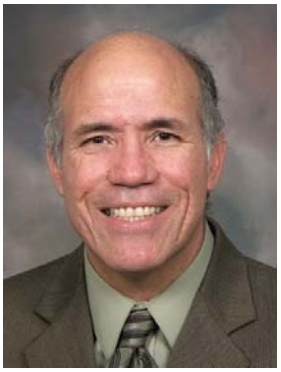
# SWCS COLORADO CHAPTER NEWSLETTER

**September 2008**

## *President's Message*

**By Jorge A. Delgado**



First of all, I would like to thank the members of our board. They have been working very hard in their efforts for Soil and Water Conservation and have enabled me to share the following great news with you, our members. Just this week the SWCS CO Chapter Board approved the final procedures for the:

1- Undergraduate Student Scholarship Award Program
2- Grant Program
3- The long term revised strategic plan
3- A new section of our newsletter: "Conservations News from Colorado" will be published 3 times a year.
4- The Program for our 2008 Technical Conference
5- The Fall SWCS CO Chapter Tour.

This newsletter will cover details about all of the activities described above along with other new and ongoing chapter efforts. All of this information will also be posted on our webpage http://www.swcs.org/en/colorado_chapter/. Information about student scholarships will also be mailed to universities and colleges in Colorado. I hope that you to continue to support the Colorado Chapter and these honorable activities. I feel it is important that we continue to support the next generations of conservationists, who will make achievements in soil and water conservation so important for a future sustainable nation and world. We need to continue our technology transfer efforts in soil and water conservation on local, state and national levels. I am proud to say that the members of our chapter and our society care about and actively work in these important areas. I am also proud to work with our Chapter Officers, during which I find myself amidst a great group of peers that represent this chapter in the best ways possible. They are truly a wonderful group of people and continue to do great work for their members.

This newsletter also has information about the 2008 SWCS National Meeting. It was another great meeting where conservation practitioners, scientist and the general public came together to transfer information about soil and water conservation in our nation and the world. I congratulate all of our members who attended and helped in several of the committees. I also want to take this opportunity to congratulate Dr. Gary Peterson, Chair of the Soil and Crop Sciences Department at Colorado State University,

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current President of the Soil Science Society of America and a member of our Chapter. He recently won the Soil and Water Conservation Society Fellow award. This prestigious award was presented to Gary in recognition of his distinguished professional achievements and dedication to soil water conservation. This newsletter also contains information about the 9th International Conference in Precision Agriculture that was just held in Denver. One of the sponsors for this conference was Colorado State University. Dr. Rajiv Khosla, one of our members, was the Conference Chairperson. The conference included the theme of Precision Conservation, which was well received by the attendees. Keep up the good work, Raj.

I hope that you enjoy reading our newsletter. We are looking forward to showcasing our chapter's ongoing efforts in soil and water conservation. In this newsletter, we focus on minimum tillage, drip irrigation, cover crops and limited irrigation. The newsletter presents summaries of recent research publications and successful conservation stories. We hope to cover other conservation success stories from Colorado in upcoming issues, including conservation in forest areas, conservation in rangelands and urban conservation. If you have any information that you would like us to consider including in future editions of Conservation News from Colorado, if you have published a recent article in one of these areas, or if you have any general recommendations for this section of the newsletter, please contact me at jorge.delgado@ars.usda.gov.

I hope to see you at the fall tour (For additional information about the conservation fall tour, contact Beth Fortman at elizabeth.fortman@co.usda.gov) I also hope to see you at the 2008 SWCS CO Chapter technical conference, entitled, **"Impact of Energy Development on Soil and Water Resources,"** on November 17, 2008, at the Rocky Mountain Inn and Conference Center in Estes Park, (phone: 970-586-2332). For more detailed information about the program agenda and registration. Contact Ardell Halvorson (email: ardell.halvorson@ars.usda.gov; phone 970-492-7230) for additional information.

I also want to remind you that the Elections for 2008 will take place in September. We have a great group of candidates, so please remember to vote. The SWCS CO Chapter and I are always open to your comments. When you have comments or questions, please contact any of the Chapter Officers or me at Jorge.delgado@ars.usda.gov.

