FUND RAISING IDEAS TO SUPPORT MASTER GARDENER PROGRAMS

Begeman, J.*

Urban Horticulture Agent, University of Arizona / Pima County Cooperative Extension, 4210 N. Campbell Ave., Tucson, Arizona 85719, jbegeman@ag.arizona.edu

The Master Gardeners in Pima County Arizona used several fund raising activities to provide funding and support for the Master Gardener program. These include: plant sales (3 conducted annually), garden art sales, white elephant sales, Master Gardener cook book sales, quilt raffle, mosaic tile table raffle, planting guide sales, garden book sales, sales of tickets to an annual Spring Master Gardener Home Garden Tour and class registration fees. Proceeds form these fund raising efforts are used to support the development of Master Gardener Demonstration Gardens, purchase reference materials for our plant clinic, provide Master Gardener recognition awards, support Master Gardener vests and polo shirts, purchase banners for outreach activities, and to support the operation of a small Master Gardener vineyard and winery. Oversight of all fund raising activities is provided by the Pima County Urban Horticulture Agent. Fund raising activities have supported the program with an additional $15,000 annually, providing opportunities not currently available under the limited program support funding available through the University.

COUNTY AT A GLANCE: TOOLS FOR UNDERSTANDING COMMUNITIES

Brody*, B. [1], Eborn, B. [2], Hanson, L[3], Sara Howe[4], Schmidt, M.[5], Taylor, G.[6], Traver, S.[7], Dearien, C.[8], Gray, D.[9]

[1]Extension Educator, University of Idaho Extension, Valley County, P.O. Box 751 Cascade, Idaho, 83611, bbrody@uidaho.edu
[2]Extension Educator, University of Idaho Extension, Teton County, 89 N. Main, Driggs, Idaho, 83422, beborn@iddaho.edu
[3]Extension Educator, University of Idaho Extension, Jerome County, 600 2nd Avenue West, Jerome, Idaho, 83338, lhansen@uidaho.edu
[4]Extension Educator, University of Idaho Extension, Boundary County, P.O. Box 267, Bonners Ferry, Idaho, 83805, sarahs@uidaho.edu
[5]Extension Educator, University of Idaho Extension, Idaho County, 320 W. Main, Rm.3, Grangeville, Idaho, 83530, mschmidt@uidaho.edu
[6]Associate Professor, University of Idaho Extension, Agricultural Economics and Rural Sociology Department, P.O. Box 442334, Moscow, Idaho, 83844, gtaylor@uidaho.edu
[7]Extension Educator, University of Idaho Extension, Bonner County, 4205 North Boyer Avenue, Sandpoint, Idaho, 83864, straver@uidaho.edu
[8]Research Associate, University of Idaho, Agricultural Economics and Rural Sociology Department, P.O. Box 442334, Moscow, Idaho, 83844, cdearien@uidaho.edu
[9] Research Analyst, University of Idaho, Agricultural Economics and Rural Sociology Department, P.O. Box 442334, Moscow, Idaho, 83844, dgray@uidaho.edu

Idaho was the 4th fastest growing state in the U.S. in 2005. Statewide population growth has affected many of Idaho's rural counties. Long-time residents and new-comers alike are not often aware of the rapidly shifting economic, demographic, and social circumstances surrounding them. The general public and local leaders are concerned about the future of Idaho's rural counties. Extension Educators on the Community Development team developed the *County at a Glance* tri-fold brochures and posters that highlight several social and economic trends and conditions in Idaho's counties. Through educational materials created by UI extension educators, residents can gain a research-based, non-biased understanding of the general economic, social, and demographic circumstances of the county in which they live. Spotlighted issues include: population growth, employment, housing, Hispanic population, income, education, unemployment, poverty, and crime. Educators have distributed hundreds of copies of the brochure to local residents, business leaders, chambers of commerce, political leaders, economic development boards, and individuals throughout the state. The information is also displayed in county courthouses and on local chamber of commerce websites where they catch the attention of many interested citizens. In just a few minutes, the brochures and posters help readers gain a better understanding of the economic, social, and demographic conditions of their county and compare those conditions to the state and nation. The materials provide individuals with research-based information necessary to make sound decisions in planning for the future of rapidly changing communities.

AGRICULTURE ECONOMIC DEVELOPMENT: FORAGE MARKETING AND DAIRY RELOCATION

Gale*, J.A.[1]

[1]Agriculture Economic Development Area Extension Agent, Utah State University Extension, 250 N. Main, Cnty. Adm. Bldg., Richfield, Utah 84701, jodyg@ext.usu.edu

Historically alfalfa hay has been the primary cash crop in central Utah. Much of it has been exported to areas of high dairy cow concentrations in southern and central California. In 1989, USU Extension, in partnership with elected officials, Farm Bureau, hay growers, an electrical utility, and local dairymen, developed a program to increase the "local" market for alfalfa hay and other forages. The concept was to "Bring the Cows to the Feed" to increase the local demand for forages, create jobs, increase tax base, develop support businesses, increase market for replacement heifers and increase milk production. This on-going program has resulted in the relocation of twelve family operations, and an increase of 14,300+ head of dairy cows. Construction of the Dutch Cowboy Dairy will house 2,000-4,500 head and an announcement is pending for an additional 3,000-4,500 head dairy. This is significant recognizing Utah still has less than 90,000 head of dairy cows. These cows have increased the local demand for alfalfa hay by 59,500 tons and for silage by 44,600 tons annually. These forages have an estimated value of $5.4 million and $1.3 million dollars, respectively. The number of jobs has increased by 163 and several new support businesses have been created or expanded.

COLLABORATING WITH INDUSTRY TO MEET THE EDUCATIONAL NEEDS OF BOTH UNDERSERVED AND TRADITIONAL AUDIENCES: THE UTAH SHEEP AND GOAT EDUCATION DAYS

Chapman*, C.K.[1], C.V. Bagley[2], L.G. McNeal[3], and T. Boyer[4]

[1]Area Animal Scientist, Utah State University Extension, 250 N. Main, Richfield, Utah 84701-2158, kimc@ext.usu.edu
[2]Extension Veterinarian, Utah State University Extension, 5600 Old Main Hill, Logan, Utah 84322-5600, clellb@ext.usu.edu
[3]Professor, Department of Animal, Dairy and Veterinary Sciences, Utah State University, 4815 Old Main Hill, Logan, Utah 84322-4815, sheepman@cc.usu.edu
[4]Chair, Utah Sheep and Goat Education Day Committee, Utah Wool Growers Association, ewenique@allwest.net

During the 1990's state-wide sheep education programs in Utah became virtually non-existent due to a lack of support from traditional producers for programs earlier in the decade. In 2002, Utah State University Extension was approached by a member of the Utah Wool Growers Association (UWGA) who entered the sheep business with a non-farm background and desired an educational field day to help other similar growers. The first field day, the "UWGA Lambing Seminar" was held in February 2003 with 212 sheep producers in attendance. The Sheep and Goat Education Day evolved from that seminar. The Mountain States Meat Goat Association became a partner in 2005 and the 2006 event was the largest gathering ever with 323 producers and students from seven states. Keynote sessions were held on Leading-Edge Management, Safe Animal Handling, and Advanced Lambing and Kidding Husbandry. Fifty-eight percent, 40% and 60% of attendees reported they received "considerable" new information from the keynote speakers, respectively. Afternoon rotations included Small Ruminant Nutrition, Se Nutrition, Managing Predators, OFDA and On-Ranch Wool Testing and Facilities/Fencing Design. Pre- & post-rotation session testing showed statistically significant ($P \leq .01$) increases in understanding for all topics (pre-test response range of 1.62-2.66 and post-test range of 3.14-3.98, where 1=no understanding & 5=complete understanding). The tremendous success of these programs is attributed to industry support and participation in the event. Producer response prompted organizers to move to a large convention arena for the 2007 event.

