

# **Broomrape Control Board**



**California Department of Food and Agriculture  
Plant Health and Pest Prevention Services  
Division: Integrated Pest Control Branch**



CALIFORNIA DEPARTMENT OF  
FOOD & AGRICULTURE

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**Meeting of the  
California Department of Food and Agriculture  
Broomrape Board**

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**MEETING NOTICE**

The Broomrape Board will hold a meeting on:  
February 20, 2026, at 10:00 a.m.  
California Department of Food and Agriculture  
Plant Pest Diagnostics Center  
3294 Meadowview Road, Sacramento, CA 95832

**Join Zoom Meeting**

<https://us02web.zoom.us/j/89533200182>

**Meeting ID: 895 3320 0182**

**Passcode: CDFA2026!**

This meeting will be held in person and virtually. The meeting notice, agenda, and materials considered by the Board during the meeting will be available online in advance of the meeting at <http://www.cdfa.ca.gov/plant/meetings/>.

**Public Participation**

While the Board values public participation, the Board reserves the right to limit each person's time for public comment to a maximum of three (3) minutes per agenda item.

If you would like to submit questions or comments prior to the meeting, send them to Katie Filippini at [Broomrape\\_Program@cdfa.ca.gov](mailto:Broomrape_Program@cdfa.ca.gov) or call (916) 516-6580. Please specify the agenda item to which your question or comment pertains. The agenda of the meeting is attached to this notice.

**Americans with Disabilities Act**

The meeting is accessible to the physically disabled. A person who needs a disability related accommodation or modification to participate in the meeting may make a request by contacting Katie Filippini at (916) 516-6580. Providing your request at least five (5) business days before the meeting will help ensure availability of the requested accommodation.

**Meeting of the  
California Department of Food and Agriculture  
Broomrape Board**

**MEETING AGENDA**

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All matters noticed on this agenda may be considered for action and taken in any order at the discretion of the Board Chair. Any item not so noticed will not be considered or discussed.

Meetings of the Broomrape Board are open to the public and comply with the Bagley-Keene Open Meeting Act, which allows for public comment on all agenda items.

The agenda order is tentative and subject to change by the Board without prior notice. Audience members may address the Board following each agenda item. While the Board values public participation, the Board reserves the right to limit each person's time for public comment to a maximum of three (3) minutes per agenda item.

Item No.

- 1) Call to Order
- 2) Roll Call
- 3) Welcome and Opening Remarks
- 4) Approval of Minutes
- 5) CDFA Program Update
- 6) **Strategic Priority 1 – Detection**
- 7) **Strategic Priority 2 – Engagement, Education, and Collaboration**
- 8) **Strategic Priority 3 – Enact Protocols**
  - A) Industry Implementation of Voluntary Agreements Update
  - B) Program Implementation Timeline
  - C) Enforcement

**Meeting of the  
California Department of Food and Agriculture  
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- D) Confidentiality and Reporting Options
- 9) **Strategic Priority 4 – Research**
  - A) Equipment/Trailer Cleaning Protocols
  - B) Other Research
  - C) Management Practices Update
- 10) **Strategic Priority 5 – Advocate**
- 11) **Subcommittee Updates**
  - A) Finance
    - 1. Current and Proposed Budget
  - B) Research
    - 1. Compliance Agreements
    - 2. Proposed Research
  - C) Outreach
    - 1. Feedback on February 11 Lodi Meeting
    - 2. Other Updates
- 12) **Budget**
  - A) 2025/26 Revenue Update for Current Budget
  - B) 2026/27 Proposed Budget
- 13) Public Comment
- 14) Next Meeting and Agenda Items
- 15) Adjournment

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California Department of Food & Agriculture  
Integrated Pest Control Branch  
**BROOMRAPE BOARD**  
2895 N Larkin Ave Suite A  
Fresno, CA 93727  
Integrated Pest Control Conference Room  
**January 21, 2026**  
**Draft Minutes**

**MEMBERS PRESENT**

Rick Blankenship\*  
Frank Coelho Jr\*  
Ron Dalforno  
David Kiehn\*  
Gene Miyao\*\*  
Michael Newton\*  
Scott Schmidt\*  
Scott Spitzer\*  
Tony Turkovich\*  
David Viguie\*

