



## Featured Plant: Common Wolfstail

### *Lycurus phleoides*

By: Allyson Stein

#### Description

So named for the inflorescence's resemblance to a wolf's tail, this plant is a native perennial bunchgrass. Reaching 1 to 1½ feet in height, common wolfstail grows erect or ascending. It is grayish-green in color. Leaves are fine, stiff, white-margined, and develop as a basal clump. Leaf blades grow flat or folded. The pale yellow, bristly spike florescence extend 1 to 3 inches long and ¼ of an inch in diameter. Flowering takes place from July to October.

#### Occurrence

Common wolfstail is found across Arizona except in Maricopa, La Paz, and Yuma Counties. Most abundant at elevations of 4,000 to 7,000 feet, habitats for this range grass include upper desert grasslands, chaparral, oak savannas, and pinyon-juniper woodlands. It favors rocky, open slopes, hills, plains, and mesas and primarily grows amongst other range grasses, such as grama species. Pure stands of this species are rare. This grass grows best in sandy, gravelly loam and has minimal tolerance for shade. It is not tolerant of fire and can take upwards of two years to reestablish after a burn. The entirety of common wolfstail's native range extends from northern Colorado into northern South America.

#### Forage Value

Common wolfstail provides very good forage value and is highly palatable for all classes of livestock, particularly cattle and domestic sheep. A warm season range grass, it greens near the beginning of spring and into the summer, making it an excellent forage plant for two full seasons and even into its dormancy period. The largest amount of growth occurs during and after summer rains.

#### Grazing Management

On ranges where this grass is abundant, it is advantageous to graze in the spring and also well-suited for grazing in the summer, particularly in wet seasons. If grazed in both spring and summer, the range should only be used lightly in order to enhance seed establishment. Heavy grazing has the potential to eliminate the species in pastures. Common wolfstail produces more seeds on grazed sites, but seed mortality can be greatest in the first two years. To ensure a good crop is obtained in the pasture, grazing should be deferred at least every third year.

#### References:

Gucker, C. L. (2008). *Fire Effects Information System: Lycurus spp.* Retrieved from <https://www.fs.fed.us/database/feis/plants/graminoid/lycspp/all.html>

*Lycurus phleoides*. (n.d.). Retrieved from <http://eol.org/pages/1115011/overview>

*Lycurus phleoides*. (n.d.). Retrieved from <http://swbiodiversity.org/seinet/taxa/index.php?taxon=491&cl=Mule%20Mountains>

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# Fire Risk is Alive and Well in Arizona

