

# August 2015



# Table of Contents

- Annual program logs 20th year teaching youths natural resource skills ..... 1**
- Changing Faces, Changing Places ..... 3**
- Monies Awarded ..... 4**
- Proposals Submitted ..... 6**
- Tatmans honored for agriculture industry achievements ..... 8**
- Powell Pride ..... 10**
- College publications receive national honors ..... 11**
- Sunny Sheridan ..... 12**
- Wyoming a world leader in wool education for more than a century ..... 13**

# Annual program logs 20th year teaching youths natural resource skills

By Ann Tanaka | August 2015

Rancher Kelly Guild, sitting on the tailgate of his pickup, was getting ready to answer the question why he was so willing to open up Guild Ranch rangelands near Fort Bridger to youths attending the weeklong Wyoming Resource Education Days (WyRED).

Barbed wire, old posts and other items you'd expect to find in the back of a ranch pickup lie in the bed behind him.

The 30-or-so youths and adults that week in June were trodding, prodding, and poking plant life and soil on the gentle slope up from the dirt road.

"First of all, it's dealing with youth," he says, his young dog content and near. "Anytime, it doesn't matter if it's dealing with WyRED or whatever, I think it's very important to educate our young people. And second, I think we need to get the best minds we can back into agriculture. If they're willing to participate in it, I'm sure willing to help them anyway I can."

## Location Varies, Emphases Do Not

This was the 20th year of the program and the second time at the Uinta County Youth Camp (year 15). The annual program changes location each year.

Youths and adults had climbed into a Lyman Public School bus during morning cool at the high-elevation camp 20 miles or so south of Mountain View to start a day of tours, plant identification, and soil profiling.

Guild met them at the igloo-shaped, charcoal kilns by the side of the road that runs through the ranch. Built in 1867, the kilns - only three of the original 40 remain - provided charcoal to the iron smelters in Utah. He regaled the group with family stories of the kilns and of a bead purse, an appreciation gift from Chief Washakie, that remains in the family.

Connecting youths to landscapes is important, says Windy Kelley, president of the Wyoming section of the Society of Range Management (SRM) and one of the reasons the organization continues the WyRED program. The society this year co-sponsored the program with the Uinta County Conservation District.

## Draws from Across Wyoming

Youths learn relationships between soils and vegetation whether they want to become a wildlife manager, a rancher, farmer, or veterinarian, says Kelley, a University of Wyoming Extension educator. Even if they don't want to work in natural or animal sciences, the knowledge gives them a good understanding of caring for the land.

WyRED drew youths from as far away as Powell and Sundance.

Taitlyn Bethea will be a senior this fall at Sundance High School. She wants to pursue a career in rangeland management, botany or horticulture.

"I thought this would be a good opportunity to expand my knowledge on rangeland plants in Wyoming," says

Bethea, joined by fellow students Bailey Middleton, Haley Merchant, and Megan Olson from Sundance. “Not only that but to meet people from around the state who have the same interest as me.”

Teachers could receive continuing education credits, and elementary and high school teachers mingled with youths while instructors from resource agencies taught plant identification and anatomy, soils, wildlife and resource management, and water/hydrology.

Students huddled at separate stations spread over the rangeland at the beginning of the week of the camp, examined plants and dug holes and looked at soil profiles. That afternoon of instruction ended with a plant anatomy and identification test, the students walking from red flag to red flag stuck by specimens.

### **Teachers Also Attend**

Jim Hickey, a fifth grade teacher at Mountain View Elementary, and his wife, Julie, who teaches first grade, were among the students. They participated in all the events youths did, and listened to a panel of speakers brought to the camp one evening.

What panel members said impressed Jim Hickey.

“It helped these students understand all the opportunities there is in agriculture,” he says. “They may never have the opportunity to own a farm or ranch, but if they have an interest in agriculture, there are many more opportunities for them.”

While there is little leeway in school curriculum, he may be able to work what he learned during the week into classes, such as in science.

“At fifth grade, they start looking at careers and what to do,” he notes. “I’ll have a better knowledge of the opportunities available to them and direct them.”

