

Irrigated Pastures

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

- Limited irrigation water
- Forage production
- Fertilization
- Grazing

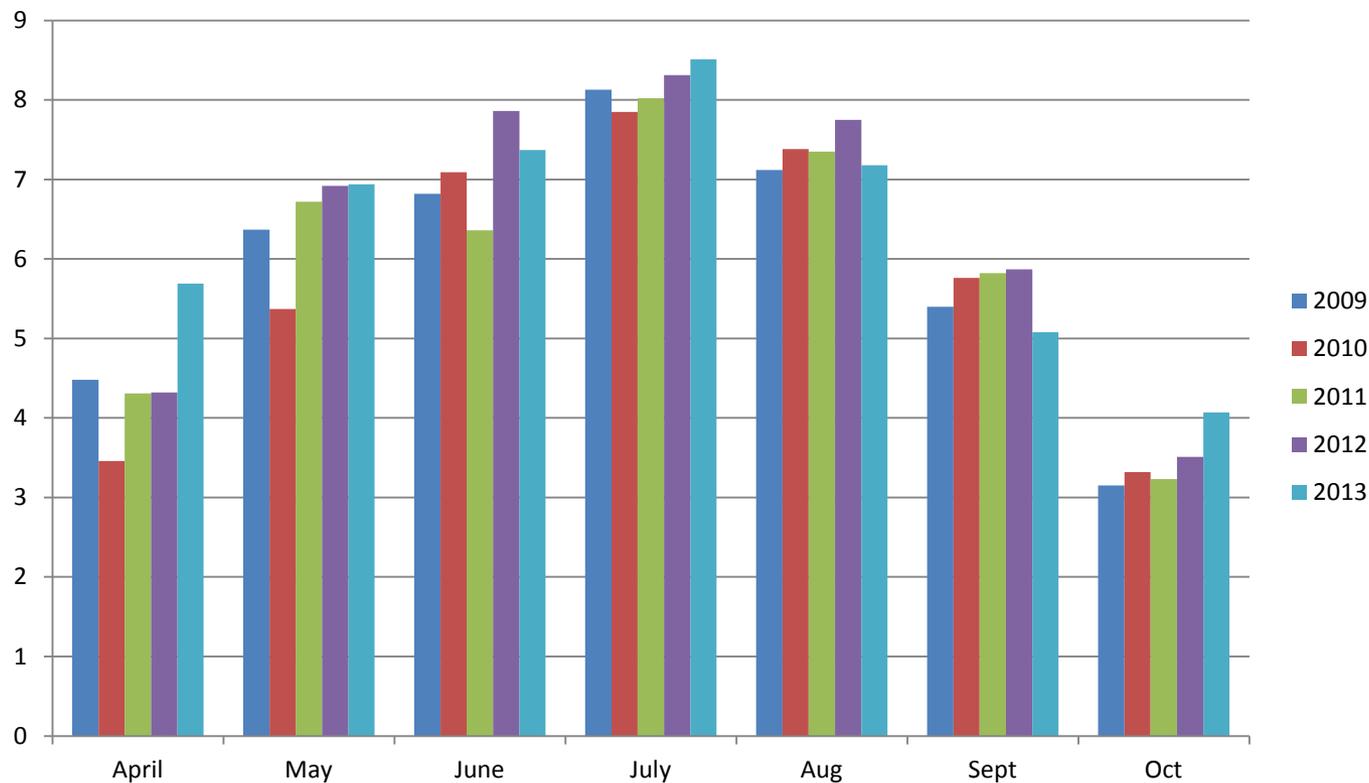
Scott 13 Field-25 acres



