

# Agriculture

## Saguache County Agriculture is Up to Par

(See Resource Guide, Ecology - NRCS)

Saguache County is high on its agricultural success over the years. More than 80% of our county relies on agriculture for its economy. Crops have been productive and livestock is on the up swing with better prices.

Saguache County is proud of its crop production: 37,000 acres of alfalfa hay, 20,300 acres of potatoes, 17,300 acres of meadow grass hay, 14,500 acres of barley, 11,300 acres of spring wheat, 2,500 acres of oats, 1,750 acres of carrots, 1,500 acres of winter wheat and 1,250 acres of lettuce.

There are approximately 635 center pivots in the county which use river water or wells. Water is the most useful resource for the farmer (hereafter referred as producer) in the San Luis Valley. Therefore, management and wise use of water is critical to producers, as well as future generations. They have fought hard to keep the water in the county, and keep the water from being piped out of the valley. They have found that center pivots are the most proficient way in irrigation, using an irrigation management plan for proper amounts of water and correct timing of irrigation to make crops successful. Crop consultants work with producers for successful irrigation plans.

Nutrient management is another tool used by the producer to manage his fertilizer applications. Soil tests are done each year before and after the growing season per field to manage the nitrates in the soils. Proper management by the producer and crop consultants involves applying the right amounts of fertilizers, fungicides, and pesticides to meet the crop needs. Excess amounts of such products are not put on crops, so water and soil contamination are prevented. USGS surveys the nitrates in the aquifer by taking several samples of irrigation water throughout the growing season from wells around the valley.

Soil erosion is another critical item that continues

to improve, saving tons of soil from year to year. Conservation tillage is one tool, leaving sufficient residue during the critical wind erosion period for grain crops, such as wheat, barley, oats, etc. Proper ridging, cover crops, and fall irrigation are other tools used to control soil erosion after a low residue crop, such as potatoes, lettuce, carrots, etc. during the wind erosion months. Corn strips may be planted within the low residue crop to assist in preventing wind erosion in lighter soils. Planting a different crop every year (crop rotation) also assists in preventing wind erosion.

Ranchers in Saguache County are practicing good conservation methods. Proper grazing systems along with planned grazing, provide healthy livestock and leave healthy stands of forage. This is done by careful planning of the number of livestock and length of time left in each pasture. Grass actually does better when properly managed by the rancher and grazed. The grass would become tall and decadent if not grazed. Grass in this state is a fire hazard. Riparian areas, sites near banks of natural watercourses, lakes and ponds where water loving vegetation may be found, are also taken into consideration, when planning a grazing system. Tools like cross fencing, water tanks, and salt locations help to distribute the livestock throughout a pasture. Planned grazing schedules provide proper management of a riparian or other critical area. Photo point is another tool used to monitor the grazing site. These points can show the before and after affects of grazing.

Wildlife management also takes considerable planning. Farmers and ranchers are setting aside and restoring areas for wildlife habitat. Willows, trees, grasses, and brush are proper habitat for a variety of wildlife. Ponds, reservoirs and ditches provide habitat for waterfowl and drinking facilities. Natural Resources Conservation Service (NRCS) is one of many agencies that assist the producers in planning habitats for wildlife.

The Colorado State Extension Service holds potato/grain and forage/livestock seminars, which are well attended by the producers. Other agriculture businesses also put on seminars to improve agriculture in the county. Each year producers learn new techniques and technologies to better conserve their natural resources. They learn management skills and tools that will better serve their crops, livestock, soil, forage, etc.

The Saguache County producers manage their crops and livestock in ways that everyone can be proud of. They take special consideration of their natural resources and use conservation practices that will help their future family generations to continue in agriculture.

*Tracy Miller, District Conservationist- NRCS*

## Right to Farm

(See Resource Guide, Land Use.)

Saguache County has a "Right to Farm" regulation. This means Saguache County is an Agricultural and Ranching community and will remain this way. The rural areas of Saguache County may be open and spacious, but they are intensively used for agriculture. Persons moving into a rural area must recognize there are drawbacks, including conflicts with long-standing agricultural practices and a lower level of service than in towns.

Agricultural users of the land are not expected to change their long-established agricultural practices to accommodate the intrusions of urban users into a rural area. Agricultural activities may generate off-site impacts, including noise from tractors and equipment, dust from fieldwork, harvest times and animal pens. Odor can be expected from animal confinement, silage and manure, and smoke from ditch burning. Pesticides and fertilizers are also used in fields, including the use of aerial spraying.

*Wendi Maez, Land Use Administrator*

## Saguache County Potatoes: Past, Present and Future

*Nature Fresh Distributing, Center - 719 754-3370*

Over the past twenty years, Saguache county has consistently produced quality potatoes. Most of these potatoes are destined for grocery stores in the southeast part of the U.S. Saguache county potatoes have served markets as far north as New York City and as far south as Miami, Florida. A portion of Saguache County potatoes is used by other growers to plant as certified seed. In addition to a loyal local customer base, Saguache county certified seed potatoes have satisfied potato growers in almost all the potato producing states of the nation. The largest users of Saguache

County certified potato seed are California, Texas and New Mexico. In recent years, seed potatoes from Saguache County have been exported to Mexico and South America.

Another use for these fine potatoes is the processing industry. Potatoes are used to make starch, potato flakes, and partially cooked potato dishes. All of this processing is done on a local level. Out of state shipment of processing grade potatoes is dependent on supply and demand. When there is a shortage of these kinds of potatoes in the Pacific Northwest, Saguache County growers usually ship some up to this area.