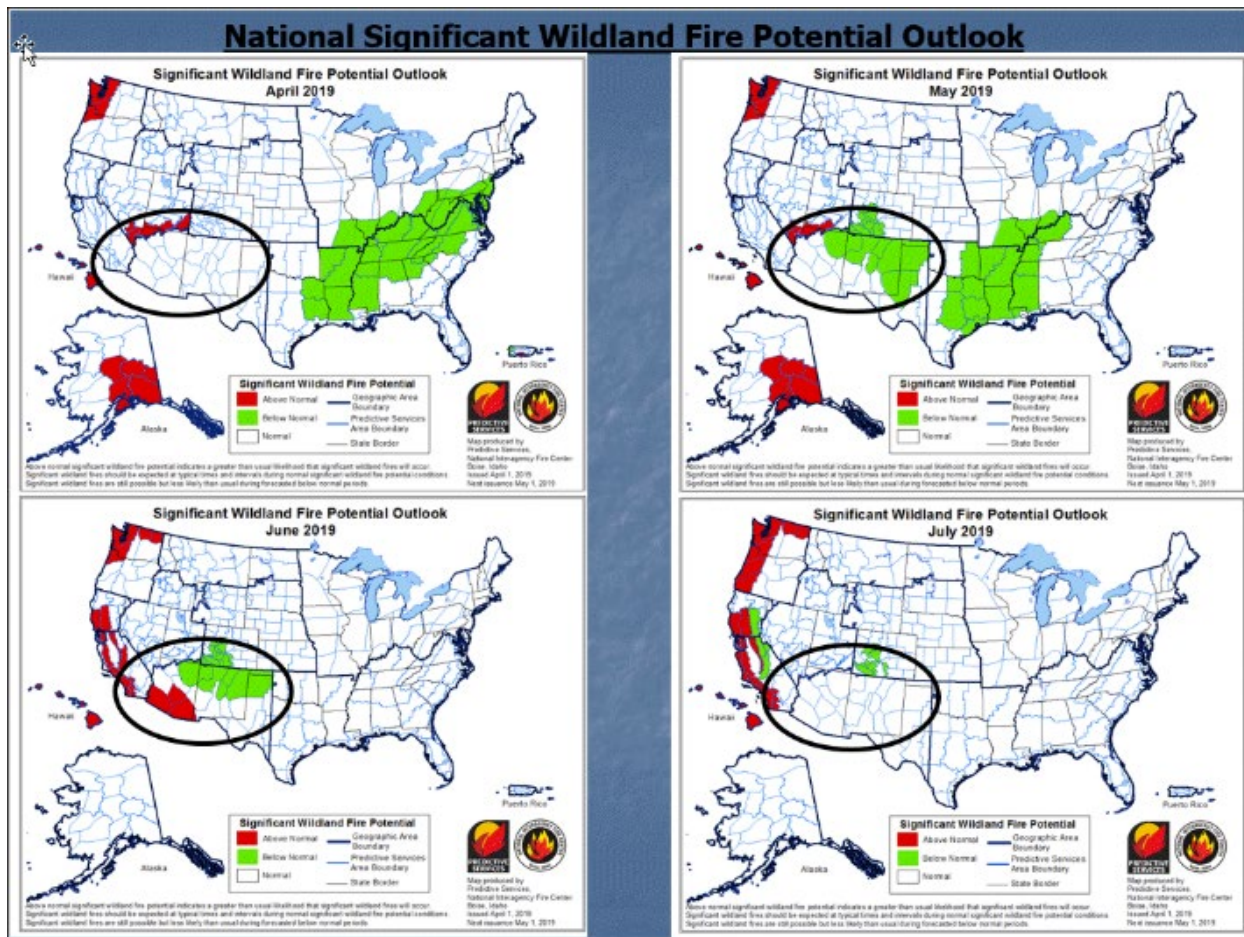
Andrew Brischke and James Heitholt

Fire risk is almost always a concern for rangelands across Arizona. “With the abundance of winter moisture across the state, the Arizona Department of Forestry and Fire Management wants to remind people not to get complacent” –DFFM. A bumper crop of annual grasses, forbs, and other fine fuels from a wet winter could potentially lead to large wildland fires.

Producers across Arizona may not have to mine their memory banks very deep to remember the extreme fire risk of 2018. Extreme to exceptional drought plagued much of Arizona leading to dry conditions and extreme fire danger. Fire restrictions and closures were common throughout the state in 2018.

Much to the relief of many producers, 2018 summer monsoons were tolerable and a relatively wet winter were welcomed across the majority of Arizona in 2019. Though wet winters and warming spring temperatures grow valuable cool season perennials, annual grass and forb forage; they present a different issue with respect to fire. As our temperatures increase and our precipitation decreases leading into our summer months, these forages quickly dry and become fine fuels available to spread fire quickly. The Southwest Coordination Center (Figure 1) notes that fine fuel conditions are normal to above normal loading and continuity...especially in southern/southeaster AZ. Additionally, both a wet winter and an active spring pattern are likely to keep heavy fuels out of the picture until June with low-mid elevations west of the divide the overall focus this season.

Figure 1. National Significant Wildland Fire Potential Outlook. Note the above normal potential (red) in southern AZ in the month of June.



Source: Southwest Coordination Center, SW Seasonal Fire Potential and Outlook  
[https://gacc.nifc.gov/swcc/predictive/outlooks/seasonal/Fire\\_Season\\_Potential\\_and\\_Outlook.htm](https://gacc.nifc.gov/swcc/predictive/outlooks/seasonal/Fire_Season_Potential_and_Outlook.htm)

Producers and land managers have similar responsibilities for preventing wildfire in that both should know daily fire danger ratings and expected weather. Producers should be particularly aware of red flag warning days. A red flag warning is a forecast issued by the US National Weather Service to inform local firefighting and land management agencies that conditions are ideal for wildland fire, rapid spread, and extreme fire conditions. Knowing this daily information allows safe operations that will lessen the likelihood of a wildfire. Fire restrictions apply to everyone including producers, so extra care must be taken during those times to prevent wildfires.

What should you do if a wildfire is on my ranch or an adjacent ranch? If you spot a wildfire, the first thing you should do is call 911 and/or the local fire dispatch center for your jurisdiction. Your Extension Agent or Rangeland Management Specialist can provide you with this phone number. After the fire is reported your next call should be to your Rangeland Management Specialist as they will be your initial liaison to the Incident Commander (IC) and the responsible agency or team. As the fire grows in size and complexity Incident Management Teams may be called to manage the fire. Incident Management Teams will have a person known as the Liaison Officer to keep you informed throughout the incident. It is important to communicate well and often with these officers.