SUSTAINABLE SMALL ACREAGE FARMING AND RANCHING WORKSHOPS

Findlay*, J.R.[1], McAleese, J.[2], Love, S.[3], Jones, W.[4], Gunn, D.[5], Panting, R.[6], Harrison, S.[7]

[1] University of Idaho Extension Educator, Bannock County, P.O. Box 4228, Pocatello, Idaho 83205, rfindlay@uidaho.edu
[2] Three Rivers Resource Conservation and Development Council, 1551 Baldy Street, Suite 2, Pocatello, Idaho 83201-7117, mcaleese39@hotmail.com
[3] University of Idaho Extension Horticulturalist, Aberdeen Research and Extension Center, P.O. Box AA, Aberdeen, Idaho 83210, slove@uidaho.edu
[4] University of Idaho Extension Educator, Bonneville County, 2925 Rollandet, Idaho Falls, Idaho 83402, wjones@uidaho.edu
[5] University of Idaho Extension Educator, P.O. box 306, Pima Drive, Fort Hall, Idaho 83203, dgunn@uidaho.edu
[6] University of Idaho Extension Educator, Oneida County, 30 N. 1st W., Malad, Idaho 83252, rpanting@uidaho.edu
[7] University of Idaho Extension Educator, Caribou County, 53 E. 1st S., Soda Springs, Idaho 83276, sharrison@uidaho.edu

Extension Agents in Idaho have found that the number of phone calls, farm visits, and office visits have been increasing in the area of sustainable small acreage farming. While they are one of our traditional client bases, they have not received targeted programming in the past. In Bannock County, extension educators offered a ten week workshop series covering the basics of sustainable small scale agriculture. We used the Cultivating Success- Sustainable Small Farms Education program as our curricula. This is a community based farming and ranching education program developed by the University of Idaho, Washington State, and Rural Roots. The classes offered included: what is sustainability?, whole farm goals, whole farm planning, resource evaluation, direct marketing, enterprise assessment, ecological soils management, sustainable crop production, integrated pest and weed management, organics, soil test kits, livestock and poultry management, equipment and facilities management, grazing on small acreage, enterprise budgets and tools for whole farm success. Extension educators as well as farmers lectured to the students. The farmers who gave lectures were able to give practical advice from their own experiences in sustainable small acreage farming. Thirteen people attended the workshops. Many of the students attended with other family members or business partners. This significantly increased the potential for change as most of the decision makers of the various operations were in attendance and exposed to the same information. Those who attended the workshop indicated there was a potential for change because of the information presented at the workshops.

"WELCOME TO OUR AREA" BRINGS RESIDENTS, COMMUNITY LEADERS, AND EXTENSION TOGETHER

McLain*, B.[1], Dye, L.D.[2]

[1]Assistant Professor, Agriculture Extension Educator, University of Idaho Extension, 134 N Clark, Room 30, Rigby, Idaho 83442, bmclain@uidaho.edu
[2]Associate Professor, Family Consumer Science Extension Educator, University of Idaho Extension, 134 N Clark, Room 30, Rigby, Idaho 83442, ldye@uidaho.edu

Jefferson County, Idaho is currently experiencing rapid population growth. New and long time residents are not always aware of what the University of Idaho Extension has to offer in their county. Many county residents are not informed of what local services and public organizations are available in the county. The University of Idaho Jefferson County Extension Educators responded by organizing a series of open houses called Welcome to Our Area. County residents were invited to come to an informal setting and visit with Extension personnel, county government leaders, and other local organizations. Each of these groups was given space to set up a booth, highlight what services they offer, and visit the public. A survey was done among those who attended the 2006 Rigby venue. Fifty-seven percent responded that prior to this event they were not aware of the services offered by the University of Idaho Extension. Sixty-seven percent said there were community services represented that evening that they were not aware of before. Ninety-six percent responded that they would like to see this kind of event again.

INTERMOUNTAIN LIVESTOCK JUDGES' TRAINING ELEVATES KNOWLEDGE OF YOUTH-SHOW JUDGES

Harrison, S.N.[1], Nash*, S.A.[2]

[1] Ranch Management/4-H Extension Educator, University of Idaho Extension, 53 E. 1st South, Soda Springs, ID 83276, sharrison@uidaho.edu
[2]4-H Youth/Livestock Extension Educator, University of Idaho Extension, 583 W. Sexton, Blackfoot, ID 83221, snash@uidaho.edu

Livestock judges are hired to evaluate youth livestock projects at fairs. These judges influence countless leaders and youth and may impact the direction of animal agriculture. Judges must be knowledgeable about current animal evaluation methods that support the mission of youth development. The circle of knowledgeable individuals qualified to evaluate in this manner is limited. Extension personnel in Idaho, Utah, and Wyoming formed a team and developed the Intermountain Livestock Judges' Training. The training targeted livestock producers, vocational agricultural instructors, extension educators, volunteers and livestock enthusiasts. At the training, participants had the opportunity to learn the mission of youth development, the role and responsibility of a judge at a youth livestock show, gain skills to interact with youth exhibitors and parents, current livestock selection techniques, proper terminology and teaching an audience the evaluation methods used in the show ring. Commodity groups and merchants in the three states provided funding to pay for participants' meals and breaks. At the conclusion of the three-day training, participants completed a survey. Ninety-five percent of the participants agreed or strongly agreed that they learned the mission of youth development and their role and responsibility as a youth livestock judge. All participants indicated they learned current livestock evaluation techniques. Additionally, 95% agreed or strongly agreed they learned how to inform the audience about evaluation methods used in the show ring and 70% agreed or strongly agreed that they increased their livestock judging terminology. Trainings were held in 2004 and 2006 with another planned for 2007.

EDUCATING IDAHO'S YOUTH ABOUT ELECTRONIC IDENTIFICATION (EID) TECHNOLOGY AND THE NATIONAL ANIMAL IDENTIFICATION SYSTEM

Kinder*, C.A.[1] and Ahola, J.K. [2]

[1]Area 4-H Extension Educator, University of Idaho, 203 Lucy Lane, Gooding, ID 83330, ckinder@uidaho.edu
[2]Extension Beef Specialist, University of Idaho, 16952 S. 10th Ave, Caldwell, ID 83607, jahola@uidaho.edu

USDA initiated the implementation of the National Animal Identification System (NAIS) in 2004. The NAIS is a cooperative State-Federal-industry partnership to standardize and expand animal identification programs and practices to all livestock species and poultry. The NAIS is being developed through the integration of three components — premises identification, animal identification, and animal tracking. The long-term goal of the NAIS is to provide animal health officials with the capability to identify all livestock and premises that had direct contact with a disease of concern within 48 hours of discovery. There is a need for Idaho producers (youth and adult) to understand the three components of the NAIS program. Objectives of the 2006 Youth Steer Electronic Identification (EID) Program were to: 1) inform clientele of the NAIS in Idaho, 2) provide premises registration information and an opportunity for premises registration, and 3) demonstrate identification technologies. University of Idaho Extension faculty obtained 1,500 matched-pair sets (EID tag plus panel tag) and eight EID readers from the Idaho State Department of Agriculture to identify market cattle across the state. Extension educators provided youth, families, and associated volunteers with information about the NAIS and premises registration. Idaho Association County Agricultural Agents sponsored a technology training in-service for educators and volunteers. Educational workshops were conducted at a variety of events including jackpot shows, beef breed association exhibits, and county and state fairs to demonstrate the EID technology. Market steers were tagged in 30 of Idaho's 42 county fairs.

