



AGENDA

California Avocado Commission Production Research Committee Meeting

Meeting Information

Date: Tuesday, October 29, 2024

Time: 8:00 a.m.

Location: Hybrid Meeting

Physical Meeting Location:

University of California Cooperative Extension Ventura County
669 County Square Drive, Suite 100
Ventura, CA 93003

Web Conference URL:

<https://californiaavocado.zoom.us/j/5375836823?pwd=aURBZ3BELL29tclBRS1ZRY3QrMkhZOT09&omn=87907831067>

Conference Call Number: (669) 900-6833

Meeting ID: 537 583 6823

Passcode: 348652

Meeting materials will be posted online at least 24 hours prior to the meeting at:

<https://www.californiaavocadogrowers.com/commission/meeting-agendas-minutes>

Committee Member Attendance

As of Tuesday, October 22, 2024, the following individuals have advised the Commission they will participate in this meeting:

- Danny Klittich, *PRC Chair*
- Jim Davis
- Darren Haver
- Consuelo Fernandez
- Leo McGuire
- Ryan Rochefort

Time	Item
8:00 a.m.	1. Call to Order a. Roll Call/Quorum
8:05 a.m.	2. Opportunity for Public Comment Any person may address the Committee at this time on any subject within the jurisdiction of the California Avocado Commission.
8:10 a.m.	3. Approval of Minutes a. Consider approval of Production Research Committee Meeting Minutes of September 13, 2024
8:15 a.m.	4. Research Program Director's Report
8:20	5. Action Items a. Consider research proposal, "Does artificial pollination improve yield of 'Hass' and 'GEM' avocado?"
9:00 a.m.	6. Adjourn Meeting

Disclosures

The times listed for each agenda item are estimated and subject to change. It is possible that some of the agenda items may not be able to be discussed prior to adjournment. Consequently, those items will be rescheduled to appear on a subsequent agenda. All meetings of the California Avocado Commission are open to the public and subject to the Bagley-Keene Open Meeting Act.

All agenda items are subject to discussion and possible action. For more information, or to make a request regarding a disability-related modification or accommodation for the meeting, please contact April Aymami at 949-341-1955, California Avocado Commission, 12 Mauchly, Suite L, Irvine, CA 92618, or via email at aaymami@avocado.org. Requests for disability-related modification or accommodation for the meeting should be made at least 48 hours prior to the meeting time. For individuals with sensory disabilities, this document is available in Braille, large print, audiocassette or computer disk. This meeting schedule notice and agenda is available on the internet at <https://www.californiaavocadogrowers.com/commission/meeting-agendas-minutes> and <http://it.cdfa.ca.gov/igov/postings/detail.aspx?type=Notices>.

If you have questions on the above agenda, please contact Tim Spann at tim@spannag.org or 423-609-3451.

Summary Definition of Conflict of Interest

It is each member's and alternate's responsibility to determine whether they have a conflict of interest and whether they should excuse themselves from a particular discussion or vote during a meeting.

To assist you in this evaluation, the following *Summary Definition of Conflict of Interest* may be helpful.

A Commission *member or employee* has a conflict of interest in a decision of the Commission if it is reasonably foreseeable that the decision will have a material effect, financial or otherwise, on the member or employee or a member of his or her immediate family that is distinguishable from its effect on all persons subject to the Commission's jurisdiction.

No Commission member or employee shall make, or participate in making, any decision in which he or she knows or should know he or she has a conflict of interest.

No Commission member or employee shall, in any way, use his or her position to influence any decision in which he or she knows or should know he or she has a conflict of interest.

**CALIFORNIA AVOCADO COMMISSION
PRODUCTION RESEARCH COMMITTEE
MEETING MINUTES**

September 13, 2024

A meeting of the Production Research Committee (PRC) of the California Avocado Commission (CAC) was held on Friday, September 13, 2024, with the following people participating:

MEMBERS PARTICIPATING:

Danny Klittich, Chair
Jim Davis
Allisen Carmichael
Consuelo Fernandez
Daryn Miller
Ryan Rochefort

CAC STAFF PARTICIPATING:

April Aymami
Ken Melban

OFFICIALLY PARTICIPATING:

Dr. Tim Spann, Spann Ag Research & Consulting

GUESTS PARTICIPATING:

Victor Araiza
John Berns

CALL TO ORDER

Danny Klittich, Production Research Committee (PRC) Chairman, called the meeting to order at 9:01 a.m. with a quorum present.

