



Arizona Range and Livestock News

ARIZONA COOPERATIVE EXTENSION

November 2021

Featured Plant:

Arizona Wild Cotton
Gossypium thurberi

Also known as Thurber's cotton and desert cotton, Arizona wild cotton (*Gossypium thurberi*) is a native to southern Arizona and northern Mexico. It is a member of the mallow family (Malvaceae) along with well-known plants such as okra and hollyhocks. In Spanish it is called algodoncillo (little cotton). It ranges in elevation from 2,500 to 6,000 feet and can be found on rocky slopes and sides of canyons. Arizona wild cotton is a deciduous shrub that can grow to 10 feet tall. The leaves are palmately divided with 3-5 lobes and turn a brilliant red in the fall when temperatures cool. Arizona wild cotton blooms from late summer through early fall. The flowers are mostly solitary on short branches. Petals are pale yellow to white, turning pink as they age. The fruit is a three celled capsule that resembles a cotton boll, but contains only a few threads of fiber.



As with many native plant species, Arizona wild cotton is host to several insects. The splendid royal moth (*Citheronia splendens sinaloensis*) uses the plant as a larval food. Many studies of the range of Arizona wild cotton were conducted in the early 1900's. A subspecies of cotton boll weevil uses the bolls for a portion of its life cycle. At the time, it was thought that this was the same weevil that attacked cultivated cotton. Since cotton was such a valuable crop in the state, the United States Department of Agriculture attempted to eradicate Arizona wild cotton in southern Arizona during the 1930's. Those attempts were not successful and it was later determined that the two weevils were specific to their respective host plants. Today, Arizona wild cotton is used in landscapes because of its attractive leaves and flowers.

Monitoring Minute:

The Dry-Weight-Rank Method of Estimating Plant Species Composition

Composition by Weight

For some purposes it is desirable to have estimates of species composition on a dry weight basis. Composition by weight is probably the best measure of the relative importance of a plant in the community, and for this reason is used in some methods for evaluating range condition.

The dry-weight-rank procedure was developed in Australia for estimating species composition by weight in pastures. It is similar to direct estimation of composition by species in quadrats except that in dry-weight-rank the observer only ranks the three species which contribute the highest percentage to the weight of the quadrat. It easily can be combined with any method using quadrats, such as frequency. If actual weight (pounds/acre or kilos/hectare) of each species is desired, percent composition by weight may be multiplied times total dry matter yield obtained by the comparative yield method.

Data Collection

At each quadrat the observer simply decides which three species in the quadrat have the highest yield on a dry matter basis. The highest yielding species is given a rank of 1, the next highest 2, and the third highest a 3. All other species present are ignored, although they may be recorded for frequency.

The portion of a plant which contributes to the ranking of weight is any part of the plant occurring within a vertical projection of the quadrat perimeter (Figure 1). Plants do not have to be rooted in the quadrat.

If some quadrats have less than three species, two alternative procedures may be followed. One is to merely assign a rank to the species present and ignore the rank at 3 (or 2 and 3 if only 1 species is present). This is called the method of single ranks. An alternative is the method of multiple ranks, which involves assigning more than one rank to some species. In effect, the dry weight-rank method assumes that a rank of 1 corresponds to 70% composition, rank 2 to 20%, and rank 3 to 10%. Therefore, if only one species is found in a quadrat it may be given the ranks of 1, 2 and 3 (or 100%). If two species are found one may be given ranks 1 and 2 (90%), ranks 1 and 3 (80%), or ranks 2 and 3 (30%) depending on the relative weight of the two species.

