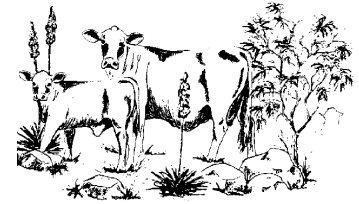


Southeastern Arizona Range and Livestock News

Serving Cochise, Graham, Greenlee and Santa Cruz Counties



BOVINE SPONGIFORM ENCEPHALOPATHY (BSE) TESTING

We will be hearing a lot in the next few weeks about testing for BSE, what is going on, and how we came to have a second positive BSE cow.

Screening test:

Due to the increase in the number of cattle tested for BSE a rapid screening test must be used. In developing a screening test, you want to use a test that will find all animals that are really infected. These tests should be able to handle large numbers of samples and provide rapid results. Currently the US uses test kits developed by two companies (Bio-Rad Laboratories and IDEXX Laboratories Inc.). Both of these tests have been licensed by the USDA. The Bio-Rad kit has also been used in Europe and Japan.

The problem with screening tests is that you can get test results that are too sensitive. That is, results that are positive when in fact the animal is not infected (this is a false positive test). Because of the dramatic effect of a BSE positive animal, a second layer of testing is used.

Confirmatory Test:

Because screening tests can produce false positive results, a second *confirmatory test* is used. Confirmatory test are not set up to run large numbers of samples or produce quick results. They are the final test, so it is very important that all results, negative or positive are correct. These tests are sometimes called the gold standard. For BSE the two types of test that have been used are:

Immunohistochemistry (IHC) -
IHC stains the part of the brain tissue that is collected (the obex) and can be observed visually for the changes seen in BSE (spongiform) or for the staining seen if the abnormal prion protein is present. This test takes 4-7 days to run. If the brain sample is badly decomposed IHC cannot be done.

Western Blot -

This test looks for the specific abnormal prion proteins found in BSE. The brain sample is spun down and then all normal prion proteins are digested by a specific enzyme. The remaining sample is run in a special gel that separates protein based on the size of the protein (molecular weight). A stain is added and then washed off. If the abnormal prion proteins are in the sample they will bind to the stain and the stain will not wash off. A positive result shows three distinctive bands that are caused by the reaction of the stain and the prion protein.

--S Peder Cuneo D.V.M., MS
Extension Veterinarian, Veterinary Science

TIPS FOR PROFIT

A Review Of Early vs. Conventional Weaning

An extensive review of early weaning research was recently conducted by animal scientists Fred and Todd Thrift, Universities of Kentucky and Florida, respectively. More than 70 studies were cited in the paper. Following is a brief summary (Prof. Anim. Sci. 20: 461).

- Age at early weaning ranged from 3-5 months, and age at conventional weaning ranged from 6-8 months.
- Early weaning of calves can be of particular benefit in conditions involving subpar reproduction such as might occur in severe drought or attempts to rebreed thin, first-calf heifers.
- To avoid health problems and promote growth after early weaning, unique management practices are needed for early weaning calves.
- If early weaning calves are fed some form of

concentrate diet from time of early weaning until the age at which they would normally be at conventional weaning, their body weight will be equal to or greater than calves that nursed their dams and were conventionally weaned.

- Feedlot average daily gain and carcass weight tend to be lower, yield grade is equal, and the percentage of carcasses grading Low Choice or higher tends to be equal or greater for early weaning cattle compared to conventional weaning cattle.
- When the stress of lactation is eliminated by early weaning, cows gain body weight and condition, and pregnancy rate is increased.
- Subsequent pre-weaning productivity is similar for cows that had been weaned early when they were calves to those that had been weaned conventionally as calves.

-- Michigan State University Beef Cattle Research Update, Spring 2005

WEEPING LOVEGRASS

Eragrostis curvula (Schrad.) Nees. var. *curvula*

Description

Growth habit: A vigorous-growing perennial bunchgrass with abundant leaves coming from a coarse, dense, basal crown. When moisture is adequate, plants reach a height of 2 to 5 feet.

Color: Light green.

Leaves: Twenty-four to 48 inches long, drooping, slender, tapering to fine hair-like brownish threads. Bases of the densely clustered young leaves are purplish; the leaf blades as a whole are light green. As they age they tend to become somewhat fibrous and tough.