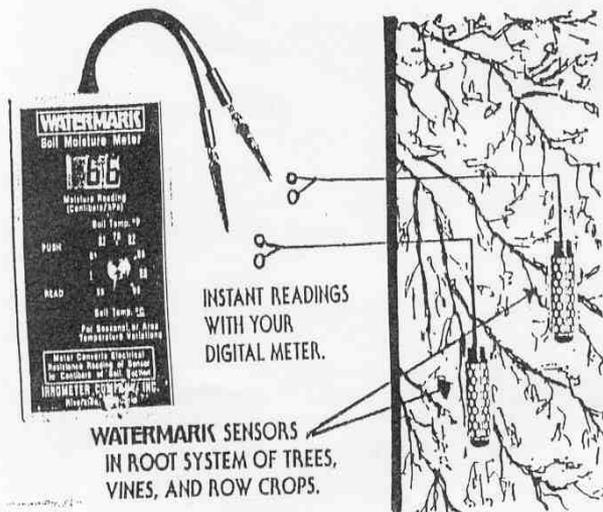
Irrigation system



Estimated Pasture ET at SFREC 2009-2013



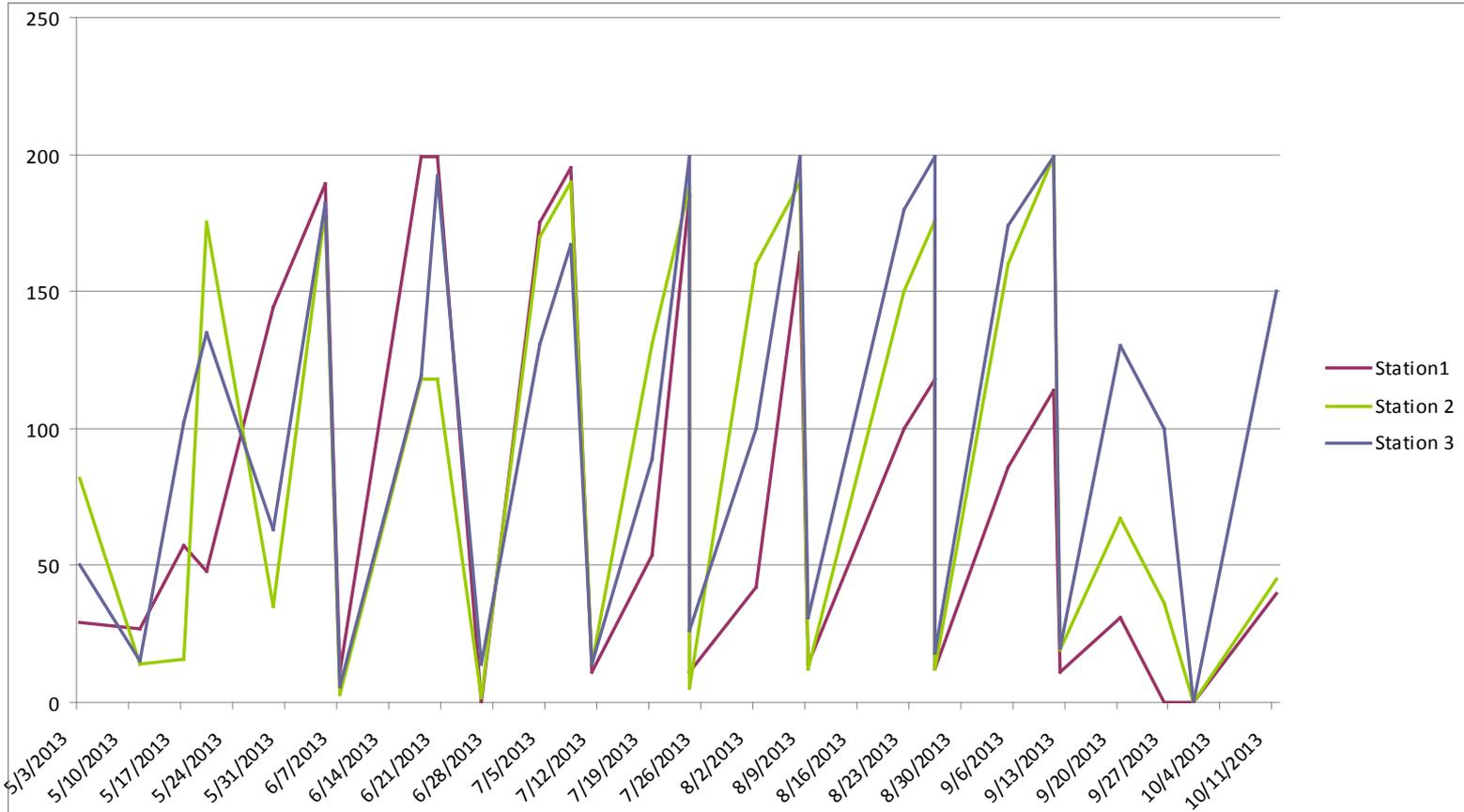
WATERMARK . . . Your Window
To Soil Moisture!



