



**Range Cattle Research and Education  
Center - Ona FL**

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# **Grazing Management**

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Forage Specialist**

# Grazing

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- ✓ Two major objectives
  - Supply nutrients to animals to achieve desirable production
  - Optimize forage production, nutritive value, and persistence (if perennial)

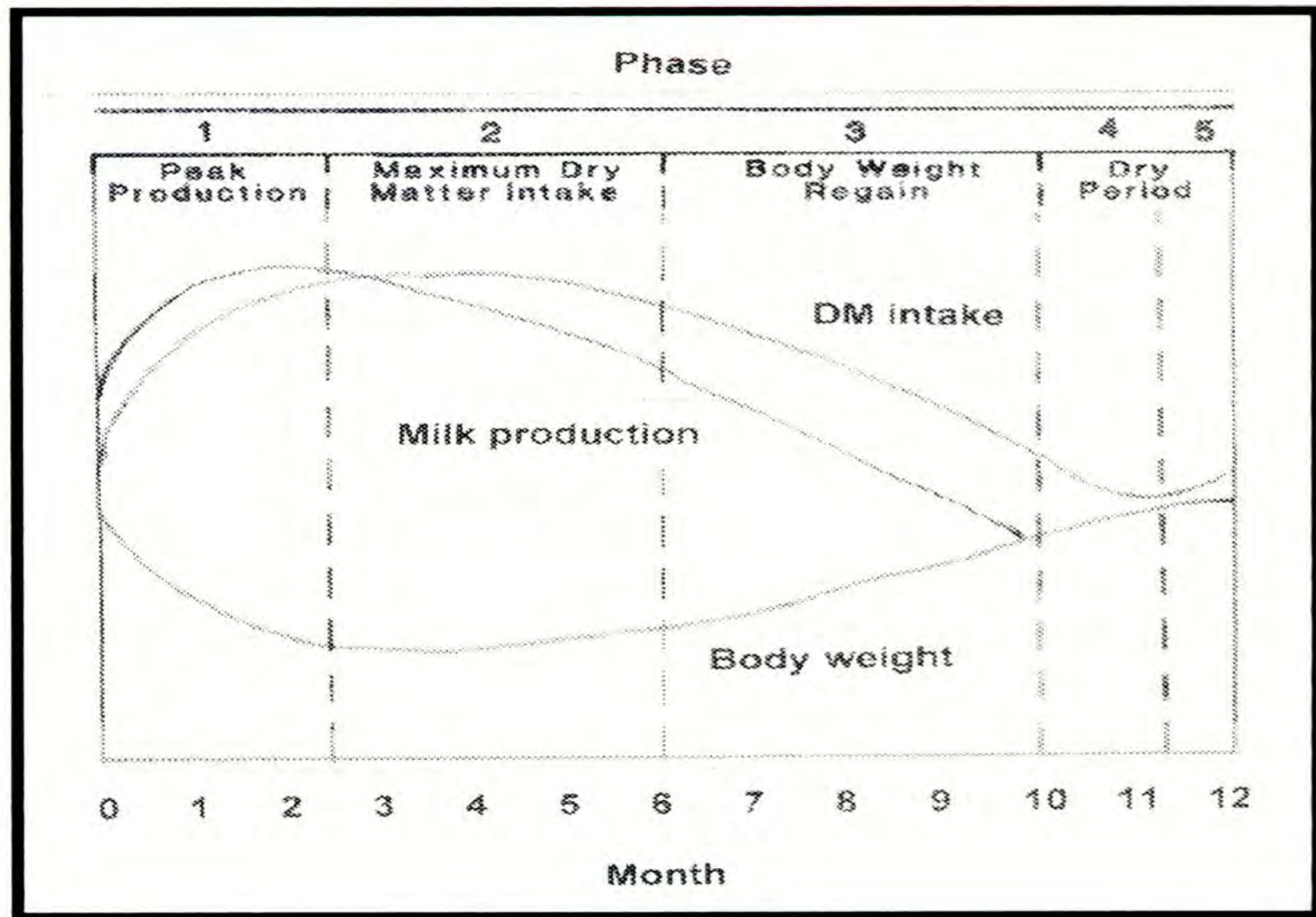
# Nutritional Requirement

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- ✓ Large Breed (1500 lb) 90-d in milk

