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## New Tools and Technology - Environment / Recreation

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## USING SHEEP AS A TOOL TO CONTROL CHEATGRASS AND PLANT PERENNIAL SPECIES ON BURNED NEVADA RANGELANDS

Jason Davison\*, Ed Smith, Rod Davis and Hudson Glimp

### ABSTRACT:

Lower elevation, rangelands in Nevada are often colonized by cheatgrass *Bromus tectorum* following wildfire. Without control measures, competition from cheatgrass normally precludes successful establishment of seeded species. The objectives in this study were to (1) determine if repeated sheep grazing would significantly reduce cheatgrass populations and (2) determine if the disturbances resulting from intensive grazing, following broadcast seeding would result in the successful establishment of seeded species as compared to planting with a seed drill. The trial site was located approximately 30km northwest of Battle Mountain Nevada. In April of 2000 two seed blends were broadcast on a 4.8-hectare site that had burned the previous summer. Following seeding, the site was grazed multiple times with dry ewes over 2 years. The trial was replicated in November of 2000. The same blends were drill seeded in April and November of 2000 into adjacent sites following a harrowing operation. The site received lower than normal precipitation over the trial period. The sheep grazed plots produced significantly less cheatgrass than the control or harrow and drilled plots in all years. The spring seeded, harrow and drill plots produced significantly more cheatgrass than the control plots. The, drill seeded mixtures planted in the spring were the only plots that produced significant perennial vegetation. Sheep grazing successfully controlled cheatgrass, but had little affect on seedling establishment of seeded grasses or shrubs regardless of the season of seeding. Drill seeding in the spring resulted in significant shrub establishment, but the fall seeded, drill treatment failed.

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## LET'S GO CYBERCAMPING! A NEW PROGRAM MODEL FOR CAMP AND 4-H

Trudy Dunham\*

### ABSTRACT:

Have you been CyberCamping lately? The revised goCyberCamp offers a range of non-formal online educational activities and events for children aged 8-11, and for their out-of-school programs. As a collaborative Extension venture, it is also a great opportunity to share your professional expertise and interests, joining with curriculum developers and computer programmers to create a model program that helps us rethink our design and delivery of youth programs for both today and in our e-Extension future. In our Resource Closet", caregivers find research on child development and programming, tips on integrating goCyberCamp into your day-to-day program, and lesson plans for complementary "off-line" activities. In addition, the Camp Counselor's "Lounge" provides a place to network and take online seminars. Covering the traditional camp content--from learning what lives in a forest to how to paddle a canoe, from making a lanyard to making lunch, keeping yourself safe to protecting your environment, putting on a skit to singing camp songs, goCyberCamp provides opportunities for all youth to experience Camp, at least virtually. 4-H recognizes that camp is an ideal site for nonformal learning through discovery and exploration. It recognizes the power of online environments to promote this learning. And it realizes that youth programs must be where kids are and want to be--and today, kids want to be online (but also at Camp!). The presentation will demonstrate the site, while providing an overview of key content management, user management, educational design, program management, and sustainability functions and issues.

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## RREA: CORE EXTENSION FUNDING FOR FOREST AND RANGELAND RESOURCES ISSUES

Bruce Menzel\* and Eric Norland

### ABSTRACT:

Since its initial funding in the early 1980s, the Renewable Resources Extension Act has provided the catalyst for initiating new programs as well as the vehicle for sustaining on-going Extension programs. The intent of RREA and other CSREES program budgets is to support state and regional education solutions to pressing national problems. Numerous challenges exist for the RREA Program: small annual budgets, meshing national and state priority issues, conveying to stakeholders the importance of educational initiatives that help landowners help themselves, and increasing capacity of the commercial and NGO sectors to garner financial resources to conduct "extension" programs. These challenges will be discussed in the context of what the future of Extension RREA Programs should be.

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## IRRIGATION EVALUATION AND NUTRIENT MANAGEMENT PLANNING IN BEAVER COUNTY

R. Mark Nelson\*

### ABSTRACT:

Recently many farmers in Beaver County have changed their irrigation systems to more efficiently irrigate their crops. Center irrigation pivots are being widely used. Many farmers have questions on how to most efficiently run their pivots. In 2001 graduate students from USU Irrigation Department conducted an irrigation audit of seven circular pivot sprinkler systems throughout Beaver County. The pivots ranged from 76% to 34% efficiency. We met with each producer and gave them suggestions on how to improve their systems. In the fall of 2001 two farmers reported they were able to increase their production in their alfalfa fields because of the evaluation. By making suggested changes they were able to increase their alfalfa production by \$78,500. Because of this impact we applied for a grant to evaluate an additional 20 in 2002. We received \$14,539.85 to complete the audits and to conduct a series of soil tests to determine if producers are over or under fertilizing their fields. In 2002 the results of the 21 pivots tested ranged from 84% to 42%. We held an Irrigation Field Day where we went over the results and taught the farmers how to operate their pivots more efficiently. The results of the soil tests showed that phosphorus levels were low on 25% of the alfalfa fields and that 45% of the alfalfa fields were in the high or very high Category: This shows that farmers can increase production or cut fertilizing costs by conducting soil tests each year.

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## IMPROVING WATER QUALITY IN GOLF COURSE MANAGEMENT

Charles D. Rice\*

### ABSTRACT:

Cateechee Golf Club is a symbol in Georgia of what can be accomplished through teamwork of various agencies searching for a better environment. Cateechee Golf Club is a unique course that uses a 460 acre tract of land with only 67 acres of well maintained turf areas. It has the distinction of being the only Audubon Signature course in Georgia and one of three in the Southeast. This course was designed from the beginning with nature in mind. Cateechee is a discharge site for two to five million gallons of waste water per day from a municipality on the greens, trees, rough, natural areas and forests. Stringent detail is given to protecting ground and all surface water from waste affluent and pesticide residues. Large vegetative buffers around waterways, pesticide and residue retention areas, and innovative energy conservation measures are just a few of the pieces of a puzzle that sets Cateechee apart as a pioneer in environmental golf course management. Dead trees, birdhouses, and a 150-year-old chimney adorn the landscape along with a theme that guides a golfer through a lesson in nature as they play a very challenging 18 holes of golf. The Georgia Extension Service was an integral part of this project from it's design, choice of turf, grasses for natural areas, stream bank protection, water monitoring sites, and volunteers from the Northeast Georgia Master Gardeners for building wildlife habitat and wildlife studies. The water quality leaving this site is actually better than the quality of water coming to this area as evidenced by testing and increases in aquatic populations.

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