PASTURE GRASS VARIETIES FOR LIVESTOCK IN WALLA WALLA COUNTY

Moberg*, D.M.[1]

[1]Extension Educator, Washington State University-Walla Walla County, Walla Walla, WA 99362

Past extension programs have shown that property owners have a need for information on pasture grass varieties for livestock in Walla Walla County, Washington. The challenges of growing a productive grass pasture in Walla Walla County include the range of precipitation from 6" to 25" of annual rainfall, the lack of water rights for many properties, a large variation of soil types throughout the valley, weed pressure, and the lack of knowledge by property owners. This educational poster was created to be displayed at various Extension-sponsored events and will describe the advantages and disadvantages of cool season grasses suitable for Walla Walla County. The information will help property owners make better decisions when establishing or renovating their pastures. The initial grasses under review are Kentucky bluegrass, orchardgrass, smooth brome, perennial ryegrass, tall fescue, hard fescues, and wheatgrasses. Follow-up projects will include an Enterprise Budget for Establishing Grass Pasture for Livestock in Walla Walla County, a Poisonous Plant Guide for Livestock, pasture seminars, and pasture walks.

YOUTH EXPERIENCE SCIENCE AT JUNIOR HIGH SCIENCE DAYS

Williams*, S.K.[1], Withers, J.[2], Wolf, A.[3]

[1]Lemhi County Extension Educator, University of Idaho of Idaho Extension, 201 Broadway, Salmon, Idaho 83467, shannonw@uidaho.edu
[2] Cummings Center Education Committee member, 815 Lemhi Road, Salmon, Idaho 83467, witherslaw@salmoninternet.com
[3] Science Teacher, Salmon High School, 805 Lena, Salmon, Idaho 83467, awolf411@hotmail.com

Youth ages 12 to 14 like to learn by self discovery as they develop from concrete to abstract thinkers. Teens enjoy learning in small groups so that they can test ideas. Group experiences provide opportunities for social interaction and acceptance. Science is a subject that lends itself to the experiential learning model and to the utilization of outdoor classrooms. The potential to have "Science Days" for Junior High Students in Lemhi County was identified as a top priority by the University of Idaho Nancy M. Cummings Center Research, Extension and Education Center education committee. Sixth graders focus on agriculture sciences; seventh graders focus on noxious weeds; and eighth graders have the opportunity to utilize global positioning units and do water quality tests. To date, over 650 youth and adults have participated. Teachers and chaperones were asked to complete a survey that indicated that they felt the "Science Days" were an effective use of time and resources. The surveyed adults noted that the youth learned the following things from the Science Days:

1. Cars and 4-wheelers spread weeds (7^{th} grade)
2. Spurge plants can irritate your skin (7^{th} grade)
3. Reasons for different type of weed control (7^{th} grade)
4. Different types of irrigation (6^{th} grade)
5. Cows have 4 stomachs (6^{th} grade)
6. Different plants are good for different animals (6^{th} grade)
7. How many satellites it takes for accurate GPS reading (8^{th} grade)
8. The temperature of the water makes a difference in the amount of dissolved oxygen in the water. (8^{th} grade)

DIESEL FUEL PRICES AND ITS EFFECT ON FEEDER CATTLE MARKETS IN UTAH

Holmgren*, L. N.[1] and Bailey, D.[2]

[1]Agriculture/4-H Extension Agent, Utah State University Extension, 195 West 1100 South, Brigham City, Utah 84302, lyleh@ext.usu.edu
[2]Agricultural Marketing Specialist, Utah State University Extension, 4815 Old Main Hill, Logan, UT 84322-4815, d.bailey@usu.edu

Many cow/calf producers in the Western U.S. rely a great deal on the trucking industry to transport cows and calves from spring calving pastures to summer ranges and then to markets in the fall. Most of the feeder cattle produced in Utah are marketed out of state. Many are shipped to the Midwest, Texas, Idaho and California. Since 1994, fuel prices have risen 194 percent in the western region on the United States causing a dramatic increase in freight. The cost of shipping cattle is a significant expense for the enterprise and is tied closely to the price of diesel fuel. With freight charges exceeding $3.00 per loaded mile and assuming that the cattle are shipped 500 miles away, the cost to ship those cattle will at least $1,500 per load. This increase in shipping costs could significantly effect where and how feeder cattle are marketed in Utah and the Western United States. In this study, the historical relationships between local feeder cattle prices, the futures market and diesel fuel prices are examined. Historically these relationships have been fairly predictable but in recent months local cash feeder cattle prices have become relatively lower compared to the futures market, showing a divergence of feeder cattle prices which may be attributed to higher fuel costs. The early results of this study suggest that fuel prices are affecting feeder cattle cash prices in Utah. Further study will provide producers with empirical information showing the relationship of fuel prices on cattle markets in Utah. It could also provide them with a barometer of market changes on the industry.

LOST RIVERS GRAZING ACADEMY

Jensen,*K.S.[1], Cheyney, C.[2], Hawkins, J.[3], Shewmaker, G.[4], Gray, W.[5], Williams, S. [6], Gerrish, J.[7], Griggs, T.[8]

[1] Extension Agent, University of Idaho Extension-Owyhee County, Marsing, Idaho 83639,
[2]Superintendant, University of Idaho Nancy M. Cummings Research and Extension Center and Butte County Extension Agent, Arco, Idaho, 83213
[3] Extension Agent, University of Idaho-Custer County, Challis, Idaho, 83226
[4] Extension Forage Specialist, University of Idaho-Twin Falls R&E Center, Twin Falls, Idaho, 83303
[5]Extension Ag Economist, University of Idaho-Twin Falls R&E Center, Twin Falls, Idaho, 83303
[6]Extension Agent, University of Idaho-Lemhi County, Salmon, Idaho, 83467
[7]Grazing Lands Consultant, May, Idaho, 83253
[8] Forage Specialist-Utah State University, Logan, Utah, 84322

Domestic pastures are generally grazed season-long. According to Gerrish and Roberts (1999) pastures grazed longer than 30 days have a harvesting efficiency of 40% or less. High stocking rates and low stock densities are common, leading to severe grazing, which limits re-growth potential and overall yield. Pasture operators lack motivation to improve management because: 1) conventional management has traditionally been viewed as adequate; 2) good irrigated pastures are undervalued; 3) pastures appear to be more resilient to abuse than other crops; 4) land typically planted to domestic pasture is perceived as marginal and therefore of limited financial value; and 5) producers have not recognized the ecological value of pastures. To improve livestock operator understanding and implementation of the principles of Management-intensive Grazing (MiG), outreach programs featuring multi-day hands on workshops for operators have been held across southern Idaho. Topics covered in the intensive 4 day, hands-on workshop include the five principles of grazing, tools for managing grazing, anatomy and physiology of forage plants, grazing cell design, low stress livestock handling techniques, and livestock health considerations as well as others. Participants in these workshops come away with a better understanding of the principles involved and often put what they learn into practice on their own places. This growing network of operators is developing, adapting and implementing more economically efficient and environmentally acceptable methods for harvesting and utilizing forages.

