



Features from your Advisors

November 2019 (Volume 22 Issue 10)

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SHEEP GRAZING ON IV FARMS: A SHORT SURVEY

*Brooke Latack, Livestock Advisor, UCCE Imperial, Riverside, and San Bernardino Counties
Oli Bachie, Agronomy Advisor, UCCE Imperial, Riverside & San Diego Counties & Director
UCCE Imperial County*

Purpose:

1. This survey aims to quantify acres of winter sheep grazing in the Imperial County.
2. It also aims to increase the understanding of management practices in alfalfa field grazing. Data collected from the survey will help us document forage production portions used for direct grazing, and shape future livestock research to solve any issues experienced within the system.

All survey responses will be recorded without revealing / identifying information (name, location, etc.).

Surveys can be completed by clicking on the following link

(https://ucanr.co1.qualtrics.com/jfe/form/SV_9RBL34GXEN7iyW1)

or filling out the survey below and returning via options listed in question 4.

Survey questions:

1. How many acres of alfalfa do you currently grow? _____ acres
2. Do you use sheep to graze your alfalfa? Yes No
If yes,
→ how many of the alfalfa acres do you allow sheep to graze? _____ acres
→ what stocking density do you allow to graze your alfalfa fields? _____ head/acre
→ how long do the sheep stay in one grazing area before being moved to another parcel? ____ days
→ Are there other issues / concerns related to grazing sheep on alfalfa? If yes, please list below.

3. Would you be interested in workshops or field days related to animal grazing on forage fields?
 Yes No
4. Please, complete the survey return using one of the following options:
 - a. Email: bclatack@ucanr.edu
 - b. Call: Brooke Latack (442) 265-7712
 - c. Take a photo of completed survey and text to 269-313-2579
 - d. Mail: Brooke Latack, 1050 E Holton Rd, Holtville CA 92250

If you are interested in discussing sheep grazing issue (s) further, please contact Brooke Latack (UCCE Livestock advisor - Imperial County) at 442-265-7712 or bclatack@ucanr.edu.

We appreciate you taking the time to complete and send back the survey.

LIVESTOCK RESEARCH BRIEF

UC  University of California
CE  Agriculture and Natural Resources • Cooperative Extension

1050 E. Holton Rd.
Holtville, CA, 92250
(442) 265-7700

November 12, 2019

Hello,

This month examines a study looking at the effect of supplemental methionine on calf-fed Holstein steer productivity.

If you have any comments, questions, recommendations, or know someone who would like to be included on the mailing list, please feel free to contact me.

Best wishes,

Brooke Latack

Livestock Advisor

UC Cooperative Extension – Imperial, Riverside, and San Bernardino counties

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Effect of methionine supplementation on the productivity of calf-fed Holstein steers

Brooke Latack
Livestock Advisor

Introduction

Metabolizable methionine is expected to be the first limiting amino acid in a feedlot diet during the early growing period when fed a steam flaked corn-based diet. Diets supplemented only with urea meet the requirement for amino acids for the total feeding period, but are often lacking in the early stage of growth. This deficiency can negatively affect productivity of cattle, which will ultimately affect the economic bottom line. Little research has been done to understand the impact of feeding a single, ruminally-protected amino acid to feedlot cattle being fed a diet that theoretically meets amino acid requirements. This study aimed to evaluate the influence of rumen-protected methionine on performance of calf-fed Holstein steers in the feedlot.

Methods

150 calf-fed Holstein steers (127 ± 4.9 kg) housed at UC DREC were sorted into 30 pens (5 animals per pen) for a 112d feeding period. Steers were fed a steam-flaked corn-based diet containing only urea as a supplemental nitrogen. Treatments for the first 56 days were 1) no amino acid supplementation, 2) 0.032% methionine+1.01% lysine, 3) 0.064% methionine+1.01% lysine, 4) 0.096% methionine+1.01% lysine, and 5) 0.128% methionine+1.01% lysine (Table 1). From d 56 to d 112, all steers received the basal diet.

Results and Implications

Treatment effects are shown in Table 2. During the initial 56 d feeding period, supplementation did not affect ADG, but did increase gain efficiency. From d 56 to d 112, growth performance was unaffected since all steers were fed the same basal diet, though the effects of supplementation during the initial 56 d did carry over.

Overall, methionine supplementation improved feed efficiency and dietary energetics over the 112 day feeding period for calf-fed Holstein steers in the feedlot.