# *SWCS ANNUAL MEETING TUCSON, ARIZONA*

The 2008 Soil and Water Conservation Annual Meeting was held in Tucson, Arizona, and had over 650 attendees. At this year's award ceremony, Dr. Gary Peterson, a member of our chapter, was awarded the SWCS Fellow Award (Fig 1). Additionally, the SWCS Colorado Chapter was awarded the Outstanding Chapter Award and the Chapter Achievement Award (Fig 2). There was a large number of members of the Colorado Chapter that attended the meeting, several of whom conducted presentations. Other Colorado members helped organize and moderate symposia, while others participated in other committee meetings related to national and international soil and water conservation. Members of the Colorado Chapter served on the Editorial Board, Annual Program Committee, Board of Directors, Joint SWCS and SSSA symposium, and other committees.

**Figure 1** Craig Cox Executive Vice President SWCS (left), Peggy James President SWCS (center) and Fellow Award winner Dr. Gary Peterson, member of Colorado Chapter.

The SWCS annual meeting was a very successful meeting. The Open Plenary session of the Pritchard Lecture was titled, "Dig It: The Secrets of Soil: A Behind-the Scenes Look at the Soils Exhibit Opening and The Traveling Tour". This plenary section described the current soils exhibit that is being showcased at the National Smithsonian Museum in Washington, D.C. and the plans to have the exhibit displayed in other museums across the nation. For additional information about this exhibit, please see www.soil.org/smithsonian.

Additionally, the meetings provide a good opportunity to network with other national and international conservation professionals. The networking social night was held at the Arizona-Sonora Desert Museum. The annual meetings also had several well attended workshops and educational tours. For pictures of the educational tours, visit http://www.flickr.com/groups/swcs08ac/pool/.

There was great poster presentation participation at the meeting, including a special poster session about the Conservation Innovation Grant. Overall, there were 19 presentations that were each well attended. There were a large number of Symposia (19) and concurrent sessions (25). The topic of the Conservation Effectiveness Assessment Program (CEAP) was well covered by several presentations at the meeting. The International Soil and Water Conservation Committee organized the Symposium: Changing Lands and Waters: Conservation Challenges in North America Coastal Plains. The annual joint SWCS and Soil Science Society of America Symposium was, "Water Availability and Use for Biofuel Crop Feedstock and Production. This symposium will also be presented at the 2008 joint annual meeting of the Geological Society of America (GSA), Soil Science Society of America (SSSA), American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and the Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM (GCAGS), hosted by the Houston Geological Society (HGS), October 5-9, 2008 in Houston, Texas.

Figure 2 Craig Cox and Peggy James with Dr. Jorge A Delgado (right) who accepted the Outstanding Chapter Award and the Chapter Achievement Award on behalf of the Colorado Chapter.

There were several sessions that addressed the topics of environmental policy-based conservation approaches. There were several presentation directly related to water, including water harvesting, soil and water conservation in the arid Four Corners region, water management in arid and semiarid environments, water quality and hypoxia.

Other global topics, such as climate change, biofuels and bioeconomy were well addressed. For participants, it was difficult to select a concurrent sessions to attend because there were up to nine great sessions taking place simultaneously. You could see participants going to a session to listen to one speaker, then moving to another session to hear another speaker on yet another important topic. Participants generally reported feeling that the presentations were of the highest national and international quality, with a healthy amount of information that participants took home with them. At the end of the meeting, everyone was wishing for more and looking to next year's Soil and Water Conservation Society meeting.

It would be great if you would plan to attend some of the next SWCS events, including our annual technical meeting, the Colorado SWCS Chapter Technical Conference in Estes Park, CO, November 17th, 2008; the Soil and Water Conservation Society Technical Conference in Rapid City South Dakota, February 18-20, 2009; and the 2009 Annual Conference, July 11-15, 2009, in Dearborn, Michigan.. These will all be great conferences to participate. We encourage SWCS Colorado Chapter members to attend and participate.

# *9th INTERNATIONAL CONFERENCE IN PRECISION AGRICULTURE*

Colorado State University was one of the leading sponsors of the 9th International Conference on Precision Agriculture, held July 20-23, 2008, in Denver Colorado. There were between 450 and 500 participants in attendance for approximately 250 oral and or poster presentations. There were 34 concurrent sessions and participation from 43 different countries. The conference highlighted significant research and emerging technologies that can impact management of natural resources. Among the five important themes for the conference was Precision Conservation, which well attended. Other themes were biofuels, robotics, traceability and education in precision agriculture. Colorado State University is committed to continue supporting this conference, and the next conference will be held in Denver in summer of 2010.

