

# Estimating Forage Production and Inventorying Resources

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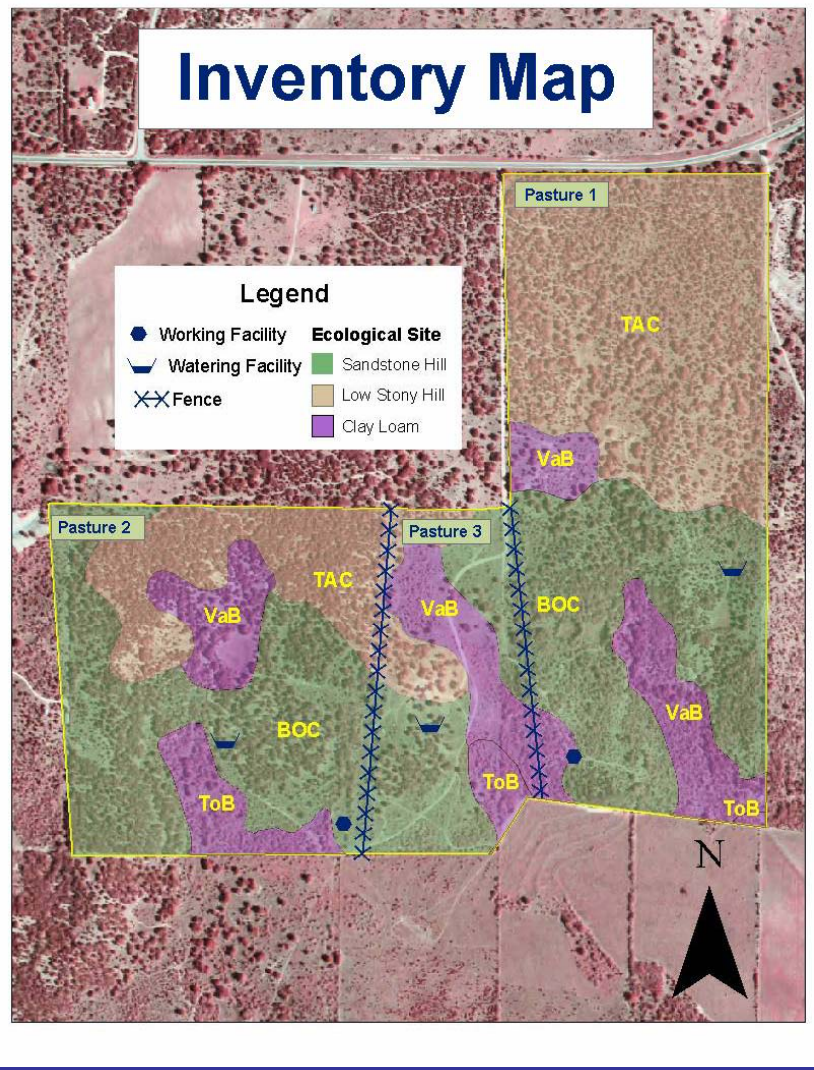
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# Soils



# Inventory Map



# Ecological Sites





**Tall-Midgrass Dominant Community – HCPC, Loamy Sand Ecological Site.**

**Annual Production (lbs/ac) air dry weight:**

<b>Plant Type</b>	<b>Low</b>	<b>Normal</b>	<b>High</b>
Grass	1100	1500	2200
Forbs	80	150	200
Shrubs	300	500	800
Trees	50	70	70
Microbiotic crust	10	15	25
<b>Totals :</b>	<b>1540</b>	<b>2235</b>	<b>3295</b>

Map symbol	Name	Ecological site	Total acres	Percent	Color
BOC	Bonti	R080BY157TX - Sandstone Hill PE 36-50	189	44	green
	Owens	R080BY156TX - PE 36-50			
TAC	Tarrant	R081BY337TX - Low Stony Hill PE 31-44	148	35	tan
ToB	Leeray	R080BY146TX - Clay Loam PE 36-50	20	5	blue
VaB	Valera	R081BY326TX - Clay Loam PE 31-44	70	16	blue
		Total	427	100	

# Plant Resources

- Brush Counts
- Unwanted plants
- Total Weight
- Composition

# Pounds of grazeable forage per acre?



Current production,  
not standing grass!