**MEMBERS ABSENT**

Toshi Aoki  
Derek Azevedo  
Daniel Bays

**CDFA PERSONNEL**

Kaitlyn Beames  
Andrew Boren  
Adam Chang  
Michelle Dennis\*  
Katie Filippini\*  
Victoria Hornbaker\*  
Zack McCormack

\*Participated via Zoom

\*\*Arrived late

**GUESTS**

Zack Bagley, California Tomato Research Institute  
Craig Boschi, Glenn County Deputy Agricultural Commissioner\*  
Melissa Creagan, Fresno County Agricultural Commissioner\*  
Dr. Brad Hanson, University of California, Davis  
Lisa Herbert, Sutter County Agricultural Commissioner\*  
Jimmy Hook, Kings County Agricultural Commissioner\*  
Derrick Hunger, Merced County Assistant Agricultural Commissioner\*  
Humberto Izquierdo, Yolo County Agricultural Commissioner\*  
Ed King, Solano County Agricultural Commissioner\*  
Rusty Lanceberger, Madera County Agricultural Commissioner\*  
Mike Montna, California Tomato Growers Association

**CALL TO ORDER**

The Broomrape Board Meeting was convened at 10:00 am by Board Chair, and introductions were made.

**BAGLEY-KEENE OPEN MEETING ACT**

The meeting was held in compliance with the Bagley-Keene Open Meeting Act.

**APPROVAL OF MINUTES**

The Board reviewed and approved the minutes from the Board meetings that took place December 19, 2025.

**MOTION:**

**Rick Blankenship moved to approve the minutes from December 19, 2025, Board meeting. The motion was seconded by Micheal Newton and was passed unanimously.**

**VOTES:**

**YES**

**NO**

**ABSTENTION**

- Rick Blankenship
- Frank Coelho Jr.
- Ron Dalforno
- David Kiehn
- Micheal Newton
- Scott Schmidt
- Scott Spitzer
- Tony Turkovich
- David Viguie

**CDFA PROGRAM UPDATE**

California Department of Food and Agriculture (CDFA) staff announced that Zack McCormack would no longer be with CDFA, and that Katie Filippini would be assisting with the program.

**STRATEGIC PRIORITY 1 – DETECTION**

No update.

**STRATEGIC PRIORITY 2 – ENAGEMENT, EDUCATION, AND COLLABORATION**

California Tomato Growers Association (CTGA) staff gave an update on broomrape presentations that occurred at an industry meeting on January 13, 2026. The board chair requested that discussion of this topic be taken under subcommittee updates.

**SUBCOMMITTEE UPDATES**

**OUTREACH**

CDFA staff gave a recap of sentiments and opinions expressed by growers at the January 13, 2026, industry meeting. It was discussed that growers were interested in emerging research and expressed desire to solve the problem that broomrape poses to the industry. Growers expressed concern about confidentiality. It was discussed that further outreach and education is still needed to continue building trust and awareness. The board discussed the value of participating in more outreach and education events going forward. There was discussion of calling a special meeting in the future to get specific feedback from industry on the compliance agreements.

## **RESEARCH**

California Tomato Research Institute (CTRI) staff gave a brief update on research proposals being considered for recommendation to the Broomrape Board. University of California, Davis (UCD) staff gave an update on the status of amending their research permits to include work on Egyptian Broomrape in addition to existing work on Branched Broomrape. Those requests have been made to the permitting authority and staff are awaiting response. CDFA staff proposed the need to publicly share requests for research proposals (RFP) on CDFA's webpage. UCD staff discussed the benefit of having both an annual and rolling RFP for potential research projects that become available unexpectedly and where time is of the essence.

### **MOTION:**

**Rick Blankenship moved to establish a request for proposals for the Broomrape Board in conjunction with CTRI and post it on the government grants RFP portal. The motion was seconded by Michael Newton. The motion passed unanimously.**

### **VOTES:**

#### **YES**

Rick Blankenship  
Frank Coelho Jr.  
Ron Dalforno  
David Kiehn  
Gene Miyao  
Micheal Newton  
Scott Schmidt  
Scott Spitzer  
Tony Turkovich  
David Viguie

#### **NO**

#### **ABSTENTION**

## **STRATEGIC PRIORITY 3 – ENACT PROTOCOLS**

### **D) ENFORCEMENT**

The board discussed the need for clear enforcement guidelines, so that parties to the compliance agreements could understand what happens if they are found to be out of compliance. CDFA staff gave some examples of different types of enforcement, such as state/county staff working more closely with industry to maintain compliance, or industry self-enforcing with state/counties only coming in for more serious violations. CDFA staff continued that compliance through education and outreach should be the goal for this pest.