Table 1.
Ingredient composition
of experiment diet

Item	Supplemental methionine (% DM)				
	0	0.032	0.064	0.096	0.128
Steam-flaked corn	74.95	73.91	73.88	73.84	73.81
Sudan grass hay	7.68	7.68	7.68	7.68	7.68
Alfalfa hay	3.84	3.84	3.84	3.84	3.84
Tallow	3.09	3.09	3.09	3.09	3.09
Molasses	7.37	7.37	7.37	7.37	7.37
Magnesium oxide	0.18	0.18	0.18	0.18	0.18
Dicalcium phosphate	0.49	0.49	0.49	0.49	0.49
Limestone	1.22	1.22	1.22	1.22	1.22
Urea	0.88	0.88	0.88	0.88	0.88
Trace mineral salt	0.30	0.30	0.30	0.30	0.30
Smartamine	0	0.032	0.064	0.096	0.128
Aminosure	0	1.01	1.01	1.01	1.01

Table 2.
Growth performance
treatment effects

Item	Supplemental methionine (% DM)				
	0	0.032	0.064	0.096	0.128
Weight, kg					
Initial	120	120	120	120	120
Final	259	261	260	262	258
ADG, kg					
1-112 d	1.24	1.25	1.25	1.26	1.23
DMI, kg/d					
1-112 d	5.03	5.00	4.87	4.87	4.93
ADG/DMI					
1-56 d	0.251	0.260	0.267	0.273	0.261
56-112 d	0.242	0.243	0.251	0.249	0.241
1-112 d	0.246	0.251	0.258	0.259	0.250
Dietary NE, Mcal/kg					
Maintenance	1.95	1.98	2.02	2.04	1.98
Gain	1.30	1.32	1.36	1.38	1.32

References

Torrentera, N., Carrasco, R., Salinas-Chavira, J., Plascencia, A., and Zinn, R. A. Influence of methionine supplementation of growing diets enriched with lysine on feedlot performance and characteristics of digestion in Holstein steer calves. 2017. *Asian-Australasian Journal of Animal Sciences*, 30:1, 42-50.

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SUNFLOWER HEAD ROT SURVEYED IN IMPERIAL COUNTY

*Oli Bachie, Agronomy Advisor, UCCE Imperial, Riverside & San Diego Counties & Director
UCCE Imperial County*

Jessie Liu, Staff Research Associate, UCCE Imperial County

Sunflowers (*Helianthus annuus*) are grown in the Imperial Valley and throughout counties in California for the hybrid seed. Hybrid seed stocks are used for planting around the world. According to a local PCA and the survey we conducted; sunflower growing season in the Imperial Valley is from the end of January to June. Hybrid seed production has various numbers of rows of female plants planted between two rows of male sunflower plants for optimal seed output.

During our field survey, we observed *Rhizopus* Head Rot (Figure 1). Our survey was prompted by a report to our office from a local PCA upon spotting an unidentified sunflower problem. We sent out UCCE field technicians to look at the specified field and collect affected sunflower samples from nearby fields as well. The technicians observed that many sunflower fields displayed similar symptoms as the sunflower plants from the PCA reported field. According to our visual survey, about 3 out of 10 sampled sunflowers showed black rot on the base of the head of the sunflower (Figure 1), unrelated to the natural maturing stage of the plant. Our survey was done in late May, when sunflower seeds were nearly ripening.