OPPORTUNITY FOR PUBLIC COMMENT

There were no public comments.

APPROVAL OF MINUTES OF JULY 25, 2024 PRODUCTION RESEARCH COMMITTEE MEETING

MOTION

To approve the minutes of the July 25, 2024 Production Research Committee meeting.

(Davis/Rochefort) MSC Unanimous

Motion 24-9-13-1

RESEARCH PROGRAM DIRECTOR'S REPORT

Dr. Spann updated the Committee on the situation surrounding the registration of Rely herbicide (glufosinate-ammonium) and the decision by BASF to discontinue manufacturing the product. Dr. Spann indicated that CAC had already had discussions with the California Department of Pesticide Regulation and had received a tentative ok to pursue a section 24(c) Special Local Needs registration for a generic glufosinate-ammonium herbicide. CAC has been reaching out to manufacturers of glufosinate-ammonium herbicides and will submit the 24(c) registration packet as soon as a supportive manufacturer can be found.

Dr. Spann then updated the Committee on a Zoom meeting that was held between CAC, Drs. Mark Hoddle and Martin Aluja, and Ramon Paz to discuss potential research in Mexico to collect data to document the non-host status of GEM and Lamb Hass varieties to Mexican fruit fly. Dr. Aluja is willing to work with CAC on this project and his methodology for this type of work is well accepted by USDA. Ramon Paz is working to find and secure cooperating growers who have trees of GEM and Lamb Hass.

Finally, Dr. Spann updated the Committee on discussions that CAC has been having with Dr. Mark Hoddle regarding Dr. Hoddle and his wife returning to Guatemala and other Central and South American countries that are likely to be seeking access to the U.S. market to determine what avocado pests exist in those countries and what threat they pose to U.S. avocado production. Additionally, recent information has indicated that what was previously identified as *Stenoma catenifer*, the avocado seed moth, may be a group of closely related *Stenoma* species across Central and South America and it is unknown if they behave similarly or if their original pheromone that was developed is attractive to all the different species. This is something else that Dr. Hoddle can work on while embedded in these countries.

DISCUSSION ITEMS

A. Finalize list of research and grower education priorities

Danny Klittich asked the Committee if there were any further changes to the research priorities document that had been circulated among the Committee. Victor Araiza mentioned that some work looking at nitrogen deficiency and whether nitrogen requirements are equal across varieties may be worthwhile as this was something they had recently identified in work they are doing with Dr. Ali Montazar. The Committee agreed and directed Dr. Spann to draft some language and add this as Item 5.b. on the list.

Discussion then ensued about the next steps and how to distribute the document to the research community. It was agreed that the list should be circulated as widely as possible, not only to California and the U.S., but internationally as well. It was decided that researchers would be asked to submit a one-page concept proposal by the end of the year for the Committee to review at a meeting in January 2025. High ranking concept proposal authors would then be invited to a future Committee meeting (targeted for late February 2025) to discuss their ideas prior to development of a full proposal.

B. Open discussion of new or old business from PRC members

Jim Davis mentioned that he had recently learned about a new initiative targeting large-scale agricultural enterprises (e.g., dairies) to turn their waste products into fertilizers. Would there be any potential for orchard crops like avocados to produce biochar from pruning waste? Dr. Spann mentioned that Johan Six at UC Davis had worked on a project some years ago with a walnut grower in Winters, CA, to produce biochar from walnut shells and hulls and incorporate it back into the orchard.

Daryn Miller discussed the Hass Avocado Board sustainability project and that growers were needed for interviews. Several Committee members said they would be interested, and Ken Melban agreed to send them the information on the program.

Danny Klittich mentioned a proposal that he had received from Mary Lu Arpaia and shared via email with the Committee to test artificial pollination strategies on avocados to see if they improve yield. There was general agreement from the Committee that this was an interesting proposal and worth discussing. The Committee agreed to schedule a follow up meeting to review this proposal and make a recommendation to the CAC Board for consideration at their November meeting.

ADJOURN MEETING

Danny Klittich, Production Research Committee (PRC) Chairman, adjourned the meeting at 10:25 a.m.

