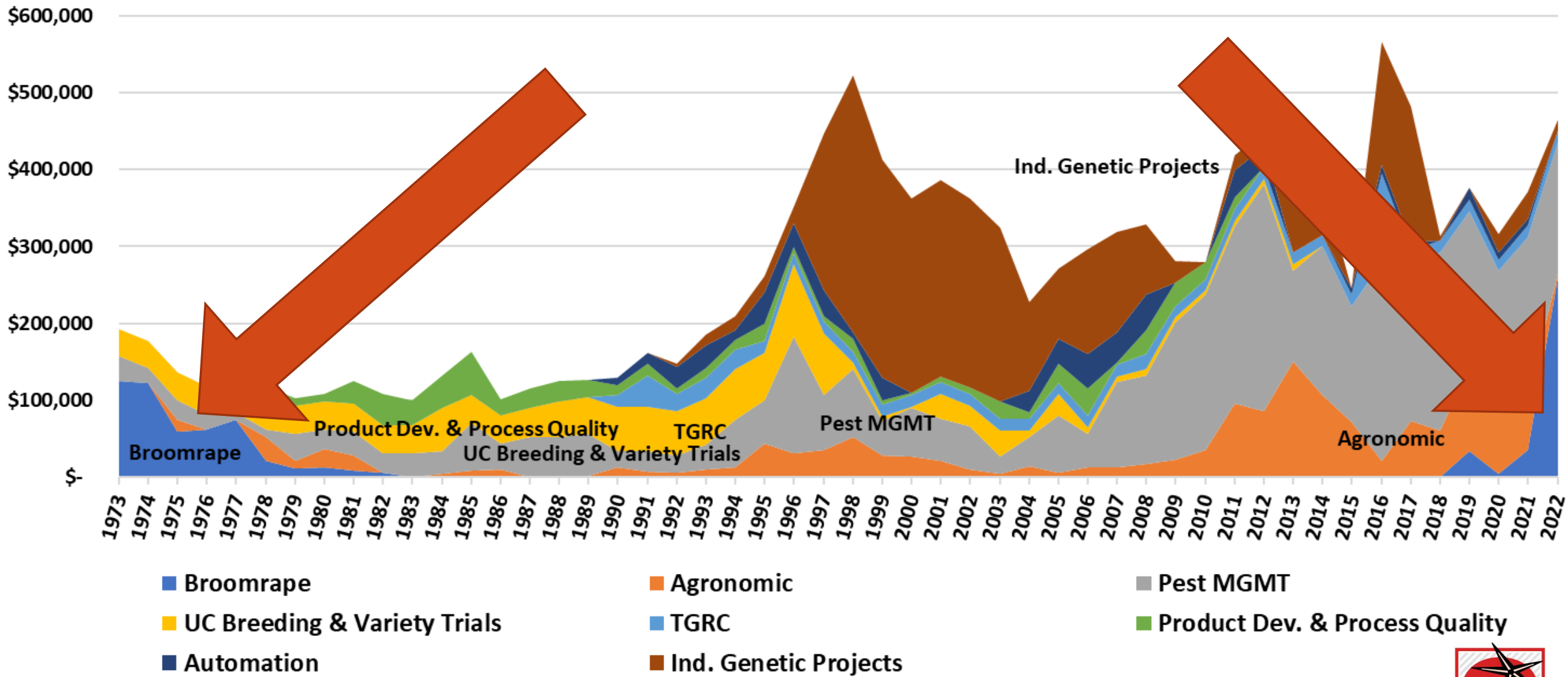
www.tomatonet.org/branchedbroomrape

Broomrape: What are we up against?