If a person looked into the most significant events in the past twenty years relating to Saguache County potato production, they would find two things. First, the proliferation of the center pivot sprinkler, and second, the development of the Centennial Russet potato variety. Prior to the mid 70's, the predominate varieties of potatoes grown in the valley were Russet Burbank and Red McClure. As sprinkler irrigation became more popular, these varieties did well, but none did as well as a newly developed potato called the "Centennial". It's performance under pivot irrigation was outstanding, and it required less inputs and made its crop faster than Russet Burbank. By the mid 80's, the Centennial was the predominate variety in Saguache County.

As far as center pivot irrigation goes, in 1973 Saguache County had 40 pivots, five years later in 1978, Saguache County had 325 pivots, and by 1983, the farmers in Saguache County were producing crops under 527 center pivot irrigation systems.

Since the mid 80's, we've seen the popularity of the Centennial wane with new varieties like "Russet Norkotah", a fresh market russet, and "Sangre", a brightly colored red potato that took a lot of the "Red McClure" acres. In 1989, a potato called "Russet Nugget" was released. With the growth of the "Nugget" variety, Russet Burbank acreage is becoming non existent. Recently, work has been done to improve on varieties like "Russet Norkotah" and "Sangre". This is different than coming up with an entirely new variety, because line selection permits selecting the best traits from the existing varieties of Norkotah and Sangre. These improved lines are then multiplied by the certified seed growers to increase their numbers, and given out for the commercial potato industry to check out and evaluate.

## **Saguache County Potatoes, Continued -**

In the summer of 1985, the potato growers of Saguache County planted 8,900 acres, on which they produced almost three million 100 pound sacks of spuds. In the summer of 2000, Saguache County planted over 20,000 acres of potatoes, which produced over six million, seven hundred thousand 100 pound bags of potatoes. We are a productive bunch, aren't we!

## **Organic Farms and Products**

If you've ever enjoyed organic carrots, broccoli or potatoes, or if you've dined on naturally raised beef or lamb, there's a good chance they were raised in the San Luis Valley. The Valley is home to a number of organic farms and ranches. This is a selective example of organic growers in Saguache County. There are many other organic farms and ranches which range from large-scale commercial operations to cottage industry growers who offer their products on a limited local basis.

### **Coleman Natural Beef, Saguache**

Phone: 719-655-2285 Fax: 719-655-2285

Coleman Natural Beef was founded by Mel & Polly Coleman with the support of Jim & Frances Coleman in 1980. This family owned business sells primarily natural beef.

The cattle raised for Natural Beef are not given hormones, feed additives, preservatives, or antibiotics. Inspections are completed all along the growing and slaughtering process. If an animal gets sick, it is treated with antibiotics and sold on the commercial market.

The cattle are slaughtered at a packing plant and sent to Denver for processing. The meat is mainly sold as box cuts and marketed throughout the U.S., with some going to Japan.

### **Green Earth Farms, Inc., Saguache**

719 655-2655 Email: greenearth@amigo.net  
Owners Tom and Lillian McCracken are in their eleventh year of raising organic produce and quinoa. Their diverse range of products are sold locally, on the Front Range and through wholesale distributors. A variety of greens is available through the summer, with root vegetables, quinoa

and potatoes coming later in the season and lasting usually through the winter. You may visit the farm and buy direct, but call in advance. Lillian also offers a full line of herbal remedies, tinctures and salves, all organic and hand-crafted.

### **Haugen's Mountain Grown Lamb, Center**

719 754-2176 Email: hauglamb@fone.net

Sherry Haugen is a woman rancher whose lamb is raised on natural forage without grain, antibiotics, steroids or growth stimulants. The result is a lean, healthy, tasty product. She offers a variety of cuts and specialty items, such as lamb kibbee. Her products are featured in fine dining restaurants, such as the Zapata Ranch, near the Sand Dunes, and are also available through Vitamin Cottage stores on the Front Range, or you may purchase directly from her. Sherry presents her products at many food fairs statewide.

### **Mosca Pit Stop, Mosca**

719 378-2346

This shop is owned by Ernie New, who raises organic potatoes and quinoa, which may be purchased there. Ernie also offers a program in which families and individuals can pick their own produce from an organic garden plot. A wide selection of produce is available throughout the season, and the membership price is reasonable.

### **Nature Fresh & Southern Colorado Farms**

PO Box 416, Center, CO 81125  
719-754-3484 FAX: 719-754-2200  
Contact: Mark Inness

Nature Fresh is a producer of organic crops in Saguache County, including carrots, potatoes, wheat, and alfalfa hay. All crops are grown with organic compost produced by their partner company, Southern Colorado Farms.

The crops grown by Nature Fresh are packaged for retail sale, packaged and sold to wholesalers who repack or use them in salad mixes, or processed by the company. Nature Fresh processes their organic carrots by washing, cutting, peeling and packaging them for retail sale as baby carrots. The organic potatoes grown by Nature Fresh are packaged in an Organic Packaging Shed, Purely Organic, which is a partner company to Nature Fresh.

In addition to non-organically grown lettuce and spinach, Southern Colorado Farms produces compost for use in organic farming, from San Luis Valley livestock and farm waste, sold for use across the San Luis Valley.

### **Atalanta Community Cooperative Garden, Crestone**

Loretta Covert, 256-4553  
Atalanta office: 256-4446

Atalanta Association received a grant of \$5,000 in September 1997 from the Forest Service RCA program to begin building a Community Orchard Garden. A greenhouse/garden building has been built and in the summer of 1999, the Garden began with 12 members. A small section of the garden was planted and grew its first produce. The Community Co-op Garden will eventually provide one full acre of orchard-garden space, greenhouse and shop space for members of the Crestone/Baca/Moffat community. This will help provide a solution to the high cost or unavailability of water for home gardens, and a much-needed source of affordable organic produce. A root cellar and drying room are also to be built.

