

Western Alfalfa & Forage Symposium
OPTIMIZING YIELD AND QUALITY IN IRRIGATED FORAGES
& Forage Irrigation Workshop
November 19-21, 2019
Grand Sierra Resort, Reno, NV

Organized by:

University Cooperative Extension Services of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming, in cooperation with grower members of the California Alfalfa & Forage Association.

Hosted by:

California Alfalfa & Forage Association, representing thousands of California forage growers

Symposium Chairs:

Dan Putnam, University of California and Glenn Shewmaker, University of Idaho

Logistical Chair:

Jane Townsend, California Alfalfa & Forage Association, Sacramento, CA

SCHEDULE OF EVENTS

Day One – Tuesday, November 19

FORAGE IRRIGATION WORKSHOP

6:30am-7:00pm **SYMPOSIUM AND EXHIBITOR REGISTRATION**

7:30am **CONTINENTAL BREAKFAST (workshop participants only)**

8:00am-4:00pm **EXHIBITOR/POSTER SETUP**

8:30am-5:15pm **FORAGE IRRIGATION WORKSHOP**

Overview: Water and irrigation management is a key aspect of high yield, high quality alfalfa production. This one-day workshop is a primer on the skills necessary for managing irrigation on your farm for high quality forage production.

8:30am-12:00pm **Principles of Irrigation and Water Management**

Moderator: *Leonard Lauriault, New Mexico State University*

8:30 Introduction and Background – Importance of Irrigation Management in Forage Crops
Dan Putnam, University of California, Davis, CA

8:45 What is EvapoTranspiration and How to Estimate ET?
Howard Neibling, University of Idaho, Twin Falls, ID

9:15 Soil Moisture Monitoring – What goes on below the ground?
Matt Yost, Utah State University, Logan, UT

9:45 Irrigation Scheduling—When and how much?
Troy Peters, Washington State University, Prosser, WA

10:15 Questions

10:30 BREAK

10:45 Deficit Irrigation of Alfalfa—When you just don't have enough
Dan Putnam, University of California, Davis, CA

- 11:10 Salinity Management for Alfalfa and Grasses
Bob Hutmacher, University of California, Davis, CA and Director, UC West Side Research and Extension Center, Five Points, CA
- 11:30 Fertigation & Use of Degraded Waters
Grant Cardon, Utah State University, Logan, UT

11:50 Discussion

12:00pm-1:00pm WORKSHOP LUNCH (workshop participants only)

1:00pm-5:15pm Putting the Pieces Together: Management of Irrigation on Farms
Moderator: Glenn Shewmaker, University of Idaho, Kimberly, ID

Innovations and Solutions: Sprinkler Systems

- 1:00 Analysis of Sprinkler Systems: Comparing Center Pivots, Linears, Wheel Lines
Howard Neibling, University of Idaho, Kimberly, ID
- 1:20 LEPA & LESA & Mobile Drip Innovations
Matt Yost, Utah State University, Logan, UT
- 1:35 Variable Rate Irrigation with Overhead systems
Troy Peters, Washington State University, Prosser, WA
- 1:55 Discussion

Innovations and Solutions: Surface Irrigation

- 2:00 Overview of Surface Irrigation Systems Design *Khaled Bali, University of California Kearney Ag Research & Extension Center, Parlier, CA*
- 2:20 Automation of Furrow and Flood Irrigation
Peter Moller, Rubicon, Modesto, CA
- 2:40 Comparing Systems on my Farm
Ronnie Leimgruber, Alfalfa Grower, Holtville, CA
- 3:00 Discussion

Innovations and Solutions: Drip Irrigation

- 3:15 Overview of Drip Irrigation Systems in Alfalfa
Dan Putnam, University of California, Davis, CA
- 3:30 Management of Alfalfa SDI on our Farm
Nate Ray, DeJager Farms, Chowchilla, CA
- 3:45 Management of Alfalfa SDI on our Ranch
Greg Wegis, Wegis & Young Ranch, Bakersfield, CA
- 4:00 Discussion

4:15pm: Innovations in Irrigation (Howard Neibling, Moderator)

- Pivots and Controls: *Rick Hanshew, Reinke*
- Sprinkler Products: *Dan Schueler, Senninger*
- Drip/Controls/Filters: *Domonic Rossini, Netafim*
- Pivots and Controls: *Kevin Johnson, Valmont*
- Sprinkler Products: *Bob Hand, Nelson Irrigation*
- Drip Irrigation of Lagoon Water: *John Cardoza, Suscon*
- Fixed Wing Remote Sensing: *Ria Van Hoef, TerrAvion*