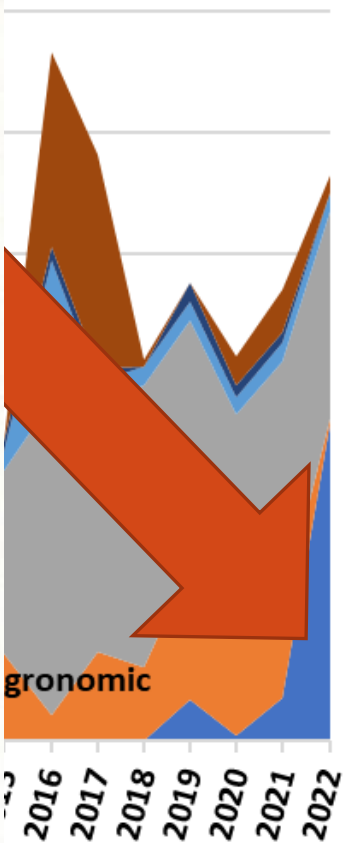
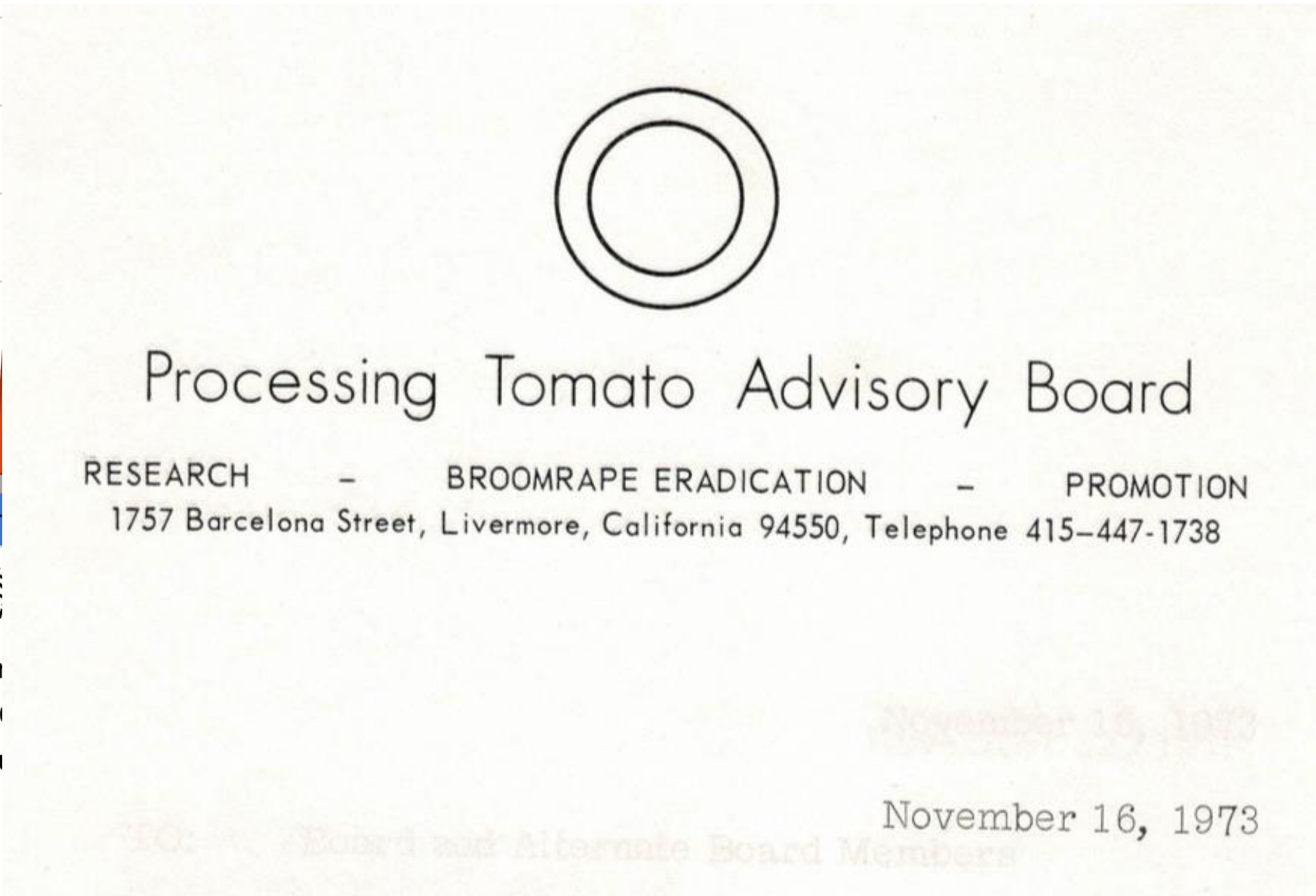
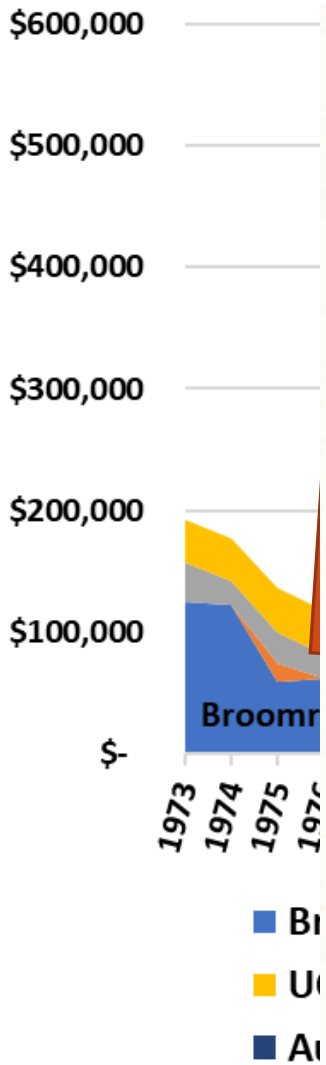
- Documented 20-80% crop loss in heavily infested areas globally;
- Prolific seed producer;
- Longevity in the soil;
- Extensive suitable host range that overlaps with our economically important rotational crops;
- No findings to date of easily transferable resistance genetics;
- Methods of control used elsewhere costly, unproven, and use currently unregistered chemistries;
- CDFA Class A Quarantine level pest;





