

OTERO SOIL AND WATER CONSERVATION DISTRICT



Phone: (575) 437-3100 ext 3

District board meetings are the first Wednesday of each month at 9:30 am. The meetings are held at the District office on 3501 Mesa Village Dr. in Alamogordo.

The Otero SWCD is an equal opportunity employer.

Our current board of supervisors are:

- Bill Mershon, Chairman
- Rick Baish, Vice Chairman
- Mike Kusmak, Secretary/Treasurer
- Eddie Vigil, Supervisor
- Bob Nichols, Supervisor
- Clyde Davis Jr, Supervisor
- James Evrage, Supervisor

- NRCS Staff:
- Dan Abercrombie, District Conservationist
  - John Hartung, Rangeland Management Specialist
  - Wayne Sleep, Soil Conservation Technician
  - Rita Stone, Farm Bill Specialist

- FSA Staff:
- Lynn Muncy, County Executive Director
  - Carol Ruiz, Program Technician

- District Employees:
- Victoria Milne, District Manager
  - Amanda Wylie, Conservation Aide

Effective December 22, 2008, Wayne Sleep accepted a position with the NRCS Snow Survey Program at the NM State Office. Wayne quickly became an integral part of our team and the USDA Alamogordo Service Center will miss him greatly. Our congratulations and thanks go out to you Wayne. Good luck in all you do.



Please note that the USDA Alamogordo Service Center will be closed for the following Holidays:

- January 19th - Martin Luther King, Jr. Day
- February 16th - President's Day



OTERO SWCD  
3501 MESA VILLAGE DRIVE  
ALAMOGORDO, NM 88310

WINTER 2009

OTERO SOIL AND WATER CONSERVATION DISTRICT

3501 Mesa Village Dr. Alamogordo, NM 88310

(575) 437-3100 ext 3



The Otero SWCD was presented with the National Association of Conservation Districts, 2008 Southwestern Region Collaborative Conservation Award. The award was given “for carrying out, with their partners, outstanding community and collaborative conservation projects that have a significant positive impact on the community resource base”.



Sacramento Mountains Hydrogeology Study ~ January 2009

By Geoff Rawling

This is a summary of progress since the quarterly project report of October 2008. The project is divided into three portions: Geologic mapping, regional hydrogeologic studies, and detailed watershed studies on the Coleman Ranch property.

subsurface geology and water-bearing zones in more detail. We will be adding water chemistry information to the cross-sections to better understand the regional and local hydrogeology.

2. Regional Hydrogeologic Studies Water Level Monitoring

Having completed the monthly water level measurement phase of the study, we have returned to bi-monthly water level measurements in 45 wells across the study area. We see distinct water level increases in many of the wells since July 2008. December 2008 measurements show that approximately half of the wells continue to have increases in water levels, while the other half have begun to decline.

Well and Spring Sampling

Sampling of wells and springs is nearly complete now, with over 110 sites (both wells and springs) now sampled for various types of water analyses, including general chemistry, trace metals, stable isotopes, and several age-dating methods. We have sampled wells and springs from the western escarpment of the southern Sacramento Mountains, south of

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Timberon, north along the eastern margin of the Mescalero-Apache Reservation, and east as far as Hope. We are awaiting results from several labs to refine water-age interpretations.

We have obtained results of sulfur isotope analyses from water samples which may prove useful in determining the amount of time groundwater has spent within the Yeso and/or San Andres formations. We have recently submitted rock samples for analysis which should help refine interpretations of the sulfur isotopes within the groundwater.

Talon Newton presented a poster at the meeting of the American Geophysical Union in San Francisco in December 2008. The poster focused on the relationship between the temporal variability of groundwater recharge and local climatic conditions.

Continued on page 7...





## Farm Service Agency

Carol Ruiz, Otero/Lincoln Office



Farm Service Agency (FSA) Administers farm commodity and conservation programs for farmers and ranchers and make farm ownership and farm operating loans. FSA programs are primarily directed at agricultural producers or, in the case of loans, at those with farm experience. Through the Commodity Credit Corporation, the agency provides financing for the purchase, storage, and shipment of commodities in federal stocks. FSA also provides emergency assistance and conservation programs to farmers and ranchers. This agency strives to enhance the historical mission of the U. S. Department of Agriculture by increasing the participation of small or Limited Resource farmers/ranchers and providing equal access to the programs to acquire and maintain economic viability for family farmers and ranchers.