5:15 Adjourn

5:00pm-7:00pm SYMPOSIUM WELCOME RECEPTION
Hors D'oeuvres and No Host Cocktails, Exhibits Open, Posters on Display

Day Two – Wednesday, November 20

WESTERN ALFALFA & FORAGE SYMPOSIUM MAIN SESSION

6:30am-7:00pm SYMPOSIUM REGISTRATION

7:00am-7:00pm EXHIBITS OPEN

7:00am-7:00pm POSTERS ON DISPLAY

7:00am-8:00am CONTINENTAL BREAKFAST

8:00am-12:00pm SYMPOSIUM MAIN SESSION

Forage Cropping Systems, Water and Environment

Moderated by Glenn Shewmaker, University of Idaho, Kimberly, ID

8:00 Welcome

William Payne, Dean, College of Agriculture, Biotechnology, and Natural Resources, University of Nevada, Reno.

8:05 Implications of Climate Change Predictions on Forage Production in Western States

Alan Rotz, USDA-ARS and University of Pennsylvania, College Station, PA

8:30 Rotation Studies with Alfalfa, Small Grains and Corn

Earl Creech, Utah State University, Logan, UT

8:50 Benefits of Alfalfa in Crop Rotations

Nicole Tautges, University of California, Davis, CA

9:10 Snake River Aquifer Groundwater Recharge

Brian Olmstead, Twin Falls Irrigation Company, Twin Falls, ID

9:30 Experiments with Flooding Tolerance of Alfalfa for Groundwater Recharge

Helen Dahlke, University of California, Davis, CA

9:50 Discussion

10:00 BREAK

Economics and Industry Trends

Moderated by Earl Creech, Utah State University, Logan, UT

10:30 Western Dairy Industry Trends

Rick Naerbout, Idaho Dairymen's Association, Twin Falls, ID

10:50 Hay Industry Trends

Josh Callen, The Hoyt Report, Twin Falls, ID

11:10 World Trends in Hay Exports

Bill Matthews, University of California, Davis, CA

11:30 Grazing Systems on 3 Million Hectares (7.4 million acres) in Argentina

Daniel Basigalup, Alfalfa Breeder, INTA, Cordoba, Argentina

11:50 Discussion

12:00pm-1:00pm SYMPOSIUM BANQUET LUNCH

Jim Kuhn Award Presented by Brandon Fawaz, CAFA Board of Directors

National Alfalfa & Forage Alliance Report Beth Nelson, NAFA

1:30pm-5:00pm SYMPOSIUM BREAKOUT SESSIONS – 2 sessions run concurrently

Breakout 1: Pest Management

Moderated by Rachael Long, University of California Cooperative Extension, Woodland, CA and Sarah Light, University of California Cooperative Extension, Yuba City, CA

- 1:30 Clover Root Curculio Biology and Control
Steven Price, Utah State University, Logan, UT
- 1:50 Insecticide Resistance in Alfalfa Weevil and Related Implications for other Alfalfa Insect Pests
Michael Rethwisch, University of California Cooperative Extension, Blythe, CA
- 2:10 Approaching IPM Program for Alfalfa Winter Insect Pests of Southwest Desert
Ayman Mostafa, University of Arizona, Tucson, AZ
- 2:30 Sugarcane Aphid and Potential Strategies for Control
Nick Clark, University of California Cooperative Extension, Hanford, CA
- 2:50 Discussion
- 3:00 BREAK
- 3:30 Precise Control of Rodents in Alfalfa Fields Using Drones
Yoav Motro, Israel Ministry of Agriculture and Rural Development; and Tomer Regev, Alta Innovation.
- 3:50 Developing an Effective Management Program for Belding's Ground Squirrels in Alfalfa
Roger Baldwin, University of California, Davis, CA
- 4:10 Managing Weeds in Seedling and Established Alfalfa Stands
Earl Creech, Utah State University, Logan, UT
- 4:30 Glyphosate Injury in Roundup Ready Alfalfa
Tom Getts, University of California Cooperative Extension, Lassen County, CA
- 4:50 Discussion
- 5:00 ADJOURN

Breakout 2: Grazing & Forages Beyond Alfalfa

Moderated by Steve Norberg, Washington State University, Pasco, WA and Mylen Bohle, Oregon State University, Prineville, OR