At the 9th ICPA, two keynote presentations were conducted by Dr. Joseph K. Berry from Denver University and Dr. Simon Blackmore from Bristol Robotics Lab in the United Kingdom. Dr. Berry's presentation discussed the recent advances in geotechnology during the last two decades, as well as recent advances that may challenge the 400-year-old Cartesian coordinate systems, including geotechnological systems that assess patterns and relationships within and among map layers. Dr. Berry is a leader and educator recognized worldwide in the application of Geographic Information System (GIS) technology. Dr. Berry was also one of the leaders that helped define the concepts involved in the use of geotechnology for Precision Conservation (Berry et al., 2003).

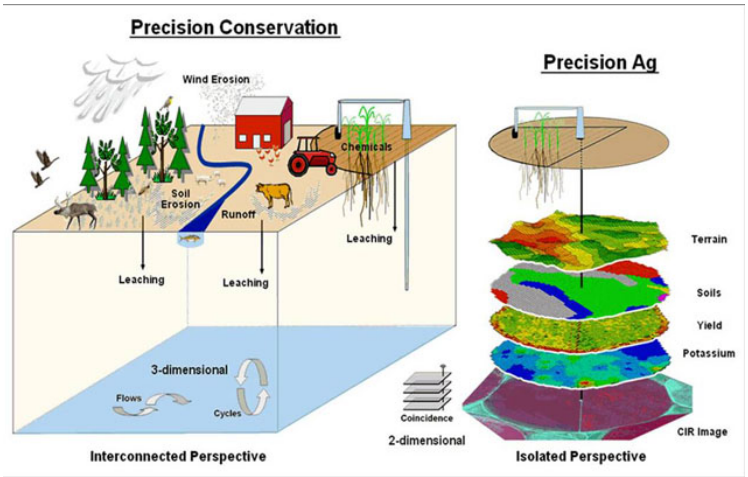


Figure 3. Precision Conservation connecting flows between agricultural fields and the environment (Berry et al. 2003)

Dr. Blackmore has a very strong background in agricultural robotics. Dr. Blackmore's presentation was very futuristic and presented a vision of a time when robotic machines that function independently will play a significant role in farming operations. These machines may one day help control weeds, perform tillage, apply fertilizers, and even help with soil and water conservation. Dr. Simon Blackmore is a world-renowned leader in agricultural robotics.

***For additional information on robotics and Precision Conservation, please review:***

Berry, J.R., J.A. Delgado, R. Khosla, and F.J. Pierce. 2003. Precision conservation for environmental sustainability. Journal of Soil and Water Conservation 58:332-339.

Berry, J.K. 2007. Map analysis: Understanding spatial patterns and relationships. GeoTec Media

Blackmore, B.S. (2007). A systems view of agricultural robots. p.23-31 In: J. Stafford, V. Wageningen (ed.) Precision Agriculture '07. Academic Publishers, the Netherlands..

Blackmore, B.S. and Blackmore, C.P. (2007). People, robots and systemic decision making. p.433-439 In: J. Stafford, V. Wageningen (ed.) Precision Agriculture '07. Academic Publishers, the Netherlands.

Delgado, J.A. and J.K. Berry. Advances in Precision Conservation. Advances in Agronomy 98:1-44.

Griepentrog, H.W. and Blackmore, B.S. (2007). Autonomous crop establishment. 65th International Conference on Agricultural Engineering, Hanover.

# CONSERVATION NEWS FROM COLORADO
# Volume 1 (3) September-December, 2008: COVER CROPS

## CONSERVATION ADVANCES IN COLORADO WITH COVER CROPS

Colorado State University (CSU), USDA Agricultural Research Service (ARS), USDA Natural Resource Conservation Service (NRCS), and farmers in near Alamosa in South-Central Colorado have been conducting cooperative studies on the use of cover crops since 1993. This cooperative effort has shown that winter cover crops, summer cover crops with limited irrigation, and rotations with deeply-rooted small grains are effective management alternatives in this region to achieve reduced wind erosion, increased macro and micro nutrient cycling and use efficiencies, and reduced nitrate leaching to groundwater.