# Grazeable Acres?

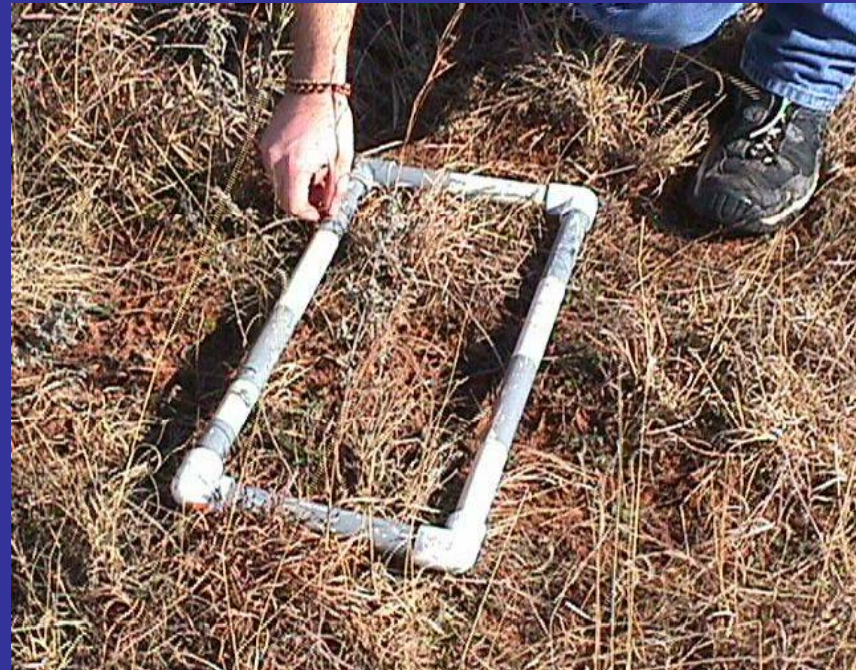


# Noxious, Invasive, or Unwanted Plants

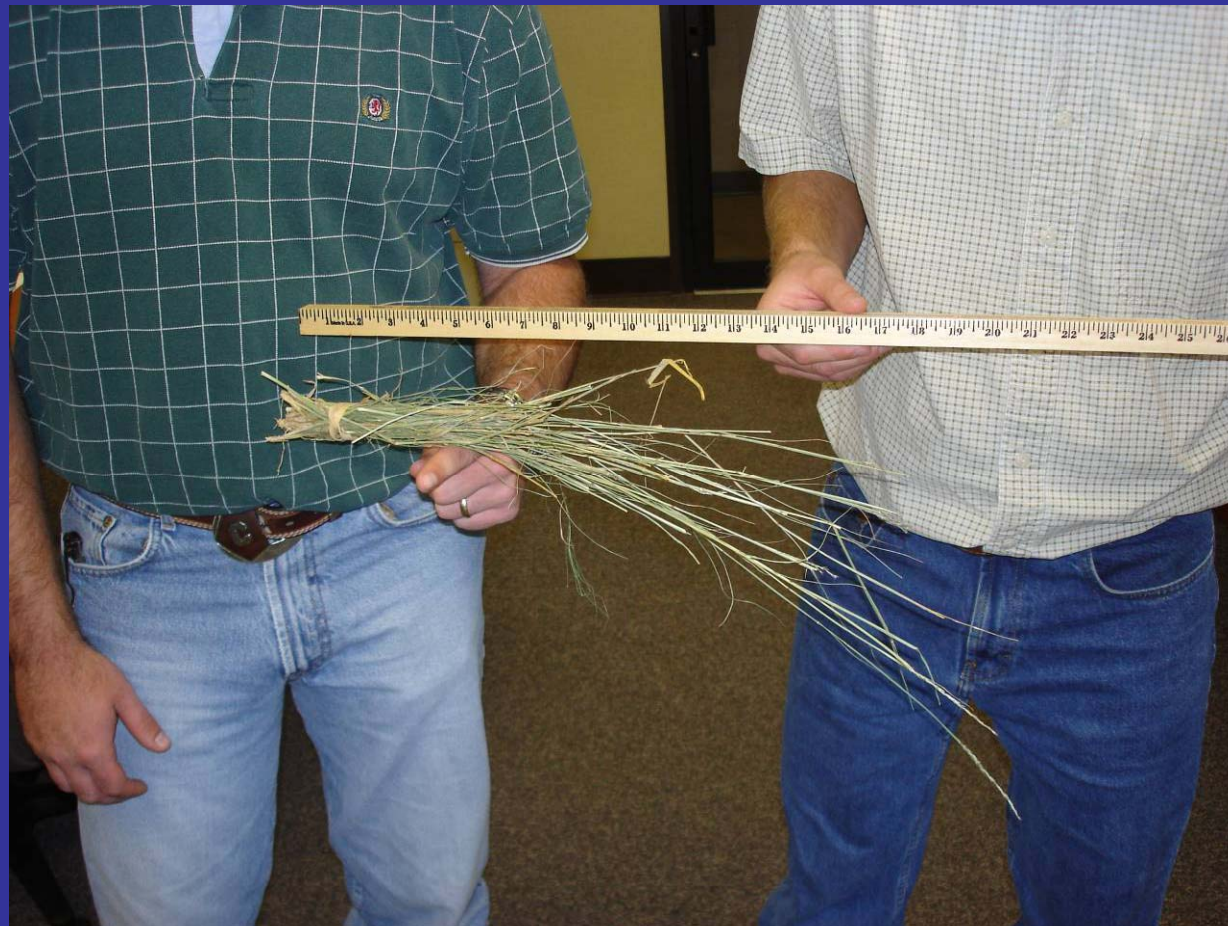


# Determining Grazeable Forage Production

- Use 1.92 sq. ft. plot
- (11.5 X 22 inches)
- Wt. in Grams times 50 (Conversion)
- Times % dry



# Understanding Harvest Efficiency



# An Example

- 40 grams clipped times 50 = 2000 #/ac
- 2000 #/ac times 85% dry = 1700 #/ac
- 1700 #/ac times 25% harvestable = 425 #/ac



<b>Pasture</b>	<b>Ecological site</b>	<b>Acres</b>	<b>Amount</b>	<b>Total Pounds</b>
<b>1</b>	<b>Loamy Prairie</b>	<b>100</b>	<b>425</b>	<b>42,500</b>

# Two Different Sites in the Same Pasture?



## Summarizing multiple sites in same pasture

Pasture no.	Soil symbol	Soil name	Ecological site	Map color	Production (lbs/ac)	Acres	Total production
1	Tob	Leeray	Clay Loam	blue	4000	14	56,000
	BOC	Bonti-Owens	Sandstone Hill	green	1800	74	133,200
	VaB	Valera	Clay Loam	blue	4500	10	45,000
	TAC	Tarrant	Low Stony Hill	tan	2500	28	70,000
<b>Total</b>						<b>126</b>	<b>303,200</b>



## To Get Grazeable Forage

Total production	% HE	Grazeable Forage
56,000	25	14,000
133,200	25	33,300
45,000	25	11,250
70,000	25	17,500
303,200		76,050

# Getting at Carrying Capacity

- *Grazeable* forage pounds per acre has been determined
- Convert your animal numbers to animal units
- The forage budget is reconciling the animal demand with the allocated forage.

How much does a 1000# cow eat  
each year anyway?

1. 5700
2. 10,950
3. 9,000
4. 12,535

■  $1000\# \times 3\% \text{ bw} \times 365 \text{ days} = 10,950$

# Animal Demand

Grazeable Forage	Animal Unit Demand	Animal Units Yearlong
14,000	10,950	1
33,300	10,950	3
11,250	10,950	1
17,500	10,950	2
	Pasture total	7

# Acres Per Animal Unit?

- This example began with 126 acres in the pasture.
- 126 acres divided by the 7 animal units yearlong =
- 18 acres per animal unit stocking rate to be within carrying capacity

# By the Month...

- 7 animal units per year X 12 months = 84 (Animal Unit Months)
- Theoretically, 84 AU for one month
- 42 animal units for 2 months
- 14 animal units for 6 months

