



Holistic Resource Management of Texas, Inc.

Newsletter

Volume 15, Number 2

Summer 2000

Sustainable methods of dealing with drought

by Dr. Phil Wheeler

Ed. note: The following essay deals primarily with row crop agriculture, but conveys important principles for soil management in any situation.

The first point to make is that it is easier to prepare for drought before you are in one than to try to rescue yourself from one you already experiencing. Regardless of what stage you are in, the principles which will be addressed here are the same.

Three processes are involved: Capturing the rain that falls on your farm, holding a good portion of it in the topsoil for immediate use, and allowing the rest to go into the subsoil where it can come back up to the topsoil when needed.

Capturing rain requires good soil structure. Good soil structure is usually damaged by simplistic N-P-K fertilization. Growers need to learn that there are six major nutrients; calcium, nitrogen, phosphorous, potassium, magnesium, and sulfur. Calcium is the king of nutrients and must be dealt with outside of the pH concept. A good cation exchange test [CEC] will help you begin to balance the 6 majors to influence structure. At the same time as you are using nutrients to attempt to correct structure, you can also use sub-soiling and soil conditioners to get rain to go through the topsoil and into the subsoil.

Advanced methods of holding moisture where it falls include contour plowing, strip cropping, terraces etc. Cover crops always hold more rainfall than bare ground. For advanced total concept water retention, look into permaculture (created in Australia where water is extremely precious.)

Holding moisture in the topsoil requires the presence of biologically active carbon. The main source of this is organic matter that has been turned into humus by the digestion of microbes. In order to get the soil biology to come back, a grower has to learn how to reduce chemical inputs that impact the microbes and provide new food sources for them. Changing to post emergence herbicides is a start. Direct application of carbohydrates such as molasses or sugar provides high energy feed for the

microbes to use when they are taking up nitrogen for retention against leaching and release when needed by the plant. Green manure crops should be disked into the surface to provide a more complete food supply for the microbes. Treating them with small amounts of N and sugar will assure their immediate breakdown for use by the current crop. The presence of good humus will combine with the structure from bal-

see Drought, page 7

Gregg Simonds shares insights

Gregg Simonds is currently vice-president of Agricultural Operations of Ensign Group, overseeing three ranches with 7,000 cows, 5,000 yearlings and a wildlife program. He consults in holistic management and is adjunct to Utah State Natural Resource College and faculty affiliate to Colorado State Animal Science College. He lives in Utah.

HRM: *What has been your experience using HRM?*

Simonds: I was a city kid until I got into ranching in the early seventies with a goal "to be a positive example of land resource management." This meant that I needed to make money while enhancing the land. I met Allan Savory in 1978 when he was still living in Texas and I was managing the Desert Land and Livestock. I read an article where he was quoted "that land was under stocked and over used." The statement didn't make sense to me initially, but I couldn't get it off my mind. Finally, while looking at urban horse pastures I saw what he was saying and resolved to meet him. I located him in Texas and he was very kind

to take me around in his plane to look at Western ranges.

It was very exciting to share perspective and to find someone with a broad view of ranching and its effects. I went to Savory and Parsons 2 week workshop and tried to incorporate their thought processes in my work. I did have one criticism of the model years ago—that it was a biological model for a biological world, and I dealt with people.

I also subscribed to the ideas of Stephen Covey and tried to introduce those ideas to Savory; that the way to get things done is through people. It is one thing to have a powerful model and lots of knowledge, but

see Simonds, page 4

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A note from the President

by George Brannies

What a blessing the recent rains have been. No matter all the technology, planning and smart consultants, only God can break a drought and we are thankful for the reprieve.

Our apologies for the late newsletters and field day notices. The problem is not with our office. Unfortunately we must use bulk mail due to cost constraints and sometimes the mailings sit in the post office far too long. Sometimes they do not go out at all, as was the case last month. Please be assured, we are working on this problem.

Many thanks to all for your interest in HRM of Texas and the upcoming field days. As we continue to find ways to help each other with our common challenges and opportunities we look forward to seeing you at the many educational programs being offered.