Broomrape: What is our history with this pest?





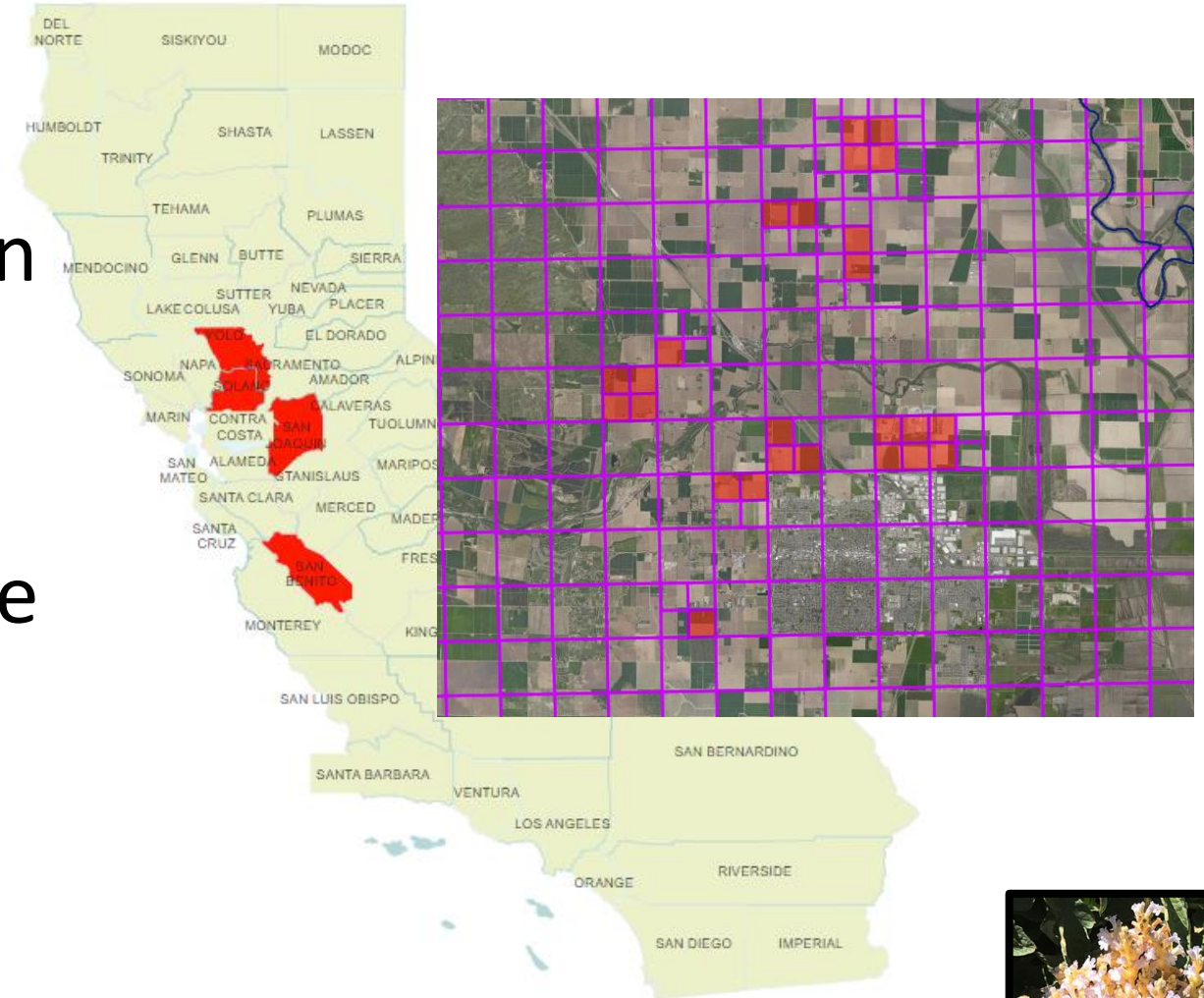
Process Quality



Broomrape: What is our history with this pest?