# Animal Resources

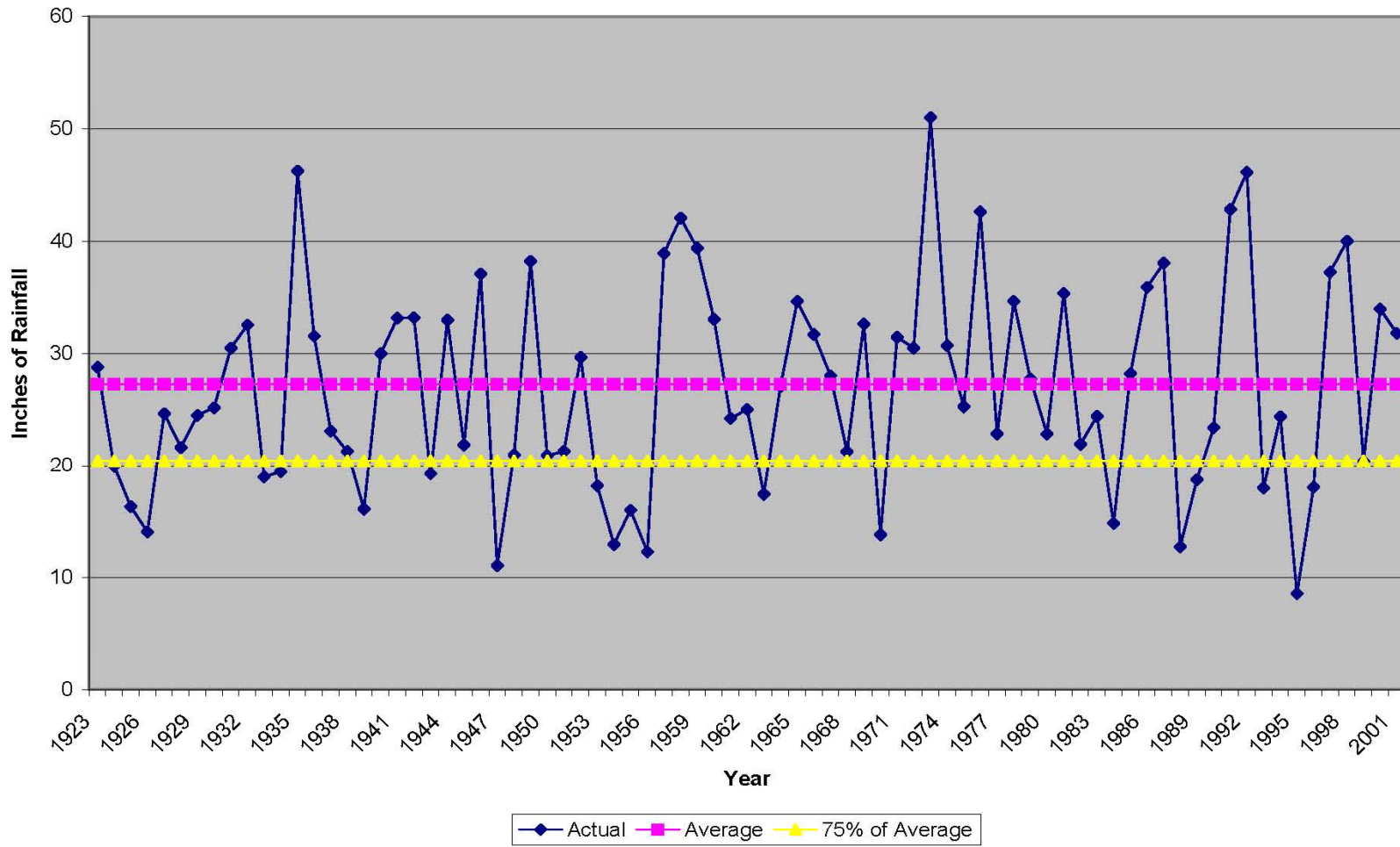


# Considerations?

- How much will it rain?
- When will it rain?
- What is your risk exposure if it does not rain?
- What will it cost to feed enough to maintain the stocking rate without hurting your grass?
- Will overstocking result in weeds that are expensive to control?



Medina County Rainfall 1923-2001



# Summary

- Estimating forage production and inventorying is not an exact science
- It is a process to get useful and accurate information to analyze
- Grazing management involves decisions about things other than grass!