Respectfully,



HRM of Texas Mission Statement

To provide encouragement and
support of holistic management in Texas

THREE-PART GOAL

Quality of Life - We value a healthy ecosystem capable of supporting the people in it, strong family units, financial sustainability, a land ethic, and personal growth and development; while enjoying life and the fellowship of a professionally proactive organization.

Forms of Production / Activities - Practicing holistic management, self-sustaining forms of revenue, facilitating training and education, creating public awareness and forming collaborative partnerships.

Future Landscape Description - High biodiversity, a healthy water cycle, a healthy mineral cycle, efficient capture of solar energy, and a harmonious interdependence between urban and rural communities through an understanding of ecological processes.

Holistic Resource Management of Texas, Inc.

Newsletter

is published quarterly by HRM of TX, Inc., a non-profit organization. News articles, area updates and photos are gratefully accepted and will be published as space allows. We welcome letters to the editor related to HRM principles or activities. Advertising is available. Direct newsletter correspondence to:

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Events/Announcements

Mark calendars now for Field Days

July 7-9 (Friday - Sunday) 2000 Annual Texas Prairies & Savannahs Conference, "Making a Living on Native Grasslands" Austin, Texas at the Lady Bird Johnson Wildflower Center. Sponsored by the Native Prairies Association of Texas (see NPAT, page 5), HRM, and several other resource conservation organizations. Registration is \$65 per person if received by June 30. This includes the 5 PM Friday evening social/buffet at the Red Corral Ranch, the Saturday seminars and evening mixer/buffet, and choice of ranch tours on Sunday. If registering after June 30 the cost is \$75 and will not include the Friday social. Also, field trip transportation cannot be guaranteed.

Special workshops, limited to only 30 participants each, will be held Friday July 7. Half-day workshops on conservation easements, prairie reconstruction, prairie grass identification, and prairie gardening are \$15 per person. An all-day workshop on prescription burning will be offered for \$30 per person, lunch included. Call for space availability. Saturday topics include grazing management talks by SRM and HRM; managing and restoring native pastures and hay meadows for profit and diversity, soil health: fungi; dung beetles, bison; quail; ecotourism; cedar control for better rainfall infiltration; wildlife habitat, tax evaluations and income. Sunday offers ranch tours at \$15 each. Contact person: Lee Stone at 512-476-1663, e-mail address leeprairie@austin.rr.com.

September 16 (Saturday) 10 am-4 pm—Maddox Animal Handling Seminar, Maddox Ranch, Colorado City. Barbeque lunch provided. Watch your mail for complete details not available at press time.(see story, page 8)

October 11—HRM annual planning meeting in Ruidoso, N.M.

October 21 (Saturday) 10 am Texas Agricultural Extension Station at Sonora, TX. Sheep & goats as income producers. Prescribed burning as a tool.

The Basics of Holistic Management

Peggy Sechrist, Cert. Ed.; Dr. C. Wayne Hanselka and Dr. Jerry Cooke will team up to teach a 2 day workshop Friday and Saturday, September 8 & 9 in San Angelo, Texas. This interactive class will introduce the principles of holistic management and how to apply them to your situation. Topics include goal setting, ecosystem functions, management tools and decision-making processes. The \$300 workshop fee includes textbook, planning aides, chart forms, etc. in a binder. Call Peggy Sechrist at 830-997-2508 for more information and to register.

Mastermind Connection

Guy Glosson, a registered educator in Holistic Management, is organizing "Mastermind Connection"— a series of management clubs to meet via telephone conference calling. Contact Guy via email gglosn@caprock-spur.com or call him at 806-237-2554.

News from the neighborhood

The Colorado Branch, Holistic Management, is busy planning an "International Celebration of Holism" scheduled for July 26-28, 2001. The gathering will showcase Allan Savory's work from the past to the future. We'll keep you posted on this event.