The project will also be a learning center for experiential education in the areas of permaculture, the domestication of native medicinals, seed banking, vermiculture and composting, and food preservation. Opportunities for mentoring, welfare diversion, and court mandated community service will be encouraged. The garden will include raised beds with wheelchair accessible paths and multi-lingual (including Braille) signage identifying plants.

Two types of memberships are available: working and non-working. Working does not necessarily mean hard labor. There are many levels of work that need to be done on a regular basis. We harvest once a week. All produce is divided equally between the members of the garden as it is harvested, with additional shares being set aside for sale and/or to be given to the local Food Bank if needed, and as available.

We encourage you to support the Community Orchard/Garden and are looking forward to providing our members with healthy, organic fruits and vegetables, as well as the fun and good feelings of working together.

## **Colorado Brand Law**

### **State of CO Dept. of Agriculture**

303 294-0895  
201 Livestock Exchange Bldg.  
4701 Marion Street • Denver, CO 80216

### **Operation Game Thief & Operation Livestock Theft**

800 332-4155

### **SLV Area Brand Inspectors**

Thomas Moss - 719 589-2126  
Mike Smotherman - 719 589-5605  
Bill Smotherman - 719 372-6889

### **Special Law Enforcement**

Ron Bergman - 719 539-4665  
Brian Bechaver, DOW - 719 587-6901

### **Brand Regulations:**

1. An inspection is required EVERY TIME an animal is sold or purchased (horses, cattle, mules and donkeys) or WHEN ANY CHANGE OF OWNERSHIP OCCURS, regardless of whether or not the animal is transported after or prior to the sale.
2. An inspection is required when livestock is to be transported over 75 miles totally within the boundaries of Colorado.
3. An inspection is required EVERY TIME livestock leave the state, regardless of circumstances.
4. Items 2 and 3 may be accomplished by the owner obtaining a "permanent travel card" (for horses only).
5. Any time livestock is to be transported on a public road, proof of ownership of the stock being transported must be available for inspection by the Colorado State Patrol, local law enforcement or a brand inspector. If the animal carries your Colorado brand, this can be your proof of ownership. Failure to show proof of title is a misdemeanor.
6. Animals being transported by a commercial hauler must have a "Bill of Lading" showing point of origin, destination, number of head, color, sex, the hot iron brands and signed by the owner or agent of the stock, even if an inspection is not required.
7. Animals being transported by anyone other than the legal owner should have a letter or note from the owner authorizing that transport in conjunction with the inspection certificate.

## Brand Regulations, Continued -

- Any livestock crossing a state line must be accompanied by a current health certificate. Contact your local veterinarian or the State Veterinarian's Office (303 239-4161) for specific information.
- Failure to comply with Colorado Brand Law is at least a Class I misdemeanor and may be a felony. \$250 minimum fine and/or up to 90 days jail time for the first offense.

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## Natural Resources Conservation Service (NRCS)

(See Resource Guide, Ecology - NRCS)

Tracy Miller, District Conservationist  
PO Box 580, 550 Worth St., Center, CO 81125  
719-754-3400

The role of NRCS is to provide technical assistance to all aspects of conservation and wise use of natural resources. NRCS is charged with providing national leadership in the conservation of soil, water, and related natural resources on the nation's non-federal lands. This responsibility requires that the agency encourage landowners, operators, and land use decision-makers to protect, restore, and improve the natural resources for which they are stewards.

Our mission of service is aimed at both the individual land user and groups of land users, including local units of government. NRCS assists individuals in making decisions, supplying conservation practices where needed.

## Native Plants

### What is a Native Plant?

A true native plant is one that evolved in a given region. Native plants are a key part of all healthy ecosystems. They produce oxygen and filter the air we breathe. They provide food and shelter for animals. Each native plant contributes to a balanced ecosystem that developed over millions of years. They help keep the system functioning; we cannot afford to lose native plants. Native plants are resources for ecological restoration.

Not all of the plants we see in Colorado are native. Some are non-native or exotic plants. They evolved in other places, and people accidentally or intentionally brought them here. Some of these exotic plants become noxious weeds.

Some plants native to Saguache County include: Colorado wild buckwheat, aspen, Douglas fir, lodgepole pine, ponderosa pine, white fir, blue spruce, pinyon pine, skunkbrush, rabbitbrush, mountain mahogany, cottonwood, currant, wild plum, snowberry, wild rose, shrubby willow, blue grama grass, buffalo grass and Colorado Columbine (our state flower).

### How can you protect native plants?

- When you hike or ride bikes, stay on trails, don't cut switchbacks.
- Get involved in organizations that encourage native plant conservation.
- Don't pick wildflowers. Some pretty wildflowers are noxious weeds. If you pick them, you may spread their seeds.
- Learn which wildflowers are actually noxious weeds.
- Encourage using native plants to replant areas in your community.
- Garden responsibly. Choose native plants and non-native plants that are not aggressive.
- Don't plant flowers that are considered noxious weeds.

## Noxious weeds

### Why You Should Care

When noxious weeds spread, they rapidly displace native plant species that provide habitat for

wildlife and food for people and livestock. Weeds cost money by reducing the land's natural and agricultural productivity. Weeds can increase maintenance costs and reduce the usefulness of recreation areas. Weeds affect the lives of many private landowners and public land users. These landowner's and land users need everyone's help to prevent the spread of weeds.

### **How It Happens**

When a vehicle is driven through a weed infested area, weed seeds may become lodged between the tire treads, in the coils of a winch, behind the license plate or in cracks and crevices on the underside of the vehicle. Seeds may travel hundreds of miles before becoming dislodged in an area where the weeds were not previously found. The source of many weed infestations has been traced to roads, trails, railroads and other travel ways.

