2015 North American Strawberry Symposium



An Invitation to the



2015 North American Strawberry Symposium

FTER A VERY SUCCESSFUL SYMPOSIUM in Tampa, Florida in 2011 we are heading back to Ventura, California, for the 8th North American Strawberry Symposium (NASS), hosted by the North American Strawberry Growers Association. It will have been eight years since our last visit to Ventura County, and the berry industry has evolved significantly. The symposium is being held jointly with the 39th Annual Meeting of the North American Strawberry Growers Association (NASGA), and therefore should attract many growers and industry members who are the beneficiaries of research and are often partners in research programs.

The 8th NASS will provide an opportunity to discuss recent progress in research and production and to explore the ever-changing face of the strawberry industry in North America and around the world. As has been the case with previous North American Strawberry Conferences, we will have a series of facilitated roundtables on the first afternoon of the Symposium, February 3rd. A welcome reception that evening will introduce California's agriculture and strawberry industry.

Wednesday, February 4th features a program that should be of interest to all participants, whether scientists, growers or members of the agribusiness community. The day opens with keynote speaker Jose Manuel Lopez Aranda from Spain, who will discuss how chemical and non-fumigant fumigation alternatives are being used in Europe. Following the keynote speaker the theme of soil health and management will continue with several research presentations on this subject area. The morning will end with a pest

management theme. The afternoon will showcase production systems from different areas of the world.

On Thursday, February
5th the program features
two tracks of speaker
presentations. Themes
include Plant Breeding
and Genetics, Pest Management, Production and
Fruit Quality, Irrigation
Strategies, Protected
Culture, and Strawberry
Varieties for Growers.

A multidisciplinary poster session will span the three days of the conference, open to all attendees.

The tour on February 6th will be a highlight of the conference. It features visits to nearby University of California research facilities; commercial farms with conventional, organic, and tunneled substrate production of berry crops; and an insectary that raises beneficial insects. The tour ends with a reception on the beach at our hotel.

On the behalf of Program Committee we eagerly invite growers, researchers, and students to come to California in February to share your experiences and research, interact with scientists and growers from other parts of North America and the world, and see the impressive strawberry industry in southern California.

Who Should Attend?

Scientists, growers, and agribusiness who are interested in strawberry research and developments in California, North America, and worldwide. Participants from the research community will include breeders (public and private), economists, entomologists, food scientists, horticulturists, molecular geneticists, plant physiologists, plant pathologists, and weed scientists. Extension specialists, agents, other educators and students are also strongly encouraged to attend.

Opportunities for Interaction

Scientists will have numerous opportunities to discuss recent progress in research and to stimulate thinking about future endeavors. More than 150 scientists and students are expected to attend the this Symposium. This exchange

of information is vital to the continued health and improvement of the North American strawberry industry and international advancement of strawberry research.

Growers and industry representatives will have ample time to speak directly about their concerns with scientists and professionals.







2015 North American Strawberry Symposium & North American Strawberry Growers Association Annual Meeting

Crowne Plaza Hotel, Ventura, California • Feb. 3-6, 2015

PROGRAM



Day 1: Tuesday, February 3

10:00 am - 12:00 pm NASG Research Foundation Meeting

11:00 am - 7:00 pm Registration

11:00 am - 5:00 pm Poster set-up

Lunch on your own

1:00 - 2:30 pm Roundtable Discussions

- Water-Use Efficiency and Nutritional Management Facilitator: Andre Biscaro, University of California
- Alternatives to Soil Fumigation *Facilitator: Steve Fenni*more, University of California
- Breeders Workshop Assays, Strategies and Cooperative Evaluations *Facilitator: Kim Lewers, USDA-ARS*

2:30 - 3:00 pm Break *Coffee/refreshments sponsored by GW Allen Nursery*

3:00 - 4:30 pm Roundtable Discussions

- Production Physiology: The Science behind Day-Neutral Plant Performance
- Pesticide-Resistance Management Facilitator: Hillary Thomas, California Strawberry Commission
- Soil Fumigation Post-Methyl Bromide Facilitator: Husein Ajwa, University of California

