

**February 2017**

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# AGADEMICS

FEBRUARY 2017

WY/UT Ag Da  
January 25-



COLLEGE OF  
AGRICULTURE AND  
NATURAL RESOURCES

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# 19 New Videos!

By Tanya Engel | February 2017

<b>Fall Weed Control</b>	<a href="https://youtu.be/dvtCKJhTdFo">https://youtu.be/dvtCKJhTdFo</a>
<b>Ficus Trees</b>	<a href="https://youtu.be/TlqukwLuJRo">https://youtu.be/TlqukwLuJRo</a>
<b>Green Tomatoes</b>	<a href="https://youtu.be/VF19gjDBRuk">https://youtu.be/VF19gjDBRuk</a>
<b>Grizzly Bear Endangered Species Delisting</b>	<a href="https://www.youtube.com/watch?v=9SYhBnVO4ws">https://www.youtube.com/watch?v=9SYhBnVO4ws</a>
<b>Herbicide Modes of Action</b>	<a href="https://youtu.be/fzn5DqmXggQ">https://youtu.be/fzn5DqmXggQ</a>
<b>Hole in the Wall</b>	<a href="https://youtu.be/mNZ4HDYdlw">https://youtu.be/mNZ4HDYdlw</a>
<b>Indoor Herbs</b>	<a href="https://youtu.be/-E2m3rKcL24">https://youtu.be/-E2m3rKcL24</a>
<b>Iron Deficiency</b>	<a href="https://youtu.be/O8ao8Ahqh3o">https://youtu.be/O8ao8Ahqh3o</a>
<b>Lake Stratification &amp; Turnover</b>	<a href="https://www.youtube.com/watch?v=p_k5T2wnPSg">https://www.youtube.com/watch?v=p_k5T2wnPSg</a>
<b>Pesticide &amp; Chemical Storage</b>	<a href="https://youtu.be/fft3GPZBYk">https://youtu.be/fft3GPZBYk</a>
<b>Polyacrylamide Gel</b>	<a href="https://youtu.be/HiVmY4vLyd4">https://youtu.be/HiVmY4vLyd4</a>
<b>Proper Snow Shoveling</b>	<a href="https://youtu.be/rhm6grmZWAc">https://youtu.be/rhm6grmZWAc</a>
<b>Rocky Mountain Spotted Fever</b>	<a href="https://www.youtube.com/watch?v=RC-UAYpxtOs">https://www.youtube.com/watch?v=RC-UAYpxtOs</a>
<b>Saving Seeds</b>	<a href="https://youtu.be/-j7u7Iu_mrw">https://youtu.be/-j7u7Iu_mrw</a>
<b>Sheridan County</b>	<a href="https://www.youtube.com/watch?v=gjsKHY_563I">https://www.youtube.com/watch?v=gjsKHY_563I</a>
<b>Skull Composting</b>	<a href="https://youtu.be/cJWehaIcuI8">https://youtu.be/cJWehaIcuI8</a>
<b>Sunflower Seeds</b>	<a href="https://youtu.be/eNKko-5BzI4">https://youtu.be/eNKko-5BzI4</a>
<b>Western Meadowlark</b>	<a href="https://www.youtube.com/watch?v=6mMOv-m724k">https://www.youtube.com/watch?v=6mMOv-m724k</a>
<b>Winter Bird Feeding</b>	<a href="https://youtu.be/DRy67mgRIRg">https://youtu.be/DRy67mgRIRg</a>

Fall is a great time to spray weeds before they go dormant for the winter.

Ficus trees are good for large and small spaces in your home. This plant needs proper sunlight and watering schedules, but can be relatively easy to care for.

You can still save the green tomatoes left outside in the cold and ripen them inside your home.

If you are interested in where science and policy decisions meet, you'll want to be following the effort to de-list the Grizzly Bear from the Endangered Species List.

Herbicides have different active ingredients that inhibit weed growth in different ways. Mix up your use of these active ingredients to protect your yard from herbicide resistance.

The famous outlaw hideout Hole in the Wall can be found southwest of Kaycee, WY.

Don't let the winter weather stop you from having fresh herbs. Herbs can be grown indoors and are useful for cooking, aesthetics, and help freshen the stuffy indoor air.

Plants lose the ability to take up iron when soils are too alkaline. There are several short and long-term fixes for iron deficiency.

