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Update

INSIDE:

2016 Members and Projects List

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2016 Projects: Continued

Foliar Diseases

Detection of Azole and Strobilurin Fungicide Resistant Strains of Tomato Powdery Mildew in California

Ioannis Stergiopoulos

Powdery mildew continues to be problematic for both growers and researchers. Project continues a focus on the crop production issues of field resistance to fungicides. It is part of a larger suite of proposals to other agencies looking at more basic properties of the pathogen.

Evaluation of Chemical Control of Bacterial Speck

Gene Miyao

Continuation of the basic field evaluation of newer control products. This proposal focuses on extra-early plantings in replicated plots on the UC Davis campus.

Bacterial canker of tomato: examining strain relationships and testing PCR primer specificity

Gitta Coaker

This proposal seeks to validate markers developed in earlier projects with both known and new field strains from this 2016 growing season. Canker has been of small significance in recent dry years, but is still considered a major seed production concern. An effective canker identification program will help seed suppliers further reduce seed contamination risk.

WEED MANAGEMENT

Field Bindweed Management in Processing Tomatoes

Lynn Sosnoskie

A continuing proposal that looks beyond simple treatment rates and into an overall strategy of improving early crop vigor to better compete against field bindweed.

Automatic Vision Guided Weed Control System for Processing Tomatoes

David Slaughter

Third and completing year to address the increasingly important issue of excess herbicide residue on permanent beds.

(Photo F)



Special Note:

The 2015 Annual Research Project Report is available only at www.tomatonet.org/2015



Update

California Processing Tomatoes

NEWS AND INFORMATION FROM THE CALIFORNIA TOMATO RESEARCH INSTITUTE, INC. • 2016 • VOLUME 36

California Tomato Research Institute, Inc.

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2016 Projects

AGRONOMIC RESEARCH

Investigation of Sustaining Tomato Plant Health and Yield with Composted Manure

Gene Miyao

An outgrowth of the previous work by Davis/Leveau on root health. Project is in the final year to optimize application rates of potassium and compost for maximum yield response.

Evaluating the Nitrogen Budget System in Drip Irrigated Processing Tomatoes

Scott Stoddard

Project is evaluating nitrogen budgeting systems being developed by water agencies to regulate nitrogen use. The project will be conducted at Merced College and is on track to provide useful information.

Potential for improved fertigation efficiency via field-based sensing devices

Brenna Aegerter

Explores the use of two field-based measurement devices to inform more precise management of water and nutrients in subsurface drip-irrigated processing tomatoes. The technologies to be evaluated are a Greenseeker handheld NDVI meter and a Tule Technologies surface renewal evapotranspiration station. Coordination with TerrAvion weekly aerial monitoring will explore development of remote sensing potential.

GERMPLASM & VARIETY DEVELOPMENT

CM Rick Tomato Genetics Resource Center

Roger Chetelat

Annual support of the valuable germplasm bank. The Center serves as a warehouse for genetic materials used in many processing tomato research projects. To ensure this repository continues to serve our industry, CTRI recently contributed \$100,000 to the Rick Center Endowment Fund in addition to our annual support.

Discovering, identifying and testing wild tomato genes that contribute to water stress tolerance

Dina St. Clair

Two complimentary projects seeking to identify and test "wild" genetic materials with potential to improve the water use efficiency of commercial processing tomato varieties.

INSECT MANAGEMENT

Evaluation of Tactics for Improvement of Stink Bug Control

Tom Turini

Third and final year of a requested proposal to focus on the increasing problem of stinkbugs in Fresno County. The project is successful in identifying early season movement, reviewing control options. Final year will attempt to detail strategies key to successful field management.



2016

Members of the California Tomato Research Institute

Sacramento Valley

Amistad Ranches
Walnut Grove
Barrios Farms Inc.
Yolo
Bullero Farms
Woodland
Bullseye Farms
Woodland
Button and Turkovich
Ranch LLC
Winters
Chan Farms
Courtland
Chris & Shanna
O'Sullivan Farming
Williams
D.A. Rominger & Sons
Winters
Dan Best Ranch, Inc.
Woodland
Dettling Farms
Woodland
Dougherty Bros.
Robbins
Dustin Timothy Farms
Dixon
E and H Farms
Dixon
E and J Farms, Inc.
Woodland
F & F Company
Walnut Grove
Fong Farms, Inc.
Woodland
Freese Farms
Dixon
George Aoki Farms, Inc.
Woodland
Harlan Family Ranch
Woodland
Holdener Farms, Inc.
Dixon
Hunn, Merwin and
Merwin, Inc.
Clarksburg
J.H. Meek and Sons
Woodland
Jason Bryson Farms
Robbins
Jim Borchard
Woodland