During the fire, good communication is key. Some of the key information that needs to be communicated are:

**Where is the fire and where is it moving?**

Smoke columns can be deceptive. They can be either close or farther away than anticipated. The fire may be moving towards your ranch or in a different direction than expected.

**Where are your livestock located? Do you have time or even need to move them?**

Depending on the fire behavior, location, and movement of the fire you may or may not have time to gather your livestock move them to safer areas. Additionally, it may be recommended to open gates so livestock have an opportunity for escape. Remember that your own safety is the priority.

**Are there any fire vulnerable infrastructure or other values at risk?**

Tactics and expected containment lines may or may not be affected by some of these values.

Again, when dealing with wildland fire the highest priority is your own safety. Lives and property are always at risk in fire situations. All fire is dangerous and should be treated as such. It cannot be understated how important it is to comply with the IC's decisions. Disregarding directives from the IC could put your life, and other lives at risk.



## Tansy Mustard Toxicity in Livestock

Joshua Grace

A wet winter and warming temperatures have produced abundant growth of many cool-season forbs throughout Arizona. Although beautiful to look at, some of these forbs may be toxic to livestock, as outlined in the March newsletter. Two such species in high abundance this spring are tansy mustard (*Descurainia pinnata*; Native) and flixweed (*Descurainia Sophia*; Introduced).

**Description**

Tansy mustard is an annual weed with an erect, branched stem measuring from 4 - 30" high. The flowers are small, pale yellow, and occur in small clusters. Flixweed is also an annual forb which reproduces by seed. Stems are erect, branched, and 4 - 40" high. Leaves have a lacy appearance and leaves and stems are covered in fine hairs. Flowers are small, pale yellow, and grow in small clusters. The two species are difficult to distinguish and are commonly grouped



together as “tansy mustard.” They are among the first to bloom in the spring and grow in many ecological sites, particularly those with dry, sandy soils.

### Symptoms & Treatment

When consumption is moderate, tansy mustard can be a desirable and nutritious forage. When large quantities of the forb is consumed over an extended period of time, however, poisoning occurs in cattle. The unidentified chemical in tansy mustard causes tongue paralysis and blindness in cattle. As a result, affected cattle often begin pressing their head against stationary object or wandering aimlessly (blind staggers). These symptoms restrict water and forage intake and death may occur due to dehydration. Most animals will recover if removed from the tansy mustard quickly, but more severely affected animals require treatment including water and electrolytes and thiamin administered by a veterinarian.

### Control & Prevention

Tansy mustard is easily controlled with appropriate herbicides. In rangelands, control may be unrealistic, and prevention should be incorporated into grazing management. Proper livestock utilization and maintaining diverse forages in your pasture are important in avoiding seasonal plants such as these.

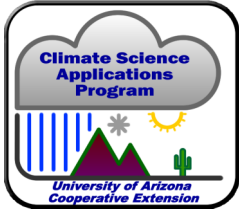


## New Assistant in Extension, Livestock Production for Graham and Greenlee Counties



I am Nate Brawley, a third-generation rancher here in Southeastern Arizona. I grew up with a love for raising cattle and going to the ranch. I have had great experiences being at the ranch that taught me the value of hard work. Along with my education I’ve been blessed to be around great men and women in the beef industry. Having those influential people in my life has prepared me to be an asset as Assistant in Extension in Livestock Production in Graham and Greenlee county. As the Assistant in Extension for Livestock Production, I will work hard to create a positive relationship with the producers in Graham/Greenlee counties. Through that relationship we will work together to make positive changes in the livestock industry here in Graham/Greenlee counties.