Weed seeds can pass through an animal's digestive system and still grow. Animals receiving contaminated food before being moved to hunting or riding areas can deposit weed seeds in the new location days later. Animals to be moved should therefore receive only food that is certified weed free at least 96 hours before entering backcountry areas. Pack animals should also be brushed before moving and their hooves should be cleaned to eliminate any weed seeds.

Because many noxious weeds have pretty flowers, they are often picked and used in floral arrangements. New weed infestations can be established when seeds shake off while the "pretty flowers" are being transported or after the flowers are discarded. Some weeds can develop roots and produce new plants directly from plant parts, even after weeks of use as decorations.

If you find a weed infested area, please let the landowner or land managing agency know so that they can take steps to control the weeds.

The weed species recognized as the top ten prioritized noxious weeds for the State of Colorado are: Canada thistle, diffuse knapweed, field bindweed, hoary cress, jointed goatgrass, leafy spurge, musk thistle, Russian knapweed, spotted knapweed and yellow toadflax.

The complete State Noxious Weeds list is available through the Forest Service (719 655-2547) and CSU Cooperative Extension (719 589-2271).

### **Certified Weed Free Hay**

Certain public and provincial lands have areas that require regional weed free forage. Weed free forage is required on U.S. Forest Service and Bureau of Land Management lands, in National Parks and Monuments, Bureau of Reclamation land, Military Reservations, Tribal Lands, and National Fish & Wildlife Refuges. Restrictions may apply to other lands administered by provincial, county, state or federal agencies. Check with local agencies for the most current information.

**Definitions: "Weed free"** means to be free from propagative plant parts and free from weed seed from plants set forth on the state or regional lists of noxious weeds.

**"Propagative plant parts"** are any part of a plant capable of reproducing itself, including live roots, rhizomes, and/or stolons present in the forage to be harvested. "Forage" includes hay, straw or mulch.

### **2000 Weed Free Forage Crop Producers**

Bayfield, Russ Meloche - 970 884-7421

Buena Vista - Kelly Ranch, David Kelly  
719 395-6132

Del Norte, Obbie Dickey - 719 657-2293

LaJara, Ed Buhr - 719 274-5977

Weed Free Hay may be obtained at  
H&R Supply in Center - 719 754-3983

Rules, definitions and regulations are found in the Weed Free Forage Crop Certification Act, § 35-27.5-103, C.R.S. (1993 Supp.)

### **For additional information, please contact:**

Colorado Department of Agriculture  
Division of Plant Industry  
700 Kipling Street, Suite 4000  
Lakewood, Colorado 80215-5894  
303 239-4149 OR 303 239-4150

### **Pasture/native grasses**

A complete guide to pasture and native grasses is found in "Intermountain Grass & Legume Forage Production Manual," through CSU-Cooperative Extension.

### **Rangelands**

Privately owned rangelands in the U.S. total over 401 million acres. This land is productive and

## Rangelands, Continued -

valuable as indicated by the fact that about 84% of the nation's beef is produced on these lands. Aside from forage production, these lands are important watersheds, produce abundant wildlife habitat and scenic vistas, contain much of the nation's oil and gas fields and provide growing recreational opportunities.

The overall goal of USDA-Soil Conservation Service (SCS) on rangeland is to assist land users in the management of their resources according to their ecological potential. Benefits include livestock production, watershed protection, wildlife population enhancement, and recreational goals, as well as other uses. SCS assists users of rangeland in developing and implementing conservation plans based on on-site inventories of soil, water, plant and animal resources.

## Best Management Practices for Agricultural Chemical Handling, Mixing, and Storage

Storage and handling of pesticides and fertilizers in their concentrated form poses the highest potential risk to surface or ground water from agricultural chemicals. For this reason, it is essential that facilities for the storage and handling of these products be properly designed, sited and managed. Colorado law (SB 90-126) requires operations handling large volumes of agricultural chemicals to comply with containment regulations. Operations who fall below the thresholds for mandatory containment should observe best management practices (BMPs) for handling these concentrated products.

### The ideal facility provides:

- Separate storage areas for pesticide and fertilizer, which are secured and keep the product out of the weather
- Secondary containment of the stored products
- A safe mixing and loading area away from water resources
- Worker protection features, such as showers, first aid, and spill clean-up kits

### The ideal management:

- Minimizes the amount of chemicals stored and handled
- Reduces rinsate, container, and product waste
- Maintains good records of all chemical use

### Pesticide and Fertilizer Storage

Plan your storage facilities as a secured, single use area, separate from other activities and storage (feed, seed and fuel). Design the storage area to protect pesticides and fertilizers from possible theft, unauthorized use by untrained personnel, and temperature extremes. Federal law requires that concentrated pesticide be stored in a secured area. Therefore, outdoor storage containers should be located within a permanently fenced area. Be sure to post warning signs near each entrance to the storage facility.

In most cases, pesticide and fertilizer should be stored separately to minimize the possibility of cross contamination or hazardous waste in the case of fire or other disaster. Small operations can avoid the need for multiple storage areas by constructing separate containment for pesticide and fertilizer within the same structure. The cost of these preventive measures is far less than the potential costs of a cleanup or lawsuit.

### Secondary Containment

Secondary containment is essentially a back-up system built around primary pesticide and fertilizer storage to capture products that may escape due to leaks or spills. Secondary containment protects the environment from accidental leaks and spills of bulk liquid storage tanks by preventing spills from entering the soil and possibly surface or ground water.

### Acceptable Containment Methods and Strategies

- Minimize volume and duration of pesticide stored on-site
- Double tanks for small volumes
- Concrete floor and walls
- Concrete curbed areas surrounding small volume storage
- Steel floors and walls
- Fiberglass or plastic walls and floors
- Synthetic liners over concrete or composition walls
- Approved portable synthetic containment units

Mixing/Loading Pads require that the capacity of the containment be 110% of the volume of the largest container when protected from precipitation, or 125% of the largest container when unprotected from precipitation.