- 1:30 Optimizing Management of Small Grain Forages
Mike Ottman, University of Arizona, Tucson, AZ
- 1:50 Simulated Grazing Timing and Regrowth of Annual Cereal Forage Cover Crops
Carmen Willmore, University of Idaho, Shoshone, ID
- 2:10 In-Season Management of N in Timothy
Steve Norberg, Washington State University, Pasco, WA
- 2:30 Teff as a Forage Crop
Natalie Shaw, Washington State University, Prosser, WA
- 2:50 Discussion
- 3:00 BREAK
- 3:30 Rhodes Grass: A Potential Alternative Forage for the Low Desert
Oli Bachie, University of California Cooperative Extension, Holtville, CA
- 3:50 Corn and Sorghum as Forages: Water and N Implications
Nick Clark, University of California Cooperative Extension, Hanford, CA
- 4:10 Utilization of Sugarbeet as a Forage Crop
Steve Kaffka, University of California, Davis, CA
- 4:30 Discussion
- 5:00 ADJOURN

5:00pm-7:00pm POSTERS ON DISPLAY - Authors will be present

5:00pm-7:00pm SYMPOSIUM RECEPTION

Hors D'oeuvres and No Host Cocktails, Exhibits Open, Posters on Display

6:00pm

CALIFORNIA ALFALFA & FORAGE ASSOCIATION LIVE AUCTION

Proceeds benefit California Alfalfa & Forage Research Foundation

Day Three – Thursday, November 21

FORAGE QUALITY MINI-SYMPOSIUM MAIN SESSION

Co-Sponsored by NIRS Consortium & National Forage Testing Association

7:00am-8:00am

CONTINENTAL BREAKFAST

8:00am-10:05am: Session I: Why Forage Testing?

Moderated by Mike Trammel, Noble Research Institute, Ardmore, OK

8:00 Importance of Forage Testing: Linkage of Forage Quality to Markets and Profitability

Dan Putnam, University of California, Davis, CA

8:20 Horse Nutrition Requirements and What to Test?

Natalie Shaw, University of Washington, Prosser, WA

8:45 Importance of Fiber and Digestibility Analysis to Predict Animal Performance

Dave Mertens, Dairy Nutritionist, Mertens Innovation and Research, Belleville, WI

9:15 Representing the Value of Energy, Protein and Fiber in Feedstuffs

Bill Weiss, The Ohio State University, Wooster, OH

9:45 Discussion

10:00 BREAK

10:30am-12:10pm: Session II: Lab Testing and Sampling

Moderated by Juan Solomon, University of Nevada, Reno, NV

10:30 Key Hay and Silage Sampling Protocols

Jody Gale, Utah State University, Richfield, UT

10:50 How to Choose a High Quality Laboratory & Common Abuses of Forage Quality Testing

Glenn Shewmaker, University of Idaho, Kimberly, ID

11:10 Standardization of Forage Testing and NFTA Certification

Ralph Ward, Cumberland Valley Analytical Services, Waynesboro, PA

11:30 Misconceptions of NIRS Analysis

Bobbi jo Anderson, NIRS Consortium, Hillsboro, WI

11:50 Discussion

12:00pm-1:00pm

NIRS FORAGE QUALITY LUNCH

1:00pm-3:00pm: Session III: Interpretation of Lab Tests

Moderated by Dave Mickelson, S&W Seed, Arlington, WI

1:00 Quantifying the Potential Increase in Alfalfa Value and Identifying Molecular Markets that Influence It

Steve Norberg, Washington State University, Pasco, WA

1:20 Importance of Dry Matter to Researchers and Producers

David McIntosh, University of Tennessee, Knoxville, TN

1:40 Future of Forage Testing: What will the Future Bring?

Panel Discussion Moderated by Patty Laskowski Morren

Bill Weiss, Ohio State University, Wooster, OH

Ralph Ward, Cumberland Valley Analytical Services, Waynesboro, PA

Dave Mertens, Mertens Innovation and Research, Belleville, WI

Bobbi jo Anderson, NIRS Consortium, Hillsboro, WI

David Weakley, Forage Genetics International, Gray Summit, MO

3:00pm

ADJOURN SYMPOSIUM

FOR UP TO DATE SCHEDULE, PLEASE VISIT OUR WEBSITE www.calhay.org/symposium/