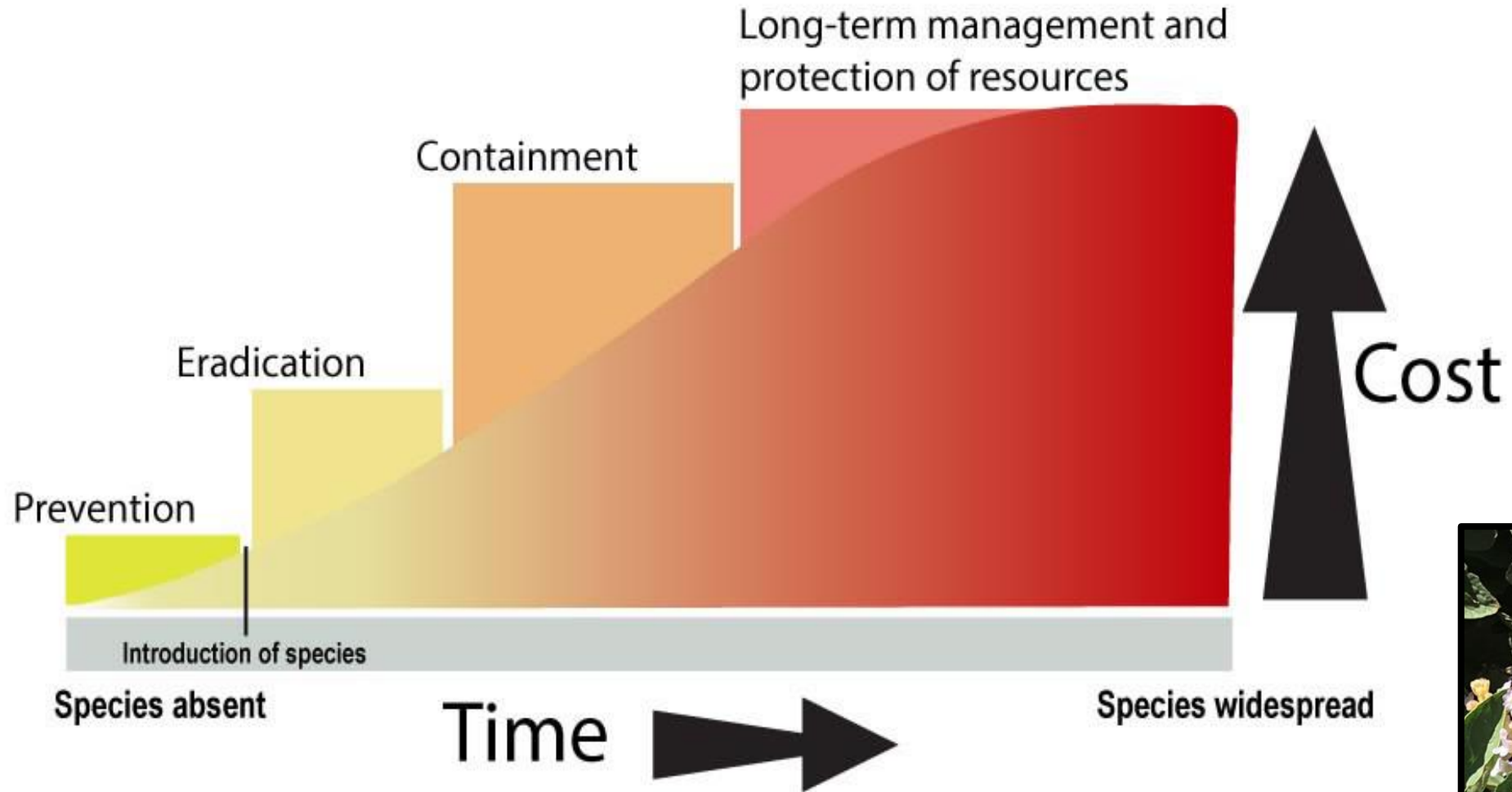
Broomrape: Known Extent

- 2009 – San Benito County;
- 2014 – San Joaquin County;
- 2014, 2016 & 2021 – 3 finds in Solano County, all within 2 miles;
- 2017-2021: 12 fields across 8 operations - all within a 5-mile radius of Yolo;
- These 9 impacted growers cover ~16,000 tomato acres annually and deliver to a combined 10 facilities



Broomrape: Where is it known to be today?

Broomrape: What is the Goal?



Broomrape: What is the Goal?

Broomrape: Industry Action Plan

- **Broomrape Control Program Legislation – AB 1620**, has been introduced by Assembly Member Aguiar-Curry from Yolo County on January 10th.
- **Sanitation, detection, and delineation BMPs** with growers and processors that can be signed off on by counties.
- **Fumigation** – voluntary funding from 2021 and 2022 to be supplanted by official program in the future.
- **Crop Insurance** (Industry and/or Federal).
- Continued **research**.



Broomrape: 2022 New and Continuing Research

2022 California Tomato Research Institute BROOMRAPE Funding

2020 Start	Branched broomrape: PICKIT adaptation, rimsulfuron, ActiGard, variable planting date and Anhydrous in California commercial field conditions	Brad Hanson	UC Davis	\$	42,531
2021 Start	Branched broomrape: Chile collaboration for PICKIT, rimsulfuron, and variable planting date	Brad Hanson	UC Davis	\$	34,034