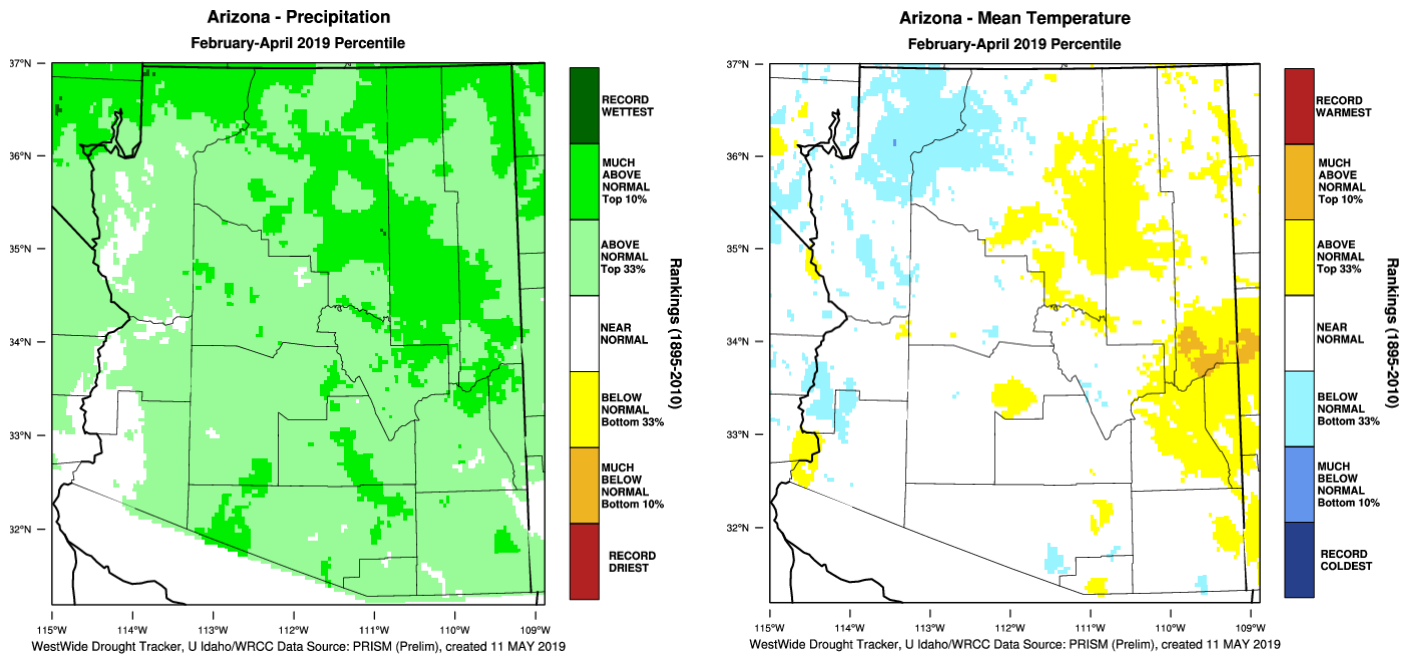




# Arizona Seasonal Climate Summary: Spring 2019

**May 13, 2019** - Wetter than average conditions continued through much of the spring while temperatures were largely near average through the February-April period. An active winter weather pattern brought above-average precipitation to much of the continental U.S. leaving the last three months as a top ten wettest February-April period in records going back to 1895. For Arizona, it was the 112th wettest February through April period (in the 125 year record) an almost top ten showing. February was the wettest month in the last three as the winter storm track took aim at Arizona several times with several cold and strong low pressure systems passing through the state. One event, in mid-February, brought accumulating snow to desert areas as low as 2000'. Precipitation and temperatures were near average in March across the state. The weather pattern shifted to drier and warmer conditions in April, more typical of average spring conditions. Southern Arizona observed the biggest dry out during April with only trace amounts of precipitation falling during the month.

Overall, the above-average precipitation and near-average temperatures have helped to continue to boost soil moisture conditions and replenish local water resources. Short-term drought conditions continue to improve as frequent precipitation events since last summer continue to occur across the state. The U.S. Drought Monitor (May 9th edition) indicates that almost of all of Arizona is drought-free, except for far northeast portions of the state where abnormally dry to moderate drought conditions continue to persist. Weak, but persistent El Niño conditions in the Pacific Ocean may continue to influence weather conditions across the Southwest in coming months with above-avg precipitation.



November-January 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](mailto:crimmins@email.arizona.edu)



Generate custom chart and logbook

1. Select the month and day that the summary chart will begin on and then select the chart length in days
2. Label the chart with a site description or gauge name.
3. Click on the 'Generate chart' button and the custom chart and fillable table will appear on the left.
4. Click on the 'Download' button to save a printable file.