***Figure 1.*** *Mr. Merlin Dillon (CSU) inspecting cover crop studies conducted within commercial farm operations in South Central Colorado.*

Recently, these studies showed that summer cover crops with limited irrigation can increase water use efficiencies across the region. A low input summer cover crop with limited irrigation can be viable using less than 50% of the water needed for other traditional summer and winter cover crops, such as potatoes, winter wheat, malting barley, alfalfa or other vegetables and grain crops grown across the region. Farmers can use the summer crop as a hay source, or they can incorporate the aboveground biomass as a green manure.

Delgado et al. (2007) reported that limited irrigation management reduces nitrate leaching across this region, which is dominated by vegetable and small grains grown with center pivot irrigation on sandy coarse soils. The use of limited irrigation summer crops protect water quality and contribute to less leaching from the following potato growing systems. This summer cover crop can help clean the aquifer by

***Figure 2.*** *Dr. Jorge A. Delgado (USDA-ARS) tilling a fallow plot at a commercial farm operation in South Central Colorado. Note the zero crop residue in the fallow plots vs the already incorporated sudan sorghum in the front.*

scavenging background nitrate-nitrogen from irrigated water.

Delgado et al (2007) reported that total marketable tuber yield increased from 12% to 30% when potatoes followed a summer cover crop grown with limited irrigation instead of using a wet fallow system. Additionally, the quality of the potato tubers following the summer cover crop (sorghum-sudan) was superior, with 40% higher production of tubers greater than 8 ounces. Recent unpublished studies from this cooperative operation show that average marketable tuber yield could be increased by about 16% (average of 2005, 2006, and 2007 studies) while tuber quality averaged was increased by about 24% (from 2004 to 2007). These studies are providing NRCS personnel, extension agents, and CSU personnel with valuable technical information about how to improve water and cropping system management for this region.

Another benefit of summer crops is their fertilizer equivalent value. Summer crop nitrogen management studies showed that about 30% of summer cover crop nitrogen was cycled back to the potatoes. Other macro and micro nutrients were also cycled to the potato.

These preliminary results show that farmers can generate enough additional income ($60.00 to $400.00 per acre) to offset the cost of cover crop management. This operation is an excellent example of the cooperation among Colorado State University, USDA Agricultural Research Service (ARS), USDA Natural Resource Conservation Service (NRCS), and Colorado farmers to develop alternative management approaches that can increase yield and maintain sustainability while conserving soil and water resources.

***For additional information about cover crop systems in Colorado, please review:***

Delgado J.A., M.A. Dillon, R.T. Sparks, and S.Y.C. Essah. 2007. A decade of advances in cover crops: Cover crops with limited irrigation can increase yields, crop quality, and nutrient and water use efficiencies while protecting the environment. Journal of Soil Water Conservation 62:110A 117A.

# *CONSERVATION NEWS FROM COLORADO*
# *Volume 1 (3) September-December, 2008: NO TILL*

## *CONSERVATION ADVANCES WITH NO TILL IN COLORADO*

***Figure 2.*** *Dr. Ardell Halvorson (USDA-ARS) harvesting corn under a no till system (notice high crop residue and low soil erosion).*

Recent no till studies by Archer et al. (2008) showed potential economic returns from no till operations in northeastern Colorado. These USDA-Agricultural Research Service (ARS) studies were conducted at the Colorado State University Agricultural Research Development and Education Center (ARDEC), near Fort Collins Colorado. The soil at the site was a clay loam soil with a 1% to 2% slope. This is another example of the strong cooperation between Colorado State University and USDA-ARS.

***Figure 1.*** *Corn field under conventional till in northeastern Colorado (notice effects from wind erosion).*

Halvorson et al. (2006) found that a no till system at the long term ARDEC study site reduced fossil fuel consumption by eliminating tillage and other related field operations to prepare a seedbed. This reduction in fossil fuel consumption increases the potential for net carbon sequestration. Recently, Archer et al. (2008) reported that, although no till yields were 0.5 to 0.6 tons per acre lower than for conventionally-managed corn, the net economical returns were $19 to $30 per acre higher using no till practices after factoring reduced operating costs and machinery ownership into the assessment.