## **STRATEGIC PRIORITY 4 – RESEARCH**

### **B) OTHER RESEARCH**

UCD staff highlighted the importance of research on Egyptian Broomrape due to there being one confirmed and one suspected field in 2025.

## **BUDGET**

CDFA staff gave an updated figure on 2025 revenues, totaling \$1,596,453. CDFA staff proposed a tentative timeline for FY 2026/2027 budget proposal in March 2026.

## **STRATEGIC PRIORITY 3 – ENACT PROTOCOLS**

### **INDUSTRY IMPLEMENTATION OF VOLUNTARY AGREEMENTS UPDATE**

Members from the Research Subcommittee sought feedback from the Board on how to manage high-risk fields after the growing season, after a commodity other than tomatoes had been planted, or if a field transitioned to non-host or fallow. Some options included a “wrap-around” G3 agreement that covers other commodities and fallow fields or requiring that the “field management plan” provision already existing in G1/G2 could require a future plan for managing the land after harvest or a commodity change. There was discussion regarding how the program could identify individual G1 fields. CDFA staff proposed that the Research Subcommittee work on identifying solutions and bring them back to the Board.

## **PUBLIC COMMENT**

None.

## **NEXT MEETING AND AGENDA ITEMS**

The next Board meeting was scheduled for Friday, February 20<sup>th</sup>, at 10:00 A.M. at CDFA’s Plant Pest Diagnostics Center (3294 Meadowview Road Sacramento, CA 95832).

The Board also directed the Research Subcommittee to convene an additional meeting Monday, February 9<sup>th</sup>, at 10:00 A.M. at the California Farm Bureau office (2600 River Plaza Drive Sacramento, CA, 95833).

## **ADJOURN**

The Board Chair adjourned the meeting at 12:19 P.M.

Andrew Boren  
For Katie Filippini  
Environmental Program Manager

**Exhibit G1  
Grower - High Risk Premise**

**REQUIREMENTS FOR THE  
MOVEMENT OF PLANT MATERIAL and EQUIPMENT OUT OF A HIGH RISK PREMISE**

1. Harvested tomato fruit shall only be transported to a Processing Facility operating under Exhibit P1.
2. Harvested tomato fruit shall only be transported by a Transporter operating under Exhibit T1.
3. A Field Management program shall be implemented for the control of broomrape, **which includes management plans for pre-transplant, growing season, and post-harvest**. See Broomrape Board recommended guidelines **for examples**. ([Home | Branched Broomrape](#))
4. **All Equipment authorized by establishment to enter a high-risk premise shall be cleaned reasonably free of soil and plant material except MOT in gondola prior to moving out of High Risk Premise(s). See Broomrape Board Recommended Guidelines for examples.** [Home | Branched Broomrape](#)
5. An area shall be designated for equipment entering and exiting a High-Risk Premise **and included in the field management plan**.
6. All persons authorized by Establishment to enter a High-Risk Premise(s) shall be trained in Broomrape identification, and the Establishment shall report the exact location of suspect broomrape plants to the Program **immediately**.
7. Establishment shall **use Broomrape Board recommended Growing Degree Day Model (Link TBD) to develop a scouting and roguing plan to remove suspect broomrape plants. This plan shall be included within the field management plan**.
8. **Suspect broomrape plants removed by the establishment must be disposed in accordance with field management plan and Broomrape Board Recommended Guidelines.**([Home | Branched Broomrape](#)).
9. All persons authorized by Establishment to enter a High-Risk Premise shall clean footwear of all soil and plant material **before exiting premise(s)**. See Broomrape Board recommended guidelines ([Home | Branched Broomrape](#))
10. The establishment shall notify the Program 48 hours prior to planting or harvesting in a High-Risk Premise at [Broomrape\\_Program@cdfa.ca.gov](mailto:Broomrape_Program@cdfa.ca.gov).
11. The Program will be allowed access to a High-Risk Premise with 48 hour advanced notification in order to verify compliance with these requirements.