Start Month:

6

Start Day:

15

Chart length (days):

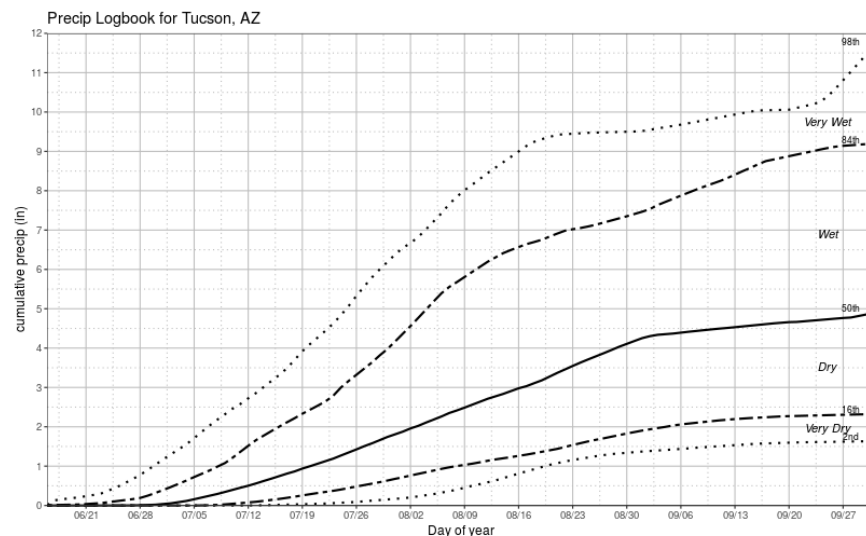
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Site name:

Precip Logbook for Tucson, AZ

Generate Chart

Cumulative Precipitation Chart

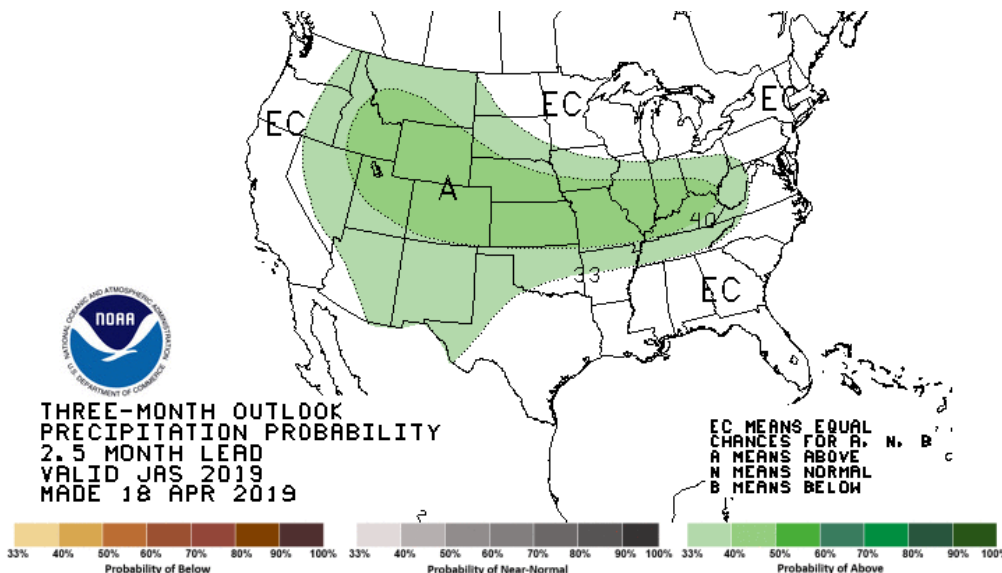


Selected location

This tool called the 'Precipitation Logbook Generator' creates a reference precipitation climatology for any location that can be used to compare observed cumulative precipitation amounts through a season, like the ones captured in typical range monitoring PVC rain gauges. The reference climatology can be created for any time frame within the year (e.g. summer season) and produces a chart of the typical (i.e. median) cumulative precipitation pattern as well as extremely wet or dry values based on historical data (1981-2018 historical period). A printable table is also produced for tracking and manually recording observations in the field. Together the chart and table create a custom *logbook* for that rain gauge location. When an observation is made in the field, the entry for that date can be compared to the typical and extreme historical values to provide context and inform a possible management decision. To create a chart for your location and to learn more about the tool visit <https://uaclimateextension.shinyapps.io/precipChart/>

The July-August-September seasonal precipitation outlook issued by the NOAA Climate Prediction Center in mid-April depicts an increased chance of above-average precipitation across much of Arizona for the upcoming monsoon season. This outlook reflects the expectation that the current weak El Niño event will continue to persist into next fall and enhance the east Pacific tropical storm season. A more active tropical storm season could trigger more moisture influxes into the Southwest and even target southern Arizona with direct hits later in the season. This impact has been observed in September and October over the past several years with busy east Pacific tropical storm seasons including last October that was record wet for much of Arizona due to tropical storms Rosa and Sergio crossing through Arizona.