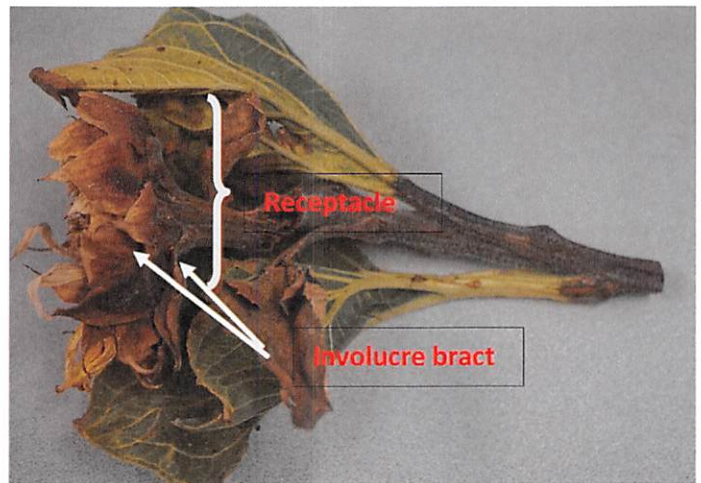


Figure 1. Sunflower showing signs of head rot

Closer examination of plant samples revealed that the symptoms may have been caused by fungal infection. The rot progressed further through the plant from flower heads to the base of stems and through the receptacle and involucre (Figure 1). We believe that the economically damaging aspect of the pathogen is not from its effect on plant stems, but from the effect it may have on sunflower seed yield. The infection may progress into the ovary disk of the flower which compromises the quality of the seed, and the seed oils (Shtienberg, 1997). In some samples, we observed that the pathogen that affected the flower head had their seeds shattered (Figure 2), although most of the sunflowers had intact seeds at the time of harvest. Shattering of the seeds before readiness for harvest could reduce sunflower yield.

Samples of the affected sunflower plant heads were sent to Dr. Cassandra Swett pathology lab at UC Davis. Her lab diagnosed the samples with *Rhizopus* spp., meaning any species of *Rhizopus*, were the pathogens that caused sunflower head rot. There are many other pests of sunflower in the low desert, including blackbirds, doves, grosbeaks and sparrows that not only cause mechanical damage to sunflower, but also spread pathogens from infected to uninfected plants. Furthermore, the high heat and temperatures of the low desert during May and June months could create favorable conditions for the fast spread of sunflower infections (Harveson, 2013; Bhutta et al., 1993). If the disease had appeared sooner in the sunflower's growth cycle, the fungal reproductive structures of *Rhizopus* could have developed spores and easily be spread by wind. While there is no fungicide registered to treat sunflower head rot, there are management practices, including the avoidance of mechanical damage after flowering, limiting bird presences, removing wild sunflowers in proximity that may serve as reservoirs for the pathogen, and controlling other potential pests such as moths (Harveson, 2013). Growers are advised to contact their respective PCAs for new developments and fungal control with fungicides. Growers and PCAs may also refer to the references below, for further information. We thank Dr. Swett and her lab for the support they provided us in identifying the pathogen.



Figure 1 Comparison of sunflower heads, one without infection (top) and 1infected with seeds shattered (bottom)

References

- Shtienberg, D. "Rhizopus Head Rot of Confectionery Sunflower: Effects on Yield Quantity and Quality and Implications for Disease Management." *Phytopathology*, vol. 87, no. 12, 1997, pp. 1226–1232., doi:10.1094/phyto.1997.87.12.1226.
- Bhutta, A.R., Bhatti, M.H.R., Ahmad, S.I. and Ahmad, I., 1993. Prevalence and incidence of sunflower diseases in Pakistan. *Hellia* 16: 93- 98.
- Harveson, M.R., 2013. Rhizopus head rot of sunflower. Nebraska Cooperative Extension NF00-426.

**ROUND #2: 2019 STATE WATER EFFICIENCY AND ENHANCEMENT PROGRAM (SWEEP)
GRANT SOLICITATION**

Kristian Salgado, Community Education Specialist 2 – Climate Smart Agriculture

On Monday October 21st, 2019 the California Department of Food and Agriculture (CDFA) began accepting grant applications for its second round of solicitations for the 2019 State Water Efficiency and Enhancement Program (SWEEP). During this SWEEP solicitation, CDFA will be dispersing approximately \$7 million to California agricultural operations investing in irrigation system that reduce greenhouse gas (GHG) emissions and save water. Agricultural operations can apply for a maximum grant award of \$100,000 for a variety of projects that increase water savings by utilizing technologies, such as weather, soil, or plant-based sensors for irrigation scheduling, and conversion to micro/drip irrigation systems. In addition to water saving practices which may reduce GHG emissions, farmers can also apply for projects such as fuel conversions, improving energy efficiency, switching to low pressure irrigation systems, and variable frequency drives.

The Imperial Valley Water (IVH2O) and University of California Cooperative Extension Imperial (UCCE) will be hosting a SWEEP workshop on Nov. 6th, 2019 from 9am-11am at the Farm Bureau located at 1000 Broadway, El Centro, CA 92243. Agricultural operations in the Imperial County that are interested in applying or willing to learn more about the 2019 SWEEP grant can contact UCCE Irrigation and Water Management Advisor, Dr. Ali Montazar at amontazar@ucanr.edu or Climate Smart Agricultural Specialist, Kristian Salgado at kmsalgado@ucanr.edu. For more information about the grant visit <https://www.cdfa.ca.gov/oefi/sweep/>



Grant Workshop: The State Water Efficiency and Enhancement Program (SWEEP)

WHAT IS SWEEP?