Archer et al. (2008) reported that no till, irrigated, continuous corn has positive environmental effects and appears to be an economically viable replacement for conventional production systems in Colorado.

***For additional information about no till systems in Colorado, please review:***

Archer, D.W., A.D. Halvorson, and C.A. Reule. 2008. Economics of irrigated continuous corn under conventional-till and no-till in northern Colorado. Agronomy Journal 100:1166-1172 (2008).

Halvorson, A.D., A.R. Mosier, C.A. Reule, and W.C. Bausch. 2006. Nitrogen and tillage effects on irrigated continuous corn yields. Agronomy Journal 98:63-71.

# *CONSERVATION NEWS FROM COLORADO Volume 1 (3) September-December, 2008: LIMITED IRRIGATION*

## *CONSERVATION ADVANCES WITH LIMITED IRRIGATION AS A WATER MANAGEMENT TOOL IN COLORADO*

Recently, Colorado State University researchers reported that there is potential to use limited irrigation to manage water resources, increase water use efficiency and maintain the sustainability of cropping systems (Schneekloth, 2007a). Similar techniques have been used in the Northern China Plain, where consistent yields resulted from the initial accounting for initial soil water, then using stage of growth as a determining factor for irrigation rates. This application showed that water can be managed more efficiently without necessarily reducing yields (Hu et al., 2005). The Colorado State University report from Schneekloth (2007a) shows that there are new alternatives to improving water management in our arid Colorado environment. The report shows that limited irrigation can provide for different management alternatives that can increase water use efficiencies.

Schneekloth (2007a) was very clear in pointing out that users should understand the correlation between water and yields, since, in a large number of possible management scenarios for dry arid systems, withdrawing irrigation will probably result in lost yield. Users must be careful and must pay close attention to the relationships between water management, evapotranspiration and yields (Schneekloth, 2007a). Schneekloth (2007a) reported that management strategies may help minimize yield loss and preserve net return when coupled with careful input management. Crop residue, pre-irrigation and other management techniques may be successfully applied in Colorado systems.

Schneekloth, (2007b) reported that limited irrigation, applied in such a way that supported the most sensitive growth stages, increased water use efficiencies without lowering yields of deep rooted sunflowers, which are native to the Colorado Central High Plains. This study was conducted during years in which the entire soil

profile down to six feet was near field capacity. Delgado et al. (2007) reported that, across South Central Colorado, limited irrigation of summer crops can also provide a hay crop while saving water. Users interested in learning more about limited irrigation should review the Agronomy News from Colorado State University (2007).

***For additional information about limited irrigation, please review:***

Delgado J.A., M.A. Dillon, R.T. Sparks, and S.Y.C. Essah. 2007. A decade of advances in cover crops: Cover crops with limited irrigation can increase yields, crop quality, and nutrient and water use efficiencies while protecting the environment. Journal of Soil Water Conservation 62:110A 117A

Hansen, N.C. 2007. Limited irrigation alfalfa. Agronomy News 2007. 26(1):7

Hu, C., J.A. Delgado, X. Zhang, and L. Ma. 2005. Assessment of groundwater use by wheat (Triticum aestivum L.) in the Luancheng Xian region and potential implications for water conservation in the northwestern North China plain. Journal of Soil and Water Conservation 60:80-88.

Schneekloth, J. (2007b) Yield impact of growth stage irrigation of sunflowers. Agronomy News 26(1):10-11.

Schneekloth, J. (2007a) Limited irrigation management–Getting the most crop per drop–Principles and practice. Agronomy News 2007.26(1):1-4.

# *CONSERVATION NEWS FROM COLORADO*
# *Volume 1 (3) September-December, 2008:DRIP IRRIGATION*

## *CONSERVATION ADVANCES WITH DRIP IRRIGATION IN COLORADO*

Recent studies conducted at the Colorado State University Arkansas Valley Research Center near Rocky Ford, Colorado on a silty clay loam soil showed the potential to use drip irrigation to increase onion yields and quality while preserving soil and water quality (Halvorson et al., 2008). USDA-Agricultural Research Service (ARS) and Colorado State University researchers found that the amount of water needed to grow high quality onion crops with drip irrigation was about 70% less than with traditional furrow irrigation. This can translate into savings of hundreds of acre feet of water across this important vegetable-growing region of Colorado.