Joe Muller & Sons
Woodland
Joe Yeung Farms
West Sacramento
K & D Aoki
Woodland
K.L.M. Ranches, Inc.
Elk Grove
Kidwell Farms
Davis
Knight Ranches, Inc.
Glenn
La Grande Farms Inc.
Williams
Llano Seco Rancho
Chico
Los Rios Farms
Davis
Mayflower Farms, Inc.
Arbuckle
Moroni Farming & Leasing Co.
Meridian
Mumma Brothers
Arbuckle
Nakahara Farms
Clarksburg
Nishimura Farming
Dixon
Ornbaun Farms
Arbuckle
Payne Brothers Ranches
Knights Landing
Quad H Ranch, Inc.
Robbins
Reveille Farms
Dixon
Richie Gunter
Woodland
Richter Bros. Inc.
Knights Landing
River Pride Farms, Inc.
Walnut Grove
River Vista Farms
Colusa
Robert Reynolds
Williams
Roma Farms
Robbins
Rominger Brothers Farms
Winters
Ronald Timothy Farming
Dixon

Sam Reynolds Farm
Williams
Schreiner Brothers
Woodland
Scott Park Farming
Meridian
Sean V. Doherty Farms
Dunnigan
T & P Farms
Arbuckle
Takemori Farms, Inc.
Sacramento
Tanaka Farms Inc.
Woodland
TOMCO
Woodland
Triad Farms
Davis
Two M Enterprises
Dixon
Van Ruiten Bros.
Robbins
Vann Bros. Farms
Williams
Viguie Farming
Winters
Wallace Brothers
Meridian
West Valley Farms
Woodland
Williams Farms
Arbuckle

San Joaquin / Stanislaus

Alvarez Farms Inc.
Tracy
Arnaudo Bros Inc.
Tracy
Steve Arnaudo & Sons
Tracy
Allen Baroni Farms
Thornton
Gregory J. Busalacchi
Farms, Inc.
Stockton
Cerri and Son
Stockton
Cerutti Bros.
Newman
Cotta & Ferreira
Custom Farming
Stockton

Del Carlo Farms
Stockton
Del Terra Farms, LLC
Tracy
Delucchi Farms
Stockton
Fantozzi Farms
Patterson
Jerry Goubert Farms
Westley
G & R Hansen Farms
Linden
John Dondero Farm
Linden
K and H Farms
Tracy
Lagorio Brothers
Linden
Lassen Farms
Stockton
F A Maggiore & Sons
Brentwood
Rich Marchini Farms
Stockton
Michelena Farms
Patterson
Mizuno Farms Inc.
Tracy
Mussi Ag
Stockton
Perez Farms
Crows Landing
George Perry & Sons, Inc.
Manteca
Hal Robertson Farms
Tracy
S4 Farms, Inc.
Ripon
J & R Sanguinetti Ranch
Linden
Sarale Farms, Inc.
Stockton
SAS Farms
Tracy
Simoni & Massoni Farms
Byron
T & M Farms
Westley
Toso Brothers
Stockton
Trinta Brothers
Patterson

Triple Sanguinetti
Farms, Inc.
Stockton
V & A Lagorio
Linden
Victoria Island Farms
Holt
Yamamoto Farms
Westley

Merced, Fresno & Coastal Valleys

5 D Westside Farms Inc.
Cantua Creek
A-Bar Ag Enterprises
Los Banos
Abbate Farms
Merced
Anderson Farms, LLC
Huron
Bardin Bengard Farming
Salinas
Beene Farms
Helm
Borba Farms, Inc.
Riverdale
Bowles Farming Company
Los Banos
Brinkley Farms
Dos Palos
Britz Inc.
Fresno
Burford Family
Farming Co.
Fresno
Burford Ranch
Helm
Casaca Vineyards
Five Points
Clark Bros. Farming
Clovis
Coelho South
Five Points
Coelho West
Five Points
Crivelli Ranch
Dos Palos
D. & V. McCurdy Farms
Firebaugh
Daddy's Pride Farming
El Centro

David E. Carlucci
Los Banos
Double G. Farms
Le Grand
Dresick Farms, Inc.
Huron
Errotabere Ranches
Riverdale
Farming D
Five Points
Ferguson Farming Company
Lemoore
Five Points Ranch, Inc.
Five Points
Fortune Farming Company
Fresno
Fundus Farms
Mendota
Gary Hughes Farms
Kerman
Graham Family Farming
Kerman
Greenfields Turf, Inc.
Greenfield
Hammonds Ranch
Firebaugh
Harris Farms Inc.
Coalinga
Iest Family Farms
Madera
J & J Farms
Firebaugh
J. F. Bennett Ranch
Firebaugh
J.O. Seasholtz Farms
Fresno
Linda Vista Farms
Five Points
Live Oak Farms
Le Grand
Lucero Farms
Los Banos
Mick Oliveira Farms
Hanford
MTD Farms
Firebaugh
Nickel Family LLC
Dos Palos
OPC Farms, Inc.
San Joaquin
Pentagon Company
Los Banos