The Otero-Lincoln Farm Service Agency (FSA) recently held our County Committee elections. The FSA County Committee members are Rogene Alford, Jack Hefker, Jay Glover, James Sanchez, and Innis Lewis. Our minority advisor is Jonna Lou Schafer. This office will continue to accept applications for the Non-Insured Assistance Program (NAP) for Alfalfa, Native Grass, and Mixed Forage for the 2009 Crop Year until January 31<sup>st</sup>. We would also like to remind our agricultural producers their crops must be covered by insurance in order to access Farm Service Agency Disaster Programs in the event of natural disasters. The deadline for purchasing private insurance for Pecans is also January 31<sup>st</sup>. Please contact the Otero-Lincoln FSA Office at (575) 437-3100 ext 2 for information. ❄️

## Soil and Water Conservation Commission Grant Awards

The SWCD will send out educational mailings to all residents combating Musk thistle in spring 2009. Backpack sprayers and native grass seed will be available for Musk thistle treatment along the Rio Penasco and Agua Chiquita waterways.

To participate, residents will need a private applicator's license to purchase and apply herbicide. The property to be treated will have to be mapped by Otero SWCD personnel to both ensure the target weed exists and to calculate the amount of grass seed needed for the site.

For more information or to sign up to participate please contact the Otero SWCD office (575) 437-3100 ext 3, Monday though Friday from 7 am to 3:30 pm. ❄️

We are online! Check us out on the web at  
**oteroswcd.org .**



## Otero SWCD Noxious Weed Program Guidelines

*Requirements for  
participation are:*

1. Resident of Otero County
2. Current Private Applicators License
3. Presence of a Otero County Noxious Weed
4. Approval to map noxious weeds
5. Coordinate plan for treatment
6. Follow-up after treatment

## Otero County Noxious Weed List

African Rue  
Hoary Cress  
Leafy Spurge  
Malta Star-thistle  
Musk Thistle  
Russian Knapweed  
Diffuse Knapweed  
Yellow Toadflax  
Yellow Star-thistle  
Dalmatian Toadflax  
Spotted Knapweed  
Purple Loosestrife  
Purple Star-thistle  
Camelthorn  
Scotch Thistle  
Canada Thistle  
Teasel  
Perennial Pepperweed  
Halogenton

## Otero Soil and Water Conservation District Annual Awards Luncheon

The Otero SWCD held its Annual Awards Luncheon on December 3rd, 2008. Thirty three people were in attendance, including Senator Vernon Asbill, Representatives Nathan Cote and Nora Espinoza as well as NRCS State Conservationist Dennis Alexander. The district's annual report and an update of the Sacramento Mountains Hydrogeology Study were presented. NRCS District Conservationist Dan Abercrombie also spoke regarding a very successful year of conservation in Otero County.



### Congratulations award recipients:

#### OUTSTANDING LAND STEWARDSHIP

##### Coleman Ranches

"In Appreciation of Your Diligent Efforts & Unmatched Performance In Making Conservation a Priority"



#### OUTSTANDING CONSERVATIONIST

##### Bernie Burnett

"For Your Accomplishments In the Conservation of Soil & Water Resources"



## Hydrogeology continued from page 1...

### Precipitation Monitoring

We have installed precipitation collection stations at six locations around the study area, the first in the fall of 2006. Water collected in these stations provides information primarily about the stable isotopes in very recent precipitation, which is actively recharging the aquifer system. We continue precipitation collection on a quarterly basis.

Three weather stations across the study area continue to provide precipitation, temperature, humidity and wind velocity and direction data.