Another important benefit of the drip irrigation system was soil erosion reduction. Surface transport of soil and agrochemicals due to irrigation was zero or minimal with drip irrigation. Nitrogen use efficiencies were also higher with drip irrigation, as onion crops needed only 129 lb N per acre, just over half of the 208 lb

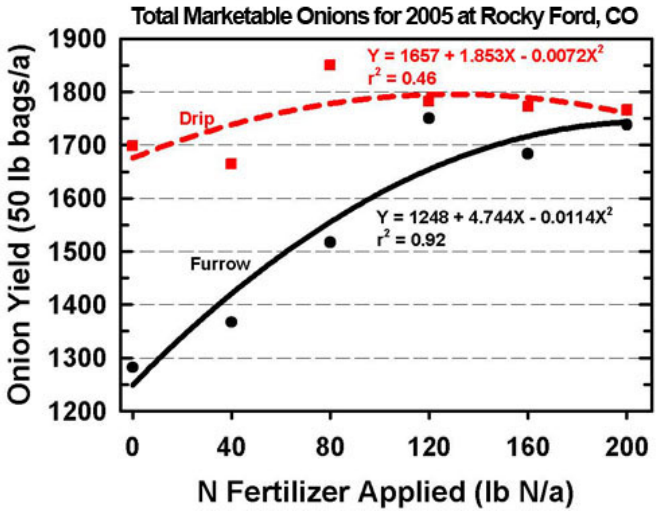


***Figure 1*** *Onion yield response to applied nitrogen rates using drip and furrow irrigation of onions grown at CSU's Arkansas Research Center near Rocky Ford, Colorado. (Figure provided by A.D. Halvorson)*

N per acre needed with furrow irrigation (**Fig. 1**).

At current nitrogen fertilizer prices, which have more than doubled in only the last few years, drip irrigation offers significant potential savings in nitrogen costs. Another advantage of this irrigation method is improvement of onion quality. There was higher production with the drip irrigation system of the jumbo onions that are more desirable to Colorado consumers.

***Figure 2*** *CSU and USDA-ARS researchers conducted field studies within commercial potato farming operations In the San Luis valley (Notice center pivot sprinkler and drip irrigation system used to irrigate and fertigate potato tubers).*

Drip irrigation has also been tested within commercial potato farms of The San Luis Valley of South Central Colorado (**Fig 2**). This region is dominated by center-pivot sprinklers, with over 2000 center pivots. Recently, studies in this region showed that drip irrigation can produce greater potato tuber yields and water use efficiencies than center-pivot sprinklers.

Essah and Delgado (2008) reported that drip irrigation within commercial farming operations increased potato tuber yields and quality, even when compared to higher N inputs under traditional management. This region of Colorado is the major potato production area of the state and is a significant potato production source for the national fresh market. The predominant soils across South Central Colorado are coarse gravelly sandy soils that are quite susceptible to nitrate leaching.

Essah and Delgado (2008) found that drip irrigation of potatoes can produce higher yields with about 30% less water consumption than center-pivot irrigation. Additionally, drip irrigation increased potato yields by 11% and produced larger potato tubers with a better specific gravity, all of which translates into greater yields of potatoes that are more desirable to Colorado consumers (**Fig 3**).

***Figure 3*** *Dr. Samuel Y.C. Essah (CSU) and Dr. Jorge A. Delgado (USDA-ARS) applying nitrogen with drip irrigation equipment within commercial potato farming operations in the San Luis Valley of South Central Colorado.*

Water is the lifeblood of viable vegetable faming systems across the arid dry western United States, especially in Colorado. The success of these drip irrigation studies are examples of how Colorado State University and USDA Agricultural Research Service cooperate to conduct applied agricultural studies across commercial farms of Colorado to test, improve, and adapt tools and techniques that can contribute to the viability and sustainability of commercial cropping systems in our state and elsewhere.

These studies not only show that there is potential to improve management practices that can increase production and produce the crop quality desirable by consumers in Colorado and across the nation, but that this approach can maximize environmental conservation across large areas of Colorado, including the Arkansas River Valley and San Luis Valley regions.

