



2025 Call for Pre-Proposals

The California Tomato Research Institute (CTRI), a non-profit crop improvement organization of processing tomato growers, is seeking applied research pre-proposals for 2025 funding in the areas of interest identified below. **These pre-proposals are due on or before Thursday, October 31st, 2024.**

Background: Our purpose is to identify and fund research focused on enhancing the economic viability of California's processing tomato industry with emphasis on **improving productivity**, product quality and environmental stewardship. Priority will be given to pre-proposals which aim to produce solutions to industry problems with well-defined, short and intermediate term **applied** research projects. Pre-proposals reviewing or adapting existing technology from other cropping systems or disciplines and placing them within the context of commercial processing tomato production are also encouraged. Total funding available, on an annual basis, is ~\$500,000, spread across 15-20 separate projects.

Areas of interest for the 2025 Call: Numbered research areas *are not* prioritized, as many of these areas of inquiry and issue interact. **For 2025, those projects addressing the parasitic weeds, Branched broomrape (*Phelipanche ramosa*) and Egyptian broomrape (*Phelipanche aegyptiaca*), will be given heightened priority.** In addition, special consideration will be given to the evaluation of materials or practices which are expected to provide mitigation of cost and risk associated with [recent neonic restrictions](#).

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Zach Bagley

1. **The screening of control agents, conventional or biological, through applied field trials** for the management of the following pests and diseases: Broomrape, Fusarium stem rot and decline, Resistance Breaking Tomato spotted wilt virus (RB-TSWV), field bindweed, Root-knot nematode (RKN), Beet curly top virus (BCTV), Conspere stink bug, Southern blight, and dodder.
2. **The screening of commercially available cultivars for genetic tolerance/resistance through applied field trials** for the management of the following prioritized pests and diseases: Broomrape and Fusarium stem rot and decline.
3. **The development and deployment of detection and diagnostic tools** which will allow for the rapid and definitive diagnosis of the following prioritized pests and diseases: Broomrape at any stage (in soil, as seed, or stem/flowering), Fusarium wilt race 3, Fusarium stem rot and decline, and BCTV. Metrics of success here will be: efficacy, ease of use (i.e. labor cost), proximity to field, speed, and cost.
4. **The development of forecasting tools** which will allow for predictive monitoring and give field-level actionable insights with respect to the following prioritized pests and diseases: BCTV, Conspere stink bug, and Southern blight.
5. **Automation/mechanization** of the following prioritized tasks:
 - a. **Transplanting** – in-field cost benefit analyses of currently available technologies.
 - b. **Cultivation** – in-field cost benefit analyses of currently available technologies.
 - c. **Granular yield and plant stress monitoring** via an attachment on harvester, satellite imagery, ground rig, and/or drone leading towards greater utility and uptake of precision management tools.
6. **The development and extension of sanitation BMPs** that can be widely adopted; minimizing the transmission of Broomrape, other weed seeds, and soil borne pathogens between fields via equipment. Efficacy, time, and cost will be the metrics of success.

7. Agronomic/Water/Fertility Management:

- a. **Physiological responses to heat extremes and poor water quality:** Are we managing our soils and SSDI systems in a way which allows for the greatest exploitation of the entire soil profile by tomato roots? How does the distribution of water change under different soil types, practices, and irrigation regimens? Are there commercially available plant stress reducing products with replicable positive results that are also economically effective for processing tomato growers?
- b. **Fertility optimization per invested \$:** a path towards a precision management which meets the needs of pushing early canopy growth, maintaining quality, and increasing yield - without wasting fertility inputs. Focus on Nitrogen and Potassium. The holy grail - technology enabling growers to bridge the gap between information granularity, block level management constraints, and cost.
- c. **What makes “new” tomato fields** (those coming back into tomato after several years out of rotation) **yield on average 10-20% higher with the same management?** Can we replicate this in “old” fields?
- d. **Soil type, tillage and rotation:** impact on inoculum levels of pests and diseases of concern, over time.
- e. **Regenerative or Climate Smart Practices:** Demonstrate and analyze the impacts of integrating one or more of the following practices in commercial fields; assessing yield, costs and returns, water use, nutrient management, pest and weed impacts, soil quality, and soil carbon – green (yard and/or food) waste compost, cover crops, reduced tillage, precision nitrogen application rates and timings. The expectation for this would be a multiyear initiative in collaboration with one or more farming operation(s) familiar with these practices.

8. **Genetic discovery** and characterization of particular genes, or traits, which confer resistance to known pests and diseases (or deter them in some other way) and increase resilience to heat, water and salt stress. Particular emphasis will be placed on those genetic projects targeting broomrape species, RB-TSWV, and enhanced root architecture.

The CTRI also welcomes pre-proposals covering topics that may not have been explicitly listed in this document.

Selection Process:

Pre-proposals will be judged on individual merit and interest from within the grower membership. Expect that your pre-proposal will be subjected to review by subject matter experts, in addition to select CTRI members, the CTRI Board, and by Members of the Research Committee of the CDFA Broomrape Board. Funding is approved annually. Cost sharing (through funding with other industry funders or commodity boards, or funding sources such as the [CSU Agricultural Research Institute](#)) in addition to leveraging CTRI funding towards larger grants, is highly encouraged.