High Risk Premise coordinates: list the county site ID or coordinates of all separate High Risk Premises under control of Establishment.

Add More lines and Attach Page if necessary.

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\_\_\_\_\_  
*Printed name (Owner/Manager)*

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Printed name (Program Officer)*

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

*Failure to comply with stipulations outlined above may result in civil penalties pursuant to California Food and Agricultural Code Section 5705 and/or revocation of this Agreement.*

DRAFT



**Exhibit P1  
Processing Facility: High-Risk Premise**

**REQUIREMENTS FOR RECEIVING  
PLANT MATERIAL AND EQUIPMENT OUT OF A HIGH- RISK PREMISE**

1. No soil or plant material, except MOT in a gondola, shall be moved from a High-Risk Premise.
2. Harvested tomato fruit shall only be received from a High-Risk premise if the grower is operating under Exhibit G1.
3. Harvested tomato fruit shall only be received from a High-Risk premise if the transporter is operating under Exhibit T1
4. Establishment shall be in compliance with Waste Discharge Requirements.
5. Field crews shall be trained in broomrape identification and sanitation protocols
6. All personnel involved in yard management shall be trained in the **provisions outlined in this exhibit**.
7. Trucks and trailers arriving from a High-Risk premise shall be cleaned prior to leaving the facility. See Broomrape Board recommended guidelines ([Home | Branched Broomrape](#))
8. Dedicated trailers shall be used to transport harvested tomato fruit from a High-Risk premise. Dedicated trailers shall not be dispatched to non-infested fields for the duration of harvest at a High-Risk Premise.
9. A list of dedicated **High-Risk** trailer numbers shall be **maintained by the processor**.
10. The Program shall be allowed access to the processing facility yard with 48 hours advanced notification in order to verify compliance with these requirements.

SPECIAL INSTRUCTIONS: \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
*Printed name (Owner/Manager)*

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Printed name (Program Officer)*

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

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**Exhibit P2**  
**Processing Facility: Non-Infested Processing Tomato Field**

**REQUIREMENTS FOR RECEIVING  
HARVESTED TOMATO FRUIT FROM A NON-INFESTED FIELD**

1. Harvested tomato fruit shall only be received from a non-infested field if the Grower is operating under Exhibit G2
2. Harvested tomato fruit shall only be accepted if the Transporter is operating under Exhibit T2.
3. Trucks and trailers transporting harvested tomato fruit from a non-infested field outside of a Designated Zone ([Designated Zone Map](#)) shall be cleaned **reasonably** free of soil and plant material prior to exiting the processing facility except when returning to the same non-infested field. See Broomrape Board recommended guidelines **for examples** ([Home | Branched Broomrape](#)).
4. Trucks and trailers transporting harvested tomato fruit from a non-infested field inside a Designated Zone shall be cleaned **reasonably** free of soil and plant material prior to exiting the Designated Zone.
5. Establishment shall be in compliance with Waste Discharge Requirements.
6. Harvesting machinery, including subcontractor custom harvesting machinery, shall be cleaned **reasonably** free of soil and plant material prior to movement out of a Designated Zone. See Broomrape Board recommended guidelines **for examples** ([Home | Branched Broomrape](#)).
7. Field crews shall be trained in broomrape identification and sanitation protocols.
8. The growing location of suspect broomrape plants shall be brought to the attention of the Program **immediately upon** detection.
9. The Establishment shall verify that Grower and Transporter are on the Broomrape Board list of Establishments under compliance agreement prior to harvest. See Establishment list (link under construction)
10. The Program shall be allowed to access to the processing facility yard with 48 hours advance notification in order to verify compliance with these requirements.