***For additional information about drip irrigation in Colorado, please review:***

Essah, S.Y.C. and J.A. Delgado. 2008. A response to sustainable crop production in a region facing a decline in groundwater aquifer levels *In* Annual Meetings Abstracts [CD-ROM]. ASA, CSSA, SSSA, Houston, TX October October 6-9.

Halvorson, A.D., M.E. Bartolo, C.A. Reule, and A. Berrada. 2008. Nitrogen effects on onion yield under drip and furrow irrigation. Agronomy Journal 100:1062–1069.

## *COLORADO CHAPTER OCTOBER 17TH 2008 FALL TOUR*

The Colorado Chapter of the Soil and Water Conservation Society, along with the Colorado Section of the Society of Range Management will hold a joint Fall Tour, Friday, October 17, 2008. We will tour the Apishapa Canyon Ranch, owned by John and Bonnie Welch and managed by their son Andy. We will view the conservation practices employed over the years and learn about their grazing management. A lunch will follow. The Welch's were recipients of an Excellence in Rangeland Conservation award from the Society for Range Management last year.

For additional information about the Conservation Fall Tour, contact Beth Fortman (email: elizabeth.fortman@co.usda.gov)

More information about this tour will soon be posted on the SWCS Colorado Chapter website: www.swcs.org/en/colorado_chapter.

## *COLORADO CHAPTER NOVEMBER 17th 2008 TECHNICAL CONFERENCE*

**Technical Conference:** The Colorado Chapter of the SWCS will hold a technical conference entitled, **"Impact of Energy Development on Soil and Water Resources,"** on November 17, 2008 at the Rocky Mountain Park Inn and Conference Center in Estes Park (phone: 970-586-2332). The conference will be held in conjunction with the annual meeting of the Colorado Association of Conservation Districts. Conference presentations will emphasize the environmental impact of coal bed methane (CBM) waters on soil and water resources in the Colorado-Wyoming region and how to manage CBM waters. Presentations will include regulatory agency, industrial, wildlife manager, and rancher/farmer perspectives on dealing with energy development and resulting water quality issues. Early registration (before November 3, 2008) costs $45 for SWCS members and $55 for non-members. Registration after November 3 costs $60. See the SWCS Colorado Chapter website (www.swcs.org/en/colorado_chapter/) for more detailed information about the program agenda and registration. Contact Ardell Halvorson (email: ardell.halvorson@ars.usda.gov; phone 970-492-7230) for additional information.

Coal bed methane production and water discharge.

# *COLORADO CHAPTER UNDERGRADUATE STUDENT SCHOLARSHIP*

The mission of the Colorado Chapter of SWCS is to promote the wise use of soil, water and related resources through scientific, educational, and service-oriented functions. The members promote a stewardship ethic that recognizes the interdependence of people and natural resources.

As part of our mission, the SWCS Colorado Chapter is creating an Undergraduate Student Scholarship Award Program that offers two $500 scholarships to juniors or seniors attending a four-year Colorado college or university studying natural resource-related fields. This award is being created to recognize the educational potential of Colorado undergraduate students planning to complete a bachelor degree in natural resource sciences. The award is also being created to recognize student leadership, consistent academic achievement and outstanding leadership and civic contribution related to natural resources, especially to soil and water conservation.

Each award consists of a certificate and $500 honorarium. The $500 award is intended to assist the student in completing his or her degree. Award recipients will be invited to attend the SWCS CO Chapter Annual Fall Workshop where they will be recognized for their achievements. Their registration fees for this workshop will be waived.

Applications should be emailed to the Chairperson of the Undergraduate Student Scholarship Award Program no later than March 30, 2009. The Undergraduate Student Scholarship Award Program Committee will make selections by July 31, 2009. The award check will be mailed to the award winners after they provide proof of enrollment for the fall of their junior or senior year. The award check will be mailed to the student on or before August 30, 2009.

Any Colorado resident enrolled in a four-year Colorado college or university pursuing a degree in a natural resource-related program is eligible. Students must be entering their junior or senior year the following fall semester.