"Best of the Rockies" ranch tour August 20-27, 2000. Spend August in a cool spot! The tour includes a half-day overview of Holistic Management by Allan Savory. Contact Jim & Daniela Howell at 970-249-0353 or visit their web site at www.scranchtours.com

The Allan Savory Center for Holistic Management offers planning and monitoring aids and forms, videos and books for purchase on their website, www.holisticmanagement.org

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Simonds, from page 1

the level of commitment determines how knowledge is applied. One must engage people mentally and physically to create greater levels of self esteem. This I've found as the prerequisite to employing the decision making power of the HRM model.

I have sent most if not all the ranch employees, upper management and people actively associated with the ranch to HRM school. This gave the team players knowledge with the model and provided the team a common perspective for us to base our communications on and to evaluate our ideas.

HRM: *Why is HRM so valuable for managers of large ranches?*

Simonds: Small ranches have the advantage of being very hands on and the workers are usually the owners. They tend to have very little waste but their disadvantage is they have less choice and less scale to reduce the fixed cost of production. Large ranches are the opposite but they can't capitalize on their increased choice without good

decision making that increases their flexibility. This flexibility is key to profitability in a business and climatic environment that is more defined by its variation than it normally.

By expanding our flexibilities we have become more financially stable through time and profits have continued to increase year after year. We now work more with nature and this has reduced our supplemental feeding and expanded the number of cows per man (currently around 700-800/man). Plus, it expanded our marketing windows and new products to market. Wildlife has become a big part of the ranch's business and since it isn't a commodity, prices are stable and tend to increase from year to year.

HRM: *What is the advantage of trying to maintain large ranches intact?*

Simonds: The larger the ranch the greater variety in general. And variety is the spice of life because it represents increased opportunities. These opportunities are key to the life forms that have to make a living in the face of constant change and high variation.

Having and making choices is the key to success financially and biologically. Fragmentation tends to diminish choices in the western landscape. For example it tends to lead to higher operating cost and thus reduces profitability, it makes fencing to manage grazing uneconomical, breaks up the flow of animals between habitats and the intent of different owners can run at cross purposes, etc.

HRM: *What is the use of HRM in these goals?*

Simonds: A ranch is like a 5,000 piece puzzle—it is important to see the picture on the box for maximum effectiveness and efficiency of putting it together. The HRM model provides a decision framework which helps one integrate the parts into a whole that helps optimize long goals and short needs. Research scientists are out there cutting the pieces up into parts and thus they tend to be of little value in running a profitable and life enhancing ranch.

Advisory Board hosts ranchers' symposium in Midland

by Clint Josey

The advisory board of Holistic Resource Management of Texas, Inc. held a symposium on land management May 25 in Midland, Texas. Designed specifically for ranchers and ranch managers unfamiliar with holistic management, the half day event included a steak lunch and talks by speakers familiar with the issues and challenges of large ranches. Fifty people attended, about twenty of whom were the targeted audience.

Gregg Simonds, VP of Agricultural Operations of Ensign Group (see story, page 1), emphasized that ranchers need sources of income other than livestock, particularly hunting. He also called attention to the good environmental impact that ranchers can make for which they may someday be paid. He feels the reason ranchers are not more eagerly embracing new paradigms like HRM is that change increases risk to an already risky business. They worry they don't have time to weather the learning curve. Yet the tools and techniques of HRM

offer the choices and flexibility that is the key to profit and biological output of a landscape. He called for more mentoring, saying, "In this type of climatic, financial and social environment, change needs to be lead by mentors. People, who are inspirational, experienced and have been successful. I believe if broad scale change is going to happen then mentors and markets will need to be developed so that risk of change is reasonable."

Richard Teague, researcher with the Texas Agricultural Experiment Station conducting work in partnership with the Waggoner Ranch in Vernon, Texas presented various aspects of his research on the best ways to deal with mesquite and with cattle rotation. Prescribed burning seemed to be the most desirable control for mesquite on the study site. The Waggoner data shows clearly that, although cattle performance does not suffer if continuous grazing is in very large paddocks, the grasses do suffer. The one herd eight paddock group fared best with best sustainable effect on

forage, followed by the one herd four pasture rotation. Forage declined over time with the three herd four paddock rotation and with continuous grazing. The greater the number of paddocks, the longer the rest for the forage. More rest means taller plants with deeper roots and more resistance to drought.