EDUCATING IDAHO CATTLE PRODUCERS ABOUT BEEF QUALITY ASSURANCE AND THE NATIONAL ANIMAL IDENTIFICATION SYSTEM THROUGH A UNIVERSITY-GOVERNMENT-INDUSTRY PARTNERSHIP

Ahola*, J.K.[1], Glaze, J.B., Jr.[2]

[1]Extension Beef Specialist, University of Idaho Extension, 16952 S. 10th Ave., Caldwell, Idaho, 83607, jahola@uidaho.edu
[2]Extension Beef Specialist, University of Idaho Extension, 315 Falls Ave. E., Twin Falls, Idaho, 83301, bglaze@uidaho.edu

Seventeen workshops were held across Idaho during a 4-month period to educate beef and dairy cattle producers about Beef Quality Assurance (BQA) and the National Animal Identification System (NAIS). Workshops were developed and led by University of Idaho extension faculty, with financial and logistical support provided by the Idaho Beef Council, Idaho State Department of Agriculture (ISDA), Idaho Cattle Association, Northwest Pilot Project, and Idaho Farm Bureau. The primary goals were to offer certification/re-certification in the Idaho BQA Program, and to offer participants the opportunity to voluntarily register their NAIS premises with ISDA. Four topics (BQA, biosecurity, NAIS, and animal identification) were presented in a hands-on (whenever possible) and interactive manner by industry veterinarians, ISDA representatives, and University of Idaho faculty. Of the 559 attendees, 86.0% completed a BQA Certification Test and Contract (resulting in 481 BQA Certified producers) and 75.0% completed a written evaluation. Using a 5-point Likert scale (1 = not important, 5 = very important) participants rated the importance of BQA and NAIS at 4.59 and 3.81, respectively. Similarly, a 4-point scale (1 = least liked, 4 = most liked) was used to gauge how well the four topics were liked or disliked. Biosecurity ranked highest (3.25), followed by the NAIS (3.13), individual identification options (3.06), and BQA techniques (2.91). Based on the evaluations, 87.7% of participants responded that it "was helpful to be able to learn about the NAIS and register their premises with ISDA," and 98.5% indicated that they "would recommend this workshop to others."

BEEF CARCASS EDUCATION BY PARTICIPATING IN THE JUAB COUNTY FAIR STEER CARCASS CONTEST

Banks*. J.E.

Agriculture/Youth Agent, Utah State University Extension, Juab County, 160 N Main Nephi, Utah 84648, jeffb@ext.usu.edu

Evaluation of beef quality and composition is important to cattle producers, meat packers and retailers, and consumers. Consumers desire cuts of beef that are lean, nutritious, and possess desirable eating characteristics. Meat researchers have developed reliable methods for measuring the factors that influence eating characteristics and factors affecting yield of lean cuts. Using these evaluation techniques, producers and packers can produce and sell carcasses that meet consumer demand. For the past 31 years, Juab County has conducted a steer carcass contest for 4-H and FFA members exhibiting steers at the county fair. The purpose of the steer carcass contest is to assist youth, leaders, and parents in: 1) producing high quality carcasses 2) producing high yielding carcasses and 3) promoting a desirable, marketable product. During the 31 year period, 873 head of steers were entered in the carcass contests. Carcass data during these years was gathered from local independent processing plants and used to calculate several items including, yield grade, quality grade and carcass rate of gain. Each year's results were presented to exhibitors, parents and leaders. Currently a power point presentation is used that includes USDA grading standards, a picture of each steer at the beginning weigh in, one at the fair, the steer's rib eye, and individual carcass information. As a result of the 31 years of contests, over 850 youth and 1700 adults have received training in beef carcass evaluation.

THE INFLUENCE OF MULTI-SPECIES GRAZING IN CONTINUOUS CRP

Van Vleet*, S.M.[1]

[1]Extension Educator, Agriculture and Natural Resources, Washington State University, 310 N. Main St., Colfax, Washington 99111, svanvleet@wsu.edu

Whitman County has approximately 200,000 acres (20% of the county's cropland) in CRP. Undesirable weeds in CRP lands have been on the increase and are increasingly difficult to control. In 2005, experiments to graze continuous CRP stands were implemented in Whitman County. A holistic management approach was used for grazing. Pastures of varying sizes were set up and permanent sampling points were placed in each pasture. The permanent sampling points were evaluated on weed control, weed shift and reestablishment of grasses. Livestock (cattle-black Angus, sheep-Suffolk) were evaluated for weight gain and maintenance of health. Differences were observed in the percentage of forage eaten, vegetation change after one grazing season and the reestablishment of grassy vegetation. In all pastures, reed canarygrass (*Phalaris arundinaceae*) increased 50% or more in sampling areas containing some canarygrass. Sampling areas containing primarily catchweed bedstraw (*Galium aparine*), lambsquarter (*Chenopodium album*), and fiddleneck (*Amsinckia menziesii*) in 2005 were repopulated, after one grazing season, with tumble mustard (*Sisymbrium altissimum*) and downy brome (*Bromus tectorum*). Animal health was maintained and cattle weight gains ranged between 1.8 lb/day in 2005 to 1.6 lbs/day in 2006. Sheep remained at their maintenance weights because they did not lamb.

ON-RANCH APPLICATION OF ELECTRONIC IDENTIFICATION EARTAGS AND A COMPUTERIZED RECORD SYSTEM FOR PERMANENT IDENTIFICATION AND MANAGEMENT OF BEEF CATTLE

England, J.J[1], Gunn, D.[2], Williams*, S.K.[3]

[1]Extension Veterinarian, University of Idaho Extension, 1020 Homedale, Caldwell, ID 83607-8249, jengland@uidaho.edu
[2] Fort Hall Extension Educator, University of Idaho Extension, PO Box 306, Fort Hall, ID 83203-0306, dgunn@uidaho.edu
[3] Lemhi County Extension Educator, University of Idaho, 201 Broadway, Salmon, ID 83467, shannonw@uidaho.edu

The United States Department of Agriculture has identified the goal to track animals with their movements and locations within 48 hours of a major disease discovery. To accomplish this, animals must be individually identified. Electronic identification devices (EID's) imprinted with a unique 15 digit number are being explored as the method of identification. In 2005, Dr. James England secured funds to tag 7,600 head of cattle and examine the logistics, adaptability, practicality and retention of EID's. Shannon Williams and Danielle Gunn worked with producers in Lemhi County and Fort Hall Indian Reservation, respectively, to apply and test the technology trying to determine the retention rate, compatibility with normal corral "functions" and use in management decisions. As Extension personnel have worked with producers and industry, the learning curve has been steep in many areas. Many of the corral situations are not adaptable to computers and wand readers. In those situations, information is recorded by hand to be entered into the computer later. The technology has been tested in all types of weather including snow, wind, rain, and freezing temperatures. Producers and extension personnel have noticed differences in "tag packaging" and have given feed-back to industry. Some ranches are utilizing the EIDs into their record keep system. As of March, 2006, 17 ranches with over 7,000 head of cattle have been tagged. Retention rates after seven to ten months has been over 99% and less than .5% of the tags have failed.