Large lakes in temperate regions experience regular seasonal changes in temperature that drive biological activity in these lakes.

Follow these tips to safely store chemicals in your home.

Polyacrylamide gel is designed to take up water and release it slowly so your plants stay well watered. When the gel breaks down it releases dangerous chemicals into the environment, so Extension does not recommend its use.

Slow down and take precautions to avoid hurting yourself when you shovel snow this winter.

Rocky Mountain Spotted Fever is tick-borne disease that affects humans and wildlife.

Save seeds from this year's plants to use next Spring.

Sheridan county has a rich and unique history of natural resource extraction, agriculture, and tourism. The town of Sheridan has even been visited by the queen of England.

You can use your garden compost pile to clean your deer or antelope skull this fall.

After harvesting your sunflower heads, dry the seeds in a cool, dry place and you can have seeds for crafting or eating!

This recognizable prairie species is the State Bird of Wyoming. Watch for the Western Meadowlark on fence posts and sagebrush across the state.

Follow this easy recipe to feed birds in your yard all winter long!

# 4 New Publications + Updated Resource Catalog

By Tanya Engel | February 2017

## [Welcome to Thunder Basin](#)

This is the first in a series of factsheets on the wildlife, ecology, and landscape of the Thunder Basin National Grassland in northeastern Wyoming.

## [Evapotranspiration: Basics, Terminology and its Importance](#)

The efficient use of water resources in agriculture requires adequately quantifying the water use, i.e. ET, which represents the main consumptive use of water in agricultural production. ET represents direct response in terms of water losses from the field as a function of soil, water, and crop management and climatic conditions and is a powerful indicator of crop water productivity. Therefore, it is important to understand and accurately quantify ETc, which further can help farmers to use reliable information and tools to make better irrigation decisions. This bulletin describes the basic concept of evapotranspiration and defines the major difference between commonly used ET terms, mainly PET, ETref, and ETc. A common understanding of these terms will help to understand the fundamental ET process and to better communication among producers, extension educators, and researchers.

## [3-Step Body Condition Scoring \(BCS\) for Range Cattle](#)

Body condition scores or BCS are a systematic approach to quantifying the energy reserves of beef cattle grazing on rangeland and pastureland. Changes in these fat and muscle reserves are visually noticeable and are an indication of the nutritional status of the animal, rangeland forage conditions, and reproductive performance. Key times to score cattle are prior to calving, prior to breeding, and at weaning. This is often done 100 days before calving and 60 days before breeding. Body condition of beef cattle are judged on a scale of 1-9 (with 1 being emaciated, 5 being ideal, and 9 being obese). This 3-step guide is an easy to use and practical approach to determining body condition scores of cattle and will assist ranchers in making management decisions.

## [Use of \*Pseudomonas fluorescens\* as a bioherbicide for cheatgrass and other invasive winter annual grass control](#)

Work over the past 15 years has identified unique strains of the ubiquitous soil bacteria *Pseudomonas fluorescens* to control invasive annual grasses. These strains were originally identified from wheat fields in Washington with annual grass injury. From those, specific strains were identified that are reported to only affect certain invasive annual grasses. These strains colonize intercellular space in the roots of the target invasive annual grass and reduce plant growth by inhibiting root cell membrane production. This results in stunting of the target plant. There are currently two strains potentially being utilized as bioherbicides, D7 and ACK55.

## [2017 Resource Catalog](#)

Publications listed in this catalog are available from the University of Wyoming College of Agriculture and Natural Resources through the University of Wyoming Extension and the Wyoming Agricultural Experiment

Station. The catalog is updated throughout the year.

# Proposals Submitted

By Tanya Engel | February 2017

**Collier, Timothy:** \$19,170 to U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) for “Biological Control of Wyoming Weeds.”

**Connett, John, and Alexandre Latchininsky:** \$30,000 to USDA Rural Development for “Wyoming School Integrated Pest Management Outreach and Training.”

**Connett, John, Scott Schell, and Alexandre Latchininsky:** \$5,500,000 to Environmental Protection Agency for “University of Wyoming Pesticide Safety Education Funds Management Program for the Environmental Protection Agency.”

**Crane, Kelly:** \$23,000 to USDA National Institute of Food and Agriculture (NIFA) for “Western Sustainable Agriculture Research and Education Wyoming Development Program 2017-2018.”