After an initial review process, the PIs of those pre-proposals moving forward will be notified with additional instructions for inclusion in the Annual Research Meeting, to take place on December 4th and 5th, 2024. This will be an in person meeting at Hotel Winters in Winters, CA which will include time for presentations and discussion. These presentations are expected to include key takeaways from 2024 research (if applicable) and your proposal for any ongoing or new research for 2025. Researchers will be notified within a week of this meeting on Board decisions. If asked to submit a full proposal, these will be due on January 13th, 2025.

Submit pre-proposals to zach@tomatonet.org no later than Thursday, October 31st, 2024. I will confirm receipt of your pre-proposal. A format sheet is attached. If you have any questions regarding the CTRI generally, prioritization of research areas, formatting, or otherwise do not hesitate to reach out directly.

2024 Project Completion: current project final reports are due on or before Friday, January 10th, 2025.



Submit to zach@tomatonet.org on or before Thursday, October 31st, 2024

2025 Research Project Pre-Proposal Format

Pre-proposals are limited to **two pages maximum** with standard margins, fonts, and font sizes, single spaced. **Do not number pages** as these will be compiled into a larger document. All completed pre-proposals must be submitted via email to Zach Bagley at zach@tomatonet.org in .pdf, .doc or .docx format by Thursday, October 31st, 2024. **If the pre-proposals are not in the below format they will be sent back for edit.**

Include the following sections under the bulleted, bolded sections below:

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- **Project title:**
- **Timeline:** New or continuing proposal (list year – 1st, 2nd, 3rd, etc. - if it is continuing). If you do not anticipate completion in this project year, when is this anticipated?
- **Amount of funding requested from CTRI for this year:** Include only total \$ amount here. The CTRI does not allow indirect or overhead costs to be charged against grants. Salaries of PIs are allowed for time not covered by institutional or other grant funds.
- **Principle Investigator**, affiliation and contact information for official correspondence.
- **Co-PI(s) and affiliation(s):**
- **Executive Summary:** In 500 words or less provide context for the relevance and significance of your proposed research, and potential outcomes therein. **Remembering that the most important audience for this pre-proposal is the CTRI Board of Directors, describe your proposed project – it's impetus, objectives, methods, expected results, and potential impacts to the industry – in non-technical terms.**
 - If this is a continuing project be sure to call out in this section the major wins, and losses, of the current funding cycle and the reasons for continuation.
 - To help inform your thinking on industry impacts:
 - A reference for in-field cost of production is the recently (2023) produced [Sacramento Valley Cost Study](#).
 - In 2024, processing tomatoes were produced on ~226,000 acres, of which ~10,000 acres were certified organic.
 - In 2024, the conventional base price for processing tomatoes was \$112.50/ton and the organic base price was \$145/ton.
- **Industry Collaboration:** Indicate what you will need from industry for your project to be successful. Is this an understanding of current standard practices, commercial field locations for studies to take place, candid feedback on transition from one practice to another based on study results, etc.?
- **Questions:** There will be dedicated time at the Annual Research Meeting for questions and discussion of individual proposals. What questions do you want to ask the Board about your proposed research to make it even more applicable to in-field need? What questions do you want the Board to ask you so that they can gain insight into how you are going to approach and design this research? Minimum of 4 total.
- **Other Support:** Have you or are you planning on leveraging CTRI support for further research dollars in this area? Please let us know about this, by amount and source. We use this information to help communicate to our stakeholders the value driven into the industry by the researchers we work with AND the significance of this research, generally.

If funded, expectations around reporting:

- A short (1-3 page) mid-year progress report will be due at the end of August. A report format, with a reminder, will be sent to the PI prior to the due date. This report will be distributed to the CTRI Board and will be received before the 2nd half of funding is distributed.
- Although final reports will not be due until after year end, if researchers will be requesting related funding for the next year there is an expectation that up-to-date current year progress, as it relates to the next year's pre-proposal, be included in that pre-proposal and that this information on progress also be worked into the Annual Research Meeting presentation.
- A final report will be due within the first two weeks of every year. Distribution of these reports will be to the CTRI Board and CTRI Grower Members; subsequently these reports will become publically available on the CTRI website.
- Outside of these expectations, as many funded projects will naturally have an extension component, it is anticipated that results will be communicated and shared throughout and after the project at field days and research meetings. **It is the expectation of the CTRI that, particularly at meetings where processing tomato growers are present, these presentations include conspicuous reference to CTRI funding and support.** It is also anticipated that, up to the discretion of the researcher, this work be presented at scientific meetings and published in peer reviewed journals.

2025 Cycle Timeline:

- Deadline for submission of pre-proposals: October 31st, 2024;
- 2024-2025 Annual Research Meeting: December 4th and 5th, 2024;
- 2025 Notification of Request for Full Proposals: December 6th, 2024;
- 2024 Final Project Report Deadline: Friday, January 10th, 2025;
- 2025 Full Proposal Deadline: January 13th, 2025;
- 2025 Notification of Funding: Friday, February 28th, 2025;
- 2025 Funded Project Progress Reports Deadline: August 31st, 2025;
- 2025-2026 Annual Research Meeting: December 3rd and 4th, 2025;
- 2025 Funded Project Final Reports Deadline: January 9th, 2026