### **Mixing and Loading Facilities**

The site where pesticides and fertilizers are mixed and loaded prior to application is usually the most vulnerable area to contamination from spills. Unfortunately, it has been common procedure in the past to mix and load chemicals at a single, unprotected location with little thought given to surface or ground water proximity. Business operators may be liable for cleanup of these sites, even after selling the property, if mishandling of agricultural chemicals results in environmental contamination.

### **Facilities Maintenance**

The life of pesticide and fertilizer storage, containment, and mixing and loading facilities can be substantially extended with regular maintenance. Inspect the facility thoroughly on a seasonal basis to stay ahead of maintenance requirements of the facility. Preventative maintenance can minimize factors that cause deterioration, and prevent small problems from becoming large ones.

Good housekeeping procedures are also important to prolonging the life of the facility. Cleaning up fertilizer or pesticide spills promptly will prolong the life of the structure. Keeping the sump, pipes, tanks, and fittings clean and free of corrosion is also important to extending facility life.

### **Waste Management**

Dealers, commercial applicators, and farmers who handle agricultural chemicals must contend with the proper disposal of rinsate, empty containers, and other waste.

### **To minimize waste at the agricultural chemical handling site:**

- Purchase only the amount of chemical needed for each season
- Return unused chemicals to avoid over-winter storage
- Mix only the precise amount of chemical needed for the immediate job
- Calibrate sprayers properly so the application rate is correct

- Use rinsate as make-up water for the next spray batch. Be sure rinsate water is compatible with chemical
- Use mini-bulk and two-way containers to eliminate container waste
- Mix chemicals and clean equipment at the application site to reduce rinsate water
- Recycle empty pesticide containers whenever possible
- Utilize direct injection spray systems and mini-bulk containers to reduce pesticide waste
- Roof mixing pads and secondary containment to reduce stormwater-handling accumulation

### **Record keeping**

Record keeping is an important aspect of managing an agricultural chemical facility. Good records document problems and help managers improve their operations.

### **Emergency and Discharge Response Plan**

The operator of a fertilizer or pesticide storage facility should prepare a written emergency and discharge response plan for the storage facility. Operators of storage facilities should provide a copy of the plan and a current chemical inventory to the local fire department.

For more in-depth information or specific inquiries about BMPs or containment facilities, contact CSU Cooperative Extension or the Colorado Department of Agriculture. They have publications, programs and specialists that can help you prevent water pollution.

Related law: SB 90-126 Rules and Regulations- Pesticides and Fertilizers. Colorado Dept. of Agriculture, 1994.

### **For more information:**

Mitch Yergert, Colorado Department of Agriculture - 303 239-4151

Brad Austin, Colorado Department of Public Health and Environment - 303 692-3572

Reagan Waskom, Colorado State University 970 491-6103

### **License to use chemicals**

People wanting to license as qualified supervisors or certified operators can test in agricultural, turf and ornamental, and structural pesticide application categories.

## License to use chemicals, Continued -

### Qualified Supervisor:

Any individual employed by or acting on behalf of a commercial, limited commercial, or public applicator, who, without supervision, evaluates pest problems, recommends pest controls using pesticides or devices, mixes, loads, or applies any pesticide, sells any application services, operates devices, or supervises others in any of these functions must be licensed as a qualified supervisor.

### Certified Operator:

Any individual employed by or acting on behalf of a commercial, limited commercial, or public applicator, who uses restricted-use pesticides without the on-site supervision of a qualified supervisor must be licensed as a certified operator.

To register for a commercial pesticide applicator licensing exam, or if you have any questions, please contact Lenora Lancaster at 303 239-4148. A Licensing and Examination Guide (PDF format) is also available. Study Guides are available through the State Forms Center, 303 321-4164.

Local Agent for licensing in the San Luis Valley is Leo Kazeck 719 852-3983

## EPA Worker Protection Standard

All producers who use pesticides (including herbicides, insecticides, and growth inhibitors) must comply with the EPA WPS (Worker Protection Standards). These standards regulate protection of employees and others. Included in the standard are requirements for an Anti-Retaliation Policy, Posting of Required Information at a Central Location, Posting of Required Signs, Pesticide Safety Training, Decontamination Sites, Information Exchange, Emergency Assistance, Label Requirements, Early Entry Requirements, and Equipment Safety.

The purpose of this standard is to protect agricultural employees and the community; however, you must take precautions to protect yourself. NEVER enter a field without the owner's permission. Extremely dangerous pesticides require notices to be posted at the entrance of each field, but not all pesticides meet the guidelines for this requirement. Always assume that crops have been treated with chemicals and stay out of the fields unless accompanied by, or with the permission of the producer.

Producers can obtain more information on the EPA WPS by contacting the EPA Region 8 Office, Toxic Substances Branch at 303-293-1730. Information on the EPA WPS, Chemical Containment, Training, Personal Protection Equipment, Signs, and other Chemical Safety Products are available in Saguache County at Intermountain First Aid & Safety in Center, 719-754-2373.

## What is Chemigation?

Chemigation is the process whereby agriculture chemicals, (pesticides and fertilizers) are applied to land or crops in or with water through a CLOSED irrigation system. (The term "pesticides" includes herbicides and fungicides as well as insecticides.)

Chemigation DOES NOT include the process whereby chemicals are applied to land or crops in or with water pumped from a stock watering well, a domestic well with a diameter of two inches or less, or from a tailwater collection pond.

