



COLLEGE OF AGRICULTURE
AND LIFE SCIENCES
COOPERATIVE EXTENSION

Featured Plant: Black grama

Bouteloua eriopida



Characteristics

Growth Habit: Black grama is a warm season, sprawling perennial grass that stands anywhere from a ½ to 2 feet tall. This plant is stoloniferous, meaning it has above ground stems which produce new plants from buds at its tips or nodes. A healthy plant often produces 6-9 stolons. This grass requires two good consecutive growing seasons for reproduction by stolons. In the first year, stolons are produced and in the second year the stolons are able to take root and establish new plants.

Leaves and Stems: The slender, wiry stems of Black grama are commonly bent and widely spreading. The lower internodes of the stems alternate between glabrous (smooth without hairs) and pubescent (covered with short, soft hairs, cotton-like). The mostly basal leaves of Black grama can be between ¾ to 3 inches long and less than an 1/8 of an inch wide. The leaves often twist at the tips and curl inwards (during dry periods).

Inflorescence: The inflorescence of Black grama consists of a main axis with branched branches (a panicle). The slender and delicate panicle (seed stalks) of this grass can be anywhere between ¾ to 6 inches long, with 3-8 spicate primary unilateral branches (the eyebrow looking seed heads). Each spicate primary unilateral branch (spike) has between 8-20 spikelets in 2 rows, flowering from July-October.

Occurrence

Black grama is native to the southwestern United States and occurs in all Counties of Arizona. Typically, this warm season grass inhabits dry sandy plateaus and rocky slopes of interior chaparral, semi desert grassland and pinyon juniper woodland plant communities at elevations of 3,500 to 6000 feet. This grass is best adapted to dry gravelly or sandy soils. Black grama often grows in pure stands and has low seed productivity and viability.

Forage Value

Black grama rates as excellent forage for all classes of livestock and wildlife throughout the year and produces excellent hay during years with sufficient moisture (wet years). Black grama begins its growing season when there is adequate moisture available in late spring. It is during mild winters with adequate moisture when the lower stems of Black grama can stay green all winter.

Inside this Issue

- ▶ Featured PlantCover-2
- ▶ Mineral Supplements
For Cows pg 2-3
- ▶ Beef Quality Assurance..... pg 3
- ▶ ALIRT..... pg 4
- ▶ Upcoming Events pg 4
- ▶ AZ Climate Update..... pg 5-6
- ▶ Specialist & Agent Contact
Information..... pg 7

You can find this as well as past newsletters in full color with live links at our website:

<http://uacals.org/3xp>



Fun Facts

Rangelands comprise approximately 45% of the earth's land surface.

The total contribution of the beef industry to the Arizona economy is \$1.7 billion in output, \$431 million in value added, and about \$240 million in labor income.

Grazing Management

Due to its stoloniferous growth habit and the fact that even just one bite has the potential to reduce this plant to a stubble, much care must be taken to avoid overgrazing this plant during the growing season and during seasons of dormancy. Deferred grazing of 2 consecutive years during the growing season is recommended in addition to leaving 50 percent of current growth by weight during dormancy. This practice favors good root growth, vigorous plants, and maximum forage production. To maintain healthy stands of Black grama, it is recommended to defer grazing for one growing season every third year.

Line Drawing Credit: USDA-NRCS PLANTS Database / Hitchcock, A.S. (rev. A. Chase). 1950. Manual of the grasses of the United States. USDA Miscellaneous Publication No. 200. Washington, DC.

Sources:

"Bouteloua eriopoda - black grama." Yavapai County Native & Naturalized Plants. University of Arizona Cooperative Extension, June 2016. Web. Apr. 2017.

Leithead, Horace L., Lewis L. Yarlett, and Thomas N. Shiflet. *100 Native Forage Grasses in 11 Southern States*. Agriculture Handbook No. 389. Soil Conservation Service. U.S. Department of Agriculture, 1971. Print.

Perryman, Barry L., and Quentin D. Skinner. *A Field Guide to Nevada grasses*. Lander, WY: Indigenous Rangeland Management Press, 2007. Print.

Stubbendieck, James, Stephan L. Hatch, and Neal M. Bryan. *North American Wildland Plants: A Field Guide*. S.I.: UNIV OF NEBRASKA PRESS, 2011. Print.

MINERAL SUPPLEMENTS FOR COWS

Dan B Faulkner and Ashley Wright

Recently all input costs for cow-calf producers have been dramatically rising. This is particularly true of feed prices. Many producers are using coproducts like Distillers Grains as a protein supplement on range. This can change common mineral supplementation programs.