Polder Bros. Farms
Lemoore
Ralph Palazzo & Co., Inc.
Los Banos
Red Rock Ranch, Inc
Five Points
Redfern Ranches Inc.
Dos Palos
Ryan King Farms
Hanford
San Andreas Farms
Brentwood
Sano Farms, Inc.
Firebaugh
Santa Rita Farms, Inc.
Dos Palos
Sun Pacific Farming Co.
Exeter
Teicheira Farms
Los Banos
Teixeira & Sons
Dos Palos
Terranova Ranch, Inc.
Helm
Allen Thomsen Farming
Firebaugh
Turlock Fruit Co.
Turlock
Valley Pride
Huron
Vaquero Farms
Stockton
Ventura Farms, Inc.
Gustine
W. C. Davis Farms
Firebaugh
Will-Shar Farms
Merced
William Diedrich Farms
Firebaugh
Wolfsen, Inc.
Los Banos
Woolf Enterprises
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Cauzza Ag Partners
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Madera
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Bakersfield
Esajian Farming Co.
Lemoore
Freitas Ranch
Hanford
Jerry Slough Farming Co.
Buttonwillow
Mattera Farming
Company, LLC
Bakersfield
Newton Farms
Stratford
Opal Fry and Son
Bakersfield
Parsons Farms
Buttonwillow
Pereira Farms
Lemoore
Stenderup Ag Partners
Bakersfield
Stone Land Co.
Stratford
TMT Farms
Hanford
B & R Tevelde Ranch
Hanford
Underwood Ranches
Camarillo
Wheeler Ridge Farming
Stratford

2016 Processing Tomato Research Projects



DISEASE MANAGEMENT

Evaluation of Fungicides, Bio-Pesticides and Soil Amendments for the Control of Southern Blight of Processing Tomatoes

Joe Nunez

Continuation of intensive field trials with active stakeholder participation. This is the sixth year of continually refined trials in a Kern member field. Project will test more difficult to execute and aggressive crop protection treatments. (Photo B)

Nematode Management

Evaluation of Alternative Nematicides for the Control of Root-Knot Nematodes of Processing Tomatoes

Joe Nunez

Proposal is for rotation experiments to develop resistance management practices with Nimitz® and to test new nematicide products at the Kern County Research Farm in Shafter.

Characterization of resistance-breaking root-knot nematodes

Antoon Ploeg

Same team that identified Nimitz®, now working on broader nematode resistance management. Continued support for processing tomato nematode research at UC Riverside to develop and expand nematology resources for processing tomato Farm Advisors. Current research on resistant strain characterization will contribute to developing resistant genetics, but that is not a current major goal.

Fusarium Diseases

Evaluation of Varieties with Fusarium wilt, Race 3 Resistance

Gene Miyao

A focused version of statewide variety testing with emphasis on a fusarium wilt race 3 resistant varieties. The one-year project, should be helpful to growers and advisors in better understanding genetic resistance choices and tradeoffs. (Photo C)

Seed Transmission and Seed Treatment of Fusarium oxysporum f. sp. lycopersici

Tom Gordon, Hung Doan

Needed work to better understand and possibly slow the spread of Fusarium wilt. Tom Gordon is supervising Hung Doan, graduate student and lab manager for retired Extension Pathologist Mike Davis.

Pathogen characterization of Two Fusarium Species

Tom Gordon, Hung Doan

A major requested project to attempt molecular identification of fusarium race 3. Industry was hesitant to wait for Mike Davis' replacement. If successful, developed technique will enable most labs to quickly identify the race of wilt affected plants. This will be especially important as resistant varieties gain popularity and subsequent fields exhibit wilt-type symptoms. (Photo E)



Management of Fusarium wilt race 3 with Dip Treatments

Scott Stoddard

A grower field trial to test the label claims of several fungicides in the control or suppression of Fusarium wilt race 3. Needed work even if no control is found, to help growers value the utility of at-planting treatments.

Curly Top Virus

Use of Beet Leafhopper Repellents to Manage Curly Top of Tomatoes

Joe Nuñez

Large replicated field tests of kaolin clay sprays and other products from unrelated projects to screen for activity as visual repellants to beet leafhopper. High local grower interest and cooperation. (Photo D)

Monitoring beet leafhopper populations in vegetation on the floor of the northern San Joaquin Valley

Brenna Aegerter and Jhalendra Rijal

Work is the third year of work and will include tests of the new nematicide Nimitz. This proposal builds on the overall strategy to develop a more robust processing tomato nematode management program at UC Riverside.

Detection and Management of Tomato Viruses

Bob Gilbertson

Proposal seeks to develop new and novel approaches for detection of viruses, improving our understanding of virus biology and disease epidemiology and applying this information for new approaches for disease management. Target viruses are curly top, tomato spotted wilt and Tomato necrotic dwarf virus (ToNDV).

Reducing insect virus vectors of Beet Curly Top Virus in processing tomatoes through soil health management

Amélie Gaudin

Proposal seeks to assess the impact of soil health management practices (cover crops, compost and humic substances) on tomato susceptibility to insect virus vectors. Limited feasibility experiment for the first year.

Developing New Management Techniques for Vector-Borne Diseases of Tomato

Clare Casteel

A novel approach, testing the use of ethylene inhibitors for management of transplant susceptibility to reduce incidental leafhopper feeding and curly top transmission. A one-year feasibility study. The project is also a means to introduce this new department researcher to our crop and disease management interests.

(continued on back page)



One Final Note:
2016 Assessment Rate
to remain at seven cents
per paid ton.