TRAINING SESSIONS EQUIP UNIVERSITY OF IDAHO EXTENSION EDUCATORS TO ADDRESS QUESTIONS RELATED TO THE NATIONAL ANIMAL IDENTIFICATION SYSTEM

Glaze*, J.B., Jr.[1], Ahola, J.K.[2]

[1]Extension Beef Specialist, University of Idaho Extension, P.O. Box 1827, Twin Falls, Idaho, 83303, bglaze@uidaho.edu
[2]Extension Beef Specialist, University of Idaho Extension, 16952 S. 10th Ave., Caldwell, Idaho, 83607, jahola@uidaho.edu

In conjunction with the 2005 University of Idaho Extension Annual Conference, a training session was conducted to keep faculty abreast of topics related to the National Animal Identification System (NAIS) and provide a forum for discussion of future educational efforts. Session topics included: 1) Current status of the NAIS from a USDA perspective, 2) NAIS outreach efforts in Colorado, 3) NAIS outreach efforts in Minnesota, 4) NAIS in Idaho, and 5) Current status of the NAIS database. Subsequent to this initial session, University of Idaho Extension faculty and Idaho State Department of Agriculture personnel met to develop a standard set of educational materials for use at Extension faculty and brand inspector training sessions. Standard topics identified included: 1) NAIS from an epidemiological standpoint, 2) NAIS strategic plan, 3) NAIS program standards, 4) electronic identification eartag and reader technology, and 5) premises registration. From May to September 2005, six training (4 brand inspector, 2 Extension faculty) sessions were held. Of approximately 30 participants at the Extension sessions, 14 completed post-session evaluation forms. Using a 5-point Likert scale (1 = low, 5 = high), participants were asked to rank their knowledge of the topics prior to the sessions and following the sessions. Evaluation results indicated that all participants had an increase in knowledge of the topics presented. When asked, 100% of participants indicated they felt better equipped to handle NAIS questions as a result of the sessions.

FIBER DIGESTIBILITY OF COOL SEASON GRASSES

Downing, T.[1], B. Frisch[2], P. French[3].

[1] Dairy Agent, Oregon State University, 2204 4th St., Tillamook, OR 97141. troy.downing@oregonstate.edu
[2]Student, Oregon State University, Animal Science Dept., Withycombe Hall 112, Corvallis, OR.
[3]Dairy nutritionist, Oregon State University, Animal Science Dept., Withycombe Hall 112, Corvallis, OR. patrick.french@oregonstat.edu

Grasses have generally been marketed and selected based on yield and maturity date. Currently, grass varieties are just beginning to be marketed based on their fiber digestibility. However, independent data on differences in neutral detergent fiber digestibility (NDFD) between and within cool-season grass species is limited. The objective of this study was to determine if NDFD differs between species. Five varieties each of perennial ryegrass, orchardgrass, and tall fescue were compared. Non-irrigated plots were mechanically harvested six times at approximately 28 day intervals beginning in March and continuing through August. A forty eight-hour in vitro NDF Digestibility procedure was performed using a Daisy^{II} Incubator. Yield was similar across species and averaged 1,895 lb dry matter per acre per cutting for a total of 11,370 lb dry matter. Neutral detergent fiber was slightly less for ryegrass (47.1%) compared with tall fescue (48.0%) and orchardgrass (48.5%). Neutral detergent fiber increased and NDFD decreased as the growing season progressed. Neutral detergent fiber digestibility was greater for ryegrass (80.4%) compared to orchardgrass and tall fescue (77.5%). Differences between the lowest and highest NDFD were 22% for ryegrass, 16% for fescue, and 14% for orchardgrass. On average, digestible NDF did not differ across species and was 713 lb per acre per cutting. The difference between the lowest and highest varieties within each species was 23% for ryegrass and 10% for both orchardgrass and tall fescue.

WEED CONTROL OF OIL SEEDS FOR ALTERNATIVE CROPS, FEEDS, AND BIO-FUELS

Drake, D.R.[1], Palmer*, M. D.[2], Gale*, J.A.[3], Worwood, D. R.[4], Bagley, V.L.[5]

[1]Area Agronomy Extension Agent, Utah State University Extension, 250 N. Main, Cnty. Adm. Bldg., Richfield, Utah 84701, davidd@ext.usu.edu
[2]Sanpete County Extension Agent, Utah State University Extension, 325 W. 100 N., Ephraim, Utah 84627, mattp@ext.usu.edu
[3]Area Agriculture Economic Development Extension Agent, Utah State University Extension, 250 N. Main, Cnty. Adm. Bldg., Richfield, Utah 84701, jodyg@ext.usu.edu
[4]Emery County Extension Agent, Utah State University Extension, Courthouse, 75 E. Main, Castle Dale, Utah, 84513, dennisw@ext.usu.edu
[5]Piute and Wayne Counties Extension Agent, Utah State University Extension, Courthouse, PO Box 39, Junction, Utah, 84740, verlb@ext.usu.edu

Oil seeds provide a significant opportunity for alternative crops in Utah agricultural operations. Alternative crops are needed for enterprise diversification, alternative livestock feeds, and are of particular interest for bio-fuels production as a result of drastic price increases for gasoline and diesel fuel. Localized research information is needed for various, readily available, oil seed crops regarding their adaptability, culture, oil yield, economics, and production potential. In the spring of 2006 research plots were established in four central Utah counties using a Randomized Complete Block Design (RCBD) to evaluate the species adaptability and weed control methodology for *Brassica napus* (canola-rape seed), *Helianthus annuus* (sunflower), *Camelina sativa* (camelina-false flax), and *Carthamus tinctorius* (safflower). Plots were seeded at one dryland and five irrigated locations. Two preemergent herbicides, trifluralin (Treflan®) and ethalfluralin (Sonolan®); were used in a split plot design. Canola entries were glyphosate resistant (Roundup Ready®) and were evaluated with and without the use of glyphosate herbicide. Preemergent herbicide treatment produced lower weed populations with no apparent crop injury in all species. Ethalfuralin provided better weed control than trifluralin at some locations. Preemergent weed control was not sufficient in some locations depending on weed species. Preemergent combined with glyphosate treatments provided superior weed control with no apparent crop injury in canola plots.

NITRATE AND WATER USE EFFICIENCY IN ONION PRODUCTION USING DRIP AND FURROW IRRIGATION SYSTEMS

Neufeld*, J.D.[1], S. Reddy[2]

[1]University of Idaho, Canyon County Extension Educator-Crops, P.O. Box 1058, Caldwell, ID 83606, jerryn@uidaho.edu
[2]University of Idaho, Washington County Extension Educator, 485 East Third, Weiser, ID, sreddy@uidaho.edu

Groundwater sampling in Canyon County indicates that nitrate-nitrogen concentrations are mostly within health standards, but are on the rise. Groundwater sampling in Washington County indicates that nitrate-nitrogen concentrations are frequently above health standards. High nitrate levels in drinking water cause several health problems, one of which is "blue baby" syndrome. Deep percolation of irrigation water and nitrogen from cropland is recognized as a contributor to groundwater contamination. Onion production has been determined to have high nitrate nitrogen leaching potential. Over 10,000 acres of onion production occur in the Treasure Valley of Idaho. There are efforts in both Canyon and Washington Counties to improve irrigation water management through the use of surge and drip irrigation, land leveling, straw mulching and the use of Poly-Acrylamide. However, many growers still use furrow irrigation. Growers using furrow irrigation could improve their irrigation and fertilizer use efficiency if they had instruction and access to accurate, convenient, and inexpensive moisture monitoring equipment. This project demonstrates that different irrigation systems (drip and furrow) can influence water and nitrogen use efficiency and can potentially reduce groundwater contamination. Data from four years of study will be presented.