It is important to consider the mineral supplement cost because there is considerable variation in prices with different vendors and different mineral supplements. The macro minerals of concern for range cattle are calcium (Ca), phosphorus (P), potassium (K) and salt. Forages are high in calcium and potassium and adequate to deficient in phosphorus. In general, high quality forages are adequate in phosphorus. Phosphorus supplementation is of major concern because it is by far the most expensive macro mineral to supplement. Many producers do not spend the money to supplement P in the mineral mix to cattle when range quality is high. Low quality forages are low in phosphorus so we certainly need to supplement P to cattle when forage quality is poor.

An advantage of feeding or supplementing with coproducts is their very high Phosphorus level. This allows us to not include P in the mineral supplements

which results in a substantial cost saving. Feeding low levels of coproduct (3-5 lbs of dry matter/head/day) to cattle on poor quality range, generally meets all macro mineral need without any supplementation (except trace-mineralized salt). This also will help meet the animals' protein needs and will stimulate range intake to help meet the animals' energy needs.

Generally, trace mineral supplementation is inexpensive and should be included in a salt-mineral mixture. Selenium is deficient in most of Arizona and should be included in the trace mineral mix. Some nationally marketed products will not include selenium because there are selenium toxic areas in the country. Copper is important for immune function so it needs to be included in the mineral mixture. It is important that the oxide form of copper not be used because it has poor availability to the animal. It is a good idea to include magnesium oxide to prevent grass tetany when cattle are on high quality range.

There are many excellent commercial mineral mixes available. I would encourage you to work with your local supplier to select a mineral supplement that matches the feedstuffs you are using and to check prices.

What is the difference between organic and inorganic minerals?

Minerals that are provided to cattle are either organic or inorganic. Inorganic minerals are mined or synthesized and provided as naturally occurring mineral complexes (think calcium carbonate). If the mineral name includes sulfate, chloride, carbonate, or oxide, it is an inorganic mineral complex. These are the most common and least expensive form of minerals. Some research shows that they may not be as fully absorbed and utilized by the cow (termed bioavailability) as organic mineral forms. In particular, copper oxide and iron oxide are poorly available to the animal and other forms of those minerals should be used.

Organic minerals have been chemically bound to an organic carrier molecule. Typically, this molecule is a carbohydrate or an amino acid (a building block of protein). These minerals are often termed chelated or proteinated, and they may have an amino acid in the name (e.g. copper lysine or zinc methionine). Organic minerals are more expensive than inorganic, but some research has indicated that the process of chelation may

make the mineral more bioavailable to the cow. While research has demonstrated a benefit from organic minerals to young, growing animals (including first calf heifers), this benefit is less apparent in more mature cows.

Cost is a significant factor in deciding which mineral product to use on a ranching operation. When feeding mature cows, inorganic minerals are likely the most cost effective choice. Organic minerals may be considered when feeding growing animals, particularly if they will be replacement stock.

What about mineral injections?

Mineral injections are highly effective at increasing the blood and liver concentrations in cattle. The minerals included are highly available to the animal, but they only provide short-term benefits that peak at around 30 days post injection. Injectable minerals should not be relied on as the sole mineral program on an operation, but they may have benefits if given prior to high priority situations such as breeding, weaning, or shipping.

Beef Quality Assurance Update

Dan B. Faulkner

The Beef Quality Assurance (BQA) program has recently undergone several changes. In addition to getting certified for a 3 year certification at one of our in-person meetings, you can be certified online through the national program. The National Cattlemen's Beef Association has released an updated online certification program that is completely free to use. If you certify through the online program, you will be automatically certified in Arizona for 3 years. The online certification is available at www.bqa.org. It will take about 2 hours to complete the certification and does not need to be completed all at once if you want to start it and finish it at a later time. There are certifications for cow/calf, stocker, feedlot, dairy and transportation. More certifications will be added in the future along with Spanish language editions.

The BQA website has excellent resources available for your use or for training employees. There are manuals and videos on stockmanship and stewardship for all of the segments of the beef industry (cow/calf, stocker, feedlot, dairy, facilities

and transportation). There is also more in depth information on antibiotic usage and the use of pneumatic dart guns.

You can also find assessment manuals that are used for assessing feedyards, stocker operations, and cow-calf operations. The stocker and cow-calf assessments are self-assessments. The feedyard assessment is done to demonstrate that a feedyard is using good BQA practices. Feedyards can request to have the assessment done and then will be put on a registry that is available to the packers. This registry tells the packers that feedyards are following BQA practices.

Additionally, the BQA website has information on the National Beef Quality Audit and the Market Cow and Bull Beef Quality Audit (both beef and dairy editions). These audits are very informative for beef producers and clearly outline many of the challenges facing the beef industry.