No slides are available in this gallery

# Changing Faces, Changing Places

By Ann Tanaka | August 2015

## Welcome:

- **Gifford, Marty:** Sweetwater County UW Extension, 4-H youth educator (6/30)

# Monies Awarded

By Ann Tanaka | August 2015

**Dhekney, Sadanand:** \$100,000 from U.S. Department of Agriculture (USDA) Agricultural Research Service for “Improving Grapevine Tolerance to Drought and Heat Stress Using Safe and Eco-friendly Technologies.”

**Gabrielsen, Charlotte, and Melanie Murphy:** \$600 from Sigma Xi and \$1,000 from Society of Wetland Scientists for “Biodiversity in the Context of Climate Change: Implications of Altered Wetland Ephemerality in Prairie Wetlands,” and \$800 from Wetland Foundation for “Gabrielsen Research Travel Costs.”

**Jarvis, Donald:** \$309,531 from National Institutes of Health (NIH) for “15-16 Elucidating the Cellular Mechanisms of Prion Propagation and Clearance for Devising New Targets for Intervention in Prion Disease.”

**Levy, Daniel:** \$792,000 from American Cancer Society for “Regulation of Nuclear Size in *Xenopus* Embryos and Cancer Cells.”

**Mealor, Brian:** \$10,000 from Sublette County Weed and Pest District for “Evaluating the Use of Threshold Concepts for Improving Habitat through Cheatgrass Management,” and \$102,554 from Natural Resources Conservation Service for “Development of Ecological Sites in Wyoming.”

**Nathanielsz, Peter:** \$85,182 from NIH for “Mechanisms of Placental, Fetal Brain and Renal Outcomes of IUGR.”

**Peck, Dannele, Chris Bastian, and Brant Schumaker:** \$60,000 from USDA Animal and Plant Health Inspection Service for “Animal Disease Economics Research: Small Ruminant Feedlots, Wildlife-Livestock Interactions, and Foreign Animal Disease Outbreaks.”

**Sondgeroth, Kerry:** \$132,975 from NIH for “Year 2: The Role of Variable Erythrocyte Surface Antigen (VESA1) Proteins in *Babesia bovi*.”

**Stahl, Peter,** and Hadley Pape: \$9,500 from Pinedale Anticline Project Office for “Seasonal Technician/Research Internship in the Pinedale Anticline Project Office.”

**Tanaka, John, and Kristie Maczko:** \$10,000 from Wyoming Department of Agriculture for “A Sustainable Rangeland Roundtable Expert Panel/Workshop (Wild Horse Panel).”

**Taylor, David:** \$8,250 from Wyoming County Commissioners Association for “Analysis of the Socioeconomic Conditions in Wyoming Counties.”

**Ward, Naomi:** \$380,369 from NIH for “Bioinformatics Core.”

# Proposals Submitted

By Ann Tanaka | August 2015

**Bisha, Bledar**, Alan Franklin, Sarah Bevins, and Kurt VerCauteren: \$97,858 to U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service for “Contamination of Leafy Green Crops with Foodborne Pathogens: Are Wildlife a Problem.”

**Beck, Jeffrey**: \$11,510 to Wyoming Wildlife Foundation for “Red Desert Pronghorn Survival and Reproduction,” and \$5,000 to Memorial Resource Development for “Factors Influencing Pronghorn Survival and Reproduction in South-Central Wyoming.”

**Crawford, Warren, and Kimberly Reaman**: \$196,180 to Bureau of Educational and Cultural Affairs for “American Youth Leadership Program with Ghana: Enhancing Global Perspectives.”

**Despain, Johnathan**: \$2,600 to Wyoming Department of Agriculture (WDA) for “Chaperones for Wyoming State Fair.”

**Dhekney, Sadanand**: \$2,939,348 to USDA National Institute of Food and Agriculture (NIFA) for “Development of Grapevine Cultivars and Rootstocks with Improved Drought and Salinity Tolerance Utilizing Newly-Available Precision Breeding Technology.”

**Ernest, Holly**: \$15,000 to Wyoming Wildlife Foundation for “Wyoming Statewide Bighorn Sheep Population Genetics.”

**Feuz, Bridger, Brian Lee, and Milton Geiger**: \$2,462 to Z4 Energy Systems for “Analyzing the Economic Feasibility of the Z4 Energy Systems Ice-Free Watering System.”