The State Water Efficiency and Enhancement Program (SWEEP) provides financial assistance in the form of grants to implement irrigation systems that *reduce greenhouse gases and save water* on California agricultural operations.

DATE: Wednesday, November 6th, 2019

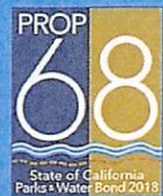
TIME: 9am-11am

LOCATION: Imperial County Farm Bureau
1000 Broadway El Centro, CA 92243

UP TO \$100,000 PER PROJECT!

ELIGIBLE SYSTEM COMPONENTS INCLUDE

- IMPROVED IRRIGATION WATER MANAGEMENT
 - SOIL, WEATHER, PLANT SENSORS
 - MICRO-IRRIGATION
- IMPROVED ENERGY EFFICIENCY
- PUMP REPLACEMENT OR RETROFIT
- FUEL CONVERSION – INCLUDING RENEWABLE ENERGY INSTALLATIONS
 - VARIABLE FREQUENCY DRIVES
 - LOW PRESSURE SYSTEMS
 - REDUCED PUMPING
- OTHER PROJECTS THAT COMBINE WATER SAVINGS AND GHG REDUCTIONS



For more information, contact:

Cherie Watte, IVH20, ccwatte@hotmail.com, (916) 690-3111

Dr Aliasghar Montazar, UCCE, amontazar@ucanr.edu, (442) 265-7707

Kristian Salgado, UCCE, kmsalgado@ucanr.edu, (442) 265-7706

<https://www.cdfa.ca.gov/oefi/sweep/>

Save the Date...



IMPERIAL COUNTY

30th Annual Fall Desert Crops Workshop

Presented by the
University of
California
Cooperative
Extension Imperial
County



DATE:

Thursday,
December 12, 2019

TIME:

7:00am - 12:30pm

Registration @ 6:30 am



LOCATION:

Farm Credit Services
Southwest Ag Center Room

485 Business Park Way,
Imperial, CA 92251

No Cost to
Attend

Pre-Register with: Andrea at
aiestrada@ucanr.edu



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30th Annual Fall Desert Crops Workshop

When: Thursday, December 12, 2019 (7:30 AM to 12:20 PM)
Where: Farm Credit Services Southwest, Ag Center Room
 485 Business Park Way, Imperial, CA 92251

Registration: 7:00 AM to 7:30 AM

To pre-register for workshop please send an email in advance to ajestrada@ucanr.edu with full name of attendee(s).

- Tentative Agenda -

7:00	Registration
7:30	Welcome address: TBA
7:40	Drip Irrigation for Organic Spinach Production and Downy Mildew Management – Ali Montazar, Irrigation and Water Management Advisor, UCCE Imperial County, Holtville, CA
8:00	Assessing and Managing Salinity - Michael Cahn, Irrigation and Water Resources Advisor, UCCE Monterey County, Salinas, CA
8:20	Water Treatment Implementation for Growers - Channah Rock, Professor & Water Quality Specialist, The University of Arizona, Maricopa, AZ
8:40	Residual Soil Nitrates and the Impact of Rotations on N Fertilizer Rates for Healthy Vegetable Production - Richard Smith, Vegetable Crop Production Advisor, UCCE Monterey County, Salinas, CA
9:00	The Benefits of Grazing Sheep on Productivity and Soil Health of Alfalfa - Brooke Latack, Livestock Advisor, UCCE Imperial County, Holtville, CA
9:20	Management of Soilborne Diseases and Downy Mildews of Vegetables in Winter Crops - Alex Putman, Assistant Specialist in Cooperative Extension and Assistant Plant Pathologist, University of California Riverside, Riverside, CA
9:40	-----Break-----
9:55	Laws and Regulation in Industrial Hemp - Carlos Ortiz, Imperial County Agricultural Commissioner, El Centro, CA
10:15	Alternative to Chlorpyrifos Pest Management Options for Low Desert Sugar beet – Oli Bachie, Agronomy Advisor and Director, UCCE Imperial County, Holtville, CA
10:35	Root-knot nematode management: what’s current and what’s coming - Antoon Ploeg, Cooperative Extension Specialist & Nematologist, University of California Riverside, Riverside, CA
10:55	Alfalfa Winter Pest Management and Root Rot Management in Alfalfa - Ayman Mostafa, Area Programmatic Agent and Regional Specialist. University of Arizona Cooperative Extension, Phoenix, AZ
11:15	Winter Insect Control in Alfalfa – Michael Rethwisch, Crop Production and Entomology Advisor, UCCE Riverside (Palo Verde Valley Office), Blythe, CA
11:35	Update on Vegetable Crop Diseases/Pest Problems in the Coachella Valley - Jose Aguiar, Vegetable Crops and Small Farms Advisor, UCCE Riverside, Indio, CA
11:55	Industry Update: TBA
12:20	----- Lunch (Please stay for lunch – Courtesy of Our Industry Sponsors) -----