Respectfully submitted,

Timothy Spann

EXHIBITS ATTACHED TO THE PERMANENT COPY OF THESE MINUTES

EXHIBIT A September 13, 2024 Production Research Committee AB 2720 Roll Call
Vote Tally Summary



CALIFORNIA AVOCADO COMMISSION
Production Research Committee
AB 2720 Roll Call Vote Tally Summary

To be attached to the Meeting Minutes

Meeting Name: <i>California Avocado Commission Production Research Committee Meeting</i>	Meeting Location: <i>Hybrid In-person – Ventura County Cooperative Extension Office, Ventura Online – Zoom</i>	Meeting Date: <i>September 13, 2024</i>
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Attendees Who Voted	<u>MOTION</u> <u>24-9-13-1</u>
Danny Klittich, Chair	<i>Did not vote</i>
Jim Davis	<i>Yea</i>
Allisen Carmichael	<i>Yea</i>
Consuelo Fernandez	<i>Yea</i>
Daryn Miller	<i>Yea</i>
Ryan Rochefort	<i>Yea</i>
<i>Outcome</i>	<i>Unanimous</i>

Proposal Title: Does artificial pollination improve yield of ‘Hass’ and ‘GEM’ avocado?

Principal Investigators: Mary Lu Arpaia¹, Iñaki Hormaza², Marllon Fernando Soares dos Santos³

¹ University of California, Riverside. Dept. of Botany and Plant Sciences, 900 University Ave, Riverside, CA 92521. mlarpaia@ucanr.edu
marllons@ucr.edu

² Instituto de Hortofruticultura Subtropical y Mediterránea "La Mayora" (IHSM La Mayora- CSIC-UMA, Avda Dr. Wienberg s/n. 29750 Algarrobo, Málaga - Spain. ihormaza@eelm.csic.es (see attached letter of collaboration)

Total Budget Requested: \$172,825

Estimated Duration: 2.5 years (01/01/2025 – 06/30/2027)

Project Abstract

Identify the issue or problem, describe the work proposed and describe how the work proposed will significantly help solve the issue or problem for California avocado growers.

Pollination efficiency in avocado trees, especially in the ‘Hass’ and ‘GEM’ varieties, is crucial to maintaining productivity, as avocado flowers have mechanisms that limit self-pollination. To ensure satisfactory production levels, California growers often transport large numbers of honey bee hives to their orchards during full bloom to ensure adequate pollination. However, adverse weather conditions during flowering can significantly affect the process. Alternatively, artificial pollination has been successfully applied in several crops, showing promising results. Therefore, this project aims to compare three artificial pollination technologies suitable for avocado trees (‘BioPollen Method’, ‘BloomX Ltd Method’ and ‘Pollen Dusting Method’), together with a control group that will rely exclusively on natural pollination with honey bees. The study will be conducted in four orchards located in Ventura County. The proposal aims to evaluate the effectiveness of each technology in improving fruit set, increasing productivity and fruit quality, as well as to measure the costs associated with the technologies. These technologies are expected to promote higher fruit set and overall yield. Expected outcomes include providing California avocado growers with a cost-effective addition to the growers’ tool kit that increases orchard productivity while reducing reliance on honey bees and mitigating the negative effects of adverse conditions during full bloom.

Proposed Objectives and Milestones:

- A) Experimental design and application of three artificial pollination technologies (‘BioPollen Method’, ‘BloomX Method’, and ‘Pollen Dusting Method’) compared to an untreated control with honey bees (4 hives per acre) only over the California flowering season (March 2025 – March 2026) total of three applications with a 7-day interval. **Timeline: 02/01/25 – 05/01/25 and 02/01/26 – 05/01/26**
- B) Evaluate the intensity of flowering at the three locations during the California blooming season (March 2025 – March 2026), with a total of four evaluations at 7-day intervals. **Timeline: 03/01/25 – 05/01/25 and 03/01/26 – 05/01/26.**
- C) Evaluate pollen viability and germination for the three different technologies, quantify pollen germination *in vitro* and pollen germination and pollen tube-growth *in vivo*. **Timeline: 2025 and 2026 flowering seasons (approximately February – May).**
- D) Evaluate fruit set and fruit drop three and five months after flowering, and yield (kg/plant) and fruit size grade when fruit reach commercial maturity. **Timeline: 03/01/25 – 04/30/27.**
- E) Paternity test to determine the % of origin of the fruits (self versus cross fertilization and determination of the male parent in cross-fertilized fruits). This will be conducted on Year 3 from fruit set if the flowering period of Year 2. Fruits will be sampled ~January 2027 for testing. **Timeline: 01/01/25 – 04/30/27.**
- F) Compilation of data and preparation of final report. **Timeline: 01/01/27 – 06/30/27**

List the set of tasks that comprise each objective (work plan).