**Edwards, Jeffrey:** \$170,000 to Wyoming Department of Agriculture (WDA) for “Pesticide Safety Education Program as Funded by Wyoming Product Registration Fees.”

**Ernest, Holly,** Sue VandeWoude, Kevin Crooks, and Jeff Tracey: \$8,622 to National Science Foundation (NSF) for “REU Supplement: Existing CSU NSF EEID: Mountain Lion Landscape Genomics and Disease Ecology.”

**Kelley, Windy, David Keto, Tana Stith,** Brad Udall, Laura Edwards, and Charles Stoltenow: \$14,325 to South Dakota State University for “Adapting Agriculture to Weather and Extreme Events by Connecting Agricultural Producers to Early Adopters.”

**Latchininsky, Alexandre, and Larry Debrey:** \$111,238 to USDA APHIS for “Wyoming CAPS Infrastructure, Wyoming CAPS Bundled Small Grains, Wyoming CAPS Nematode Survey.”

**Paige, Virginia, Roger Coupal,** Monica Orozco, Edwin Castellanos, Rolando Cifuentes, Margaret Dix, and Margarita Ramirez: \$1,769,949 to NSF for “Integrated Geospatial Multi-Objective Decision Support System for the Lake Atitlan Watershed, Guatemala.”

**Scasta, John:** \$25,000 to Bureau of Land Management for “Understanding and Predicting Interactions between Wildland Fires and Beetle Kill Across States and National Forests.”

**Stowell, Sierra, and Holly Ernest:** \$24,014 to Fish & Wildlife Service for “Genetic Matrixing of Greenback Cutthroat Trout at the Leadville National Fish Hatchery (Colorado).”

# Monies Awarded

By Tanya Engel | February 2017

**Beck, Jeffrey:** \$125,000 from Bureau of Land Management for “Lek-Centric Habitat Use, Resource Selection, Demography, and Genetic Evaluation of the Columbian Sharp-Tailed Grouse in South-Central Wyoming,” and \$125,000 from Wyoming Game and Fish (WGF) for “Identification of Winter Concentration Areas in South-Central Wyoming: Abundance and Resource Selection.”

**Beck, Jeffrey, Anna Chalfoun, Stan Harter, and Tim Vosburgh:** \$241,223 from WGF for “Response for Greater Sage-Grouse to Treatments in Wyoming Big Sagebrush.”

**Bisha, Bledar:** \$134,519 from Access Sensor Technologies LLC for “Low Cost Pathogen Detection for Food Safety, Phase 2.”

**Bittner, Mark:** \$1,000 from Laramie Rivers Conservation District for “Enhancing Nutrition and Sustainability Concepts in Preschool through Gardening - Cost Share Match.”

**Connett, John, and Alexandre Latchininsky:** \$36,000 from WDA for “Pesticide Education Program: School Integrated Pest Management Program.”

**Crane, Kelly:** \$23,000 from Utah State University for “Western Sustainable Agriculture Research and Education (WSARE) Wyoming Professional Development Program (PDP) 2017-2018.”

**Despain, Johnathan, and Brittany Johnson:** \$20,000 from Kansas State University for “4-H Military Partnership Grant 2016-2017.”

**Eberle, Carrie:** \$17,004 from Dow AgroSciences for “Goss’ Wilt Study and Deficit Irrigation Study in Corn,” and \$700 from Syngenta for “Winter Wheat Variety Trial.”

**Ehmke, Cole, Justina Russell, Caleb Carter, Mae Smith, Caitlin Youngquist, and Jeremiah Vardiman:** \$14,500 from Farm Credit Services of America for “Support for Annie’s Project in Wyoming 2017-2019.”

**Ernest, Holly:** \$459,813 from California Department of Fish and Wildlife for “California Black Bear Molecular Mark-Recapture Genetic Analyses.”

**Gigley, Jason:** \$36,000 from National Institutes of Health (NIH) for “Pilot Project: Transition Metal Chelators as Novel Therapeutics against *Toxoplasma gondii*.”

**Hewlett, John:** \$263,000 from USDA Risk Management Agency for “Risk Management Education Addressing Malt Barley Operators; Enterprise Risk Analysis; and Risk Management for Beginning, Retiring/Transitioning, and Other Farmers/Ranchers and Interested Individuals in Wyoming 2016-17.”