4:30-5:30 pm Opening of poster session

7:00–9:00 pm Reception (all attendees) *Sponsored by Lassen Canyon Nursery*

California Welcome - Henry Gonzales, Ventura County Ag Commissioner

Featured Speaker: "California Strawberries: An outsider's view from the inside" - Gerald Holmes, Director, Strawberry Sustainability Research and Education Institute at Cal-Poly

www.nasga.org

See the NASGA website for links to online registration and hotel reservations, additional program details, opportunities for industry, organization and agency sponsorship, and information on many nearby attractions.

Day 2: Wednesday, February 4

7:00 am - 4:00 pm Registration

7:00 am - 8:00 am Continental Breakfast

8:00 am - 5:00 pm Silent Auction, Posters and Exhibits open

8:00 am - 5:00 pm General Session

8:00 Keynote Speaker: "How we are dealing with fumigant alternatives in Europe with chemical methods and non-fumigant solutions" - Jose Manuel Lopez Aranda, Spain

8:40 Interactions of Sustainable Soil Management Practices and Fumigation Strategy: Impacts on Strawberry Fruit Yields and Soil Quality Measures in the Southeast - *Amanda Mc-Whirt, North Carolina State University*

9:00 Soil disinfestation with steam: a review of economics, engineering and soil pest control in California strawberry - Steven A Fennimore, UC Davis

9:20 Working with anaerobic soil disinfestation for control of key soil-borne pathogens - *Joji Muramoto, UC Santa Cruz* 9:40 Effect of ASD and Brassica Seed Meal Amendment on Soil Biology and System Resistance - *Mark Mazzola, USDA-ARS, Salinas, CA*

10:00 The Effect of Four Commercial Composts on Disease Suppression and Strawberry Health - *Margaret Lloyd, UC Davis*

10:20 Break - Trade Show, Silent Auction and Posters *Sponsored by Crown Nursery*

10:40 Strawberry production patterns in Quebec and soilless growing at Ferme Onesime Pouliot - *Valerie Bernier, Ferme Onesieme Pouliot, Inc.*

11:00 Two New Developments in Strawberry Extension and Research - *Natalia Peres, University of Florida*

11:20 Use of predaceous nematodes for management of spotted wing drosophila and vinegar flies in berry crops - *Mark Bolda, UC Cooperative Extension, Santa Cruz County*

Program as of December 3, 2014. Subject to change.



11:40 Use of portable laboratories and devices to diagnose nutritional status of strawberry under fertigation - *Prometeo Sánchez-García, Mexico*

12:00 Lunch and NASGA Annual Meeting Sponsored by Nourse Farms

- 2:00 The Latest Dutch/European Strawberry Developments C.W. (Willem) van Eldik, Netherlands
- 2:20 Historical milestones and current methods and strategies resulting in a year-round strawberry production in Belgium *Tom Van Delm, Belgium*
- 2:40 Off-season Strawberry Production in Semi-arid Greenhouse: Key technologies and crop yield *Chieri Kubota, University of Arizona*
- 3:00 Break Trade Show, Silent Auction and Posters Sponsored by Crown Nursery
- 3:20 Update on the UC Davis Strawberry Breeding Program *Ted DeJong, UC Davis*
- 3:40 Use of polyethylene in strawberry cultivation in hilly areas of India *Kallol K.Pramanick, India*
- 4:00 A systems-based approach to safeguard the strawberry industry from virus diseases - *Ioannis Tzanetakis, Uni*versity of Arkansas
- 4:20 National Clean Plant Network and National Certification Standards for Strawberry Bob Martin, USDA-ARS, Oregon; Zvezdana Pesic-Van Esbroeck, North Carolina State University; Sue Sim, UC Davis

Dinner on your own.