Objective A.

Four sites (2 ‘Hass’ and 2 ‘GEM’) in Ventura County will be used in the research. Ideally, we will want to find solid blocks of trees with no pollinizers nearby. In each orchard, sufficient rows of trees will be selected for each treatment. There will be 4 treatments: a) untreated control (honeybees only); b) ‘BioPollen’ Method; c) ‘BloomX’ Method; and d) ‘Dusting’ Method. The actual experimental design (i.e. number of rows) will be site specific depending on row length and tree spacing. A minimum of

2 rows buffer between treatments will be used. However, spray drift will be a consideration, for example the 'BioPollen' treatment requires a ~450 foot buffer between it and other treatments. Fifteen trees per treatment per site will be monitored. These will be selected from the innermost rows of each treatment. For instance, if a treatment occupies 4 rows, the 2 innermost rows will be used for data collection. The application of treatments will occur at intervals recommended by each company, totaling three applications (beginning, middle, and end) during the flowering period. The applications will follow the specific methodologies for each technology.

Objective B.

The flowering intensity will be measured using the BBCH methodology, which divides the main phenological stages of avocado cultivation, identifying the exact moment for treatment application and its interaction with flowering intensity, which may vary between orchards. The 15 preselected trees per treatment within each orchard and treatment will be monitored weekly.

- Alcaraz, M. L., Thorp, T. G., & Hormaza, J. I. (2013). *Phenological growth stages of avocado (Persea americana) according to the BBCH scale. Scientia Horticulturae, 164, 434-439.*

Objective C.

For viability, a fluorochromatic reaction based on fluorescein diacetate (FDA) will be used, and pollen germination will be assessed in vitro following all the criteria proposed in the methodology of Alcaraz et al. 2011. Pollen load on the stigma will be evaluated through fluorescent microscopy, where a minimum of 100 flowers will be collected after the application of treatments at each stage (female and male) and fixed in formaldehyde, alcohol, acetic acid (FAA) to visualize the pollen grains on the stigma and growing pollen tubes in the style. This work will be conducted at UC Riverside.

- Alcaraz, M. L., Montserrat, M., & Hormaza, J. I. (2011). *In vitro pollen germination in avocado (Persea americana Mill.): Optimization of the method and effect of temperature. Scientia Horticulturae, 130(1), 152-156.*

- Heslop-Harrison, J., & Heslop-Harrison, Y. (1970). *Evaluation of pollen viability by enzymatically induced fluorescence; intracellular hydrolysis of fluorescein diacetate. Stain technology, 45(3), 115-120.*

Objective D.

Effective fruit set will be calculated by the ratio of the estimated number of flowers per plant to the number of fruits produced in order to understand if the treatments can interfere with the number of fruits set, as well as generate estimates of fruit production per plant and per area. All fruit per tree on the 15 data trees per treatment will be harvested at time of commercial maturity. Total fruit weight and total fruit count will be measured. Ten fruits per tree (total 150 fruit) from each treatment will be randomly sampled to determine size by weight. We will work with each cooperator to collect individual tree yield data for each of the selected data trees as well as total row yield and packout if possible.

Objective E.

Parentage will be determined through DNA extraction and microsatellite analysis to verify the origin of the fruit (whether from cross-fertilization or self-fertilization and determination of the male parent in cross-fertilized fruits) by analyzing the amplified fragments through PCR.

- Sharon, D., Cregan, P. B., Mhameed, S., Kusharska, M., Hillel, J., Lahav, E., & Lavi, U. (1997). *An integrated genetic linkage map of avocado. Theoretical and Applied Genetics, 95, 911-921.*

- Alcaraz, M. L., & Hormaza, J. I. (2011). *Influence of physical distance between cultivars on yield, outcrossing rate and selective fruit drop in avocado (Persea americana, Lauraceae). Annals of Applied Biology, 158(3), 354-361.*

Describe how the project will be managed if there are delays, unexpected results, failures, etc.

The experimental design includes the selection of 4 orchards with a large sample size for each experiment, taking into account potential unforeseen issues related to project development and its replicability.

Does the researcher have access to the appropriate materials, facilities, equipment or other inputs needed to complete the proposed work?

YES, all project members have adequate resources to carry out all stages of the project.