Arizona Livestock Incident Response Team (ALIRT)

Ashley Hall

ALIRT is designed to diagnosis of numerous unexplained animal deaths. The goal of the team is to minimize response time during an animal health crisis. ALIRT is NOT intended to respond to normal animal health events or to replace normal interactions between producers and their local Veterinarians. Response is also not available for single animal health problem or poor reproductive performance.

The response team consists of Arizona State Veterinarians, University of Arizona Cooperative Extension staff, Department of Agriculture Livestock Officers and other specialists depending on the situation. ALIRT will only respond at the invitation of the producer or agency requests.

If you suspect a health issue, contact your veterinarian, an ALIRT Veterinarian or local county Cooperative Extension staff. The Veterinarian will complete a preliminary exam to determine if an ALIRT response is necessary. While waiting for the Veterinarian it is essential to compile a herd history such as vaccinations, herd movement, pasture information, supplementation, contact with outside livestock, etc. A datasheet for collecting the needed information can be found

at <https://acbs.cals.arizona.edu/alirt/PDF/ALIRTDatasheet.pdf>.

This information will be helpful to the Veterinarian as they investigate the health issue. It is also important to treat the area as a potentially infectious site and minimize any disturbance to the area where animals were found. Limit access to other livestock in order to prevent any further contamination.



ALIRT Telephone Numbers:

Office of the Arizona State Veterinarian 1-888-742-5334
option 5
Arizona Veterinary Diagnostic Laboratory 1-520-621-2356

Additional contact information can be found at
<https://acbs.cals.arizona.edu/alirt/contactinfo.html>

Upcoming Events

May

- 16** **Graham County Rancher Round Table** – Klondyke School, 4-6pm.
Contact Ashley Wright: awright134@email.arizona.edu for more information
- 25** **Range 101 Arizona Guide to Range Analysis and Management** – Prescott, AZ
Contact George Ruyle: gruyle@cals.arizona.edu for more information

June

- 10** **Cochise-Graham Cattlegrowers** – Willcox Elks Lodge
- 12-13** **Rangeland Monitoring Workshop for BIA Western District** – Tuba City, AZ
- 15** **Drought and Precipitation Monitoring Workshop** – Globe, AZ, no cost
Contact Ashley Hall: AshleyS3@email.arizona.edu

July

- 5** **Managing Risk in Range Livestock Production** – Clifton Train Depot, 9am-1pm – Lunch included
Register with Tricia or Connie by calling 520-384-3594
- 14-21** **Natural Resource Conservation Workshop for Arizona Youth (NRCWAY) Camp** – James 4-H Camp, Prescott
Contact Kim McReynolds for more information kimm@cals.arizona.edu
- 25-27** **23rd Annual Southwestern Noxious/Invasive Weed Short Course** – Farmington, NM
For more information or to register, go to: <https://www.regonline.com/weedshortcourse2017>
- 26-28** **Arizona Cattle Growers' Association Convention** – Prescott, AZ

August

- TBD** **UA/BLM Travel Management Workshop & Forum** – Kingman, AZ
Contact Andrew Brischke for more information: brischke@cals.arizona.edu
- 16** **Managing Risk in Livestock Production** – Douglas, AZ. 9am-1pm – Lunch included