Forrest Armke is manager of the 32,000 acre Ford Ranch. He told the story of the ranch and the enormous improvement since he began managing holistically; from his initial resistance when someone from HRM told him in 1987 to rotate a *combined* herd of 3,600 cattle, to his eventual understanding of the value of intensity, impact and low stress animal handling. He watched hoof action break the crust, dung beetles appear and plant succession and diversity improve along with wildlife quantity, quality and diversity.

The talks were well received and were followed by a lively question and answer session.

What is the Professional Development Program (PDP)?

by **Richard Earles**

Farmers and Extension specialists meet at one of Georgia's land-grant colleges, discussing how best to use PDP-provided training funds: their planning will bring timely training to the state's county extension agents, who are fielding more and more questions from farmers about alternative crops and direct marketing. In Mississippi, agricultural educators gather for sorghum syrup production demonstrations funded by a PDP competitive grant: utilizing a small portable mill that can be shared among growers, this could be a viable value-added project for many of the educators' farmer clients. In North Carolina, teams of ag educators from across the South convene for a PDP workshop on sustainable soil management: they will share this training with colleagues back in their home states, who will in turn help farmers to gauge soil quality, nourish the soil food web, and minimize erosion.

These are just three snapshots from the Professional Development Program's portfolio of accomplishments, illustrating its mission, to provide leadership and facilitate the personal and professional growth of ag professionals who work to create an economically viable, socially responsive, and environmentally regenerative agriculture in the South.

The brief history of the Southern Region PDP is a study in the power of synergy. Through the collaboration of many dedicated individuals from a diversity of backgrounds and institutions, the program has flourished in both quantity and quality of work since beginning in earnest in 1994. The still-sketchy goal at that time was to coordinate and enable sustainable agriculture (SA) training for Extension agents and other ag professionals in the 15 southern states and territories. Half a decade later, thousands have received intensive, participatory education, the understanding and application of SA practices in the South have been greatly increased, and innovative farmers have been better served with practical, up-to-date information. Regular, realistic program evaluation has ensured that PDP continues to evolve toward excellence in furthering its goals.

The Sustainable Agriculture Research and Education (SARE) program was mandated by the 1990 farm bill. A key component of the legislation authorized a national training program to complement SARE's research initiatives. The intent of this training component, which evolved into the regional PDP programs, was to address the real need for improvement in Extension's capability to deliver sound, informed SA training to farmers.

The Southern Region PDP meets this need through three major programmatic elements: state SA training plans; regional competitive training projects; and PDP workshops that bring together teams from each state. (An example of each of these elements is given in the first paragraph above.)

In terms of professional development, Extension personnel and other ag trainers have needed both technical information and effective tools for transferring SA principles and practices to farmers. The best PDP projects have provided both. One of the first PDP-funded projects in the South was an ambitious plan to provide SA training to all Extension agents in Texas. In the words of project leader Nancy Roe, "Often, county agents want to help growers who are looking for sustainable alternatives but are frustrated because they cannot. We hope to provide county agents with the information they need to help all producers, including those who choose to include 'alternative' practices in their operations." In Texas and across the region, this has meant a shift in focus, if not a "paradigm shift," for many agents.

The Farm Bill specified that training should be participatory in nature, and include the perspectives of groups historically not involved in Extension programs. It further stipulated that farmers and ranchers should be involved as program planners, developers, and even as teachers. PDP-style training relies heavily upon collaborative teaching and learning methods that challenge the roles and assumptions inherent in traditional information transfer from agents to farmers. This is in keeping with the SA principles of systems thinking and community-based problem solving. The greatest

strength of the Southern Region PDP has been its knack for building new partnerships and networks that unite diverse members of the agricultural community.

An excellent example of PDP in action is the Texas SA training project mentioned above. Please visit the Texas Sustainable Production Systems web site for a look at the wide range of educational opportunities made possible by PDP funding, local initiative, and Texas Sustainable Agriculture Coordinators Charles Stichler and Nathaniel Keys and their colleagues: {[HYPERLINK http://sustainable.tamu.edu](http://sustainable.tamu.edu) }<http://sustainable.tamu.edu>.