Relevant experience of the research team.

Dr. Arpaia has a long history of developing avocado breeding in California, with a focus on extension and teaching at the University of California. She manages one of the largest collections of avocado germplasm in the world and has created new cultivars. She has also been involved in projects examining avocado pollination both in California and Chile. Dr. Hormaza is an expert in genetics, focusing on reproductive biology and temperature interactions in floral organs such as anthers, stigmas, pollen, etc., with many studies on the implications of avocado breeding on reproductive biology in fertilization and fruit set. Dr. Santos has expertise in pomology and robust statistical approaches in avocado flowering, conducting research on this topic at the University of California.

Roles and Responsibilities of each research team member for the proposed project.

The work will be conducted at the UC Riverside (UCR) with assistance from Dr. Arpaia and Dr. Hormaza's research groups. We will work closely with the commercial pollination providers to ensure that treatments are properly applied.

- A. Project Planning: Arpaia, Hormaza, and Santos will share this responsibility.
- B. Project Execution: Arpaia, Hormaza, and Santos will share this responsibility.
- C. Project Data Summation and Analysis: Arpaia's team will be responsible for data summation and statistical analysis. For the paternity test, Hormaza's team and Santos will be responsible.
- D. Project Report: Dr. Arpaia's team will take the lead in preparing the project report, in collaboration with Dr. Hormaza's team.

Expected Results

The project results should be implementable at the conclusion of this project. The data from this project will assist producers in decision-making regarding the selection of the best artificial pollination technology, either as a complement to or replacement for the use of honey bees, potentially reducing the costs associated with pollination processes. Additionally, the most effective technology could serve as a valuable tool in mitigating the impacts of adverse climate conditions during California's flowering season.

Impacts for the California Avocado Industry

California's avocado industry can benefit from choosing the pollen application technology that offers the best cost-benefit ratio for increasing productivity. The industry can benefit from supplementing pollen offered by the artificial pollination process, providing greater fruit-set and ensuring better production results. This practice which will augment the current practice of using honey bees could help to sustain the financial viability of California avocado growers.

Indicate if a commercial partner(s) has been identified or involved in this proposal?

BioPollen Solutions (Chile); see attached letter of collaboration

BloomX Ltd. (Israel); see attached letter of collaboration

**Project Proposal Budget
FY 2025 - 2027**

	Year 1 01/01/2025 – 12/31/2025	Year 2 01/01/2026 – 12/31/2026	Year 3 01/01/2027 – 06/30/2027
Salaries and Benefits			
Postdocs/Research Associates	34,605	35,746	18,463
SRAs	0	0	0
Lab/Field Assistance	0	0	0
Benefits	7,717	7,971	4,117
Supplies and Expenses	2,000	2,000	
Equipment	0	0	0
Services (Paternity Analysis)	0	0	24,000
Travel to research sites	16,398	16,398	1,409
Other Travel	2,000	0	0
Annual Total Amount Requested	\$62,719	\$62,116	\$47,989
TOTAL AMOUNT REQUESTED	\$172,825		

Budget Justification

Salary: Funds are requested to cover 0.50 FTE time for Post-Doctoral Scholar, Marllon Fernando Soares dos Santos. Dr. Santos will be responsible for the day-to-day oversight of the project activities at the proposed research sites and microscopic work to determine pollen load and tube growth. He will also coordinate with Dr. Hormaza on the paternity analysis. Salary projections are based on recommendations by our campus administrative officials for merit and range adjustments.

Benefits: Fringe benefits rates are calculated as a percentage of the gross salary and are based on campus recommendations.

Supplies: We are requesting funding for supplies, including fluorescein diacetate (FDA) for the fluorochromatic reaction and pollen viability observation. For germination, the acquisition of materials for culture media preparation and plates for analyzing pollen germination and tube growth will be required. The evaluation of pollen load on the stigma will require the purchase of historesin, formaldehyde, alcohol, acetic acid, as well as microscope slides and coverslips for sample preparation. Microscopes and a microtome will be provided by UCR.

Services: Paternity analysis will be conducted in Spain, at an estimated cost of \$15 per sample. With 4 sites x 4 treatments x 100 fruit per treatment the estimated cost of paternity analysis is \$24,000.