This outlook needs to be taken with a grain of salt since there is no guarantee that the tropical storms will directly impact Arizona, but could provide some nudges to the monsoon over the whole season. ( More info at [http://www.cpc.ncep.noaa.gov/products/predictions/long\\_range/](http://www.cpc.ncep.noaa.gov/products/predictions/long_range/))





## Arizona Cattle Growers' Association Update

Our vision is: "The Arizona Cattle Growers' Association (ACGA) is the trusted source of information and advocacy for Arizona's beef producing families." This vision goes far beyond the realm of encouraging ACGA members to seek out information and be an advocate for the industry. This vision gives ACGA members the information, tools, and representation needed to responsibly, sustainability, and profitably raise cattle.

### Information:

ACGA is a huge proponent of information. The monthly publication of *The Arizona Cattlelog*, blog posts, website pages, email blasts, social media posts, and direct mailings focus on Arizona information and topics valued by membership. The information ranges from ranch spotlights, member spotlights, sustainability comments, to articles about progressively implementing practices to do our jobs better every day. All of which is available to members at their fingertips. We, at the state office, are working every day to offer our members information needed to do their jobs better every day!

This theme is carried through Summer Convention. This year we will focus on "MOOOOving Forward". The convention will emphasize preserving the ranching legacy while promoting the benefits of utilizing modern ranching practices to better ranching operations and the bottom line. In addition, we will discuss transitioning from one generation to the next, utilizing social media to tell our stories, and programs to increase profits and the quality of the beef we are raising.

Registration is only \$50.00 per person (including meals and fees for all three days). The value received for the cost will be outstanding! Be sure to be there – July 25<sup>th</sup>-27<sup>th</sup> at We-Ko-Pa Resort & Convention Center. Register online today at [www.azcattlegrowers.org](http://www.azcattlegrowers.org).

### Tools:

ACGA committees give membership the tools they need to take their operations to the next level and increase their bottom lines. In the last year, ACGA has welcomed many new committees, including Arizona Ranchers for Tomorrow (R for T) and the Traceability Committee.

R for T provides producers with unique educational opportunities that have a positive impact on their bottom lines, engages and inspires members and helps secure a future in the Arizona Beef Industry. R for T continuously hosts and facilitates various workshops, seminars and classes on industry related subjects. These subjects include:

- Health
  - Animal Health
  - Environmental Health
  - Consumer Health
- Advocacy
  - Informed Political Goals
  - Utilizing Media
  - Lobbying Efforts
  - Partnerships with Government Entities, Conservation Advocates, and User Groups
- Profitability
  - Profitable Management Practices
  - Grant Writing
  - Financial Planning
  - Ranch Acquisition and Inheritance



The next committee mentioned is the Traceability Committee. The drivers of today's beef market are those who shop in the grocery stores around the country. Today most of those shoppers are millennials who are outpacing everyone else in numbers and buying power. This demographic is worried about the origin of the food they purchase. They are curious to know more about the ranchers behind the meats they select. Along with the quality and price, today's meat shoppers are concerned about how their meat was raised and where it was raised. Our consumers want to know the entire production story from pasture to plate. They not only want to know that the animal lived a happy, healthy life, but they want to know that the product is healthy and safe for their families. In the minds of customers, the definition of "premium" has changed. It has moved away from fancy or gourmet associated with high prices to transparency in production, natural flavor and a local product. Because today's shopper is greatly influenced by electronic information and communication, they are now the major force in determining the type of product that ranchers must produce.

Consequently, we at Cattle Growers' believe the time has arrived to begin to explore a volunteer traceability system that can provide the transparency to meet today's market demands. We have formed a working group to participate in designing a program operated by AGCA for Arizona cattle.

Representation:

ACGA is a member driven organization. Members have the opportunity to participate in the policy making process during the Summer Convention. These policies are what drive the organization through the next year. Additionally, the final day of convention (July 27th) members will vote on the policies brought by committees, by-laws, and the 2019/2020 executive committee elections.

With these policies, ACGA represent you and your fellow Arizona ranchers at the State Capitol and in Washington. This has been a very productive session for Arizona Cattle Growers'. ACGA refined and helped correct many pieces of legislation that might have been hurtful to our members. We also played an integral role in shaping the revised livestock regulations, recently approved by the Department of Agriculture. We have a unique opportunity given our strong relationship with Governor Ducey, the Department of Agriculture, State Land Office, and Legislative leadership to shape our priorities for next session and accomplish tasks vital to our industry.