For additional information on the workshop, please contact organizers Ali Montazar, amontazar@ucanr.edu or Oli Bachie, obachie@ucanr.edu or call us at (442) 265-7700

Pending Continuing Education Unit Approval: CA DPR (3 hrs.), AZ Dept. of AG (3 hrs.) & CCA (4 hrs.)

Please feel free to contact us if you need special accommodations.

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2019 Date Palm Field Day

November 21, 2019
8:30 - 2:15 PM



Coachella Valley Agricultural Research Station
86501 72nd Ave, Thermal, CA 92274

Fee: \$25, lunch included

Agenda

- 8:00am – Registration for CE units, coffee, pastries
- 8:30am- Welcome- Sonia Rios, UCCE Riverside
- 8:45am- Tom Perring, UC Riverside. Current status of Insect and Mite Pests of dates
- 9:15am- Tom Perring, UC Riverside. Part 1: What we know about puffy skin of medjool dates
- 9:30am- Robert Krueger, USDA/ARS. Part 2: What we know about puffy skin of medjool dates/Date research pollination update
- 9:45- Ali Montazar, UCCE. An update on the on-going irrigation management project in California date palm
- 10:15am-Break
- 10:35- Mark Hoddle, UCR. Updates on the South American Palm Weevil Invasion
- 11:35- MaryLou Polek, USDA/ARS. Update on Date Palm Activities at the Repository
- 12:05pm- Lunch- Sponsored by Corteva
- 1:15pm- Peggy Mauk, UC Riverside.
- 1:45 - Bob Mulherin, Riverside Agriculture Commission. Laws and Regulation Updates
- 2:15 – Wrap up

Space is Limited-Register online at:

<http://ucanr.edu/survey/survey.cfm?surveynumber=28232>

*No Cash/Check payment will be accepted on site, day of
DPR/ISA Continuing Education Credits Upon Request



IMPERIAL VALLEY CIMIS REPORT AND UC WATER MANAGEMENT RESOURCES

Ali Montazar, Irrigation & Water Mgmt Advisor, UCCE Imperial & Riverside County

The reference evapotranspiration (ET_o) is derived from a well-watered grass field and may be obtained from the nearest CIMIS (California Irrigation Management Information System) station. CIMIS is a program unit in the Water Use and Efficiency Branch, California Department of Water Resources that manages a network of over 145 automated weather stations in California. The network was designed to assist irrigators in managing their water resources more efficiently. CIMIS ET data are a good guideline for planning irrigations as bottom line, while crop ET may be estimated by multiplying ET_o by a crop coefficient (K_c) which is specific for each crop.

There are three CIMIS stations in Imperial County include Calipatria (CIMIS #41), Seeley (CIMIS #68), and Meloland (CIMIS #87). Data from the CIMIS network are available at:

<http://www.cimis.water.ca.gov>. Estimates of the average daily ET_o for the period of October 1 to December 31 for the Imperial Valley stations are presented in Table 1. These values were calculated using the long-term data of each station.



Table 1. Estimates of average daily potential evapotranspiration (ET_o) in inches per day

Station	November		December		January	
	1-15	16-30	1-15	16-31	1-15	16-31
Calipatria	0.13	0.11	0.09	0.09	0.09	0.10
El Centro (Seeley)	0.14	0.12	0.10	0.09	0.10	0.11
Holtville (Meloland)	0.13	0.11	0.09	0.08	0.09	0.10

For more information about ET and crop coefficients, feel free to contact the UC Imperial County Cooperative Extension office (442-265-7700). You can also find the latest research-based advice and California water & drought management information/resources through link below:

<http://ciwr.ucanr.edu/>.

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