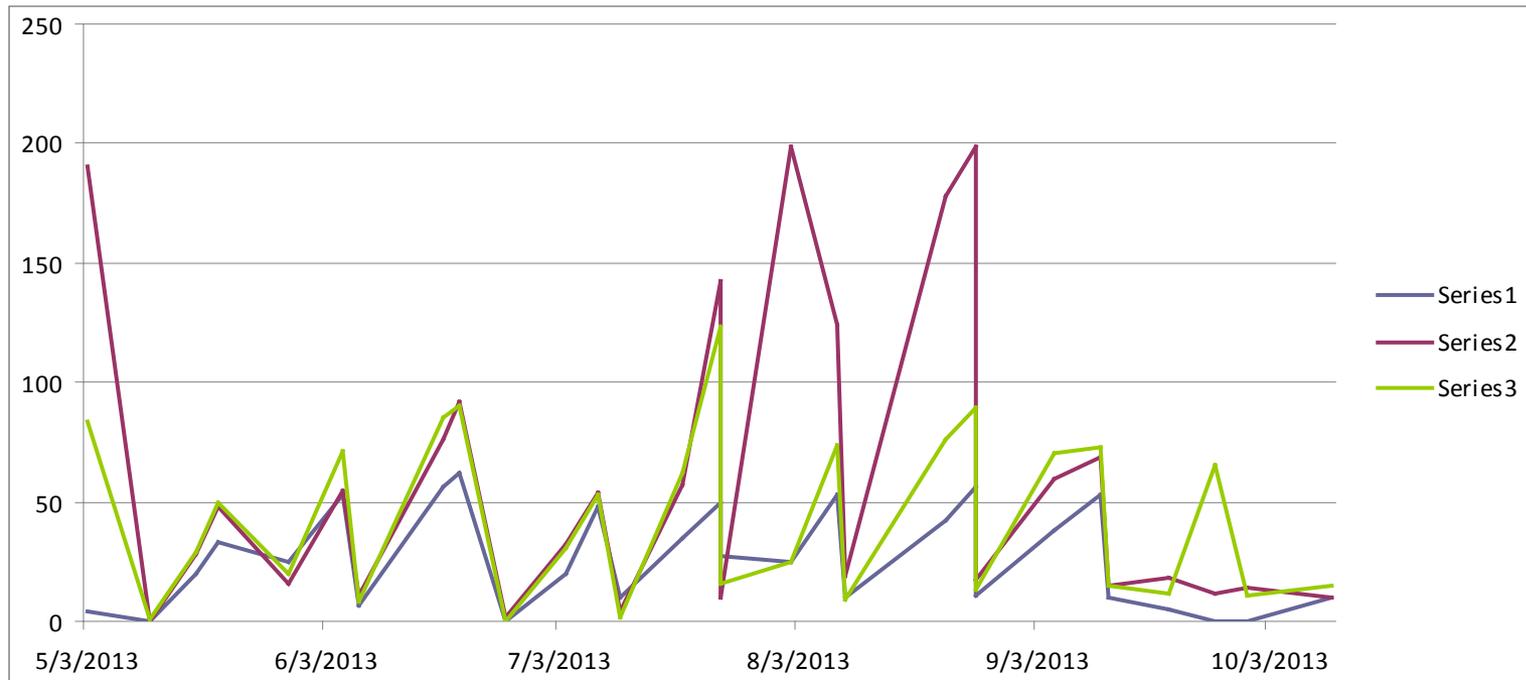
AS A GENERAL GUIDE, THESE READINGS TELL YOU:

- 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!