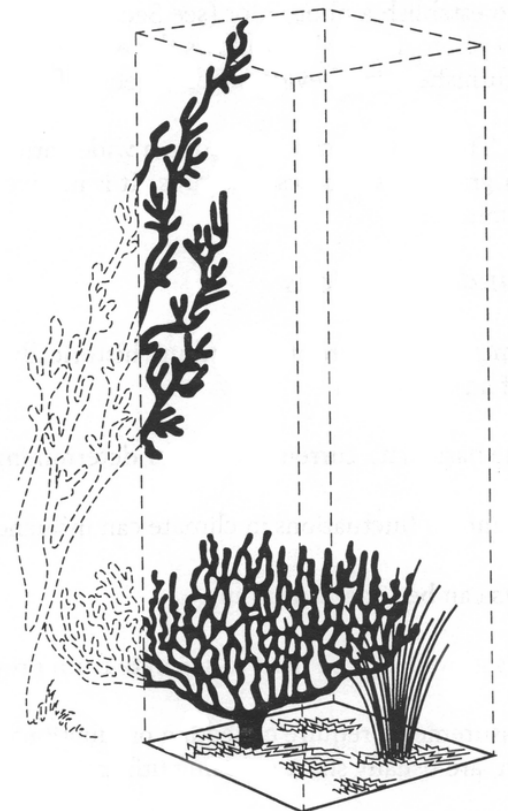
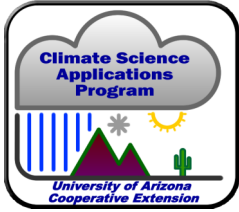


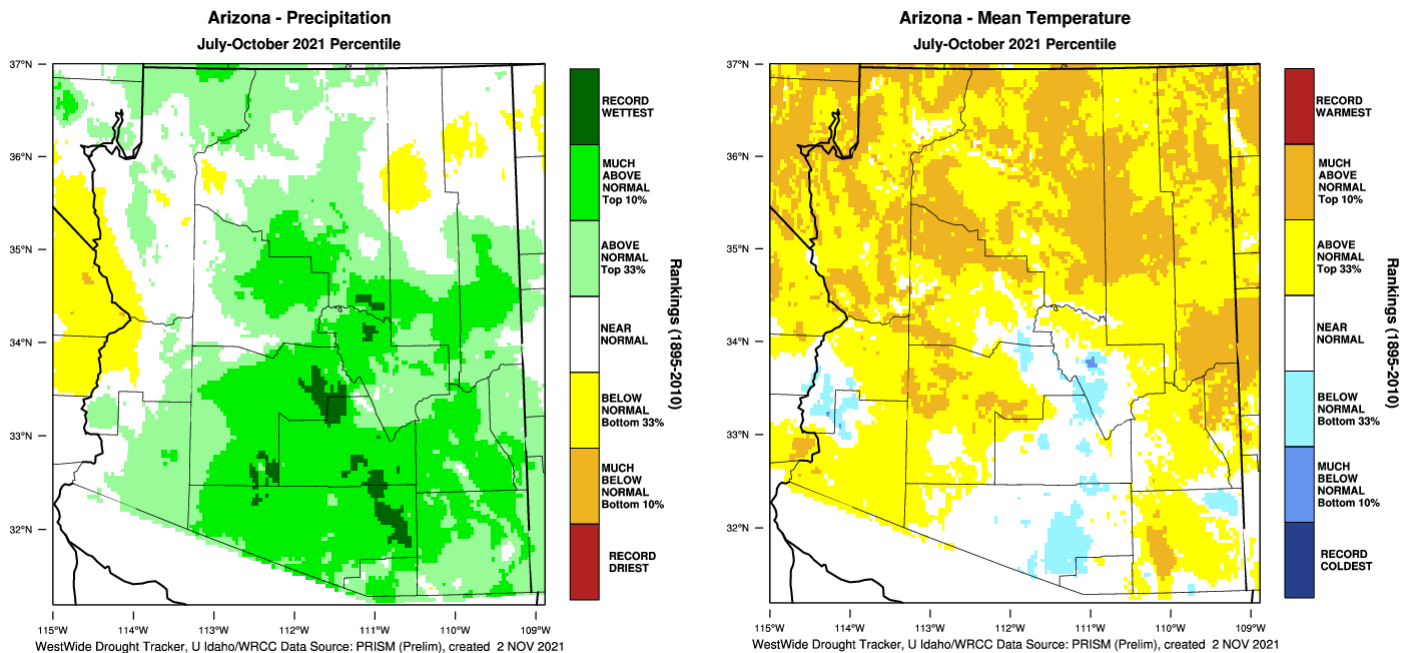
Figure 1. The portion of plants contributing to the ranking of weight in a quadrat. The plants do not have to be rooted in the quadrat to be counted if a portion overhangs into the vertical projection. Source: Sampling Vegetation Attributes Interagency Technical Reference, 1996