**Maczko, Kristie:** \$140,000 from USDA Natural Resources Conservation Service (NRCS) for “Rangeland Soil Health Phase II: Economic Modeling, Case Studies, and Technical Site Visits.”

**Mealor, Brian:** \$169,720 from NRCS for “Provide Technical Assistance in the Gathering of Information Pertaining to the Development of Ecological Sites in Wyoming.”

**Mealor, Brian,** and Clay Wood: \$47,000 from WGF for “Evaluating Threshold Concepts for Improving



Habitat through Cheatgrass Management: Phase II.”

**Miller, Myrna:** \$20,000 from Wyoming Animal Damage Management Board for “Surveillance Testing for Rabies Virus in Wyoming Wildlife.”

**Moore, Mike:** \$7,160 from WDA for “Development of a Gluten Free Dry Bean Production Manual.”

**Rashford, Benjamin, Dannele Peck, Roger Coupal, John Ritten,** Robert Godby, and Shannon Albeka: \$369,473 from Montana State University for “Integrating Sustainable Social, Ecological and Technological Innovation for Achieving Global Climate Stabilization through Negative CO2 Emission Policies.”

**Sbatella, Gustavo:** \$4,000 from Valent for “Weed Control in Alfalfa,” and \$1,200 from Miller Coors LLC for “2016 Growing Season Barley Variety Trial.”

**Scasta, John:** \$11,770 from Utah State University for “Cattle Diets and Performance: Enhancing What We Know with Advanced Plant DNA Technology.”

**Sharma, Vivek:** \$27,386 from Stoller USA for “University of Wyoming and Stoller USA Sugarbeet Testing 2017: Effect of Micro-Nutrient on Sugarbeet Production.”

**Stump, William:** \$26,000 from Kansas State University for “Great Plains Diagnostic Network - Wyoming Component,” and \$21,000 from Bayer for “Investigations in Disease Management for Wyoming Crops.”

**Tekiela, Daniel:** \$10,000 from Bayer for “Effective Control of Rangeland Weeds Using Herbicides.”

# Department of Molecular Biology Seminars

By Tanya Engel | February 2017

Seminars are Fridays, 2:10-3 p.m., Animal Science/Molecular Biology Building, room #103.

**February 3:** "Innate Lymphoid Cell Responses to Mouse Cytomegalovirus in the Salivary Glands," Laurent Brossay, Brown University

**February 10:** "Regulation of Essential Cell Processes during *Bacillus* Development," Jennifer Herman, Texas A&M University

**February 17:** "Extracellular Sialylation and Antibody Function," Brian Cobb, Case Western Reserve University

**February 24:** "New Chemical Tools for Discovering Glycoconjugate Function," Jennifer Kohler, UT Southwestern Medical Center

# Calendar

By Tanya Engel | February 2017

**February 8-9:** Farm and Ranch Days at the Armory Building on the Fremont County Fairgrounds, Riverton.

**February 14-15:** WESTI Ag Days at the Worland Community Complex, Worland

**February 21-22:** High Plains Organic Farming Conference, Laramie County Community Campus, Cheyenne

# Extension staff members honored for communications excellence

By Tanya Engel | February 2017

University of Wyoming Extension Communications and Technology editors took two first place awards and two honorable mentions during the Jan. 19-21 Wyoming Press Association associates annual contest.

**Chavawn Kelley**, writer/editor, earned first place for a single feature for [“A Man on a Horse and a Man on Foot Are Two Different Things,”](#) a story about livestock handling expert Temple Grandin, and honorable mention, single feature, for “Wyoming Conservation Exchange to Put Sagebrush on the Market – for Good,” which was published in UW Extension’s 2016 [CONNECT magazine](#).

Senior editor **Steve Miller** earned first place, photo page or story, for [“Sheridan Field Days,”](#) which featured antique tractors and Belgian draft horses, and honorable mention, feature photo, for “Pistol and Pete,” the summer 2016 cover of [Ag News](#).

Winners were announced at the WPA’s annual winter meeting in Cheyenne. The convention attracted approximately 200 Wyoming newspaper and communications professionals for workshops, seminars and speakers.