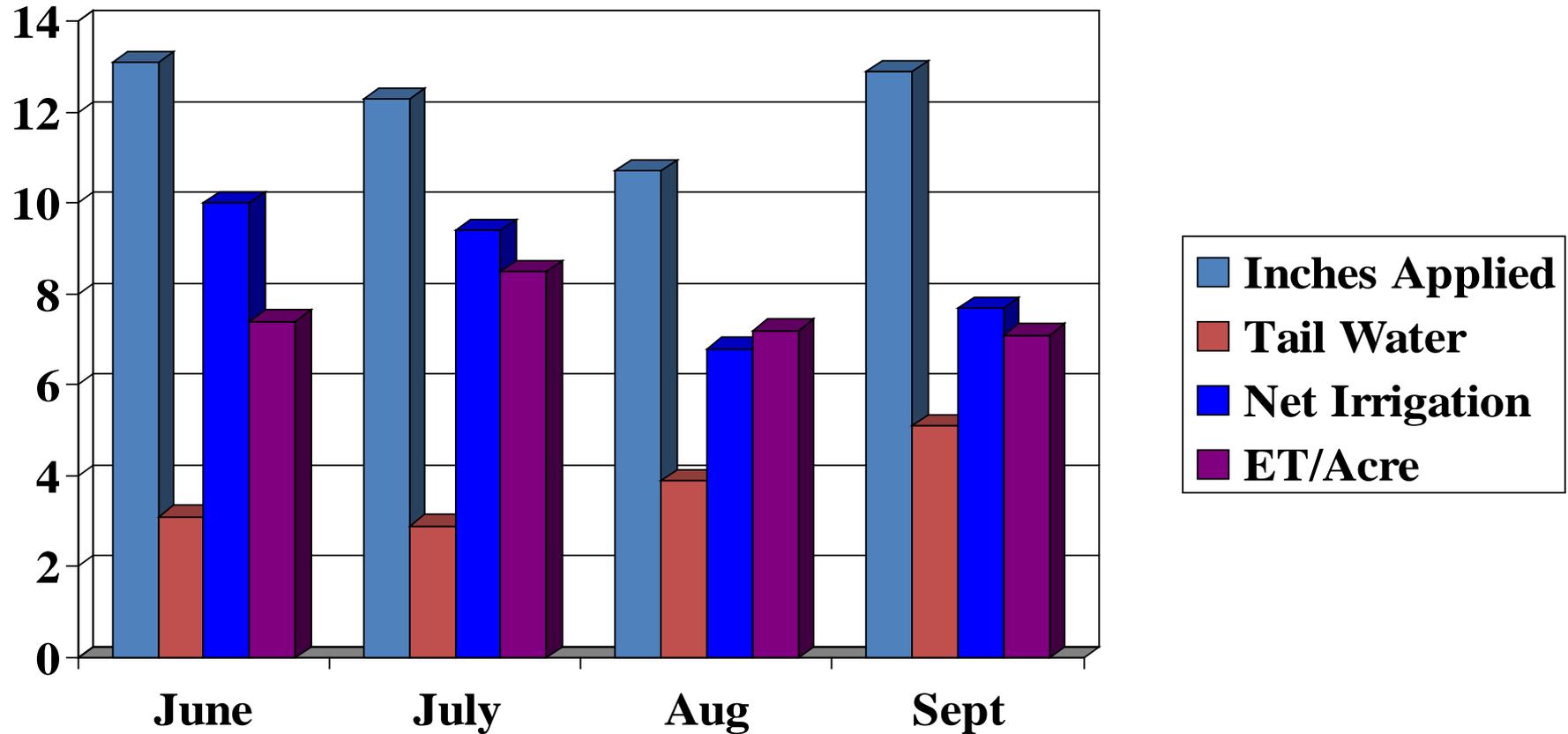
Watermarks-6" All Sites



Watermarks-12" All Sites

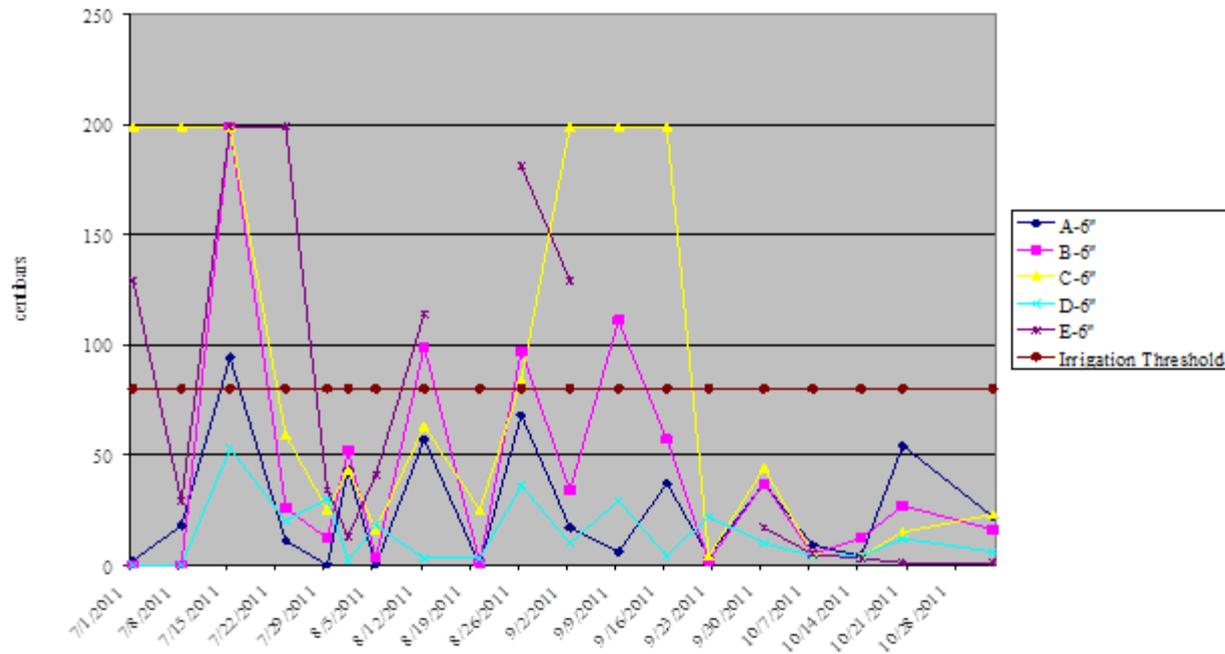


Water Data and ET-SFREC 2013