### 3. Coleman Ranch Watershed Study

We are still working on installing the last of our instrumentation on the Coleman Ranch. We are collecting water samples from springs and downloading time series data, including weather data, spring discharge, and soil moisture on a monthly basis. We have made some progress in developing a method to extract water from trees for isotopic analyses and hope to begin evaluating the sources that supply trees with water in the near future. Jan Hendrickx from the Earth and Environmental Science

Department at New Mexico Tech has completed evapotranspiration and soil moisture maps of the study area based on recent LANDSAT images. We will be discussing the work to date and future research directions for both the regional hydrogeology study and the watershed study at a research group meeting in early February, 2009.

The July 2008 detailed progress report is now available as NMBGMR Open-File Report 512. The report and maps are in PDF format and can be downloaded for free from the following web address:

<http://geoinfo.nmt.edu/publications/openfile/details.cfm?Volume=512>

If there any questions or comments on the geologic mapping or regional hydrogeologic studies, please contact Geoff Rawling at (505) 366-2535 or [geoff@gis.nmt.edu](mailto:geoff@gis.nmt.edu).

For questions or comments on the detailed watershed study, please contact Talon Newton at (575) 835-6668 or [talon@gis.nmt.edu](mailto:talon@gis.nmt.edu). ❄️







## **Fires to Floods – Mescalero EWP**

**Wayne Sleep, NRCS, Soil Conservation Technician**

Following the 3,780 acre South Tularosa Fire which started May 1, the Mescalero Apache Tribe, with assistance from the NRCS Emergency Watershed Program (EWP), jumped into action to limit secondary damages that were bound to occur as a result of flooding associated with the burn. The NRCS, as part of the BIA BAER Team, agreed to request EWP funds to rehabilitate the upper portion of the watershed and to protect structures in the lower watershed. Priorities included protection of structures in flood prone areas, sediment retention in the upper watershed areas, and soil stabilization. “Soil is one of our most precious resources, taking thousands of years to form, and we must do anything we can to protect it after a fire” says Dan Abercrombie, NRCS District Conservationist.



Photo Courtesy: Wayne Sleep, NRCS

In order to accomplish these objectives and to store water and sediment on the upper watershed, numerous sediment basins were planned in burned drainages; twenty seven have been built. In addition, contour tree felling is being utilized on 420 severely burned acres to hold sediment on the de-vegetated slopes. Finally, EWP funds were utilized to stabilize soil in the burned areas through the use of aerial reseeding. Seed was applied to over 1500 acres which burned, and with the help of rainfall received after seeding, has had very good germination success. These treatments have been

successful in keeping high sediment loads out of South Tularosa Creek, which is a major water source for agricultural uses and the Village of Tularosa downstream.

The combination of these practices has resulted in a much safer and healthier watershed than existed right after the fire. The Tribe, with assistance from NRCS, continues to work on additional practices which will contribute to a healthy future condition for the watershed. 🌱



Photo Courtesy: Wayne Sleep, NRCS

## **Irrigation Water Management Project**

Moisture monitoring equipment is provided to participants willing to:

- Provide Otero SWCD a copy of current water and soil tests on the property to be monitored. (*Contact the Otero County Extension Agent for soil and water testing materials, (575) 437-0231*).
- Bring the previous year's productivity records and approximate crop age.
- Inform Otero SWCD of the type of irrigation system used on the property to be monitored.
- Agree to log and make the data available to Otero SWCD.

All data will be given to the NRCS State Agronomist for review; site-specific recommendations will be given upon request.

Replacement sensors or moisture meters will be the participant's responsibility. The average cost for the measuring devices are:

- Watermark Soil Moisture Sensors = \$40.00;
- Digital Meters = \$325.00;
- Portable Lincoln Soil Moisture 24" Probe = \$84.00.



## **Noxious Weed Highlight**

### **African rue *Peganum harmala***



Flowering African Rue near La Luz, NM 8-2008.

According NMSU's Brush Buster's-African Rue Control: Ground Application flyer: African rue is native to North Africa and to the Mediterranean region. It was introduced into the U.S. around the 1920s and was first noticed in the Deming area but is now common near Carlsbad and throughout southern New Mexico. The plant favors disturbed and barren areas such as oil pads, roadsides, parking lots, corrals, stockyards and abandoned crop fields. African rue is expanding

into rangeland and can dominate pastures as it is very drought tolerant. The plants deep and robust perennial root system is a major obstacle to plant control.