Our vision continues to hold strong as ACGA members obtain the benefits of an ACGA member. Information, tools, and representation are key to responsibly, sustainability, and profitably raising cattle. Join ACGA today!  
[www.azcattlegrowers.org](http://www.azcattlegrowers.org).

## Annual Southwest Noxious, Invasive Plant Short Course

25th Annual Southwestern Noxious/Invasive Weed Short Course (Wow!! Our Silver Anniversary!!)

**When:** July 23, 24, and 25, 2019

**Where:** Henderson Fine Arts Center (Rooms 9008, 9010), San Juan College, 4601 College Blvd, Farmington, NM 87402

**What:** The primary purpose of this regional 3-day Short Course is to explore the ecology and management of noxious, invasive weeds that threaten economic and ecologic interests of the southwestern U.S. The course is broken into 2 tracks – beginning (i.e., Track 1), for those wanting to learn about the various species of interest and basic management options invasive plants, and advanced (i.e., Track 2), for those interested in going beyond plant ID and basic management principles. Although the short course is presented in 2 tracks you will be free to tailor your attendance in a way that best fits your needs. A half-day field trip from Farmington, NM to Durango, CO on the afternoon of July 24 will provide hands-on experiences with identifying noxious weeds and discussing various integrated weed management options with noxious weed experts from around the SW US. Who: Local, regional, and national experts will share their knowledge with YOU.

**How to Register:** Download Draft Agenda and find more information on the registration site

<https://www.regonline.com/SWweedshortcourse2019>

Cost: \$325 until July 8, \$350 from July 9-July 19, and \$375 after July 19

Registration: Required



# Using Residual Feed Intake as a Selection Tool for Cow Herd Efficiency

Ashley Wright

## Common Definitions:

**Average Daily Gain (ADG)** – Average gain in pounds per day

**Dry Matter Intake (DMI)** – Average pounds of forage intake per day

**Feed Conversion Ratio (FCR or F:G)** – How much feed is required per pound of weight gain

**Gain to Feed (G:F)** – inverse of F:G; how much body weight gain per pound of feed.

**Residual Feed Intake (RFI)** – Measure of efficiency: the difference between the feed intake measured and the feed intake expected over a specific period of time on ad lib feed.

## Selecting for Efficiency:

FCR is the traditional measure of feed efficiency. This trait is highly correlated with growth rate, however studies have shown that selecting cattle based on FCR also has a tendency to increase mature cow sizes over time. Larger cows have higher maintenance energy requirements, which means increased feed costs and forage requirements.

RFI is an alternative way to measure feed efficiency. It measures variations in feed intake beyond those needed for maintenance/production (i.e. growth, lactation). Let's look at a simple example. If we have two dry, open cows with similar body weights and frame sizes (basically, identical cows) and we measure the average of their daily voluntary forage intake over a week's time (the amount of food they eat voluntarily given unlimited access), most likely these two animals will NOT eat the same amount of food. In fact, their intake could vary by as much as 10 or more pounds per day. Given all other things equal, which cow would you rather have in your herd? RFI is a way to measure and quantify these differences in intake.

When we calculate RFI, we can use a linear regression model to "equalize" growth rates and body size in young animals and determine which cattle are more efficient than their peers. When examining RFI scores, it's important to remember that cattle with a *negative* RFI score are efficient animals (they consumed less feed than expected based on their size and performance), and cattle with a *positive* RFI score are inefficient animals (they consumed more feed than expected based on their size and performance). If an animal has an RFI score of zero, it ate exactly the amount of feed expected based on size and growth rate. Due to the calculations used to determine RFI, this trait is independent of growth and mature size, and selecting cattle for RFI will not inadvertently select for larger animals (as selecting only on FCR will), but it does result in improvements in FCR. RFI is also moderately heritable. It's becoming more common to see young bulls RFI tested before large bull sales, and many breeds now include an EPD (Expected Progeny Difference) for RFI. Look for an animal with a negative RFI (ex: -3.36 means that this animal should produce offspring that consume on average 3.36 pounds less than the breed average).

RFI does come with a caveat. A few studies have demonstrated that RFI may be negatively correlated with carcass marbling and leanness: more efficient animals may be leaner with less marbling than inefficient animals. Additionally, heifers that are more efficient (low RFI) may not begin cycling as early as heifers with high RFI scores. However, remember that all selection tools have downsides. Be aware of these potential pitfalls when selecting animals using RFI, and be sure to consider other criteria such as genomic data, carcass EPDs, and carefully manage and cull replacement heifers to avoid cultivating negative traits in your herd.