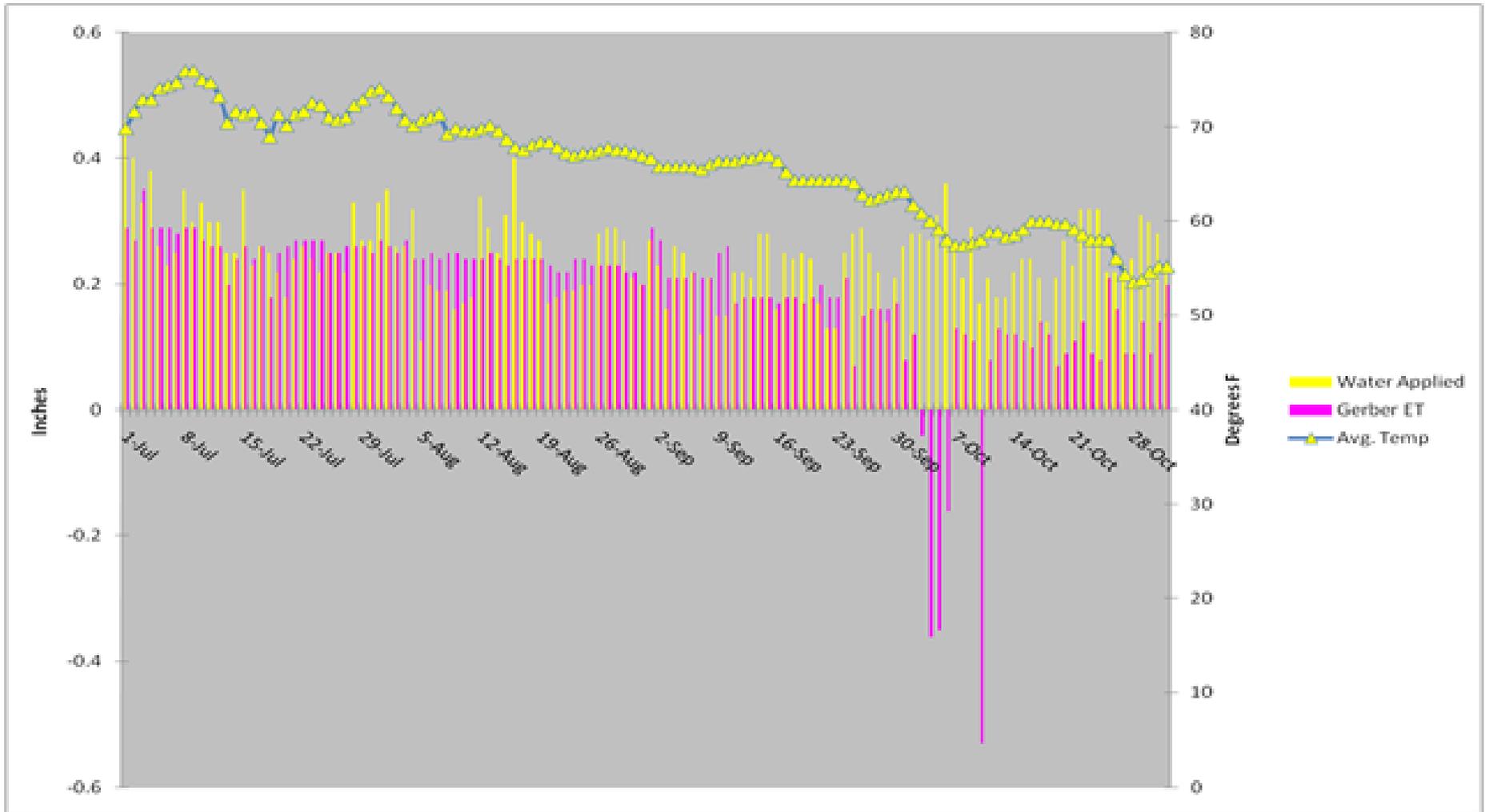


Watermarks-6" All Sites

Figure 8-Soil Moisture by Site at 6" Depth



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,