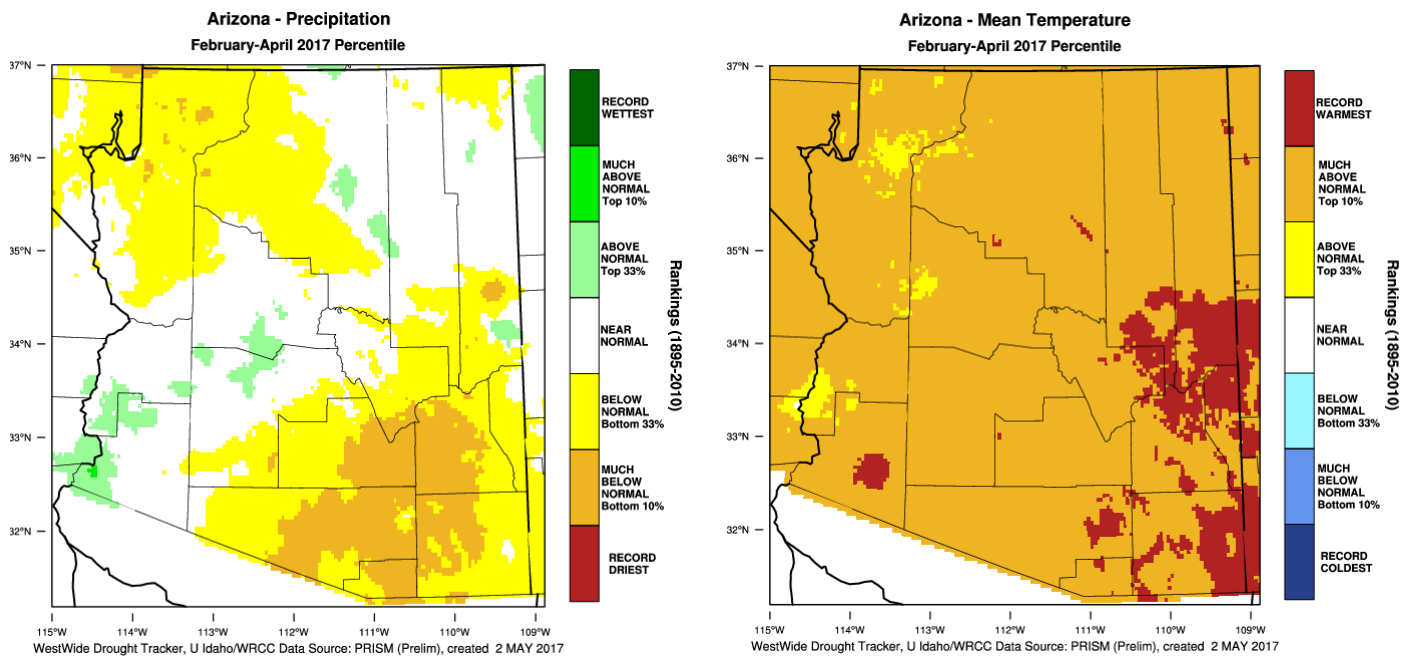


Arizona Seasonal Climate Summary: Spring 2017

May 4, 2017 - After a relatively cool and wet early winter season in December and January the weather pattern turned much drier and warmer for Arizona over the past three months (Feb-Apr). February was characterized by an active weather pattern that pummeled much of California, but left Arizona out of much of the action. Northern and western parts of Arizona were able to pick up close to average amounts of 1 to 3 inches, but the southeastern part of the state observed only a handful of light events that totaled up to less 0.25" in many locations during February.

The storm track lifted north in March leaving Arizona under the control of a weak ridge of high pressure. This led to very dry and near-record to record warm conditions for much of the state. A string of record warm days that lasted almost two solid weeks pushed Tucson to observe its warmest March on record. The ridge broke down towards the end of the month letting temperatures fall to more seasonably levels. A handful of late winter storms were able to track across the far northern part of the state bringing rain and snow to areas like Flagstaff, but the rest of the state was left to contend with windy and dry conditions.

April brought much of the same with storm track persistently north of Arizona for the whole month. Only far north-east Arizona observed any precipitation during the second half of the month. Overall, February-March period was drier than average for northwest and southeast Arizona and much above-average to record warm for the whole region.



February-April precipitation and temperature rankings from the WestWide Drought Tracker