Travel: Travel funds are requested to cover the travel of Dr. Santos on a weekly basis to the research sites in Ventura in Years 1 and 2. Each trip will comprise of a 2 or 3 day trip with one or two overnight stays at a local hotel. We will lease a UC Vehicle for each trip for six months per year since this is less expensive than renting a car on a daily basis. The lease price is \$663 per month x 6 months = \$3,978. Additionally, we must cover the cost of fuel. We estimate ~400 miles per trip with 25 miles per gallon = 16 gallons at \$4.50 per gallon = \$72 per trip. Estimated fuel cost per year = \$72 x 25 = \$1,800. In Year 3, travel will be limited to the collection of the paternity sample (2 days) and yield data (1 days per site = 4 days) for a total of \$389.

We estimate a total of 25 trips to Ventura County and lodging cost of \$180 per night and \$60 per day per diem each year. We estimate that 12 trips will be 1 night stay and 13 trips will be 2 night stay. Costs per year for hotel = \$180 x 38 nights = \$6,840 and per diem = 12 trips of 2 days (24 days) + 13 trips of 3 days (39 days) x \$60 = \$3,780. In Year 3 there would be 2 trips (1 trip = 2 days; 1 trip = 4 days) for a total of 4 hotel stays and 5 per diem days for a total of \$1,020.

Other travel: We request \$2,000 for airfare for Dr. Hormaza in Year 1 to participate in the research program.

September 12th, 2024

Mary Lu Arpaia
Principal Investigator
Botany and Plant Sciences Department
University of California, Riverside
900 University Av. Riverside, CA, 92521

Subject: Letter of Intent to Participate in Avocado Pollination Research

Dear Dr. Arpaia,

I am writing to formally express our intent to participate in the proposed pollination research to be conducted by the University of California, Riverside and the California Avocado Commission titled “Does artificial pollination improve yield of ‘Hass’ and ‘GEM’ avocado?”.

At the IHSM La Mayora we have considerable expertise on avocado pollination and parentage determination that could complement the research proposed in the project.

We look forward to the opportunity to collaborate with you and the rest of the participants in this project.

Thank you for considering our participation.

Sincerely,



J.I. Hormaza
Professor

Rodrigo Martinez
Av del Parque 5275, Office 302
Santiago, Chile
rmartinez@biopollen.ag
+56953652396

September 9th, 2024

Mary Lu Arpaia
Principal Investigator
Botany and Plant Sciences Department
University of California, Riverside
900 University Av.
Riverside, CA, 92521

Subject: Letter of Intent to Participate in Avocado Pollination Research

Dear Dr. Arpaia,

I am writing to formally express our intent to participate in the proposed pollination research to be conducted by the University of California, Riverside and the California Avocado Commission titled "Does artificial pollination improve yield of 'Hass' and 'GEM' avocado?".

At Biopollen Solutions we have developed an innovative method of extracting and preserving avocado pollen that can be sprayed with conventional aerial equipment in Hass and GEM avocado orchards. This technology results in significant yield improvements by complementing or replacing beehive pollination. With 4 seasons in commercial stage and more than 9,000 acres pollinated across Chile, California, Peru, Colombia, we believe we can become an attractive technology to be adopted by California growers by significantly improving the control over their pollination practices.

We look forward to the opportunity to collaborate with the distinguished faculty and researchers at UC Riverside. Please feel free to contact me at rmartinez@biopollen.ag if you require any further information or documentation regarding our technology.

Thank you for considering our participation.

Sincerely,



Rodrigo Martinez
CEO
Biopollen Solutions



September 24th, 2024

Mary Lu Arpaia Principal Investigator Botany and Plant Sciences Department University of California, Riverside 900 University Av. Riverside, CA, 92521

Subject: Intent to Participate in Avocado Pollination Research

Dear Dr. Arpaia,

I am writing to formally convey BloomX's interest in participating in the upcoming research study led by the University of California, Riverside, in partnership with the California Avocado Commission. The study, titled "Does artificial pollination improve yield of 'Hass' and 'GEM' avocado?" aligns closely with our expertise and mission.

At BloomX, we have developed innovative artificial pollination technologies for crops such as avocados and blueberries. Our approach mimics the natural mechanisms of pollinators, using similar forces to optimize pollination efficiency.

We are excited about the prospect of collaborating with UC Riverside's renowned researchers and faculty. Should you need any further information or documentation on our technology, please don't hesitate to contact me at anat.dadia@bloomx.ag.

Thank you for considering BloomX as a participant in this study.

Best regards,

Anat Dadia

Product lead

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