Weeping lovegrass
(*Eragrostis curvula* var. *Curvula*)

Inflorescence: Eight to 12 inches long, open and somewhat drooping. Branches bearing the seedheads are tall and slender, occurring singly or in pairs. Flowers are small and numerous and produce minute seeds that number about 1 ½ million per pound.

OCCURRENCE

Weeping lovegrass is an introduction from South Africa and occurs in Arizona largely where seeded. It appears to be well adapted to areas where precipitation is 17 inches or more, but will probably not withstand temperatures that fall much lower than 10°F below zero.

FORAGE VALUE

Weeping lovegrass has a reputation in its native Africa of being a good forage producer well liked by cattle. Arizona observations have shown that this grass is frequently preferred above many native grasses, particularly in the spring. On most Arizona ranges where it is adapted, it apparently should be rated as a highly productive, moderately palatable species.

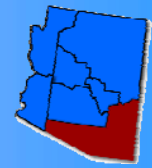
GRAZING MANAGEMENT

When weeping lovegrass is not grazed, the coarse, rank growth is unattractive to grazing animals. Grazing, therefore, should be heavy enough to reduce residual material but deferment or rest should allow recovery. On burns reseeded to this grass grazing should be initiated the summer after seeding. This recommendation is made on the assumption that a satisfactory stand was established the season the area was seeded. These ranges may be moderately grazed from early spring to late fall without harm to the grass. As burned ranges where weeping lovegrass is adapted usually support a mixture of scrub oak and other shrubs, grazing about one year after the fire in this manner permits use of the abundant new growth on the shrubs. Erosion is not increased on most ranges under this kind of a grazing program where the stocking is moderate.