Richard Earles represents NCAT/ATTRA National Center for Appropriate Technology, Appropriate Technology Transfer to Rural Areas P.O. Box 3657 Fayetteville, AR 72701 phone: 501-442-9824 ext.141 fax: 501-442-9842 Web: www.attra.org

NPAT

*Native Prairies Association of Texas
Who are We and What do We Do?*

NPAT is a small, state-wide organization dedicated to conservation and restoration of the native prairies—through education and research, study of prairie remnants, public awareness, agency cooperation, management and acquisition.

We are an association of approximately 200 amateur and professional members who appreciate the native prairies.

Our members join to learn

- how to recognize native prairies
- to encourage and support prairies
- how to grow their own prairie
- how to take care of an existing prairie
- to meet and study with the experts
- to enjoy visiting and studying real prairies, and
- most importantly, to meet other people who love prairies, too.

HRM of Texas is helping to sponsor NPAT's annual Texas Prairies and Savannahs conference July 7-9, 2000 near Austin. Please plan to attend.

Planning and Installing Small or Large Prairie Areas

by **Morris J. Houck**, USDA-NRCS, Plant Materials Center, Knox City, TX

Many times we find small odd areas that are not suited for intense management such as farming or hay production or we have small out areas that are not providing any benefit to the surrounding landscape. A solution to finding an environmentally friendly use for these areas would be to establish them into a small scale native prairie. These areas usually less than .5 acres in size and can be established into a native prairie with little effort. These small prairie areas would provide an island habitat for many native plants and animals. Many of your local wildlife species would utilize the areas for food and escape cover from more open areas. If you follow the basic steps outlined below and with a little patience you can have yourself a small piece of the prairie.

1. Preparing the Seedbed

A clean weed free seedbed will be your best asset when installing a small prairie area. For best results a clean seedbed should be prepared at least a year before the scheduled seeding. Till-up the soil making sure you have eliminated as many weeds as possible. Many weeds and unwanted grasses will continue to germinate over time and this could warrant repeated tilling. Contact herbicides may be used to kill unwanted grasses and weeds before and after tilling. Accomplishing this well in advance of planting will allow the site to settle and accumulate moisture. Be aware of any possible erosion problems from wind or water while your site is free of vegetative cover.

II. Seeding

Two seeding windows exist for most prairie plantings.

1. Late Winter or Early Spring Plantings - January through March
2. Fall Plantings - Sept. through Oct.

Many plants benefit from being planted in the fall. Certain plants, mainly wildflowers, will germinate in the fall and remain as a small rosette during the winter. These plants are usually developing an extensive root system throughout the winter to support their flowers in the spring. When planting warm-season grasses like big bluestem,

little bluestem, indiangrass, switchgrass, side-oats, and buffalograss; a late winter to early spring planting works best.

There are local and regional variations in appropriate plantings. Check with your local Texas Parks and Wildlife resource specialist or a local office of the Natural Resources Conservation Service for a list of the most appropriate native grasses and forbs to plant for your area. For example, in Hunt County, the primary component of Blackland Prairie is Eastern gamagrass, then either switchgrass or big bluestem, or little bluestem, depending on the slope and aspect.

When you purchase seeds, always purchase according to the amount of pure live seed (PLS) per pound. The higher the PLS the better your chances are to get more viable seed into the ground. Be aware that many native forbs/wildflower species are not sold according to PLS. Native grass seeds nearly always can be purchased according to PLS.

To efficiently handle small amounts of seed, mix the seed with moist sand. Most prairie seeds are either very small or light and fluffy. Mixing them with moist sand will increase the bulk of the material and aid in applying the seed. Do no attempt to spread your seed without mixing with moist sand or you will waste much of it and not get good coverage.

Prior to actual planting, roll or pack your seedbed, making sure that soil is firm and not fluffy. The seed/sand mixture can then be broadcast over the entire area making sure uniform coverage is obtained. Lightly rake in the seed and again roll or compact the seedbed. This procedure will ensure good seed to soil contact.