EVALUATION OF SALINITY CONTROL PRACTICES IN THE UINTA BASIN

Kitchen*, B.M.[1], Cooper, T.D.[2], Hill, R.W.[3], Godfrey, E.B.[4]

[1]Agriculture/Natural Resource Agent, Utah State University Extension, 152 E. 100 N., Vernal, Utah 84078, boydk@ext.usu.edu
[2]Agriculture/Natural Resource Agent, Utah State University Extension, P.O. Box 978, Duchesne, Utah 84021, troyc@ext.usu.edu
[3]Irrigation Specialist, Utah State University Extension, 4105 Old Main Hill, Logan, Utah 84322-4105, bobh@ext.usu.edu
[4]Farm Management Specialist, Utah State University Extension, 3530 Old Main Hill, Logan, Utah 84322-3530, bruceg@ext.usu.edu

The emphasis of salinity control in the Uinta Basin of Utah since 1980 has been to assist farmers in replacing inefficient flood irrigation systems with sprinkler systems. Anticipating the expiration of contracts and the aging of systems, the seven-state Colorado River Salinity Control Forum sought to assess the condition of older, improved irrigation systems and the attitude of farmers about replacement. The Forum is concerned with maintaining the salinity benefits attributable to sprinklers. The Forum asked USU Extension, through the NRCS, to conduct a study of wheel move and hand line sprinklers. The study was conducted during fall 2005 and spring 2006 and included contract reviews, farmer interviews and field inspections of irrigation systems. Field inspections were conducted dry since it was not during the irrigation season. The interviews indicated that farmers expected the systems to last about 25 years. Condition of sprinkler systems varied widely and was a function of age, maintenance and damage caused by grazing animals. Underground components appeared to be in better condition than above ground components. Leaks, sticky drains and non-uniform nozzle size appear to have the most potential for reducing irrigation efficiency. Most farmers plan to replace worn-out sprinkler systems. Some plan to replace wheel move or hand lines with pivot systems. A few producers plan to return to flood systems, while a small number plan to sell the farm. Most farmers are willing to continue using sprinklers but may need financial assistance to replace worn systems.

ALFALFA YIELD RESPONSE TO FOUR FOLIAR APPLIED SOIL AMENDMENTS

Drake*, D.R.

Sevier County Agriculture and Natural Resources Extension Agent, Utah State University Extension, 250 N. Main, Cnty. Adm. Bldg., Richfield, Utah 84701, davidd@ext.usu.edu

Non-traditional soil amendments of unknown or unproven utility are being marketed to western U.S. alfalfa producers as products to increase forage production, forage quality, soil fertility, and beneficial soil properties. Generally, products contain low percentages of macro and micro nutrients, cultured substances, and various raw or extracted materials. Four commercial products were evaluated for alfalfa (*Medicago sativa*) forage yield and quality in 2005 and 2006 in Salina, Utah. Amendments were applied by center pivot fertigation to vegetative stage alfalfa before first cutting in 2005 and after first cutting in 2006. Treatments were arranged in randomized complete blocks with six replications. Treatment areas were wedge shaped and approximately 2.5 acres. Alfalfa forage was harvested four times during the growing season. Response to soil amendments varied by treatment, cutting, and year. In 2005 significant differences between treatments were only observed in the third cutting and in season totals. Two treatments yielded less than the control and two treatments yielded higher than the control. Significant differences between treatments were not observed in the first cutting in 2006. Further results from the 2006 production year will also be presented.

PHOSPHORUS FERTILZATION IN IRRIGATED ALFALFA: SOURCE AND MANAGEMENT IMPLICATIONS

Reid*, C.R.[1], Winward, D.L.[2] and Koenig R.T.[3]

[1] Natural Resources/Agriculture Agent, Utah State University Extension, P.O. Box 69, Cedar City, Utah 84721, chadr@ext.usu.edu
[2] Associate Professor, Southern Utah University, Agriculture and Nutrition Science Department, 351 West Center, Cedar City, Utah 84720, winward@suu.edu
[3] Extension Specialist, Department of Crop and Soil Sciences, Washington State University,
P.O. Box 646420 Pullman, WA, 99164 richk@wsu.edu

Phosphorus (P) fertilization is one of the highest input costs in alfalfa production in the western U.S. Fluid P sources recently became available to growers in Southern Utah counties. This new source of fertilizer generated many questions and claims as to its agronomic performance compared to dry P fertilizer. To answer some of these questions the authors engaged in a multi-year experiment to evaluate the effects of source, rate and placement of P fertilizer on yields of irrigated alfalfa. This study compared broadcast dry monoammonium phosphate (11-52-0) and fluid ammonium phosphate (10-34-0), and fluid 10-34-0 applied in surface bands with 6, 12 or 24-inch spacing, at rates equivalent to ½ X and 1X soil test recommendation. Band placement produced higher concentrations of soil test P in bands. Sites responded to P fertilization, with yield increases ranging from to 1.0 to 2.5 tons/A (43 to 111%) above the unfertilized control at one site and 0.9 to 1.8 tons/A (21 to 41%) above the control at the other. However no significant differences in yields were observed among P sources and in three years of research, few differences were found between broadcast and surface band placement of fluid P. In 2003, a single concentrated band of fluid P was placed in the center of replicated plots. Tissue sampling away from the concentrated band indicated alfalfa was able to absorb P as far as 36 inches away from concentrated bands. It appears that alfalfa is capable of obtaining P from broadcast or banded fluid P placements, and that both are effective placement methods. Therefore, growers should make P source and management decisions based on other considerations beside agronomic performance of these fertilizer sources.

SURVIVABILITY OF ORCHARD GRASS, MEADOW BROME GRASS AND TALL FESCUE GRASS VARIETIES IN A COLD DESERT ENVIROMENT

Jensen K.B.[1], Waldron B.L.[2], Horton W.H.[3], Heaton*, K. M.[4], Robbins J.G.[5], and Peel M.D.[6]

[1]Research Plant Geneticist, Agriculture Research Service Forage and Range Lab, Utah State University, 6300 Old Main Hill, Logan, UT 84322-6300, Kevin@cc.usu.edu
[2]Research Plant Geneticist, Agriculture Research Service Forage and Range Lab, Utah State University, 6300 Old Main Hill, Logan, UT 84322-6300, blw@cc.usu.edu
[3]Range Scientist, Agriculture Research Service Forage and Range Lab, Utah State University, 6300 Old Main Hill, Logan, UT 84322-6300, hhorton@cc.usu.edu
[4]Agriculture Agent/County Director, Utah State University Extension Kane/Garfield County, P.O. Box 77, Panguitch, UT 84759, kevinh@ext.usu.edu
[5]Research Plant Geneticist, Agriculture Research Service Forage and Range Lab, Utah State University, 6300 Old Main Hill, Logan, UT 84322-6300, mpeel@cc.usu.edu
[6]Research Plant Geneticist, Agriculture Research Service Forage and Range Lab, Utah State University, 6300 Old Main Hill, Logan, UT 84322-6300, joseph.robins@usu.edu

Panguitch, Utah is the epitome of a cold, desert environment. A 74 day frost free growing season, 10 inches of precipitation, little if any winter snow cover and winter temperatures often dipping to -20 ° Fahrenheit challenge grass persistence and forage production. These factors encouraged the USDA Agriculture Research Service to cooperate with Utah State University Experiment Farm and Utah State University Extension Service to identify genetic variation of survivability within orchard grass, meadow brome grass and tall fescue grass varieties. Plots were established in the spring of 2004 and harvested three times each summer. Winter injury was measured the spring of 2005 and 2006. Winter injury was scored visually on a 1 to 9 basis with 1 being dead and 9 having no apparent injury. Combined over 2005 and 2006, plot winter injury in orchard grass ranged from 3.9 to 6.6 and averaged 5.7. Plot winter injury in meadow brome grass ranged from 8.7 to 9.0 and averaged 8.9. Plot winter injury in tall fescue grass ranged from 1.9 to 5.6 and averaged 5.4. As controls, perennial rye grass and timothy grass averaged 1.6 and 7.5, respectively. Scientists will use the data to select and improve varieties. Extension personnel are using this information to provide better recommendations to local farmers. Farmers will reap the benefit of longer, more productive pasture stands.