2021 Start	Developing best equipment sanitation practices for broomrape and other high-profile soil borne pathogens; to mitigate field-to-field spread	Cassandra Swett	UC Davis	\$	49,922
2022 New	Branched broomrape: Tolerance/resistance of commercial varieties	Matt Fatino	UC Davis	\$	22,215
2022 New	Determining the population structure of <i>Peliphanche ramosa</i> and <i>Orobanche aegyptiaca</i> field detections in California	Tera Pitman	UC Davis	\$	16,652
2022 New	Inducible Suberin for Tomato Drought Tolerance (root architecture)	Siobhan Brady	UC Davis	\$	12,552
2022 New	Branched broomrape: genetic approaches to blocking strigolactone movement from root to seed	Neelima Sinha	UC Davis	\$	83,475
2022 New	Branched broomrape: Genetics consortium	Dani Zamir	Hebrew University	\$	25,000
2022 Broomrape TOTAL:				\$	286,381

Broomrape: Getting from here to there

Be aware of this:



Don't do this:



Think about it like this:



- Be Aware,
- Work with Growers or grower representatives to limit spread,
- Clean equipment (in known, suspected, or adjacent areas),
- Support voluntary and long-term mechanisms for funding Industry response

Slide Credit: Brad Hanson

Thank you! Questions?



Photo Credit: Matt Fatino



Photo Credit: Dani Zamir



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