**Geiger, Milton**, Anthony Denzer, Gang Tan, Liping Wang, and Benjamin Gilbert: \$20,000 to Wyoming Business Council for “Measuring and Verifying the Effectiveness of State Energy Office Programs.”

**Hansen, Kristiana**, Nicole Korfanta, **Ginger Paige, Roger Coupal**, Matt Holloran, Jen Lamb, Anne MacKinnon, Amy Pocewicz, Melanie Purcell, and Ted Toombs: \$499,365 to USDA NIFA for “Improving Ecosystem Service Provision through Development of a Conservation Exchange in the Upper Green River Basin of Southwestern Wyoming.”



**Hess, Bret:** \$100,000 to USDA Agricultural Research Service for “Collaborative Long-Term Agro-Ecosystem Research (LTAR) Efforts in the High Plains and Thunder Basin,” and \$169,008 to USDA NIFA for “McIntire-Stennis Competitive Forestry Research Act, McIntire-Stennis Formula.”

**Hufford, Kristina:** \$100,000 to Bureau of Land Management for “Seeds of Success Program: Collections for Archiving and Increase and Ecological Restoration Research.”

**Kniss, Andrew:** \$6,000 to BASF for “Weed Science Research in Agronomic Crops (Continuation).”

**Mealor, Brian:** \$7,000 to WDA for “Statewide Mapping and Prioritization of Cheatgrass - Phase II.”

**Ritten, John:** \$77,964 to Natural Resources Conservation Service for “Learning from the Land: Adaptive Management for Multiple Ecosystem Services,” and \$166,086 to USDA NIFA for “Beef Cattle Production System Decision Support Tools to Enable Improved Genetic, Environmental, and Economic Resource Management.”

**Ritten, John, Steven Paisley, Windy Kelley,** and Justin Derner: \$125,271 to Utah State University for “Linking Long-Term Experimental and Producer Data to Enhance Decision-Making with Weather Variability: Increasing Long-Term Sustainability and Resiliency for Wyoming Ranchers.”

**Sbatella, Gustavo:** \$6,000 to Monsanto Company for “Warrant in Alfalfa,” and \$3,000 to Syngenta for “Broad Leaf Weed Control in Barley.”

**Scasta, John:** \$15,265 to Wyoming Animal Damage Management Board for “Wyoming Livestock Predation Trends and Mitigation Survey.”

**Whipple, Glen:** \$43,951 to USDA NIFA for “Smith Lever Special Needs,” \$16,999 for “UW Extension CSRS,” and \$31,478 for “University of Wyoming Extension CSRS.”

**Zhu, Menqiang,** and Kenneth Livi: \$273,721 from National Science Foundation for “The Geochemical Processes Controlling Vacancy and Mn(III) Concentration in Birnessite Structure.”

# Tatmans honored for agriculture industry achievements

By Ann Tanaka | August 2015



*Kathy and Wayne Tatman, both former educators with the University of Wyoming Extension, are inductees this month into the Wyoming Agriculture Hall of Fame.*

*Courtesy Wyoming Livestock Roundup*

Wayne and Kathy Tatman are no strangers to Wyoming's agriculture industry. The couple has a long history of service to the industry in Wyoming and in their community of Lingle. In recognition of their many hours spent, as well as their incredible influence in the industry, Wayne and Kathy will be inducted into the Wyoming Agriculture Hall of Fame.

“Wayne and Kathy have strong roots in Wyoming agriculture,” says Gary Stone, who nominated the couple. “They truly are the ‘best of the best’ when it comes to Wyoming agriculture.”

Wayne and Kathy both worked with University of Wyoming Extension for many years. Wayne’s extension career spanned more than 30 years. Wayne’s educational efforts focused on livestock and crop production and economic issues, along with invasive plant, agricultural research and water issues.

“Wayne has an impressive resume of promoting agriculture to consumers and helping Wyoming’s youths through the 4-H youth leadership program,” says UW College of Agriculture and Natural Resources dean Frank Galey. “Wayne is the true definition of a great extension educator.”

While Wayne worked in the production side of the industry, Kathy focused her career on consumers. She spent her years in extension educating on food nutrition, food safety and preparation and food economics. She was widely recognized for her leadership in the arena.