African rue is a small bright green succulent perennial herb with a bushy growth habit that reaches about one foot in height at maturity. The plant dies back to its roots in winter and initiates new growth in late March in southern New Mexico. After spring growth the plant often becomes senescent as soils dry in early summer, but then will undergo a second growth phase later in the season as rains are received. Leaves are alternate, smooth, and divided deeply into narrow lobes. Single flowers are borne along the stem and in the leaf forks. Flowers have five white petals and produce a cylindrical 2-4 celled fruit with many seeds. African rue is known to contain four poisonous alkaloids and is toxic to cattle, sheep and horses. The effects on livestock include loss of appetite, trembling and loss of coordination. Severe poisoning can result in hemorrhaging in the heart and liver. Because of its bad taste and smell the plant is usually avoided by livestock, unless other forages are unavailable. The seeds are the most toxic part of the plant, with leaves somewhat less toxic.

Because of African rue's elaborate root system, efforts to eliminate the plant by means other than herbicidal control are very difficult. The plant quickly grows back after mowing or burning, and deep cultivation only divides and spreads the roots. Numerous herbicides have been investigated for African rue control in field tests conducted by New Mexico State University, but only chemicals that are moved deep into the plant's root system have shown to be effective. Foliar active herbicides must be applied when the plant is actively growing to maximize chemical uptake and movement (translocation) through all portions of the plant.

Soil active herbicides are applied to the surface and must move with the wetting front after rain events, which are often minimal and infrequent in southern New Mexico. Herbicide control by either foliar or soil active methods is usually slow, requiring a year or more to kill a plant that is individually or broadcast sprayed.

For more African Rue information please check the NMSU Weed Website:

<http://weeds.nmsu.edu/> 🌱

This information is as found in the College of Agriculture and Home Economics Cooperative Extension Service's *New Mexico Brush Buster's-African Rue Control: Ground Application* flyer, June 2006 Las Cruces, NM.





## Winter Watering Nut Trees in the Desert Southwest

*John A. Hartung, NRCS, Rangeland Management Specialist*

Winter water on orchards is very important in the desert southwest, either by Mother Nature or an irrigation system. As we end 2008 and look back on a year that seemed to be a good year for precipitation we are still ending up below normal. According to the USDA National Agricultural Statistics Service (Alamogordo data) as of December 14, 2008 for the year since January 1, we received 10.25 inches which is 2.49 inches short of the 12.74 inches of normal. Winter watering becomes more important in below normal precipitation years because during the fall months we are preparing to harvest or are harvesting and not irrigating. Looking at the 2008 precipitation totals for October, 0.64" (normal: 1.30"), November, 0.00" (normal: 0.71"), and December, 0.20" (normal: 0.82") and if the 2009 results for January and February are anything like the 2008 January, 0.20" (normal: 0.67") and February, 0.08" (normal: 0.54") totals, the root profile of the trees are in a moisture deficit. Timing the last irrigation for early October is good to slow growth and harden the tree for winter. However, the first irrigation of the season doesn't come until sometime in March. This leaves a long time between irrigations which, without much winter precipitation, may cause unneeded stress to the tree. "Trees grow roots in the winter and tops in the summer" says Dan Abercrombie, NRCS District Conservationist. The top two feet of the root zone, where a majority of the roots are located, will begin to dry and may cause winter kill if left for five months without water.

Turn on the irrigation system in January to give a light watering to moisten the root. You do not want a heavy application of water in January because with low evaporation, low air temperatures and little to no transpiration, the water will persist in the soil. Water logged soils may cause root rot.

The first irrigation of the season, usually in March, is a good time to address salinity problems. Salinity is where salts from the previous year's irrigations have accumulated at the surface. These salts can be detrimental to the trees in large quantities. This problem can be addressed during the first irrigation by applying a heavy or deep irrigation driving the accumulated salts back down below the root zone. This requires leaving the irrigation system on long enough to over fill the root profile to get the salts down below the root zone. Salinity is a major issue in the Tularosa Basin and should be part of every orchards management. The over filling of the root profile to leach salts should only be done once or twice during the growing season when the trees are using water so that the soil does not become water logged leading to other problems.