Application packages must include a completed SWCS Colorado Chapter Undergraduate Student Scholarship Award Program application form and supportive information. Email completed applications and supplementary documents to:

Beth Fortman (Chairperson of SWCS Colorado Undergraduate Student Scholarship Award Program)
1510 Grand Avenue
Canon City, CO 81212-4531
email: elizabeth.fortman@co.usda.gov
Phone: (719) 543-8386 ext. 3

For additional information about our strategic plan visit our webpage:
http://www.swcs.org/en/colorado_chapter/

# *COLORADO CHAPTER GRANT PROGRAM*

The mission of the Colorado Chapter of SWCS is to promote the wise use of soil, water and related resources through scientific, educational, and service-oriented functions. The members promote a stewardship ethic that recognizes the interdependence of people and natural resources. As part of our mission, the SWCS Colorado Chapter is creating a new Grant Program.

The program will start in January 1, 2009. Anyone from the general public can submit a proposal. Proposals must be oriented toward conservation of natural resources and must align with the mission and vision of the SWCS Colorado Chapter's proposed activities and programs. Proposals should be designed to disseminate knowledge, train, and educate peers and the general public in the natural resource conservation field. Proposal packages must include a completed SWCS Colorado Chapter Grant Program application form. Completed applications and supplementary documents should be emailed to:

Dawn Jackson, Chairperson, SWCS Colorado Grant Program
email: Dawn.Jackson@co.usda.gov
phone: 970-522-7440, ext.117

For additional information about our strategic plan, visit our webpage:
http://www.swcs.org/en/colorado_chapter/

## *COLORADO CHAPTER STRATEGIC PLAN 2008-2012*

**COLORADO CHAPTER Soil AND WATER CONSERVATION SOCIETY STRATEGIC PLAN, 2008-2012:** The Colorado Chapter of the Soil and Water Conservation Society has revised the organization's strategic plan. The vision of the Chapter is to effectively convey a message that stresses the importance of natural resource conservation for Colorado through a membership that is committed, informed, and knowledgeable, as well as effective in application of knowledge to soil, water and related resource conservation efforts. As one of our objectives, we strive to maintain and promote a thriving organization with membership from both the public and private sectors. We want to provide a forum for discussion of the state's natural resource issues not only of concern to environmental and policy-making organizations, but to the public as well. We encourage research and information exchange related to natural resources. We want to join with other natural resource agencies in providing field days, workshops, and symposia to increase the dissemination of natural resource-related knowledge.

For additional information about our Strategic Plan for 2008-2012, please visit our webpage. While you are there, you can learn about our vision, mission, chapter objectives, chapter strengths and challenges, chapter goals for 2008-2012 and "Conservation News from Colorado."

Among our most important goals is our organization's desire to provide training and workshop opportunities for our members. We also want to recognize conservation efforts in Colorado. It is important to support the new generation of conservationists in the state. We have recently created an Undergraduate Student Scholarship Award Program to support college juniors and seniors studying natural resource-related fields at a four-year Colorado college or university. We also have a Grant Program that provides sponsorship to individuals and groups for activities related to the SWCS mission, and we support 13 regional high school and junior high school scientific fairs, as well as the Colorado state scientific fairs, offering awards to students with the highest quality scientific projects related to soil and water conservation. We also recognize excellence in conservation efforts by presenting the Conservationist of the Year and Junior Conservationist of the Year (high school) Awards.

For additional information about our strategic plan visit our webpage:
http://www.swcs.org/en/colorado_chapter/

# *COLORADO CHAPTER ELECTIONS FALL 2008*

The Colorado Chapter of the Soil and Water Conservation Society will be having its fall election from September 5 to October 3, 2008. Members of our chapter will receive their ballots either by postal mail or electronically at the email address registered with our chapter. For the 2008 election, we will be voting for President Elect, East Slope Director and West Slope Director.

Please be sure to participate and vote. We have a great group of members running for each position. Please thanks these members when you see them for their professionalism and willingness to work for soil and water conservation. Our chapter works on a local, state, regional and national level in activities related to Soil and Water Conservation. With support from you (our Chapter members) and these individuals who volunteer to work for the chapter, we can continue to contribute to the community through professional activities geared toward the conservation of soil and water resources.

Watch for instructions for the election in your email or postal mail. Please be sure that you vote for each of these positions, and send the electronic ballot to Renee.Koch@co.usda.gov with the subject line: *Election 2008*, or send the ballot through the mail if you prefer.

Renee Koch
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If you have any questions, do not hesitate to contact Renee Koch.

## 2008 Colorado Chapter Leaders

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