“Our staff members work hard to tell UW’s story across Wyoming and beyond, and it’s wonderful to see them recognized for their quality work,” says Chad Baldwin, UW associate vice president for communications and marketing. “There is certainly an abundance of stories to tell about UW’s great students, faculty and staff, and we appreciate their cooperation in spreading the good word about the university.”

UW staff members won a total of three first-place awards in the associates’ contest, five second places, four third places and two honorable mentions.



*Chavawn Kelley, UW  
Extension, writer/editor*

*Steve Miller, UW  
Extension, senior editor*

# College of Agriculture and Natural Resources recognizes outstanding staff, faculty members

By Tanya Engel | February 2017

## Outstanding Employee Awards

Dean Frank Galey in December presented Outstanding Employee Awards to **Trish Hysong**, family and consumer sciences office assistant and agricultural and applied economics accounting associate; **Anne Leonard**, college relations coordinator; and **Kassandra Thomas**, plant sciences and ecosystem science and management office associate.

Also nominated were **Karyn Bercheni**, molecular biology accountant; **Kelly Greenwald**, administrative associate at the James C. Hageman Sustainable Agriculture Research and Extension Center; **Kali McCrackin Goodenough**, Cent\$ible Nutrition Program marketing coordinator; **Joanne Newcomb**, Agricultural Experiment Station office associate; **Alison Shaver**, ecosystem science and management accountant; and **Melissa Stuart**, molecular biology research scientist.



*L-R: Trish Hysong, Dean Frank Galey, Kassandra Thomas, and Anne Leonard*

## Outstanding Educator Awards

The Office of Academic and Student Programs honored Associate Professor **Pamela Langer**, molecular biology, and **Denise Smith**, UW Extension nutrition and food safety educator, with Outstanding Educator Awards.

Also nominated were **Todd Cornish**, associate professor, veterinary science; **Andrew Kniss**, associate professor, plant sciences; **Dallas Mount**, UW Extension range educator in Platte County and serving southeastern Wyoming; **Steven Paisley**, associate professor and extension beef cattle specialist, animal science; and **Christine Wade**, associate professor, family and consumer sciences.



*Denise Smith, UW Extension nutrition and food safety educator*



*Associate Professor Pam Langer with Peter Thorsness, molecular biology department head*

## **Meeboer Classroom Teaching, Outstanding Adviser Awards**

Students in the college voted on teaching and advising awards. Professor **Dan Rule** of animal science received the Lawrence Meeboer Agricultural Classroom Teaching Award. Assistant professor **Derek Scasta**, rangeland specialist, ecosystem science and management, was presented the Outstanding Adviser Award.

Also nominated for the Meeboer Award was Professor **Donal O'Toole**, veterinary science.

Also nominated for the Outstanding Adviser Award were Wyoming Excellence Chair and Professor **Holly Ernest**, veterinary science, and agricultural systems specialist **John Ritten**, associate professor, agricultural and applied economics.



*Dean Frank Galey with Professor Dan Rule*



*Dean Frank Galey with Associate Professor Derek Scasta*

# Journal of Bacteriology editors honor Gomelsky for outstanding service

By Tanya Engel | February 2017



*Journal of Bacteriology* editors presented molecular biology Professor Mark Gomelsky the 2016 Jack Kenney Award for Outstanding Service (<http://jb.asm.org/content/199/1/e00697-16.full>).

Gomelsky received the award for being the top-performing editorial board member, according to the journal. He has served on the editorial board of the journal since 2005. Editors noted he readily accepts assignments and returns high-quality reviews in a timely manner. In the 12 months prior to the editors' meeting, Gomelsky reviewed 13 manuscripts for this journal and declined a review request only once.

Gomelsky joined the UW molecular biology department in 1999 as an assistant professor and became a full professor in 2011. His research focus includes bacterial signal transduction, synthetic biology, optogenetics, and metabolic engineering.

*The Journal of Bacteriology* recognized Professor Mark Gomelsky for his outstanding service to the journal.



# 2017 Wyoming-Utah Ag Days

By Tanya Engel | February 2017

## **First year for event**

Resource management experts and extension specialists in various subject areas from the University of Wyoming and Utah State University presented two days of sessions at the first Wyoming-Utah Ag Days January 25-26 at the Roundhouse in Evanston.

Educator Bridger Feuz says he expects to hold the event again in 2018.

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