**RFI is one more tool in the toolbox to help select cattle that work for the goals of your operation. Using multiple tools is always advisable, the RFI of an animal should be considered alongside other selection criteria such as EPD information and physical characteristics.**

*The relationship of RFI and voluntary forage intake and cow survival under range conditions.* Dan B. Faulkner;  
<https://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1696-2016.pdf>

*Phenotypic and genetic parameters for different measures of feed efficiency in different breeds of Irish performance-tested beef bulls.* J.J. Crowley, et. al. [http://www.beefefficiency.org/info/crowley\\_RFI\\_heritability.pdf](http://www.beefefficiency.org/info/crowley_RFI_heritability.pdf)

*Can We Select for RFI in Heifers?* L. Kriese-Anderson. [http://animal.ifas.ufl.edu/beef\\_extension/bcsc/2016/proceedings/kriese\\_anderson.pdf](http://animal.ifas.ufl.edu/beef_extension/bcsc/2016/proceedings/kriese_anderson.pdf)



SOCIETY FOR RANGE MANAGEMENT  
ARIZONA SECTION

# 2019 SUMMER MEETING

August 14-16, 2019  
Show Low, AZ



**Society for  
Range  
Management**  
Arizona Section

## Managing Forest Rangelands in Arizona

Enjoy workshops, field tours and  
great discussion in the  
White Mountains!  
[azrangelands.org](http://azrangelands.org)





## May

- 22 **Beginning Rancher Plant ID and Monitoring Methods Workshop, Kaibab National Forest, Free** – Contact Andrew Brischke for more information: [brischke@cals.arizona.edu](mailto:brischke@cals.arizona.edu)
- 30 **Beginning Rancher Soils and Rangelands, Polacca, AZ** - Contact Joshua Grace for more information: [jgrace1@email.arizona.edu](mailto:jgrace1@email.arizona.edu)

## July

- 15-19 **Natural Resource Conservation Workshop for Arizona Youth Camp (NRCWAY), Mingus Mountai, AZ \$150/student** – Contact Kim McReynolds for more information: [kimm@cals.arizona.edu](mailto:kimm@cals.arizona.edu)
- 23-24 **Annual Southwest Noxious, Invasive Plant Short Course, San Juan College, Farmington, NM** – Contact Larry Howery for more information: [lhowery@ag.arizona.edu](mailto:lhowery@ag.arizona.edu)
- 25-27 **Arizona Cattle Growers' Association Summer Convention, Wekopa Resort, Fountain Hills, AZ \$50/member** – Contact [amortimer@arizonabeef.org](mailto:amortimer@arizonabeef.org) for more information.

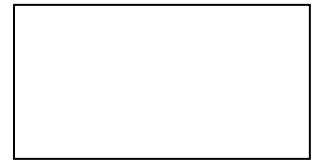
## August

- 1 **Beginning Rancher Workshop, Location TBD, Northeastern, AZ** – Contact Joshua Grace for more information: [jgrace1@email.arizona.edu](mailto:jgrace1@email.arizona.edu)
- 9 **Beginning Rancher Workshop Series: Land Acquisition and Business Planning, Florida Canyon Research Center, Santa Rita Experimental Range** – Contact Ashley Wright for More information: [awright134@email.arizona.edu](mailto:awright134@email.arizona.edu)
- 14 **Rangeland Precipitation Monitoring Workshop, Pinetop-Lakeside, AZ** – Contact Josh Grace for more information: [jgrace1@email.arizona.edu](mailto:jgrace1@email.arizona.edu)
- 14-16 **Arizona Section Society for Range Management Summer Meeting, Show Low, AZ** – Contact Andrew Brischke for more information: [brischke@cals.arizona.edu](mailto:brischke@cals.arizona.edu)
- 27 **Beginning Rancher Workshop, Payson, AZ Free** – Contact Ashley Hall for more information: [ashleys3@email.arizona.edu](mailto:ashleys3@email.arizona.edu)

## September

- 3 **Ranch Estate Planning Class, Springerville, AZ** – Contact Joshua Grace for more information: [jgrace1@email.arizona.edu](mailto:jgrace1@email.arizona.edu)
- 3 **Ranch Estate Planning Class, Pinetop-Lakeside, AZ** – Contact Joshua Grace for more information: [jgrace1@email.arizona.edu](mailto:jgrace1@email.arizona.edu)
- 20 **Beginning Rancher Workshop Series: Ranch Funding Programs from USDA, NRCS, FSA and Others, Location TBD** – Contact Ashley Wright for More information: [awright134@email.arizona.edu](mailto:awright134@email.arizona.edu)

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