FORAGE WINTER WHEAT PRODUCTION FOR GRAZING OR HAY PRODUCTION IN EIGHT MONTANA COUNTIES

Carlstrom*, R.D.[1], Broesder, J.T.[2], Cash, S.D.[3], Gibbs, W.[4], Johnson, G.R.[5], Lucas, D.[6], Miller, E.T.[7], Reed, M.A.[8], Reich, G.A.[9], Schile, K.D.[10], Surber, L.M.[11], Wichman, D.M.[12], Williams, K.E.[13]

[1]Extension Agent, Gallatin County Extension, 201 W. Madison, Suite 300, Belgrade, MT 59714-3958, carlstrom@montana.edu
[2]Extension Agent, Hill County Extension, 315 Fourth St., Havre, MT 59501-3923, jbroesder@montana.edu
[3]Agronomy Specialist, Montana State University, Department of Animal & Range Sciences, P.O. Box 172900, Bozeman, MT 59717-2900, dcash@montana.edu
[4]Extension Agent, Judith Basin County Extension, P.O. Box 427, Stanford, MT 59479-0427
[5]Extension Agent, Ravalli County Extension, 215 S. 4th St., Suite G, Hamilton, MT 59840-2703, acxrj@montana.edu
[6]Extension Agent, Granite County Extension, P.O. Box 665, Philipsburg, MT 59858-0665, acxdl@montana.edu
[7]Extension Agent, Garfield County Extension, P.O. Box 81, Jordan, MT 59337-0081, emiller@montana.edu
[8]Extension Agent, Wheatland County Extension, P.O. Box 733, Harlowton, MT 59036-0733, reed@montana.edu
[9]Producer, P.O. Box 195, Willow Creek, MT 59760-0195, reichbros@theglobal.net
[10]Horticulturist/Agriculture Assistant, Gallatin County Extension, 201 W. Madison, Suite 300, Belgrade, MT 59714-3958, gallatin2@montana.edu
[11]Research Associate, Montana State University, Animal & Range Sciences Department, Bozeman, MT 59717-2900, lmsurber@montana.edu
[12]Superintendent/Agronomist, Montana State University, Central Agricultural Research Center, HC90 Box 20, Moccasin, MT 59462-9702, dwichman@montana.edu
[13]Extension Agent, Custer County Extension, 1010 Main St., Miles City, MT 59301-3419, kentw@montana.edu

Cereal forages are widely adaptable for ranchers in the northern Great Plains. These crops are productive, and have fairly good forage quality for livestock diets. Montana climatic conditions favor winter cereals. Winter cereal forages mature earlier in summer, requiring less irrigation. In ongoing research trials, it is demonstrated that winter cereal forages could complement or displace spring cereals for dry hay. However, little information was available about the agronomic and feeding values of winter cereals compared to spring cereals. In 2005, the Montana Agricultural Experiment Station (MAES) released 'Willow Creek' winter wheat (tall, awnless, late maturing) as a new forage crop. Concurrent with its release, MAES and Extension Service agents in eight counties planted demonstration strips (1-10 acre) at 11 farms, adjacent to other winter or spring cereals grown for hay. In 2005, spring forage growth rate was monitored, hay yield was estimated from field clippings taken by technicians, producers and county

agents, and forage quality was determined on all samples. Across all sites, Willow Creek winter wheat grew 2 cm in height (147 lbs DM per acre) per day (24 May – 21 June), and dry matter yields ranged from 3,836 to 8,386 lbs per acre (1.9 to 4.2 ton per acre). In two backgrounding studies Willow Creek winter wheat hay performed favorably. Surveys of 133 producer attendees at field days (during crop growth) and at a feedlot tour indicated that if Willow Creek winter wheat seed were currently available, 102 producers would plant it on about 9600 acre.

COMMUNICATING CLIMATE CHANGE INFORMATION THROUGH COOPERATIVE EXTENSION

Jones*, C.K.[1], Crimmins, M.A.[2]

[1]Agriculture and Natural Resources Extension Agent, University of Arizona, Gila County Cooperative Extension, 5515 Apache Avenue, Suite 600, Globe, Arizona 85501, ckjones@cals.arizona.edu
[2]Climate Science Extension Specialist, University of Arizona, Department of Soil, Water & Environmental Science, P.O. Box 210038, Tucson, Arizona 85721, crimmins@cals.aruzona.edu

In response to the 2002 wildfire season and pine beetle outbreaks in Arizona and throughout the West, the University of Arizona Cooperative Extension Climate and Natural Resources Working Group was initiated as a think tank in 2003. The working group developed an innovative workshop approach to explore the concerns of natural resources managers by fostering dialogue and collaboration between managers (end-users of scientific knowledge), extension agents and specialists (interpreters and disseminators of scientific knowledge), and leading scientists (producers of scientific knowledge). Two workshops attended by approximately 250 people have been conducted, one focused on climate impacts on forests and woodlands, and one on rangelands. Interactive, thought-provoking breakout discussions and climate scenario exercises have been employed to engage the audience. Fact sheets and the climate scenario exercise are being developed and published to reach a broader audience. More workshops are being planned to address the needs of resource managers working with riparian systems and low desert areas of the Southwest. We are finding a strong demand for climate change information coming from the natural resource management communities across the Southwest. As well, climatologists and ecologists are eager to share their knowledge and are interested in new research questions that meet the needs of resource managers. As such, there exists an important window of opportunity for Cooperative Extension to take the lead as "translators" and "information brokers" to put climatic and ecological science research findings into simpler terms and to facilitate better understanding and application.