Plantings may be lightly irrigated if water is available. Avoid watering late fall plantings. This may initiate plant growth too close to approaching freezing temperatures.

III. Maintenance

During the first and following growing seasons, controlling the annual wildflowers will be your biggest challenge. They will overgrow your seedlings, taking moisture from them and creating too deep a shade. Mowing, hand pulling, and herbicides are

the available and most common methods of removing them.

Mowing at a height of 6 to 8 inches will assist with the control of most weeds. Mowing is quick and easily accomplished with little effort. On the down side mowing in the spring is detrimental to seed production of many blooming plants. Mowing is however beneficial late in the season to assist with cleanup and seed dispersal.

Hand pulling is easy and selective weed control can be accomplished. Depending on the size of the area, hand pulling may not be an efficient choice, however, small numbers of isolated weeds can easily be controlled this way.

The last method of weed control involved the use of herbicides. Many are available, but most are selective in nature, meaning some will control grasses, leaving the forbs, and some will control forbs, leaving the grasses. A prairie is a diversified mixture of grasses, forbs and legumes. Herbicides may be used efficiently for spot treatment, but over-spraying the entire planting would destroy the heterosity of a prairie.

When our prairie is well established (3 years plus), one method that should be used for renovation and weed control is burning. Many prairie plants will react favorably to periodic burns. You may also observe that the seed of many prairie plants favor burning as a means of stratification. Be conservative with your fire. Rotate your burn around to give animals a place to escape and a place for food and shelter. Burn only 1/3 or 1/2 when you burn and don't burn every year. Most burns should take place in February and March.

The strategy is the same for large tracts, although we would suggest for the drier parts of Texas that the owner plant haygrazer or wheat the year before the spring s/he is planting native grass seeds. Then in the spring, kill that crop or do a high mowing and plant INTO that "dead litter crop" using a no till seed drill that can handle fluffy seeds. This gives those little seedlings some cover from abrasive, windblown soil particles. If you follow these basic rules you can establish a prairie, small or large, that will give you and local wildlife many years of enjoyment.

Drought, from page 1

anced minerals to give the soil that great smelling, moisture and nutrient holding aggregate structure that we all would love to have.

Moisture can also be held by providing dust mulch covers which act as insulators against evaporation, but still allow the all important oxygen to penetrate for the microbes to breathe. Very light tillage can be used to create the dust mulch cover without turning up moist soil.

Let's assume we have managed to get rain to go into our subsoil by breaking up hardpans and creating better topsoil. The sun on the soil surface will create a draw that will bring the moisture toward the surface. The more pathways for the moisture to travel the more that will come up to the root zone. Typical pathways include wormholes, openings and cracks created by subsoiling, spaces created by soil conditioners, deep root paths, etc.

To assure that new plant roots can reach

downward as far as possible, build an implement with a deep thin blade that can create a channel under each row. Late in the season, go out with a shovel and prove to yourself how far roots can go down that channel compared to roots that don't find the path of least resistance.

The author has been observing farms for thirty years in the US and many foreign countries. Whenever there is a drought in a given area, the farms that have practiced the principles of sustainable agriculture always come out better. They may have a reduced yield, but in relation to their neighbors, they get a better yield. One of the reasons for this, besides the moisture management we have mentioned above, is that their crops and soil attract dew to a much greater extent than their neighbors. This has to do with a very complex relationship involving the electrical/magnetic nature of plants and soil.

It takes 2-3 years to restore structure and biological activity. Get started now!

Dr. Phil Wheeler is a sustainable agronomist who works with growers in the US, Canada, Mexico, New Zealand and Australia. His company, Crop Services International, Inc. (CSI, inc.) operates a soil testing lab, provides recommendations and consulting services to growers, and brokers fertilizer commodities. He can be reached at 1-800-260-7933 or e-mail: drdirt@cropproductsintl.com or visit his website at www.cropproductsintl.com.