Day 3: Thursday, February 5

7:00 am - 2:00 pm Registration open

7:00 am - 8:00 am Continental Breakfast

8:00 am - 5:00 pm Silent Auction, Posters and Exhibits open

8:00 am - 5:00 pm Concurrent Sessions, Tracks 1 & 2

Track 1: Plant Breeding and Genetics

- 8:00 Strawberry species in our backyard *Kim Hummer, USDA-ARS, Corvallis, Oregon*
- 8:20 Evaluation of strawberry genotypes for *Chaetosiphon* fragaefolii preference *Andrew Jamieson, AAFC, Kentville,* NS, Canada
- 8:40 Breeding of strawberries using a *Fragaria chiloensis* CHI-24-1 in which flower initiation occurs under 24-hour daylength *Tomohiro Yanagi, Japan*
- 9:00 Breeding strawberry for high vitamin C and folates content *Bruno Mezzetti, Italy*
- 9:20 Yasmin, Shani, Gili and Hadar: a new series of Israeli strawberry cultivars *Nir Dai, Israel*
- 9:40 Multiple avenues to gender in strawberries- *Toktam Taghavi, University of Guelph, Canada*
- 10:00 **Break Trade Show, Silent Auction and Posters** Sponsored by GW Allen Nursery
- 10:20 Update on ROSBREED Vance M. Whitaker GCREC, University of Florida

- 10:40 Identification of SSRs associated with strawberry seasonality and runner production *Kim Lewers, USDA-ARS Beltsville, Maryland*
- 11:00 Screening for Anthracnose Disease Resistance in Strawberry Using a Detached Leaf Assay *Melinda Butler, USDA-ARS, Poplarville, Mississippi*
- 11:20 Cognizance of inoculum sources and genetic diversity of Botrytis to improve gray mold management in strawberry Achour Amiri and Natalia Peres, University of Florida
- 11:40 Control of strawberry diseases (*Botrytis cinerea*, *Collectotrichum acutatum*, *and Podosphaera aphanis*) by manipulating the UV-C repair mechanism Fumiomi Takeda, USDA-ARS, Kearneysville, West Virginia

12:00 Lunch

- 1:30 Update on Angular Leaf Spot Research *Bill Turecheck, USDA-ARS, Fort Pierce, Florida*
- 1:50 Improved Fumigation Technology in Raised Bed Strawberry Production Systems *Ruijin (Ray) Qin, USDA-ARS, Davis, CA*
- 2:10 Status of *Macrophomina phaseolina* on strawberry in California and preliminary characterization of the pathogen *Steve T. Koike, UC Davis*
- 2:30 **Break Trade Show, Silent Auction and Posters** Sponsored by Crown Nursery
- 3:00 Physiology of Strawberry Plants under Controlled Environment: Diurnal change in leaf net photosynthetic rate Karla Garcia Cabello, The University of Arizona
- 3:20 Effect of Mother Plant Distances in Soilless Culture System and Transplant Size on Flowering and Fruiting of Strawberry - Mohamed Ragab, Egypt
- 3:40 Fusarium wilt of strawberry in California: Pathogen biology and options for management *Tom R. Gordon, UC-Davis*
- 4:00 Methyl anthranilate biosynthesis and accumulation in strawberry fruits *Amir Weil, Israel*
- 4:20 Improving cultural practices for dayneutral strawberries for high tunnels and outside in Ontario - *Toktam Taghavi, University of Guelph, Canada*
- 4:40 Effectiveness of LED and Fluorescent Lamps for Longday Treatment of Forcing Strawberries as Affected by Their Color Temperature *Yuichi Yoshida, Japan*

Track 2: Production, Plant Management and Pest and Disease Control

- 8:00 Irrigation strategies for strawberry in mineral soils and in growing media: 4 years of trials in California and Quebec *Jean Caron, University of Laval, Quebec, Canada*
- 8:30 Doubling number of drip lines for water conservation during strawberry establishment Oleg Daugovish, UC Cooperative Extension, Ventura County
- 9:00 Low Tunnel Strawberry System for Minnesota *Steve Poppe, University of Minnesota*; Reaction of strawberries under Maryland low-tunnels to three light-manipulating plastics *Kim Lewers, USDA-ARS, Beltsville, Maryland*