“Kathy joined the UW Extension Cent\$ible Nutrition Program in 2000,” says Galey. “During her eight years with the program, she worked with low-income families to provide nutrition, meal planning, food safety and food preparation. She was also deeply involved in 4-H youth leadership programs.”

Galey also mentioned Kathy was integral in developing nutrition curriculum for the state of Wyoming, a monumental effort.

Former University of Wyoming President Tom Buchanan says, “As longtime representatives of UW Extension, Wayne and Kathy helped literally hundreds of Wyoming residents understand the impact of agriculture on so many facets of life. The proof is in the countless hours they spent working side by side with community members to successfully apply research-based knowledge to real-world problems.”

The Tatmans will be inducted into the Wyoming Agriculture Hall of Fame Aug. 12 during the annual Ag Hall of Fame picnic, sponsored by Chesapeake Energy, Farm Credit Services of America and the *Wyoming Livestock Roundup*. This year’s picnic will be held at Riverside Park in Douglas beginning at 5:30 p.m.

The Wyoming Agriculture Hall of Fame was started in 1992 to honor those citizens in Wyoming who have gone above and beyond the call of duty to support the state’s agriculture industry.

Dennis Sun, publisher of the *Wyoming Livestock Roundup*, says, “The Ag Hall of Fame is about honoring those people who have been important for the Wyoming ag industry. When we honor those people, we honor the achievements of the entire industry as well.”

Each year, *Roundup* readers and agriculture industry representatives nominate their neighbors and others to be inducted into the Hall of Fame. A panel of three independent judges ranks nominees to select the year’s inductees. Inductees receive a belt buckle and poster in recognition of the accomplishment.

For more information on the Ag Hall of Fame or this year’s picnic, call 307-234-2700 or email [roundup@wylr.net](mailto:roundup@wylr.net).

# Powell Pride

By Ann Tanaka | August 2015

More than 140 attended the Powell Research and Extension Center field day Thursday, July 16. The day of research posters, discussions, and tours concluded with a barbecue. A full gallery of photographs can be seen on the UW Extension Facebook page. Search UW Extension. The field days bulletin showing the research at Powell, the James C. Hageman Sustainable Agriculture Research and Extension Center near Lingle, and the centers at Laramie and Sheridan, is at [http://www.uwyo.edu/uwexpstn/\\_files/docs/2015-field-days-bulletin.pdf](http://www.uwyo.edu/uwexpstn/_files/docs/2015-field-days-bulletin.pdf).

No slides are available in this gallery

# College publications receive national honors

By Ann Tanaka | August 2015

Three publications from the College of Agriculture and Natural Resources and published in 2014 received honors in the Association for Communication Excellence Critique and Awards program.

The awards were presented during the association's international conference in Charleston, South Carolina, in June.

\* **CONNECT**, which features UW Extension educators and their engagement with Wyoming residents, received the Gold Award in One- to Full-color Popular Publications.

\* **Reflections**, which showcases research in the college, received two silver awards: one in Technical Publications and the interactive version in the Electronic Publications category.

\* **Ag News**, the newsletter for the college, tied for a Bronze Award in Newsletters.

The publications are produced through extension's Office of Communications and Technology.

ACE is an international association of communicators, educators, and information technologists. The organization offers professional development and networking for individuals who extend knowledge about agriculture, natural resources, and life and human sciences.



# Sunny Sheridan

By Ann Tanaka | August 2015

More than 80 attended the Sheridan Research and Extension Center field day Tuesday, July 14, at the center at Sheridan College. The Sheridan County Cattlewomen prepared the meal while vegetables from the centers were used for salads. Nutrition and food safety educator Kentz Willis made mint ice cream! A full gallery of photographs can be seen on the UW Extension Facebook page. Search UW Extension. The field days bulletin showing the research at the Sheridan center, James C. Hageman Sustainable Agriculture Research and Extension Center near Lingle, and the centers at Laramie and Powell, is at [http://www.uwyo.edu/uwexpstn/\\_files/docs/2015-field-days-bulletin.pdf](http://www.uwyo.edu/uwexpstn/_files/docs/2015-field-days-bulletin.pdf).