SPECIAL INSTRUCTIONS: \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
*Printed name (Owner/Manager)*

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Printed name (Program Officer)*

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

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**Exhibit T1  
Transporter: High-Risk Premise**

**REQUIREMENTS FOR TRANSPORTING  
HARVESTED TOMATO FRUIT OUT OF A HIGH-RISK PREMISE**

1. All equipment shall be cleaned reasonably free of soil, except MOT in a gondola, prior to moving from a High-Risk Premise. See Broomrape Board recommended guidelines for examples ([Home | Branched Broomrape](#)).
2. Harvested tomato fruit shall only be transported from a High-Risk Premise if the grower is operating under Exhibit G1.
3. Harvested tomato fruit shall only be transported from a High-Risk Premise if the processing facility is operating under Exhibit P1
4. Dedicated trailers shall only be used for a High-Risk Premise.
5. The most direct route from a High-Risk Premise to the processing facility must be used.
6. Trucks used to transport harvested tomato fruit from a High-Risk Premise shall be cleaned prior to exiting the processing facility. See Broomrape Board recommended guidelines ([Home | Branched Broomrape](#))
7. Establishment shall require its subcontractors to operate in compliance with the requirements of this Exhibit.

SPECIAL INSTRUCTIONS: \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
*Printed name (Owner/Manager)*

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Printed name (Program Officer)*

\_\_\_\_\_  
*Signature*

\_\_\_\_\_  
*Date*

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**CTRI RECOMMENDATION TO CDFA BROOMRAPE BOARD FOR 2026 RESEARCH PROJECT FUNDING**

Broomrape Containment, Control and Management		Research Lead	Institution	2025 Actual	2026 Full Proposal Ask	CTRI RECOMMENDATION
2019 Start	Broomrape: Development of Long Term Management Options - Ongoing Work	Brad Hanson	UC Davis	\$ 128,256	\$ 94,335	\$ 94,335
2021 Start	Developing Best Equipment Sanitation Practices for Broomrape & Other High-Profile Soil Borne Pathogens; To Mitigate Field-to-Field Spread	Cassandra Swett	UC Davis	\$ 84,884	\$ 120,493	\$ 82,720
2026 Start	Broomrape Outreach: A One-Year Project to Develop Essential Outreach Support for Broomrape Management	UC Strategic Comms	UC Davis	\$ -	\$ 77,798	\$ -
2022 Start	Developing Tomato Lines Resistant to Branched Broomrape, a Critical California Pest	Sinha / Brady	UC Davis	\$ 30,000	\$ 98,000	\$ 98,000
2025 Start	Broomrape Resistant, Climate Resilient Tomato Rootstocks for Grafted Processing Tomatoes	Lefers / Tester	iyris	\$ 25,000	\$ 15,000	\$ 15,000
2025 Start	Targeting Strigolactone Receptors in Branched & Egyptian Broomrape	Marco Burger	Salk Institute	\$ 49,000	\$ 77,023	\$ 77,023
2026 Start	Identification of Soil Microbes that Disrupt Broomrape Seed Germination	Johan Leveau	UC Davis	\$ -	\$ 3,900	\$ 3,900
2025 Start	Rapid Broomrape Detection Leading to In-Field Options *	Chris Laudando	Laudando & Associates	\$ 126,500	\$ -	\$ 63,250
					<b>TOTAL</b>	<b>\$ 434,228</b>

\* Project Initiated in 2025, with Broomrape Board vote for co-funding. The \$63,250 here is the Broomrape Board share of costs.

**Full Proposal Requests – A Note for the Broomrape Board:** The broomrape research projects listed above were reviewed and vetted by CTRI during its most recent funding cycle, finalized February 18, 2026. CTRI recommends **\$434,228** in total funding to the CDFA Broomrape Board. Given that \$400,000 is available from the CDFA Broomrape Board, CTRI anticipates covering the remaining \$34,228 with its own funds.

**Integrated Broomrape Management: Field, Lab, and Extension Strategies – Brad Hanson**

CTRI’s lead broomrape project continues to deliver tools for managing this high-risk pest. 2025 work refined herbicide programs, tested maleic hydrazide and germination stimulants, and studied how flooding and nitrogen affect seed survival. An online calendar for matrix chemigation, scouting, and rogueing has been developed, pending Broomrape Board edits. If field conditions allow, fumigation trials will begin. In addition to the long-standing field site, two additional locations for field research have been identified, pending CDFA Egyptian broomrape research authorization.