9:30 A Primer on Mineral Nutrition of Strawberry in California - *Mark Bolda, UC Cooperative Extension, Santa Cruz County*

10:00 Break - Trade Show, Silent Auction and Posters Sponsored by Agro-K Corporation

10:30 RaBet: Experiences in development of field substrate growing - *Dwight Rowe, Sun Grow Horticulture*

11:00 Integrated Management of Black Root Rot of Strawberry: Pathogen Diversity and Farming System Solutions - Frank Louws, North Carolina State University

11:30 Non-fumigant treatments and their combinations affect soil pathogens and strawberry performance in Southern California - Oleg Daugovish, UC Cooperative Extension, Ventura County

12:00 Lunch

1:30 Evaluating IPM Implementation in Strawberry Production - Hillary Thomas, California Strawberry Commission

2:00 Integrating chemical, botanical, and microbial solutions for managing strawberry pests - *Surendra Dara, UC Cooperative Extension, San Luis Obispo County*

2:30 Chemical and biological control of spider mites in strawberry - *Anna D Howell, UC Cooperative Extension, Ventura County*

3:00 Break - Trade Show, Silent Auction and Posters

3:30 Biology and Management of Western Tarnish Plant Bug on Strawberry in Northern Central Coast of California - Shimat V. Joseph, UC Cooperative Extension, Monterey County

4:00 Integrated Management of Anthracnose of Strawberry: Detection, Dynamics and Recommendations - *Frank Louws, North Carolina State University*

4:30 Evaluation of Strawberry Cultivars - Brian Smith, University of Wisconsin; Jayesh Samtani, Virginia Tech

Day 4: Friday, February 6

Breakfast on your own

8:00 am - 5:00 pm BUS TOUR of Ventura County berry farms and research facilities

Tour the fabulous strawberry production fields in the Oxnard district, led by local and regional strawberry researchers. The tour visits to nearby University of California research facilities; commercial farms with conventional, organic, and tunneled substrate production of berry crops; and an insectary that raises beneficial insects. Lunch will be provided at the Hansen Agricultural Center. The day wraps up with a reception on the beach at the Crown Plaza at 5:00 pm.

Included in the registration fee for everyone who registers before Dec. 31. For registrations after Dec. 31, participation in this event will be limited by available seats on the tour buses. No following cars will be permitted.

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Symposium Organizing Committee

Gary Bardenhagen

NASGA Past President Bardenhagen Berries Lake Leelanau, MI g.c.bardenhagen@gmail.com

Oleg Daugovish

Farm Advisor for Strawberry and Vegetable Crops University of California Ventura, CA odaugovish@ucanr.edu

Kathy Demchak

Berry Extension Associate Penn State University University Park, PA efz@psu.edu

Kevin Edberg

NASGA Board of Directors The Berry Patch Forest Lake, MN kedberg@aol.com

Pam Fisher

Berry Crop Specialist Ontario Ministry of Agriculture and Food Simcoe, ON Canada pam.fisher@ontario.ca

Kim Lewers, Chair

Research Geneticist (Plants) USDA-ARS Beltsville, MD kim.lewers@ars.usda.gov

Penelope Perkins-Veazie

Postharvest Physiologist North Carolina State University Raleigh, NC penelope perkins@ncsu.edu

Kevin Schooley

NASGA Executive Director Kemptville, ON, Canada info@nasga.org

Jami Simmons

NASGA Treasurer Lassen Canyon Nursery Redding, CA jami@lassencanyonnursery.com

Blaine Staples

NASGA President The Jungle Farm Innisfail, AB Canada bstaples@cciwireless.ca

Fumiomi (Fumi) Takeda Horticulturist and Small Fruit Sci-

entist USDA-ARS Kearneysville, WV Fumi.Takeda@ars.usda.gov

Hillary Thomas

Senior Research Manager California Strawberry Commission Watsonville, CA hthomas@calstrawberry.org

Scott Thompson

NASGA Vice President Thompsons Strawberry Farm Bristol, WI Tsf_scott@yahoo.com



Experience the famous Ventura coastline at the **Crowne Plaza Ventura Beach Hotel**, the only hotel on the beach in Ventura. Relax in any of the 258 beautifully decorated guest rooms and suites, all with excellent views of the scenic coastline or foothills of Ventura.