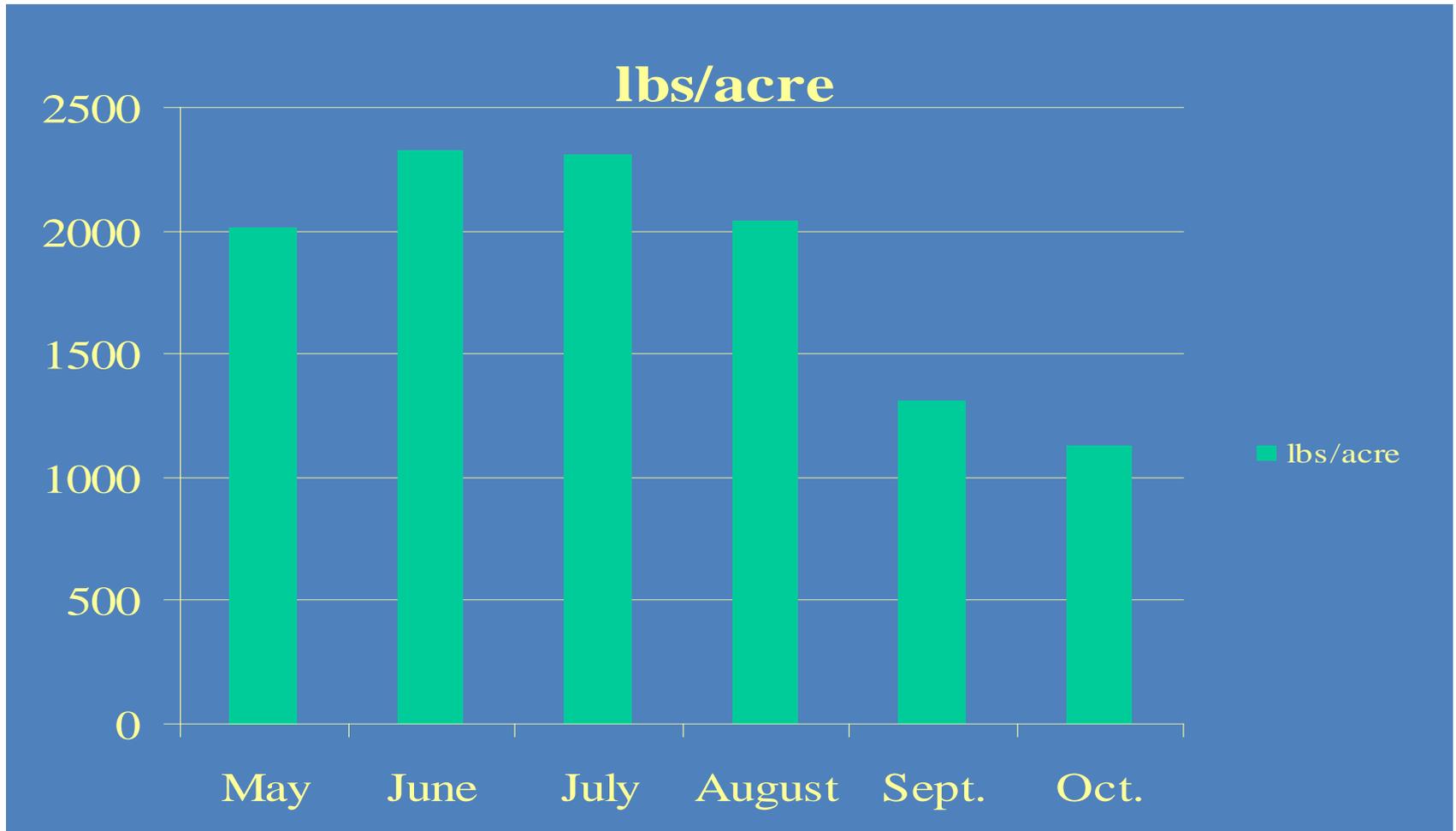
Stan Wangberg
General Manager

Couple of thoughts...



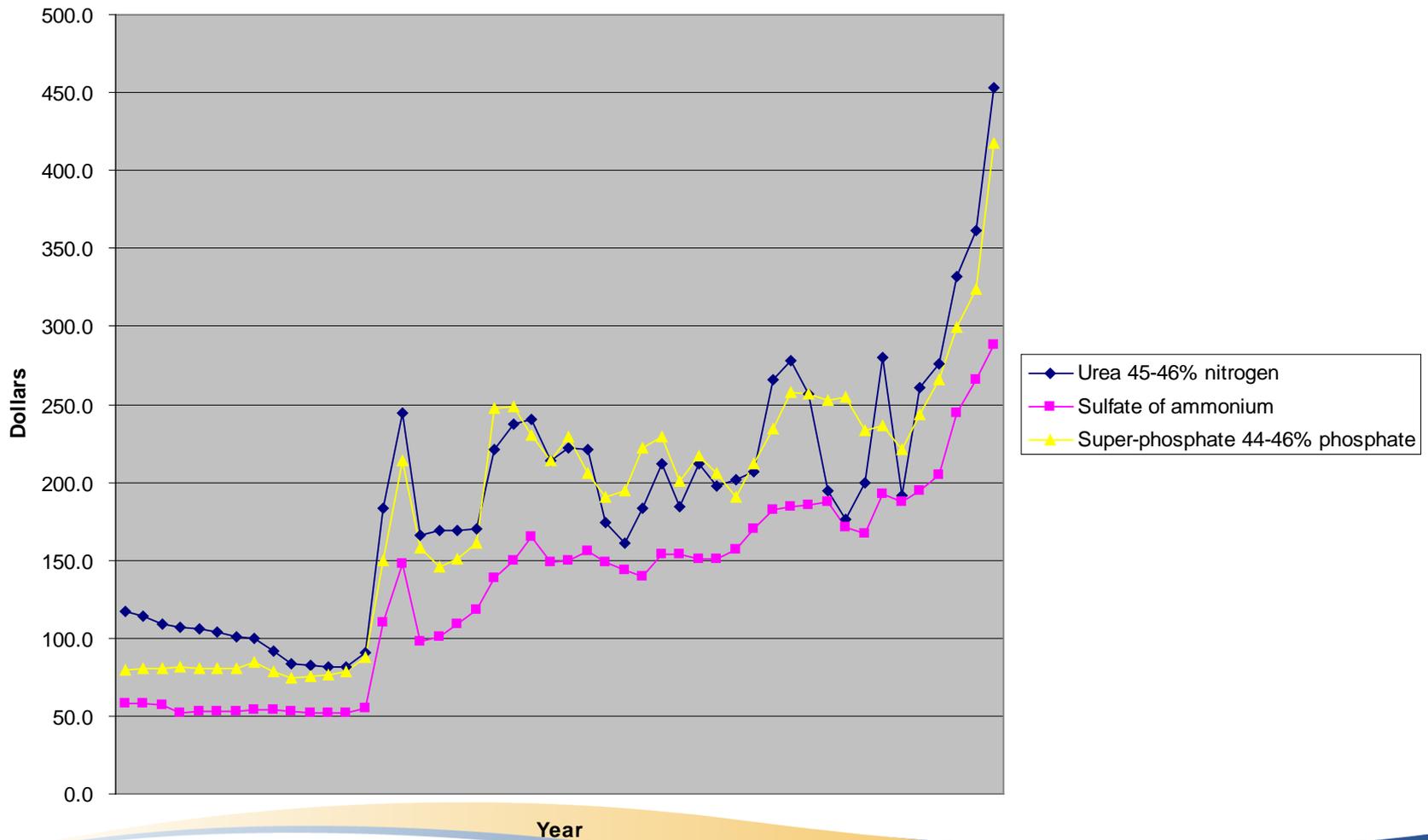
- Irrigate as close to ET as possible
- Maintain system, tune up scheduling
- Reduced land area irrigated as water gets short
- Leaving 4"-5" stubble should facilitate fall growth should rain or additional irrigation water be available