**Equipment Sanitation for Broomrape and Soilborne Disease Prevention – Cassandra Swett**

Supporting the development of science-based BMPs for cleaning equipment to slow broomrape spread; 2025 work included risk assessments by machine type and timing, piloting of on-board cleaning systems, and sanitizer trials under debris-heavy conditions. This work will continue in 2026. The reduction in funding from a total 2026 ask of \$120,493 to a recommended \$82,720 is due to the CTRI’s expectation that on-board cleaning system piloting can continue with acceptable cleanliness being determined by Compliance Agreement recommended “reasonably free from soil and plant debris” cleaning standards - lab validation being an unnecessary step.

**Equipment Sanitation Extension for Broomrape and Soilborne Disease Prevention – Cassandra Swett & UC Strategic Communication**

Outreach efforts were proposed to be continued and “professionalized” with the assistance of the UC Strategic Communications office. The rationale was that this would bring additional expertise and resources to updated BMPs, grower and processor training tools, and videos to support adoption – getting this information extended in alignment with the needs of the Broomrape Board Compliance Agreements. The recommendation of the CTRI to the Broomrape Board is that as the Broomrape Board finalizes Compliance Agreements and understands what will be needed for extension and adoption of these they determine the most practical, expedient and cost-effective methods of extension and training.

### **Developing Broomrape-Resistant Tomato Lines – *Neelima Sinha***

This project uses advanced genetics to identify tomato genes that block broomrape infection. In 2025, researchers applied single-cell sequencing to refine CRISPR targets. Building on earlier work with hairy root assays and natural resistance, the goal is to support future breeding of broomrape-resistant varieties without yield loss. In 2026, the team will evaluate mature CRISPR-edited plants, both single- and multi-gene combinations, to identify the most durable resistance responses. They will also continue screening wild tomato accessions to further pinpoint resistant genetic regions and begin developing stable, non-transgenic lines at the UC Davis Plant Transformation Facility to move this work closer to field application.

### **Testing novel tomato rootstocks for resilience and broomrape resistance – *Iyris***

New rootstocks developed through wild relatives and polyploidy are being evaluated for broomrape resistance and agronomic performance. In 2025, grafted and ungrafted plants were tested in California and Chilean fields with known broomrape pressure. Results from California were inconclusive. This work will continue in 2026 contingent upon Chilean trial results and the continued support of grafting by the CA industry.

### **Searching for New Chemistries to Stop Broomrape – *Marco Burger***

A 30,000-compound screen is being run to identify chemicals that block broomrape germination or trigger suicidal germination before broomrape reaches tomato roots. 2026 work builds on this with five promising chemical leads already found, including one that completely stopped broomrape germination in UC Davis tests. The next step: refine these compounds for real-world use—testing solubility, irrigation compatibility, and field performance. In addition, this team will run the same experiment with Egyptian broomrape as the target. Cost reduced by \$12,085.

### **Identification of Soil Microbes that Disrupt Broomrape Seed Germination – *Johan Leveau***

This new exploratory project, if funded, will screen soil microbes from broomrape-infested fields to find bacteria and fungi that interfere with seed germination. The team will isolate microbes that break down seed coats, damage embryos or radicles, degrade strigolactones, or trigger “suicidal” germination without a host. By the end of the first year, the project will produce a ranked catalog of promising microbial candidates that can be taken into greenhouse and field testing. The long-term goal is to develop low-cost, bio-based tools that shrink broomrape seed banks and reduce dependence on synthetic chemistries.

### **Hardware-Based Broomrape Detection for In-Field Use – *Laudando & Associates***

With co-funding from the CDFA Broomrape Board this project builds on successful proof-of-concept work to develop a field-ready broomrape detection system that can be mounted on equipment growers already use. The tool identifies infestations spatially during normal field operations, reducing the need for separate scouting efforts. 2025 work focused on refining detection algorithms and field validation to ensure the system was accurate, scalable, and ready for commercial use. 2026 will see this work finalized and ready for commercial launch after early season data collection, targeting just emerging broomrape shoots – a stage that was not able to be captured in 2025. This will be a no-cost extension. A reminder: the CDFA Broomrape Board committed \$63,250 to this project, to be paid back to CTRI. This payment is accounted for in the \$ amount noted above.