Arizona Seasonal Climate Summary: Summer/Fall 2021

November 2, 2021 - It is nice to finally see some greens and blues on precipitation and temperature maps! The past four months were indeed interesting with respect to rainfall. The summer monsoon showed up in earnest and even a bit ahead of schedule in late June on the heels of a record breaking heat wave and numerous large fires burning across the state. The upper-level ridge of high pressure (aka 'Four Corner's High') was in an ideal location by early July which helped open up a deep flow of moisture up the Gulf of California and a brisk easterly upper level flow pattern to move storms off of mountains into valley locations. A rare weather pattern set up towards the end of July as an upper level low pressure system moved east from the Great Plains across New Mexico and into Arizona. This slow moving system sparked several days of heavy rainfall across the region that produced flash flooding across both states. A very similar event happened again in early August causing another multi-day heavy rain event with widespread flash flooding.

The monsoon pattern quickly retreated in early September giving way to relatively dry conditions for much of September. Several early winter type storms have tracked through the Southwest since late September and through October helping to moderate temperatures and bringing additional precipitation to the region. Overall, much of Arizona observed above-average precipitation in the July-October period with the lower desert areas of the central part of the state seeing record amounts in the July and August period. Temperatures were cooler than average in these areas, but still above average across the northern part of the state. Short-term drought conditions markedly improved with the summer precipitation, but longer-term impacts continue due to longer-term deficits.



July-October precipitation and temperature rankings from the WestWide Drought Tracker

(<http://www.wrcc.dri.edu/wwdt/>)



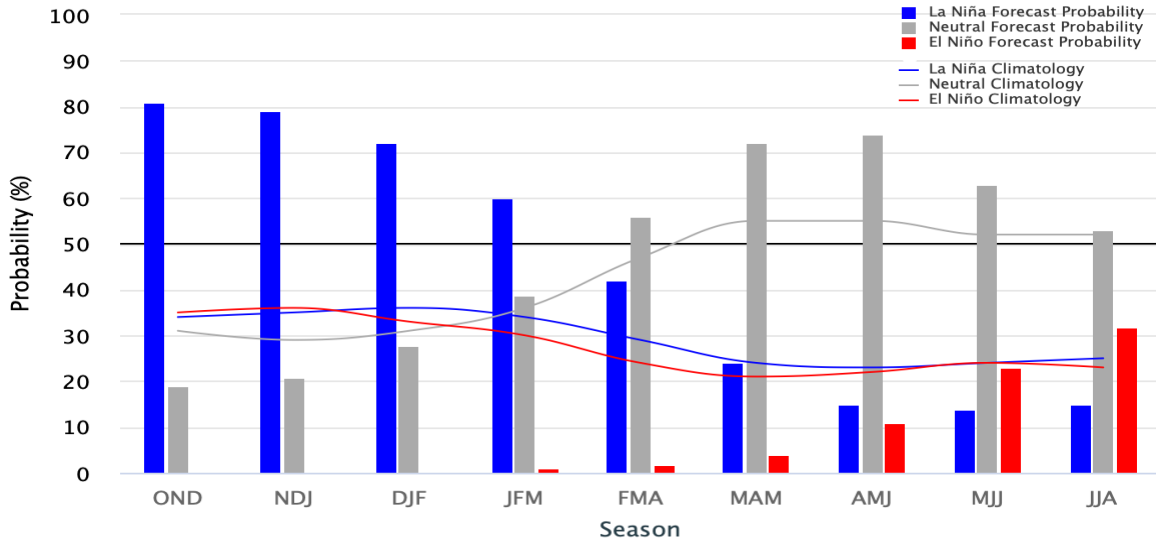
More information available at :
<http://cals.arizona.edu/climate>
<http://www.climas.arizona.edu>