THE PLANT SCIENCES CENTER, A RESOURCE FOR SOUTHEASTERN ARIZONA

Call*, R. E.[1]

[1]Horticulture Agent, University of Arizona Cooperative Extension, 450 South Haskell Avenue, Willcox, AZ 85643, recall@ag.arizona.edu

The Plant Sciences Center (PCS), established in 1998, is a research and educational facility and a repository for salvaged native plants from public works constructions projects. Initially, 2,456 plants were salvaged from State Highway 90 expansion project. Plants are used for revegetation, planting demonstrations and propagation mother-stock..The PCS facility conducts research and demonstrations that are relevant to high desert conditions in SE Arizona,as well as serving as an herbarium. A water usage demonstration landscape was constructed in 2003, with four automated irrigated plots, each having an independent water meter. Plots consist of two xeriscapes with different mulches, and two turfgrass plots- one warm-season, one cool-season. The demonstration landscape plots, from October 2003 through 2005, used the following gallons of water: cool-season turf (fescue)- 42,008; warm-season turf (buffalograss/bluegrama)- 18,993; xeriscape with organic mulch- 2,712; and xeriscape with inorganic mulch- 70. High desert adapted plants were planted last fall in a replicated study using three watering schedules to determine water use Measurements and subjective rating of plants in the plots were made to quantify growth and visual acceptability. Another study of low water use ornamental plants was established to determine soil borne disease susceptibility. Water harvesting demonstrations were installed to use rainwater from the roof of the Cochise County Herbarium. The herbarium is a volunteer effort, involving Master Gardeners, that houses over 1,600 mounted plants. The plants are being photographed and placed on a website as a public resource. Website: http://cals.arizona.edu/cochise/psc/index.htm

RELATIONSHIP BETWEEN SIZE OF VEGETATIVE BUFFERS AND TRANSPORT OF FECAL COLIFORM FROM PASTURELANDS TREATED WITH DAIRY COW MANURE

Downing*, T.W.[1]

[1] Dairy Extension Agent, Oregon State University, 2204 4th St. Tillamook, OR 97141, troy.downing@oregonstate.edu

Field spreading of dairy manure can contaminate streams and estuaries with fecal coliform bacteria (FCB), posing health hazards and impairing beneficial uses such as recreation and shellfish harvesting. The installation of vegetated buffers between application areas and streams is a common best management practice (BMP). It is important that we determine buffer widths that will simultaneously protect water quality and require the smallest buffer width necessary. Buffer size requirements have typically been established by political process and it has been unclear what degree of treatment could be expected. Here we show that installation of a vegetated buffer on loamy soils dramatically reduced the bacterial contamination of runoff water from manure-treated pasturelands. However, the size of the vegetated buffer was not an important determinant of the extent to which bacteria were removed from runoff. Results from 17 experimental treatment cells during 9 rainstorms indicated that only 10% of the runoff samples collected from treatment cells having vegetated buffers exhibited FCB concentrations > 200 colony forming units (cfu)/100 ml, and the median concentration for all cells containing vegetated buffers was only 6 cfu/100 ml. The presence of a vegetated buffer of any size, from 1 m to 25 m, generally reduced the median FCB concentration in runoff by more than 99%. This result was largely due to the observed high rate of infiltration of precipitation, even during large storms (up to 20 cm). It appears that FCB contamination of runoff from manure-treated pasturelands may be disproportionately associated with specific field or management conditions, such as the presence of soils that exhibit low water infiltration and generate larger volumes of runoff. Buffer size regulations that do not consider such differences may not be efficient or effective in reducing bacterial contamination of runoff.

TEACHING HOME GARDENERS ABOUT IPM STRATEGIES BY EDUCATING NURSERY AND GARDEN CENTER EMPLOYEES

Cox*, L.

Horticulture Agent, Utah State University Extension, 179 North Main, #111, Logan, Utah 84321, loraliec@ext.usu.edu

For the majority of home gardeners, their first introduction to insect, disease and weed control is through local nurseries and garden centers. Traditionally, these businesses simply recommend chemicals for garden problems. For busy employees, with limited knowledge of pest control, it's more convenient to pick a product from a list rather than take time to study the problem and explain non-chemical options. An Integrated Pest Management program is new to most home gardeners as well as garden center employees. IPM does not call for eradication of a pest, but rather acceptance of tolerable levels. In addition to accepting a degree of damage from pests, the IPM concept also encourages reducing the amount of chemicals introduced into the environment. In order to supply reliable pest control information to consumers via garden center employees, employees must first have current, correct information available to share. In an attempt to educate nursery and garden center employees about IPM strategies, a plant diagnostic workshop was presented this past winter in Cache and Box Elder counties. County agents in conjunction with the Utah Department of Agriculture and Food (UDAF) compiled a list of potential participants and extended an invitation with a pre-assessment to nurseries and garden centers. A one-day workshop was held in February 2006 and a post assessment was administered which provided useful information for subsequent workshops.

IRRIGATION AND FERTILITY LEVELS INFLUENCE DROUGHT TOLERANCE OF THREE TURFGRASS SPECIES

Robbins*, J.A.[1], Neibling, H. [2]

[1]Extension Educator, University of Idaho, Jerome County Extension, 600 2nd Avenue West, Jerome, Idaho 83338, jrobbins@uidaho.edu
[2]Extension Irrigation Specialist, University of Idaho, Twin Falls Research and Extension Center, P.O. Box 1827, Twin Falls, Idaho 83303, hneiblin@uidaho.edu

A replicated turfgrass study was established in Jerome, Idaho on September 19, 2003 where turfgrass species (Kentucky bluegrass (*Poa pratensis* L), tall fescue (*Festuca arundinacea* Schreb.) and perennial rye (*Lolium perenne* L.) - mixed cultivars of each species) received irrigation at 133%, 100%, 66%, and 40% evapotranspiration (Et) May through September using buried drip tape. Starting June 2004, plots received 4 fertilizer levels, 4, 3, 1.5, and 0 lb N/1000 ft^2 applied in a split application (early May, late June to early July, early to mid September, and late October to early November). Drought tolerance was evaluated using the National Turfgrass Evaluation Program ratings. Kentucky bluegrass was less drought tolerant than the other two grasses at all water levels and especially with lower fertility levels. Et treatments showed no interaction with species or fertilizer. The irrigation at 100% Et was as good as the 133% in preventing drought symptoms. Fertilizer by species interactions tested significant at some dates. Kentucky bluegrass was less drought tolerant at all fertilizer levels. At some dates, various species reacted differently to 3 and 4lbN/1000 ft^2. Generally, fertilizer at 4 lbN/1000 ft^2 was equal to or no better than 3 lbN/1000 ft^2 in all species.

THE EFFECTIVENESS OF NEW HOMEOWNER PRODUCTS AND TECHNIQUES FOR CONTROLLING CODLING MOTH LARVAE IN BACKYARD ORCHARDS

Pace*, M.G.[1], McCammon, T.A.[2]

[1]Agriculture Agent, Utah State University Extension, Box Elder County, 195 West 1100 South, Brigham City, Utah 84302, mikep@ext.usu.edu
[2]Horticulture Assistant, USU Extension Office - Box Elder County, 195 West 1100 South, Brigham City, Utah 84302, tonym@ext.usu.edu

Many homeowners enjoy raising their own apples for fresh eating, baking, or preservation. To prevent codling moth infestations, they call their local Extension office or nursery to know what to spray in order to keep them worm free. This research project examined the effectiveness of new homeowner products and techniques on the market. Pheromone traps and minimum/maximum thermometers were used for monitoring the research site. Degree-day units and insect monitoring was done on a weekly basis. Treatments in the orchard were applied with the use of a handgun attached to an ATV mounted sprayer. Treatments included Cyd-X, a codling moth virus, which is a certified organic product. Other products included Fertilome Fruit Tree Spray which is a disease/insect combination product containing 7.5% active ingredient Malathion and 9.78% active ingredient Captan fungicide, Sevin with a 23.7% active ingredient Carbaryl, Malathion 55% active ingredient, Japanese Apple Bags, and the control. Apple bags were 98% effective at preventing codling moth larvae from entering the apples. They also were the most expensive and time consuming to apply and remove. Sevin was inexpensive and 89% effective in preventing codling moth injury. Malathion and Fruit Tree Spray were 77% and 76% effective respectively.