Southeast Arizona Climate Summary

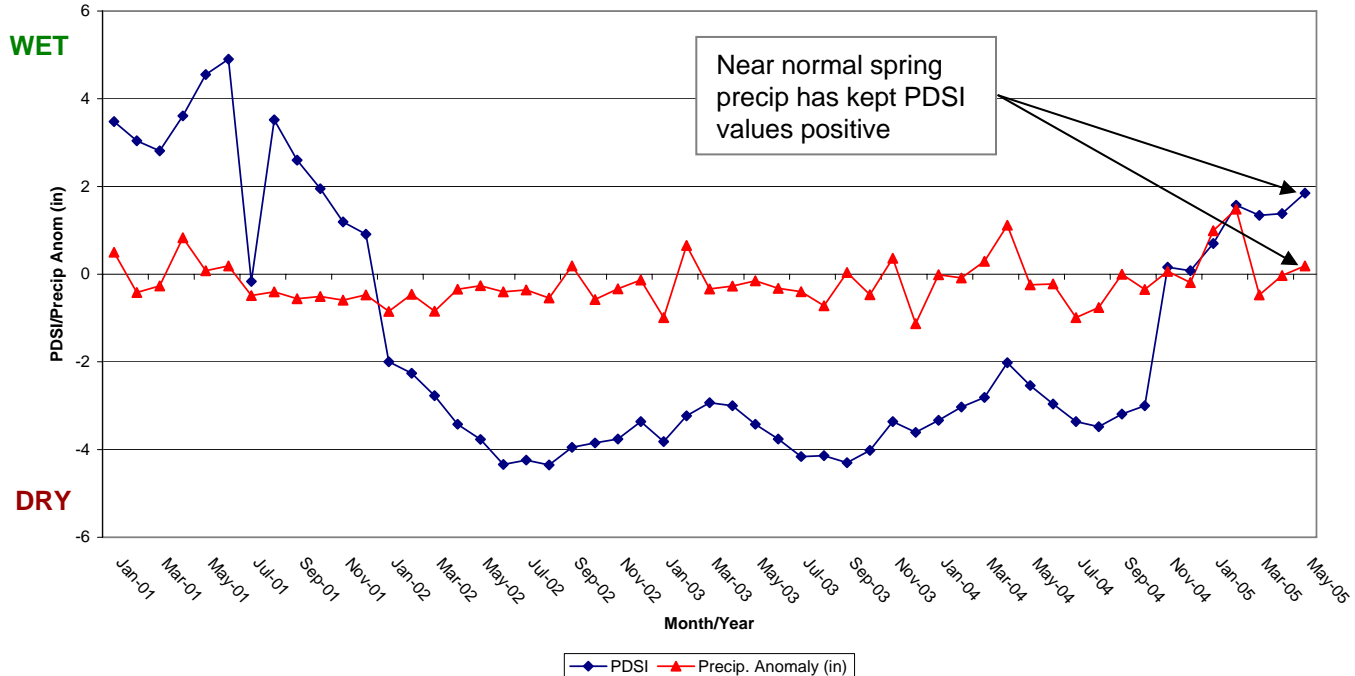
Summer 2005



July 5, 2005 – Above normal winter precipitation and several pulses of late spring/early summer moisture have provided significant short-term drought relief across most areas of southeast Arizona. Portions of western Cochise and Santa Cruz counties had below normal precipitation over the past 6 months and did not share in much of the short-term drought improvements. Long-term precipitation deficits still linger for most of SE Arizona with some locations reporting amounts 10-15” below normal over the 10-year period since 1995. The National Drought Monitor has kept portions of southern Arizona in the ‘moderate drought’ category due to these long-term deficits (<http://http://www.drought.unl.edu/dm/monitor.html>).

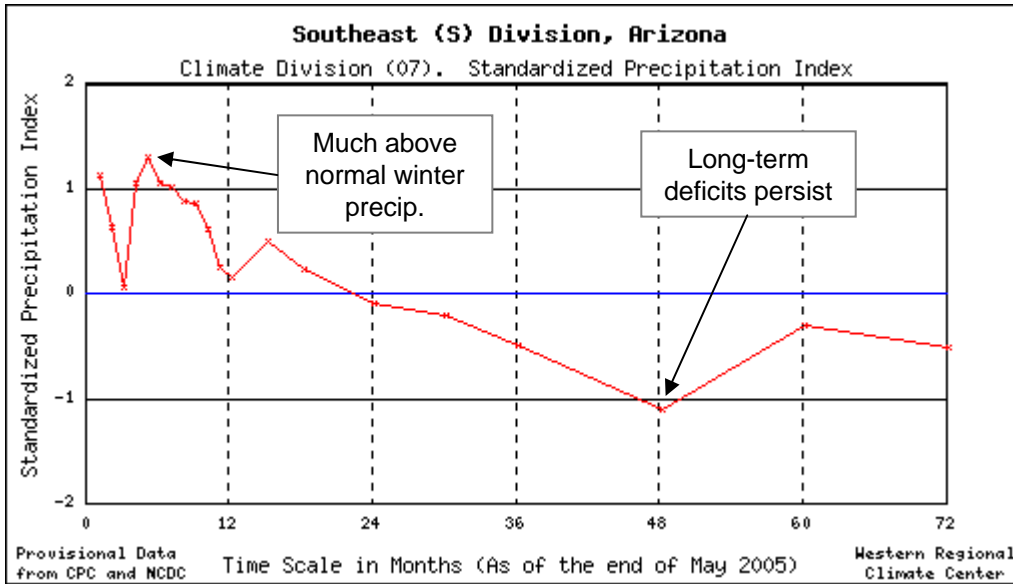
Forecasts for late summer (Aug-Sept-Oct) from the Climate Prediction Center indicate that the southwest U.S. will see above normal temperatures with an equal chance of above, below, or normal precipitation. A trend in above normal temperatures is expected to continue leading to the above normal temperature forecast. The ‘equal chances’ designation for southern Arizona in the precipitation forecast is due to the lack of a strong predictive signal. Summer forecasts are difficult due to the lack of strong relationships between sea-surface temperatures and circulation patterns across the Southwest during the summer season. Experimental forecasts for the early summer indicate that monsoon precipitation may start late and be below normal overall for the season. These forecasts rely on statistical relationships derived from past seasons and have limited skill to date, so confidence in this forecast is low. (More information at http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/)

Southeast Arizona Palmer Drought Severity Index and Precip. Anomaly: Jan. 2001 - May 2005



Above normal winter precipitation and unusual late spring storms have helped to improve short-term drought conditions reflected in the positive PDSI values since January 2005. Near normal spring precipitation has held PDSI values relatively steady over the past several months.