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



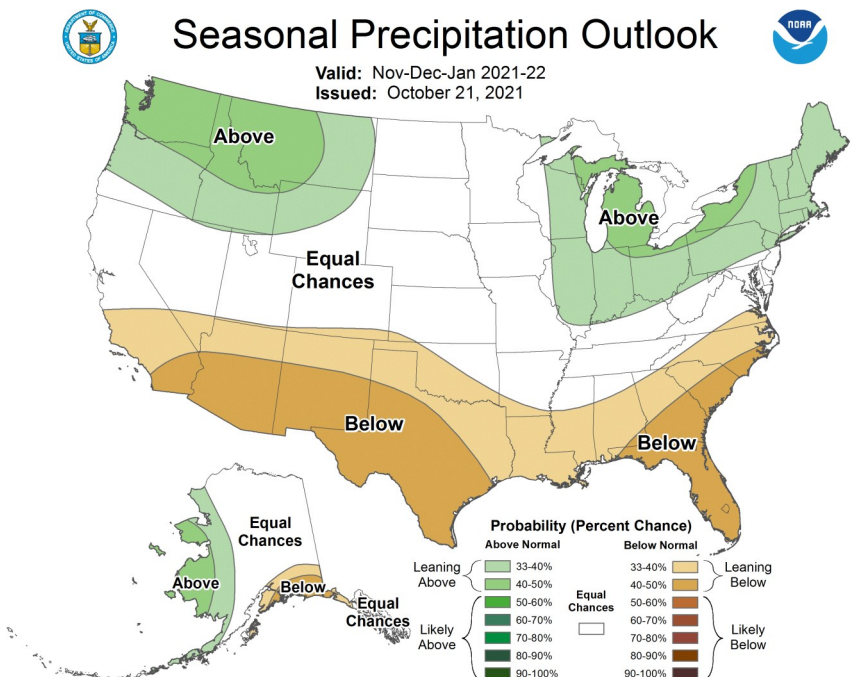
Mid-October 2021 IRI/CPC Model-Based Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly
Neutral ENSO: -0.5 °C to 0.5 °C



Seasonal precipitation outlooks issued by the NOAA Climate Prediction Center rely heavily on forecasts of the El Niño-Southern Oscillation, especially for the winter and spring seasons. A forecast of ENSO status, meaning will a La Niña or El Niño event be present in upcoming seasons can help provide insight into how weather patterns will shift across the Southwest. In the winter, La Niña events typically bring a drier-than-average weather pattern to Arizona, while El Niño events can bring enhanced winter precipitation. The ENSO Quick Look page (<https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/>) has useful figures and discussions updated monthly on current ENSO status and forecasts for upcoming seasons. The figure above shows one of the products on the page that provides a graphical representation of the probability of El Niño, La Niña or neutral conditions occurring over upcoming 3-month seasons. This can be used to assess the timing of events and the confidence in the outlooks. Higher probabilities indicate higher confidence in the outcome. The outlook above shows that La Niña conditions are likely through mid-winter, but then decrease rapidly through the spring where neutral conditions are more likely. These kind of ENSO outlook products and discussion can be useful with seasonal outlooks to assess the confidence of precipitation and temperature outlooks.

The November-January seasonal precipitation outlook issued by the NOAA Climate Prediction Center in mid-October depicts an increased chance of below-average precipitation across all of Arizona with the largest shift in odds toward drier-than-average conditions across the southern half of the state. La Niña has returned across the equatorial Pacific Ocean for a second year in a row ('double dip') and is expected to shift the winter storm track away from Arizona towards the Pacific Northwest. The outlook is for the event to be weak and possibly short-lived peaking in December and quickly fading through the spring, but still will most likely have an impact on our winter precipitation across the Southwest. Like last winter, precipitation events will most likely be few and far between with largest impacts being felt later in the winter towards spring. Stay tuned to updates on this event from the NOAA Climate Prediction Center and their outlooks here... https://www.cpc.ncep.noaa.gov/products/predictions/long_range/



Value Added Programs – Third Party Audit

Nate Brawley – Assistant in Extension: Livestock Production

Value added programs have been a hot topic of conversation as the beef market continues to fluctuate within a volatile market. “Value added marketing is taking a commodity and creating additional value through management practices, and then marketing that commodity in such a way as to be paid for the additional value created.”(Nebraska Extension) Producers that are taking advantage of innovative changes within the beef industry are seeing the premium by adding value to their operation. In our area, there are numerous programs to get signed up to try and maximize your profit. The more popular programs are NHTC (non-hormone treated cattle), VNB (Verified Natural Beef), SAV (Source and Age Verification), and the GAP program. Many producers choose not to sign up for a variety of reasons. One of the reasons producers don’t sign up for value added programs is the third-party audit.