No slides are available in this gallery



# Wyoming a world leader in wool education for more than a century

By Ann Tanaka | August 2015



*John Hill, left, stands behind the Warhill sheep he developed with Fred Warren. The Warhill breed has a natural tendency to twin and is well-suited to a range environment. (American Heritage Center Photo)*

Wyoming's immense economic and academic contributions to the wool industry can be traced to John A. Hill, who helped establish a wool department, laboratory and library at the University of Wyoming that lasted for more than 100 years, ultimately improving fleeces throughout the world.

Hill's contributions and legacy were among topics discussed during "Our Place in the West ... and Beyond: Wyoming at 125," a recent UW conference celebrating 125 years of Wyoming statehood. David Kruger, a UW agricultural research librarian, traced the university's emergence as a world leader in wool research beginning in the early 1900s.

## Lobbies for Wool Laboratory

Kruger said Hill studied wool science at UW and was well aware of the need to improve wool in Wyoming herds. He joined the faculty in the early 1900s and successfully lobbied for a wool laboratory to teach, gather and disseminate wool research to Wyoming and beyond.

"He greatly improved wool cleaning and scouring, and established improved culling techniques to resolve problems caused by poor sheep breeding," Kruger says. "He personally assisted ranchers in culling, and was widely respected in Wyoming agriculture."

Wyoming stock growers who followed Hill's direction found their fleece averages had increased by two to three pounds after one year, Kruger says, which translated into \$1.5 million additional dollars for sheep growers across the state.

## More than a Laboratory

In 1923, Hill was named dean of the College of Agriculture, and hired former student Robert Burns to run the wool department. Under their leadership, the wool department became known for far more than just its laboratory. In addition to running its scouring and production facilities, and conducting wool research, the department continued its extension activities for sheep growers throughout the state.

The professors sought ways to determine potential shrinkage of fleece fibers based on breeding, nutrition, and other environmental conditions. Ram performance testing for wool quality became an ongoing project. Additional research led to techniques for maximizing yield potential as well as coring techniques during wool processing, creating knowledge that was transferred to students and, ultimately, back to wool producers.

Burns significantly expanded the department's knowledge base by creating a physical wool library that acquired books, research article clippings, and wool fiber samples to perpetually build and organize an

informational base of historical and contemporary wool research.

## Develop National Standards



*UW faculty member Alex Johnston weighs a fleece in the UW wool laboratory in this undated photo. (American Heritage Center Photo)*

Beginning in the late 1930s, Hill and Burns, along with new hire Alexander Johnston, brought further notoriety to UW after the U.S. Department of Agriculture (USDA) tasked them with using the wool laboratory to develop federal standards for wool fiber, particularly as they pertained to fiber diameter, fiber length and fiber shrinkage.

The faculty and staff members engaged in many research ventures throughout the world, often serving on national agricultural teams and traveling internationally as part of USDA missions and the U.S. AID program. Faculty published their discoveries from places as disparate as Afghanistan, Australia, China, Europe, Iran, Iraq and New Zealand.

From the 1930s into the 1960s, the collection became quite substantial, with more than 1,000 books on sheep, wool and wool-related topics in agriculture. It ultimately featured 259 bound volumes of more than 10,000 articles published on wool and wool research.

## Exclusive Building for Wool

When construction booms came to the university after World War II, Hill gained approval for a new College of Agriculture building, with an additional building exclusively for the wool department and a wool laboratory with one of the most modern commercial scouring facilities of its time.

Hill died in 1951, but UW continued as a national and world leader in wool research into the 1970s, Kruger said. As wool processing began to shift overseas and clothing increasingly shifted toward synthetic fibers, significant reduction of wool scouring facilities across the United States followed.

By 1980, UW was the only land-grant institution in the United States to still offer a degree in wool, much less the only one to have ever offered master's and doctoral degrees in the subject.

Bob Stobart, UW's last wool faculty member, continued to use the lab and library until 2002.

Kruger said the UW Libraries helped coordinate removal of the equipment and contents of the library and, with other partners including the American Heritage Center and Wyoming Territorial Park, plans to preserve the historical artifacts to improve the value of Wyoming wool and make the knowledge accessible for future generations.