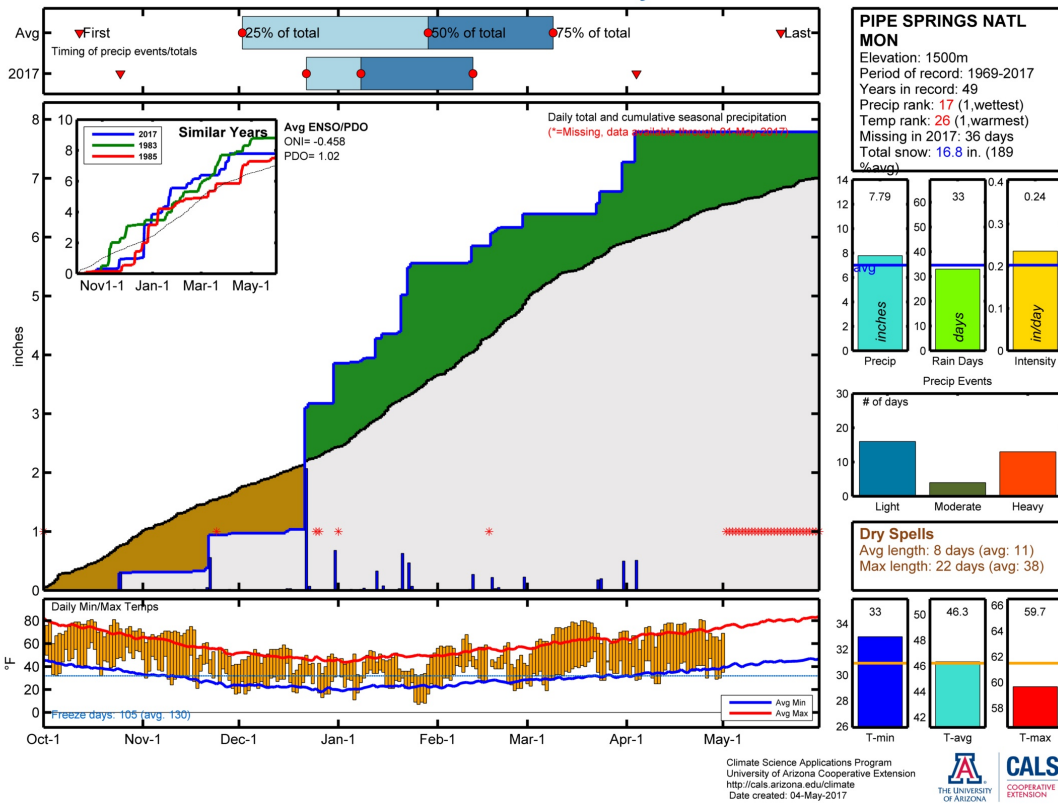


More information available at :
<http://cals.arizona.edu/climate>
<http://www.climas.arizona.edu>

Questions /comments? Contact Mike Crimmins, crimmins@email.arizona.edu

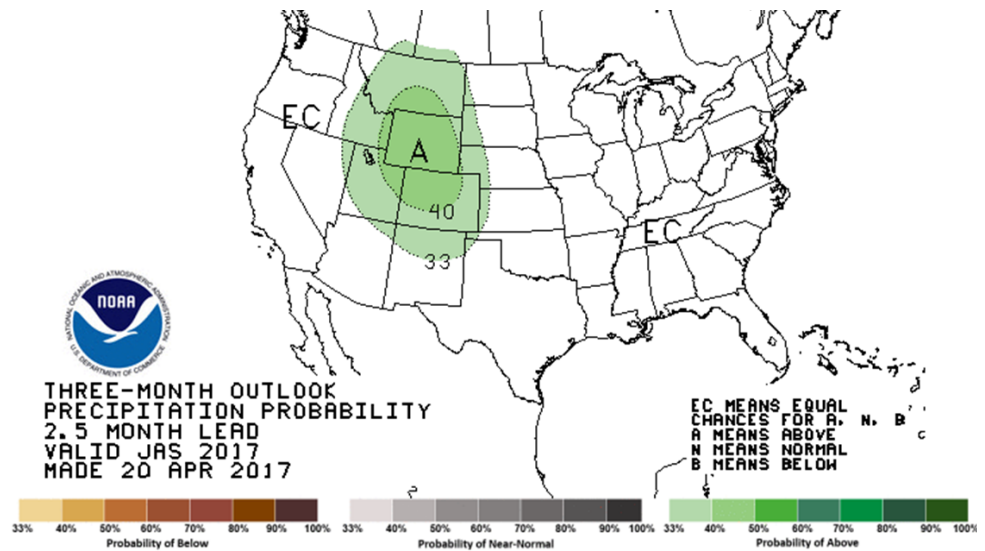


2016-2017 Cool Season Climate Summary



The cool season (Oct-May) daily precipitation plot for Pipe Springs National Monument in far northwest Arizona shown above depicts the relatively frequent winter precipitation northern Arizona observed during the December through March period. Overall Pipe Springs observed 7.7" (just above the Oct-May average of 7") of precipitation on 33 precipitation days (averaging about 0.25" per event). This location observed about 17" of total snow as well, almost twice (189% of average) the typical winter amount. More plots for other stations available at <https://cals.arizona.edu/climate/misc/CoolSeason/>

The July-August-September seasonal precipitation outlook issued by the NOAA Climate Prediction Center in late April depicts equal chances of below, normal and above normal precipitation for most of the southwest U.S. for the upcoming summer season. This means that there isn't a strong enough signal to make a definitive forecast of above or below average precipitation. This is a fairly common forecast for the southwest U.S. during the monsoon season. The state of El Niño or La Niña conditions have very little impact on the monsoon season as a whole and the El Niño-Southern Oscillation is expected to be neutral over the summer season. Dynamical climate forecasting models do indicate an increased chance of above-average summer precipitation for much of Arizona and New Mexico up through the northern Rockies, but model performance is especially poor during the summer season. Forecasters believe this wet signal has a stronger chance of occurring up through the northern Rockies rather than over the Southwest. Temperature forecasts continue to depict a strong chance of observing above-average summer season temperatures again this year across all of Arizona and New Mexico.



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