Dry Matter Forage Production- SFREC 2013



Cost of Fertilizer 1960 to 2007

Historic Prices for Fertilizers in the US

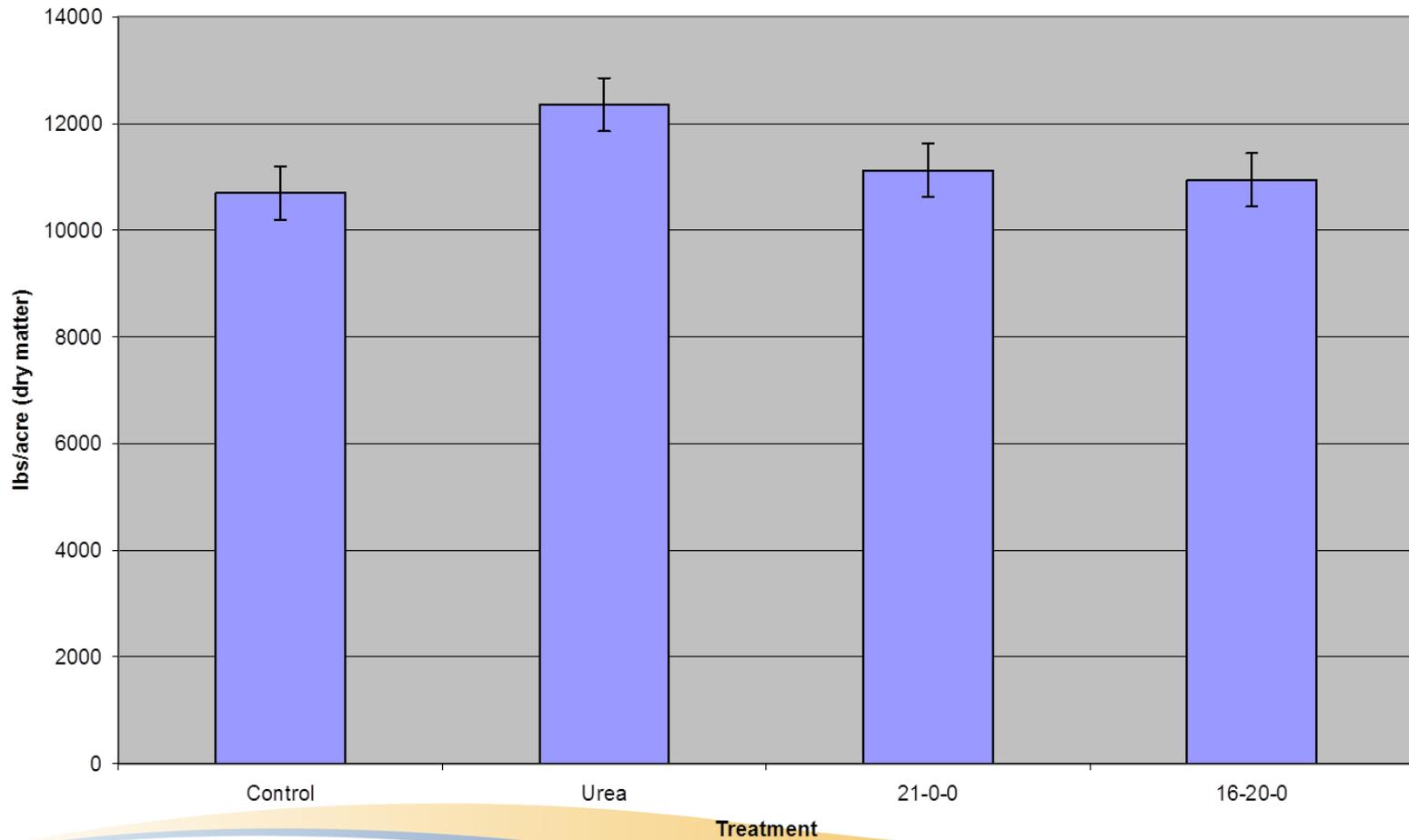


Pasture Response to Nitrogen Fertilizer depends

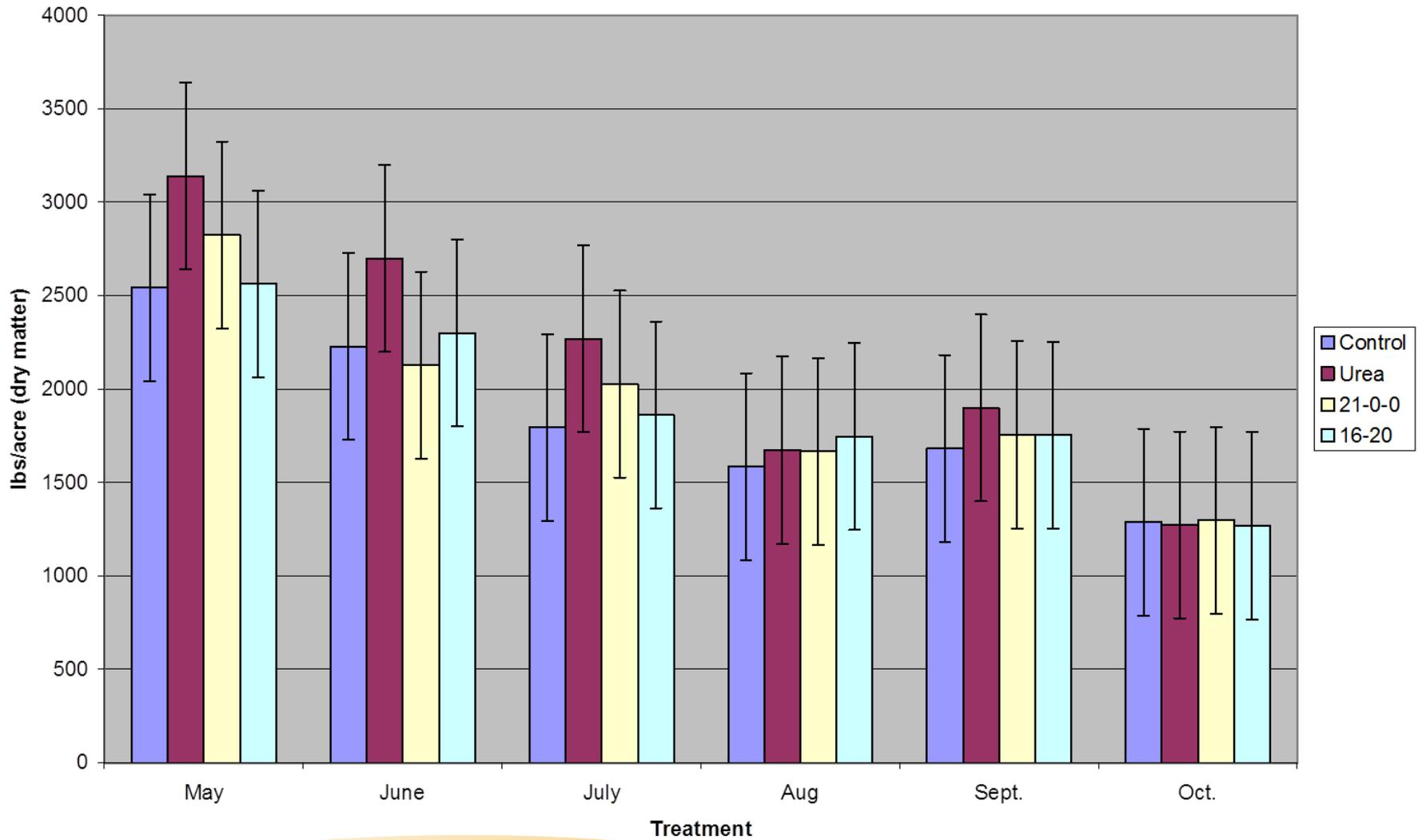
- Application: Single or split
- Grazing: 24 to 30 days of grazing rest and pasture not grazed below 4” to 6” inches
- Soil fertility: Phosphorus, sulfur, and potash levels in the soil—This is a year to test-don’t want to make a mistake—
 - Soil test for pH, phosphorus, potassium
 - Tissue for nitrogen 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 Production by Fertilizer type



Average (5 year) Irrigated Pasture Production by month by treatment



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.



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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

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