There is a bit of a stigma when the word audit is attached to something. The audit is what gives the possible premium real strength when marketing your calf crop. The audit is where the rancher gets credit from an authorized third party for doing the necessary things to be allowed to market calves in hopes of receiving a financial premium. Without the audit, there is no proof that animals that are marketed as being “organic”, “grass-fed”, “no hormones ever”, are truly what they say they are.

The auditing process is something valuable for any operation. The auditors themselves can be an enormous resource for a ranching operation. The certified auditors see various ranching operations that conduct business in different ways. They are there to help you get approved in the process to make more money on your calves. If an operation isn’t able to become certified, the auditors work to help you make the small changes needed to become certified.

Regardless of which third party company you choose to certify with, depends mostly on how you want to market your animals. Do some research and find out what third party auditing company will work best for your operation.

Your auditing process will be specific to your operation, but will include the following steps:

1. Contact the third-party verifying company you wish to work with. For the sake of this article, I will be showing the IMI Global steps and procedures. There will be some initial information about you and your operation gathered and recorded.
2. Your CVS (customer verification specialist) will then reach out to you regarding which programs you wish to sign up with and the associated costs and further steps needed to be taken to certify. You will receive a packet of information that will help you get prepared to have the IMI auditor come out and perform the audit.



RANCH MANUAL

SOURCE & AGE VERIFICATION (SAV)
NON-HORMONE TREATED CATTLE (NHTC)
VERIFIED NATURAL BEEF (VNB)

What's in your Lambing or Calving Toolbox?

Though some producers are months from either lambing or calving, it's good to be prepared for the big event now so you don't have to deal with additional stress later. Whether you're dealing with bred ewes or mama cows the basics are similar. Every barn should be equipped with a basic set of tools or items to deal with what we hope are all easy births but also the occasional emergencies. First, let's talk about facilities as it's a good idea to have some type of structure in place that you can use to bring up animals who do need help during the birthing process. For ewes having a few jugs set up under a lean-to or in a barn before lambing can help reduce stress for both you and the ewe if you need to intervene. For cattle, having a calving lot, especially for heifers, isn't a bad idea. Keeping your herd close to a working facility with a chute is another good idea. In case you needed to bring up a cow, you can catch her, so the cow and you are relatively safe during the process. Second, let your local veterinarian know when you'll be lambing or calving if they aren't already aware. This increases the relationship between you and your veterinarian in case you do need to call them for an emergency, they kind of have you on their radar that a call may come in. Also, working and consulting with your veterinarian, you can order items and prep a lambing or calving toolbox with the essentials. A typical lambing or calving box should have the basics of a bucket, drench gun, OB lube, OB sleeves, chlorohexidine, betadine, syringes and needles, clean water, halter and calf chains (species specific), antibiotics for mom (if needed), weigh tape or scale, and ear tagger and tag. Some extra items to consider based on operation management decisions, can vary between sheep or cattle, would be castration bands with castrator, nursing bottles and tips, a bag of milk replacer or colostrum, and vaccines. If you do have a toolbox in place, great! Maybe you can add one more item to it, or this serves as a reminder to double check that it's stocked and that the materials are not expired. Preparing these kits before lambing or calving can help reduce stress and time when you need to intervene, and hopefully result in a healthy mama and new baby into your operation. Just a reminder, before initiating a vaccination plan or giving an antibiotic, it's a good idea to consult with your veterinarian about what products to administer and when to give those products.

For more information, please contact Dr. Joslyn Beard at joslynbeard@arizona.edu or 520-626-9532