Hotel Reservations: Each individual guest must make their own reservations by calling **805-648-2100** or online. See the link at www.nasga.org or visit https://resweb.passkey.com/Resweb.do?mode=welcome_ei_new&eventID=11428920

You must identify yourself as members of the group "NASGA/ NASS Annual Meeting."

Room Rate: \$109 Single/Double, plus state and local taxes

Cut-Off Date: Jan. 12, 2015

Hotel Check In/Check Out: Check-in time is 4:00 pm; check-out

time is 12:00 pm.

Accessibility: Service animals are allowed. Accessible parking is available. There are eight rooms with accessibility.

Credit cards: Credit cards accepted are Diners Club, Discover, Visa, American Express, and Master Card.

Parking: The hotel has one uncovered parking lot (\$12.00 per day) with in/out privileges. The parking lot is lighted and has controlled access gates. Adjacent to the hotel is a covered parking lot managed by the city (\$8.00 per day).

Complimentary Wi-Fi in guest rooms for all participants

Local Information/Attractions

With a diverse cultural scene, an array of culinary delights, and just the right blend of casual and cool, Ventura is simply a great getaway any time of the year for business or pleasure, for shopping, dining, exploring, or simply relaxing. From vintage shops and seaside stores to premium outlets, you will find boundless opportunities. Whether you want to explore the area's natural wonders by land or sea, on whale watching trips or a bike ride, you will find it here.

A few of the attractions in the area:

Downtown Ventura - 2 blocks
Golf within 4.5 miles (6.44 km)
Shopping within 1 mile (1.61 km)
Tennis within 1 mile (1.61 km)
Ronald Reagan Library - 30 miles/48.28 km
Universal Studios Hollywood - 55 miles/88.51 km
Channel Islands National Park - 8 miles/12.87 km
Magic Mountain - 45 miles/72.42 km
Knott's Berry Farm - 95 miles/152.88 km
Solvang - 60 miles/ 96.56 km
Buenaventura Mission - 2 miles/3.22 km
Whale watching - 5 miles/8.05 km
Ventura Harbor - 5 miles/8.05 km

Travel/Transportation

Los Angeles Airport (LAX)

Distance: 69 MI /111.04 KM North to Hotel Shuttle Charge (one way): \$78.00 (USD)

Taxi Charge (one way): \$230.00 (USD) Time by taxi: 1.5-2 hours Train: Amtrak Union Station \$24 (one way) 2 hours. Take the Union Station Flyaway bus from LAX to reach the Amtrak Station (35 minutes)

Burbank Airport (BUR)

Distance: 45 MI / 72.42 KM South East to Hotel Shuttle Charge (one way): \$73.00 (USD)

Taxi Charge (one way): \$210.00 (USD) Time by taxi: 1 hour Train Charge (one way): \$22.00 (USD) Time by train: 2 hours

Santa Barbara Airport (SBA)

Distance: 26 MI / 41.84 KM South to Hotel

Taxi Charge (one way): \$115.00 (USD) Time by taxi: 45 min

Train Station In Ventura

Taxi Charge from Train Station: \$5.00 (USD)

AMTRAK platform is approximately 1/4 mile from hotel.

Free Trolley pick up at Amtrak; will transport to downtown, hotels and harbor. Trolley runs Wed-Sun 11am-11pm

Driving Directions to Crowne Plaza Ventura Beach

From Hwy 101 North: Exit at California St. and turn left, then right at Harbor Blvd. From Hwy 101 South: Exit at Ventura Ave and turn right. At Figeroa, turn right, then turn left at Harbor Blvd. Hotel address is 450 E Harbor Blvd, Ventura, CA 93001







Registration Information

Participants can register online or by mailing or faxing in a paper registration. For a link to online registration, visit **www.nasga.org**. If you need a paper registration form, you can download it at www.nasga.org or contact Kevin Schooley at 613-258-4587 to have a form either mailed or faxed to you.