A CLOSED IRRIGATION SYSTEM includes any device or combination of devices having a hose, pipe, or other conduit, which connects directly to any source of groundwater or surface water, through which water or a mixture of water and chemicals is drawn and applied for agricultural or horticultural purposes.

Under the Act, "irrigation system" does not include any hand-held hose sprayer or other similar device which is constructed so that an interruption in water flow automatically prevents any backflow to the water source and does not include stock waterwells, any domestic well with a diameter of two inches or less, or a system which includes a tailwater collection pond.

An open discharge system is any system in which the water is pumped or diverted directly into a ditch or canal in such a manner that the force of gravity at the point of discharge into the ditch or canal cannot cause water to flow back to the point from which the water was pumped or diverted.

## Permits

Beginning January 1, 1990, any person who utilizes chemigation as described above must file with the Colorado Department of Agriculture, Division of Plant Industry, an application for a chemigation permit for each irrigation system utilizing chemigation. The department will provide the application forms.

Permits are not required of persons who apply chemicals to land or crops through open discharge systems.

### **Affidavit in lieu of Permit**

Each calendar year (beginning January 1, 1990), the owner of an irrigation system who does not intend to practice chemigation during the calendar year must notify the Colorado Department of Agriculture of such intent. Notification must be by an affidavit provided by the department.

### **Inspections**

Inspections may be conducted of permitted systems once every two years. Inspections are conducted to assure proper installation and maintenance of equipment.

Chemigation Act is Section 35-11-113.

### **For additional information, please contact:**

Colorado Department of Agriculture  
Division of Plant Industry  
700 Kipling Street, Suite 4000  
Lakewood, Colorado 80215-5894  
303 239-4149

## **Soil, Plant, and Water Testing**

Soil and manure testing are the foundation of an economically and environmentally sound crop management program. Plant tissue analysis can be a very useful method for assessing crop nutrient status. In addition, rural homeowners should periodically test their well water to ensure it is safe for drinking.

There are a number of qualified laboratories in Colorado that can provide these services. There are also commercially available quick-test kits that can be used at home for testing both soils and water. Without an analysis, you may be buying unnecessary fertilizer or applying too much manure to your fields. Neither practice is sound. In some cases, a \$35 soil analysis can save a crop producer thousands of dollars in unnecessary fertilizer costs.

### **Proper Sampling Techniques**

Obtaining a representative sample is the key to getting accurate results. Steps for proper sampling are available from your local Cooperative Extension office or from the laboratory that will analyze your

samples. The main things to remember are to use clean collection implements and to obtain a sample that is representative of the soil or material you wish to have analyzed. In general, the more material you composite to form your sample, the more reliable the results will be.

### **Soil Testing**

Yearly sampling of each crop field is recommended to make accurate nutrient management recommendations. Routine soil sampling also provides valuable information about soil salinity, pH, and organic matter content. Collect soil cores from a variety of locations in the field to get a representative sample.

Lawn and garden management can also be improved by soil sampling for nutrient analysis. Usually about a dozen soil cores to a depth of 4 - 6 inches are adequate for a typical urban lawn or garden sample.

Soils can also be analyzed for less common elements such as selenium or lead, as well as organic compounds, such as pesticides or hydrocarbons. Pesticide tests are expensive and not routinely recommended unless serious contamination problems are suspected. Check with the laboratory concerning the submission of samples for pesticide testing. Sampling for organic compounds requires special handling. Air dry soil samples prior to mailing to the laboratory and be sure to keep all samples cool. For best results, deliver samples to the laboratory as soon as possible.

### **Water Testing**

People who get their water from a public supply have the benefit of strict federal and state regulations governing water quality and testing. If you have a private water system, it is your responsibility to make sure your family's water is safe. Contaminated water may not taste, look or smell different from safe drinking water.

Analysis is the only sure method to determine the quality of your water. If you are buying a new property or if you cannot remember when your well was last tested, you should have your water analyzed by a reputable laboratory for bacteria, nitrate, sulfate, chloride, pH, total dissolved solids (TDS), hardness, and conductivity to get baseline information on your well. Bacterial analysis is strongly recommended for all private water

## Water Testing, Continued -

supplies, especially for a well in close proximity to septic systems or animal confinement facilities. Tests for pesticides, other organic contaminants, and radon are expensive and not usually recommended unless you have reason to suspect contamination.

Annual water testing is suggested to help monitor the quality of your private water supply. If you see a decline in quality, more thorough investigation is warranted. These records will provide valuable information on the history of your well if your water is ever contaminated.

When you take a water quality sample, be sure to follow your laboratory's sampling protocol.

## Manure Testing

Manure testing is the best way to know the fertilizer value of manure spread on fields or gardens. Manure should be analyzed for N, P, K, micronutrients, and salt content (E.C.). Obtaining a representative manure sample can be challenging. For proper manure sampling, you need a clean bucket and sample jar. If you are spreading manure daily, take many small samples over a representative period. For periodic spreading from a manure pack or pile, collect samples from a variety of locations in the pack or pile using a clean shovel or fork. Be sure that you collect both manure and bedding if they will be applied together. Agitate liquid manure handling systems before sampling and collect several separate samples. Combine the individual spot samples from a particular lot or lagoon in the bucket and mix thoroughly before filling the sample jar. Keep the sample refrigerated and deliver it to the laboratory within 24 hours, if possible.

Collect the samples well in advance of your spreading date so that you will have time to obtain test results and calculate the correct application rate for the crop to be grown. An accurate manure test is an excellent investment of time and money, as it may help you realize significant savings on fertilizer bills while simultaneously avoiding water contamination problems.