It is also very important to get your soil and water tested. A soil test will tell you precisely what nutrients are needed in a fertilizer package, salt contents, organic matter, etc. A water test is important for managing salts that may be in the water.

Now, during the winter is the perfect time to be thinking about soil moisture monitoring for the coming growing season. Do you know if you are under watering, overwatering or giving just the right amount? If you are not already monitoring the soil moisture the NRCS and Otero SWCD can assist producers in setting up a monitoring program that meets the needs and finances of the producer. There are a number of different methods that could be used in soil water monitoring. These are as simple as digging a hole and hand feeling the soil to high dollar computer operated machines that have sensors through out the orchard that can turn on and off the irrigation system as needed. The Otero SWCD has available, at no cost to the producer, soil moisture sensors and portable soil moisture probes to assist in Irrigation Water Management. The NRCS and Otero SWCD can assist in teaching and installing these sensors if needed.

If you have questions, would like more information, or would like help in setting up a soil moisture monitoring program please call the Alamogordo NRCS office or Otero Soil Water Conservation District at (575) 437-3100 ext 3. ❄️



*NRCS personnel assist local pecan grower with new technology. The Dual EM Logger is an electromagnetic device that surveys and maps soil salinity.*



## Pest Alert Septoria Leaf Spot on Pistachio

**Jason French**, Plant Diagnostic Clinician - **Natalie Goldberg**, Extension Plant Pathologist  
**Richard Heerema**, Extension Pecan Specialist - **Beth Gordon**, Otero County Extension Agent



Septoria Leaf Spot



Figure 1 Early Symptoms Septoria Leaf Spot

Septoria leaf spot, a fungal disease on pistachio, was confirmed in September 2008 on trees grown in Otero, Hidalgo, Luna and Dona Ana Counties. This is a common disease in other states where pistachios are grown, but had not been previously reported in New Mexico.

**Symptoms:** The first symptom of the disease is the development of round to irregular, brown, necrotic spots, 1-2 mm in diameter, which form in between small veins on both sides of the leaf (Figure 1). These spots may increase slightly in size with time, but generally remain small and isolated from one another. Hundreds of spots may develop on each infected leaf. Over time, large sections of the leaf turn tan in color (Figure 2). In severe cases, trees defoliate prematurely which reduces the amount of photosynthates produced and stored by the tree, ultimately decreasing vigor (Figure 3 & 4).



Figure 2 Late Symptoms Septoria Leaf Spot

**Conditions for Disease:** *Septoria sp.* overwinter in fallen leaves that were infected with the disease the previous growing season. In the late winter and early spring fruiting bodies develop in fallen leaves. Spores produced in these fruiting bodies are released during periods of rain. Rain and wind driven spores that land on susceptible leaf tissue can germinate and penetrate these leaves resulting in new infections. The disease is favored by high moisture. Higher than average rainfall in the summer of 2008 provided excellent conditions for disease development. New Mexico's typically arid climate may help to limit serious outbreaks of the disease on a yearly basis.

**Management:** Management of Septoria leaf spot begins with good sanitation practices such as raking and destroying fallen leaves. This helps to reduce the amount of inoculum present the following year. In pistachio orchards where *Septoria* is present, preventative fungicide applications may be necessary for disease management. Applications should be made when the leaves first unfold and repeated mid-summer if favorable environmental conditions persist.



Figure 3 Premature Defoliation

In New Mexico, fungicides with the following active ingredients are registered for the management of Septoria leaf spot in pistachio: azoxystrobin, basic copper sulfate, copper hydroxide, potassium bicarbonate, chlorothalonil and pyraclostrobin. These products are registered as of the date of this pest alert. However, fungicide labels may change and it is the responsibility of the applicator to ensure that the material used is labeled appropriately. ❄️



Figure 4 Dieback caused by Septoria Leaf Spot

**This disease will be addressed at the Pistachio Growers Workshop on February 12<sup>th</sup>, 2009 in Alamogordo, NM. Whether you have one tree or one hundred acres this workshop will be beneficial. Contact the Otero County Cooperative Extension Office for more information at (575) 437-0231.**