Registration includes Tuesday night's reception, Wednesday and Thursday continental breakfasts, lunches, and refreshment breaks, the Friday bus tour of the Oxnard Strawberry District, and the Conference Proceedings (being published post-conference by the International Journal of Fruit Science), as well as various other conference materials.

Registration fees

You can register as **NASS-affiliated** if you are affiliated with the research, extension, and/or the teaching community. Graduate students and undergraduate students may register at a reduced rate, and are also considered to be NASS-affiliated. Growers and industry representatives may **not** register as **NASS-affiliated** but are encouraged to join or rejoin NASGA for reduced member registration rates. All registrations are perperson.

General Registration NASS-affiliated/NASGA member:

\$300 if received or postmarked by December 31, 2014 \$350 after December 31, 2014

Non-NASS Affiliated/Non-NASGA:

\$395 if received or postmarked by December 31, 2014 \$495 after December 31, 2014

Graduate & Undergraduate Students: \$195

NASGA Membership: NASGA as an organization is very committed to research and annually 25% of membership dues are forwarded to the NASG Research Foundation. We encourage everyone to consider membership in the North American Strawberry Growers Association (NASGA).

Sponsorship and Exhibiting Opportunities

Sponsorship opportunities and small display spaces for exhibitors are available. Sponsorship opportunities are on a first come basis. For sponsorship opportunities or trade show information visit the NASGA website: www.nasga.org







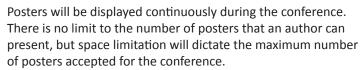
A Silent Auction, sponsored by NASGA and the North American Strawberry Growers Research Foundation, will be held during the 2015 NASS/NASGA Annual Meeting in Ventura, California. Auction proceeds will benefit strawberry research. Bring your fruit-related collectable, decorative, and other interesting items for others to bid on. Eight years ago in Ventura we had some fabulous items from some of the local agribusinesses along with items from NASGA members, making it quite a shopping opportunity for participants. The auction is always a popular event.

Check-in of items will begin on Tuesday, February 3 and the auction will conclude prior to the end of the day on Thursday, February 5. Auction winners may pay by cash, check, or credit card.

Donors will receive a receipt by mail for the final high bid for their donations. Be sure that your name and address are on the registration list or provide it to John Maas. See you there!

For further information: contact John Maas at johnmaas@earthlink.net

Poster Presentation Submissions



Numbered board space [$1.2 \times 1.2 \text{ m}$ ($47 \times 47 \text{ inches}$)] is assigned for each poster. Presenters will receive the assigned space number prior to the conference or upon arrival. Posters are to be no larger than $1.2 \times 1.2 \text{ m}$ ($47 \times 47 \text{ inches}$) in size. Abstract titles, names, and affiliations should appear on the top of the poster. A simple sans serif-face font (e.g., Helvetica) should be used. Lettering for the title should be at least one inch tall. The authors' names and affiliations may be somewhat smaller.

Author photographs must be included in the poster to assist in author identification. It is especially important that growers and nursery operators be able to find you. In addition, please include your e-mail addresses on the poster for post-conference contact. You may also provide hand-out copies of your poster and/or business cards, but this is not required.

Do not prepare a poster as if it were a manuscript. Primarily use tables and figures and limit text. Details of the work can be provided in discussions with interested parties. Lettering for text and illustrations should range in size between 6 and 12 mm. Push-pins or Velcro buttons may be used. Pins/Velcro must be supplied by presenter, as they may not be available on-site

Poster title and an abstract should be submitted by Jan. 5, 2015 to Penelope Perkins at penelope_perkins@ncsu.edu. The abstract cannot exceed 250 words in length.

North American Strawberry Growers Association (NASGA) 30 Harmony Way Kemptville, ONT KOG 1J0 CANADA



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