Holistic Resource Management is a dynamic and collaborative process. Our experience with this process precludes us from rendering comment or advice regarding a specific tool or management practice outside of a total context. Therefore the editors cannot necessarily endorse the views of any subscriber or contributor to this newsletter. We offer their comments and advertisements for your reflection and appropriate use.

Working to provide encouragement and support of holistic management in Texas

Holistic Resource Management of Texas, Inc. is a non-profit organization made up of ranchers, farmers, public land managers, educators, conservationists, and others who are interested in finding economically and ecologically sound ways to manage land.

Categories of membership: \$20—Individual Member; \$35—Family Membership
* \$100—Active Member; *\$250—Sustaining Member; *\$1,000—Lifetime Member

*Includes the textbook, *Holistic Management*, by Allan Savory

Annual membership dues entitle you to:

- Subscription to the quarterly *HRM of Texas, Inc.* Newsletter
- The privilege to vote for and serve as director of *HRM of Texas, Inc.*
- The opportunity to be notified of and participate in management clubs, field days, practitioner panels and other educational opportunities to assist with the application of *Holistic Resource Management*.



Please complete, detach and return the form below with a check for your dues.

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Please make check for desired membership category payable to *Holistic Resource Management of Texas, Inc.* and send to: **HRM of TX c/o John Heaton, 341 Compton School Road, Crawford, Texas 76638**
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Holistic Resource Management of Texas, Inc.

Newsletter

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Maddox Ranch hosts Animal handling field day 9/16/00

Ed. note: The following is an abbreviated rerun of one of my favorite pieces on the subject. Reprinted from Spring, 1997 Newsletter

by Dr. Patricia Q. Richardson

I will never forget watching rancher Dalton Maddox perform the One Step Pastiche—one step here, hold, hold, one step back, arms quiet, step to the side, lean, one step back, turn a quarter turn, stop, hold, hold, one step there, rock weight forward, turn back—the dust of the small pen coated his boot toes—he was the hub of a compressed interface—mamas, calves and man, all within touch—all in fluid motion. And when it was over, there were 45 contented cows grazing on one side and 45 quiet calves beginning to munch on the other side.

Dalton was doing what you do when you do what Bud Williams tells you to do...(except I think Dalton does it as sort of an advanced level).

The Maddox Ranch used to suffer as high as 2-3% death loss on sale barn calves. They started using Bud Williams' methods and cut death loss and doctoring calves to almost zero. With their 550 calves, that resulted in a savings of over \$5,000.

How can you accomplish this? Minimize physical and emotional stress on your animals. A calm animal eats and drinks,

gains weight and stays healthy. An added bonus is reduction in people stress, too. The key terms are flight zone (circle of safety), pressure (not push), patience (another instance where you have to go slow to go

fast), quiet manner, and monitor—watch your animals (think like them, too).

Join us September 16 at the Maddox Ranch to explore the concepts and practices of low stress animal handling.

Range Management and our Future

by Malcolm Beck

All the food we eat comes directly or indirectly from green plants. All the energy we use came from and is still being collected from the sun by the green leaves of plants.

It takes maximum leaf surface to collect the necessary energy from sunlight for plants to be healthy and develop abundant and deep roots.

The HRM rotational grazing program allows the forage grass and plants to fully develop their leaf surfaces and even go to seed before they are harvested by animals.

With full leaf surface and time, the plants can make more energy and nutrients, allowing roots to grow more massive and deeper into the soil. When annual forages die in the winter, the large amount of dead roots add organic matter and nutrients to the soil. Even the perennial grasses allow some root die off each year, but more new roots always grow out.

When roots decay, carbon dioxide is released which is collected by pores on the leaf surface and, with the help of sunlight, more energy and food is manufactured. The decay activity also forms mild organic acids in the soil which dissolve nutrient minerals from rocks.

Another important function of rotting roots is that they act as a sponge to pull in rain and store it where it can't evaporate, get polluted or run off and cause floods. This saves water for more plant growth.

All of this activity together has a generating process: the soil condition, fertility and plant growth gets better and better each year. The water in the aquifers continues to rise and springs flow, then the rivers run constant and clear.

The quality of our soil, air, water and food is protected by good range management.