## Plant Analysis

Plant analysis during the growing season is another practice to help assess nutrient sufficiency

in the growing plant. While nutrient deficiencies are many times visibly apparent, excess nutrient levels can only be determined by plant tissue analysis. This technology offers producers the ability to apply lower rates of fertilizer per plant, and to monitor and adjust plant nutrient status throughout the growing season. Plant analysis, when properly used, offers producers insurance that careful nutrient management will not negatively affect the bottom line.

## To obtain a list of laboratories and their services, contact:

Mitch Yergert, 303 239-4151  
Colorado Department of Agriculture

Brad Austin, 303 692-3572  
Colorado Department of Public Health and Environment

Reagan Waskom, 970 491-6103  
Colorado State University

## American Farmland Trust is Saving American Farmland

American Farmland Trust, 1200 218th Street, NW, Suite 800, Washington, DC 20036  
202 331-7300, [info@farmland.org](mailto:info@farmland.org)  
<http://www.farmland.org>

According to a 1997 American Farmland Trust study, every state in the nation is sacrificing irreplaceable agricultural resources to urban sprawl. We are converting a total of 1 million acres a year. While the quantity of top-quality agricultural land being lost varies from state to state, the process of conversion increases the pressures on agriculture even beyond the acres that are actually taken out of production. No issue will be more important in 21st Century America than how we use our dwindling land resources. The irreplaceable land that produces our food and provides us with scenic open space, wildlife habitat and clean water is increasingly at risk from urban sprawl and rural subdivisions. To assure a prosperous future, we must save our farmland. Efforts to protect America's farmland begin at the local level, where sprawl threatens community character and endangers fiscal stability.

## Rio Grande Headwaters Land Trust A Community Land Trust Goes to Work

0881 N. Highway 285, Monte Vista, CO 81144  
719 852-4015, FAX 852-4027, right@fone.net

Fragmentation of land and its ownership is a devastating force to those who wish to sustain agriculture and rural communities, especially here in the mountain regions of the West. Just to put things in perspective, the state of Colorado is now losing 240,000 acres of agricultural land per year. Attempting to counter that fragmentation in a proactive and incentive based manner, land trusts are one of the fastest growing movements in the U.S. today.

Local land trusts typically consist of people, in a place - THEIR place - attempting to protect the fundamental source of life – the land, water, life and productive capacity of that land. They are working to get at the root of fragmentation, to prevent it and keep as much as possible of the remaining larger pieces of privately owned and productive agricultural lands and water intact, in a manner that is voluntary and based upon incentives to the landowner.

While there are well known national and many state land trusts now active in the San Luis Valley because of its exceptional agricultural, wetland and wildlife values, community members determined that a local land trust has a unique role to play. In 1999, a hard-working group of local ranchers, farmers, agency personnel and community activists launched the Rio Grande Headwaters Land Trust (RiGHT). RiGHT's stated purpose is "to conserve and promote the ecological, economic and cultural vitality of land, water and life in Colorado's Rio Grande Basin, for present and future generations."

RiGHT is a provider of a number of services. There is an on-going need for educational opportunities for landowners seeking to better understand their prospects for the future. RiGHT will be providing programs about estate planning, conservation tools, and how landowners can provide options for their heirs while keeping the land and water intact for agriculture. While a land trust's typical role is solely focused on conservation easements, RiGHT strives to keep the big picture in mind and realizes that

easements are only one possible tool that may or may not serve landowners toward the larger goal - keeping their family land in the family and sustaining the quality of life and rural character of the San Luis Valley. RiGHT will also be offering training for professionals - lawyers, estate and financial planners, appraisers, title companies and so on - and for elected officials and agency personnel to learn about how a whole range of land protection and planning tools fit into their client's overall picture and serve the larger community.

There are numerous studies done by national organizations, such as the American Farmland Trust (AFT), that show that the conversion of agricultural lands to residential uses can end up costing a community more, often much more, in increased cost of services, than the increased income from taxes will ever generate. AFT's studies show that the patterns of growth are also very critical to the long-term sustainability and prosperity of communities. They measure the overall and long term dollar value of agriculture to a local economy and make a strong case for people of all political persuasions to consider better planning and serious approaches to prevent the loss and fragmentation of agricultural lands.

"We at the Rio Grande Headwaters Land Trust have our work cut out for us and much to learn, but we also realize what an exceptional opportunity we have. There is much that is worth protecting and we are inspired by the beauty and richness of the land and water of the San Luis Valley. We feel lucky to have something so worthwhile to work for, we have the support of so many committed partners and knowledgeable organizations assisting us, and we have the opportunity and wherewithal to work with a community of people who recognize the need and are willing to work for the future of the place they love." *Rio de la Vista, September, 2000*

## Colorado Cattlemen's Association

8833 Ralston Road, Arvada, CO 80002  
303 431-6422, <http://cca.beef.org>

The Colorado Cattlemen's Association (CCA) is the state's only nonprofit trade organization exclusively representing Colorado's beef producers. Founded in 1867, CCA is the nation's oldest state cattlemen's association. CCA serves its members by speaking

## **Colorado Cattlemen's Assoc., Continued -**

out on behalf of Colorado's more than 9,000 beef producers. CCA works closely with state and national legislators, agencies, media and consumers to promote the cattle industry.

Members take pride in CCA's ability to achieve results for Colorado's cattle producers. Cattle producers join CCA voluntarily and manage it cooperatively, working together to accomplish goals that no single cattle producer could reach alone.

## **SLV Cattlemen's Association**

The local chapter for the Colorado Cattlemen's Association is the SLV Cattlemen's. Contact any member for more information. The current President is Roy Oliver, 719 589-3306.

