Irrigated Pastures

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Three things to think about regarding irrigated pasture and drought...

- Limited irrigation water
- Forage production
- Fertilization
- Grazing
Scott 13 Field-25 acres
Irrigation system
AS A GENERAL GUIDE, THESE READINGS TELL YOU:

0-10 centibars = Saturated Soil
10-20 centibars = Soil is adequately wet (except coarse sands which are beginning to lose water)
30-60 centibars = Usual range for irrigation (except heavy clay soils)
60-100 centibars = Usual range for irrigation for heavy clay soils
100-200 centibars = Soil is becoming dangerously dry for maximum production. Proceed with caution!
Watermarks-6” All Sites
Watermarks-12” All Sites
Water Data and ET-SFREC 2013

- Inches Applied
- Tail Water
- Net Irrigation
- ET/Acre

Month: June, July, Aug, Sept
Watermarks-6” All Sites
Water Applied to Pasture Compared to Gerber ET

Note: Negative bars coincide with rainfall events where precipitation at Gerber was greater than ET.
The District's net revenues from the 2013 water transfer program were just over $300,000; not coincidentally, expenditures for the 2013 Clear Creek project and pipe purchased for the System Improvement Program totaled $273,650.

It is appearing more and more likely that 2014 will be a critically dry water year, and that the District's water supply may be reduced by 25%. Even with a curtailment to 75% of supply, we anticipate the ability to provide an adequate supply of water throughout most of the season. As our diversions are based on a monthly allocation by Reclamation, the most likely scenario is the rescheduling of water from the month of October into April and May, effectively shortening the irrigation season. It is the responsibility of the District and its customers to make the most of our water supply, and I encourage you to inspect, maintain, and operate your irrigation and delivery systems to ensure maximum efficiency of use.

The District continues to seek improvement in communications with our customers, and our website is a vital part of that effort. An updated System Improvement Program summary is currently available, and we will soon have reports posted for the 2013 Water Transfer Program; the NRCS AWEP grant program; the Clear Creek Siphon Upslope Repair; our new Geographical Information System, and other pertinent information. The web address is andersoncottonwoodirrigationdistrict.org.

We are looking forward to another successful irrigation season, and invite you to contact the District with any comments or suggestions that will help improve our service.

Sincerely,

Stan Wangberg
General Manager
Couple of thoughts...

- Irrigate as close to ET as possible
- Maintain system, tune up scheduling
- Reduced land area irrigated as water gets short
- Leaving 4”-5” stubble should facilitate fall growth should rain or additional irrigation water be available
Dry Matter Forage Production - SFREC 2013

The chart shows the dry matter forage production in pounds per acre for each month from May to October. The production peaks in June and July, reaching approximately 2200 lbs/acre, and decreases in September and October to around 1200 lbs/acre.
Cost of Fertilizer 1960 to 2007

Historic Prices for Fertilizers in the US

Urea estimated to be in the $500/ton range currently
Pasture Response to Nitrogen Fertilizer depends

- **Application:** Single or split
- **Grazing:** 24 to 30 days of grazing rest and pasture not grazed below 4” to 6” inches
- **Soil fertility:** Phosphorus, sulfur, and potash levels in the soil—This is a year to test—don’t want to make a mistake—
  - Soil test for pH, phosphorus, potassium
  - Tissue for nitrogen and sulfur
- **Species composition** (grasses, rushes, clovers)
- **Irrigation Amount** and timing
92 lbs N/A - Urea (46-0-0), Ammonium Sulfate (21-0-0) (42 lbs N/A) and Ammonium Phosphate (16-20-0)
Average (5 year) Irrigated Pasture Production by month by treatment

- **Control**
- **Urea**
- **21-0-0**
- **16-20**

**Treatment**
- May
- June
- July
- Aug
- Sept.
- Oct.
Growing more grass

- Previous slide shows approximately 1700 lbs additional forage produced.
  - Assuming $500/ton, fertilizing with 200 lbs Urea would cost about $50/acre
  - Assuming a 60% harvest efficiency, additional forage (1000 lbs) would cost about $50.
Summary of ideas...

- Irrigate at ET as much as you can for as long as you can, then stop irrigating
- Maintain ditches, turnouts, etc.
- If possible, look at taking full water deliveries through the summer in exchange for letting water go in the fall
- Concurrent with availability of irrigation water, ceasing grazing at a 4”-5” plant height will facilitate pasture growth in the fall should it rain or irrigation water become available
- Consider fertilizing in the spring and banking forage for use later in the season