Southeast Arizona Climate Summary – Summer 2005



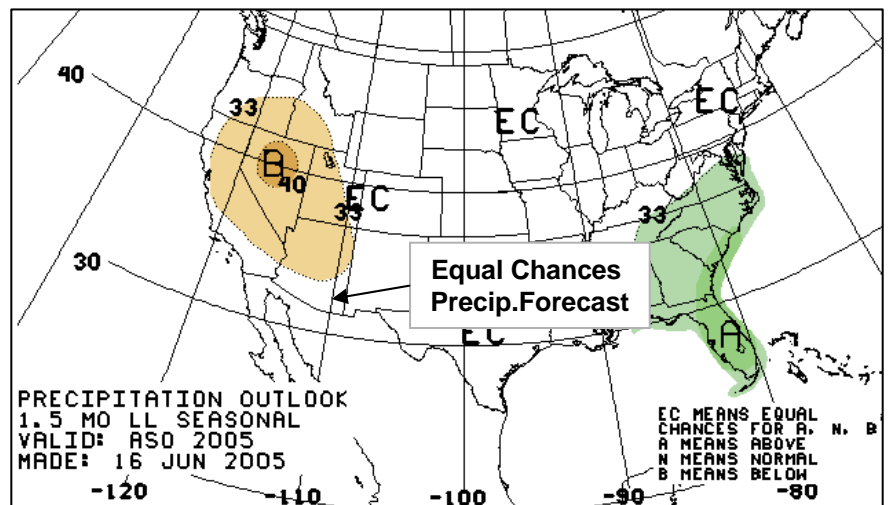
All SPI values through the 12 month window are above zero indicating normal to above normal precipitation. The above normal winter and late spring precipitation has helped boost cumulative precipitation amounts and provided some relief from short-term drought conditions. Longer-term windows (36-48 mos.) are improving, but additional above normal precipitation will be needed to satisfy long-term deficits.

Average May temperatures were several degrees above normal at most locations across SE Arizona. Local precipitation amounts were variable, but generally near normal. Unusual late May storms brought precipitation to some parts of SE Arizona. Willcox received 1.05 inches of rain in May which is over 4 times their long-term average.

Location	May 2005 Avg. Temp (F)	May Long-term Avg. Temp (F)	May 2005 Total Precip(in.)	May Long-term Avg. Precip (in)
Willcox	69.3	64.9	1.05"	0.25"
Safford	72.4	70.0	0.1"	0.18"
Chiricahua N.M.	67.1	63.8	0.49"	0.33"
Douglas	70.7	68.2	0.17"	0.29"
Tucson	77.4	74.5	0"	0.17"

(data from <http://www.wrh.noaa.gov/twc> and <http://wrcc.dri.edu>)

The August-September-October seasonal forecast from the Climate Prediction Center depicts an 'equal chances' precipitation forecast for southeast Arizona. This forecast means that the probability of above normal or below normal precipitation is no greater than the probability of receiving normal precipitation amounts for the period. This period covers the late monsoon, which is difficult to forecast based on circulation patterns and sea surface temperatures. Pacific sea surface temperature patterns, which are an important forecasting tool, have little influence on Southwestern late spring/early summer weather patterns.



From: http://www.cpc.noaa.gov/products/predictions/long_range/lead02/off02_prpc.gif

*Principles of Collecting and Interpreting Utilization
on Southwestern Rangelands*

*Presented by the U.S. Forest Service Southwest Regional Office
Dave Stewart, Director of Rangeland Management and Judith Dyess, Rangeland Inventory*

**August 10, 2005
9:00 a.m. to 3:00 p.m.
Sonoita Fairgrounds**

The program will cover the following:

- Welcome and Introductions
- Overview of the 2004 Utilization Agreement
- Utilization Principles
- Sampling and Statistics
- Planning
- Comments from Jim Maynard, Co-sponsor Organizations
- Questions from the Audience

This workshop is offered with the intent of communicating appropriate sampling protocol and principles of obtaining and interpreting forage utilization. There is also the opportunity to review and discuss the 2004 agreement entitled "Principles of Obtaining and Interpreting Utilization Data on Southwest Rangelands," signed by several organizations and agencies.

There is a registration fee of \$10 for the program, which covers lunch costs. Please return the registration information by August 3rd to help us estimate a lunch count.

The University of Arizona Cooperative Extension will hold a follow-up field session aimed at using specific utilization methods at a later date. If you have any questions, please call Dean or Kim.

Cosponsored by:

Canelo Hills Coalition ❖ Santa Cruz NRCD ❖ Winkleman NRCD ❖ Arizona Cattle Growers' Association

Sonoita Utilization Workshop Registration - August 10, 2005

Name(s): _____

Phone: _____

Number attending: _____ x \$10 = \$ _____

Please make checks payable to The University of Arizona, and send with the registration by August 3rd to: Dean Fish, Cooperative Extension, 3241 N. Grand Avenue, Suite 6, Nogales, AZ 85621.