## **Colorado Cattlemen's Land Trust: Protecting open space by preserving agriculture**

Lynne Sherrod, Executive Director  
8833 Ralston Road, Arvada, CO 80002  
303 431-6422, ccalt1@juno.com  
[www.yampa.com/Routt/CSU/CCALT.html](http://www.yampa.com/Routt/CSU/CCALT.html)

In recent years, Colorado's majestic landscapes, ski resorts, and vast open spaces have attracted countless tourists and nature lovers. The natural wonders of Colorado have prompted many visitors to make their home here where they actively seek out 35 acre "ranchettes" and subdivisions.

This influx in development poses a serious threat to Colorado's agricultural community. Steep rises in property values and crippling estate tax liability puts pressure on farmers and ranchers to develop agricultural land and makes it increasingly difficult for them to maintain an agricultural way of life. Since 1987, Colorado farmland has declined by 1.4 million acres per year, and according to the Colorado Department of Agriculture, approximately 270,000 acres have been taken out of production annually since 1992. The conversion of this land not only impacts agriculture, but threatens native wildlife populations, as well.

Recognizing the need to help Colorado farmers and ranchers deal with the problems arising from encroaching development, the CCA, in 1995, formed a land trust with the interest of the agricultural landowner in mind.

The mission of the Colorado Cattlemen's Agricultural Land Trust (CCALT) is to help Colorado's ranchers and farmers protect their agricultural lands and encourage continuing agricultural production for the benefit of themselves, their families, and all of Colorado's citizens. Emphasis is directed toward educating landowners about the use of conservation easements, which restrict the ability to develop their property, thereby permanently protecting its open space value. The CCALT is completely separate from CCA, with its own board of directors and staff.

A conservation easement is a legal document that contains permanent restrictions on the use or development of land. A land trust is the recipient of a conservation easement. Most land trusts are private, non-profit corporations.

Related sources of information:

Colorado House Bill 1348, which expands the ability to use a tax credit against Colorado income tax for the donation of a perpetual conservation easement.

## **SLV Woolgrower's Association**

President: Rick McCormick - 719 754-2577  
Vice President: Jay Yeager - 719 754-0584

The San Luis Valley Woolgrower's Association aids in the marketing of sheep, lamb and wool products for local producers. They are involved with DOW, and Local Predator Control.

The group also has a strong program to help young people become involved with growing of sheep. It is called the "Ewe Start Program." Local producers sell five bred ewes to a young person by January for \$500 with the pay back being over a three-year period. This has enabled many local young people to start their sheep herd.

## **High Valley Dairy Goat and Sheep Cooperative**

c/o PO BOX 105, Crestone, CO 81131  
phone/ fax 719 256-4446 [atalanta@amigo.net](mailto:atalanta@amigo.net)

Three years ago, nine lady goat and sheep ranchers got together and decided to join in a co-operative effort to form a dairy goat and sheep cheese-making business. Sponsored by the Atalanta

Association and with the help of the Rocky Mountain Farmers Union, grants from the Forest Service, the Polk Family Foundation and other agencies, and a lot of hard work on the part of the members, their dream is becoming a reality.

The High Valley Dairy Co-operative will produce high quality varieties of goat and sheep cheeses under the label of High Valley Cheese that will be distributed throughout south-central Colorado and northern New Mexico, to restaurants, health food stores, supermarkets, and hotels. The High Valley Dairy Co-op is more than just a cheese-making operation: the entire business, from the independent ranchers to the daily decision making processes, is based on Allan Savoy's holistic management approach to land use and economy that seeks to integrate land, animals, and people so that the ranching process sustains and supports the earth.

In addition, it is hoped that the cheese-making facility will be located on the land of the Atalanta Association, a non-profit educational and cultural project located in Crestone. Not only will goat and sheep cheese be made there, but the dairy co-operative will also function as a teaching facility for adults and children wishing to learn something of food sources, cheese-making and value-added and sustainable agriculture.

## **Agriculture Consulting**

**For other information on Agricultural Assistance,** see *Resource Guide, Agriculture, Agricultural Services, Environmental Consulting, and Farm Supplies.*

### **Agro Engineering**

0210 CR 2 South, Alamosa, CO 81101  
719 852-4957

Agro Engineering specializes in the transfer of sustainable agricultural and water resource technologies through its consulting and training programs. The interdisciplinary team of engineers, agronomists, entomologists, economists and other experts provides technical assistance to farms, farm groups and other organizations. Some of the services provided are: irrigation planning and feasibility studies, irrigation design and management services, soil classification, soil fertility and nutrition assessment, integrated pest management, farm planning and economics, applied agricultural research, and training.

## **Additional Sources of Information**

USDA:

Farm Service Agency  
Center Soil Conservation District  
Natural Resources Conservation Services  
Main Office:

550 Worth, PO Box 428, Center, CO 81125  
719 754-3400

Bureau of Reclamation

10900 US Hwy. 160, Alamosa, CO 81101  
719 589-5855

Cooperative Extension - Alamosa, Mineral, Rio Grande and Saguache County

401 Santa Fe, Box 329, Alamosa, CO 81101  
719 589-2271

State Chemical Use, Tonya Saviger  
800 866-7683

Colorado Tree Sales

714 Diamond Dr., Alamosa

San Luis Valley Research Center

0249 E CR 9N, Center, CO 81125  
719 754-3494

Intermountain Grass & Legume Forage  
Production Manual, available through CSU-  
Cooperative Extension

Commodities & Livestock Market  
<http://www.ag-central.com>

CO Dept. of Agriculture

<http://www.ag.state.co.us>

National Agriculture Library & USDA Research  
Service <http://www.nat.usda.gov>

For more on chemicals, pesticides,  
groundwater protection, noxious weeds, certified  
weed free forage, and water, soil and manure  
testing labs, visit: <http://www.statae.co.us>  
and click on:

On Line Services

Publications, under Dept. of Agriculture  
Plant Industry Publications  
State of CO, Dept. of Plant Industry