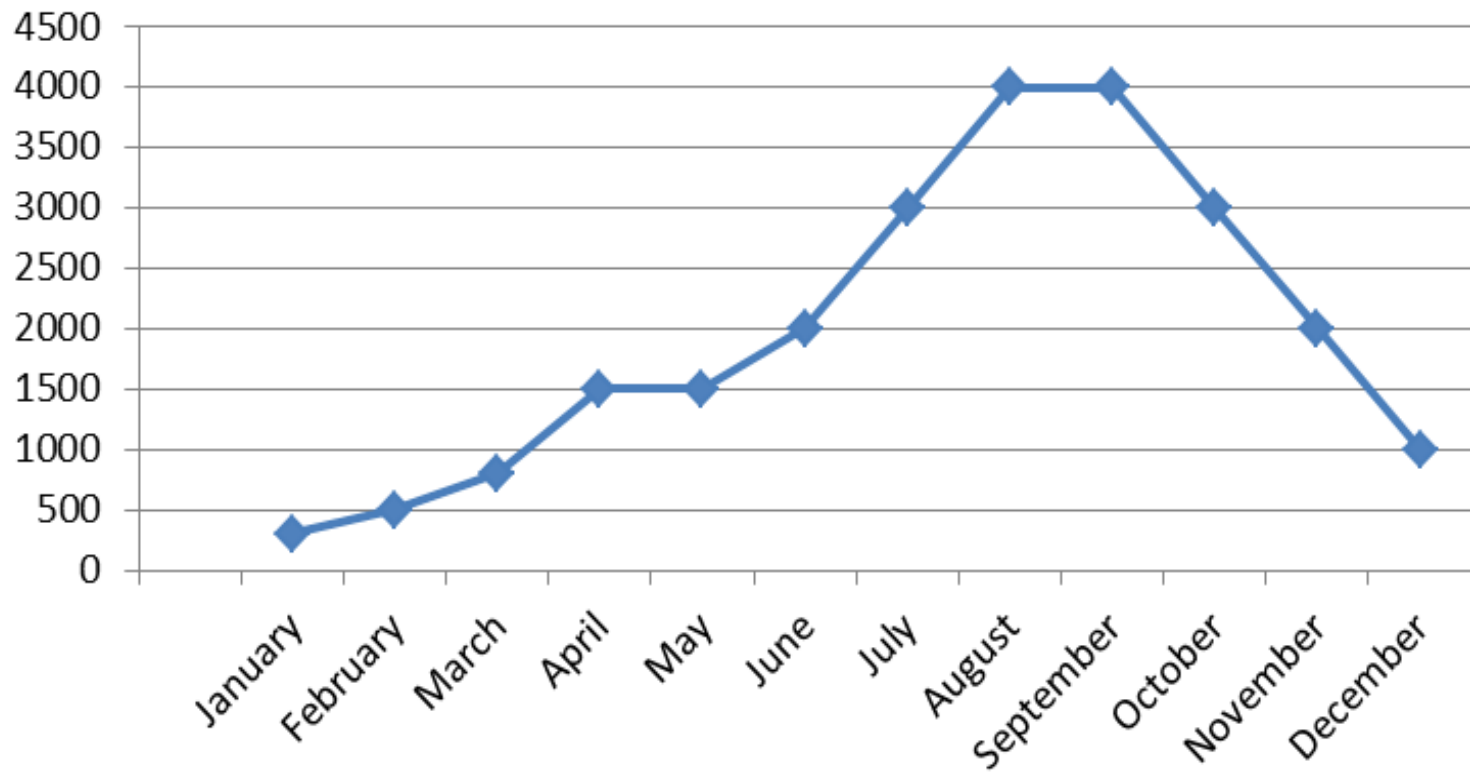
Milk (lb/d)	DM (lbs)	NEI (Mcal)	CP (%)
77	50	32.2	14.1
100	57	38.3	14.8
121	63	44.5	15.4

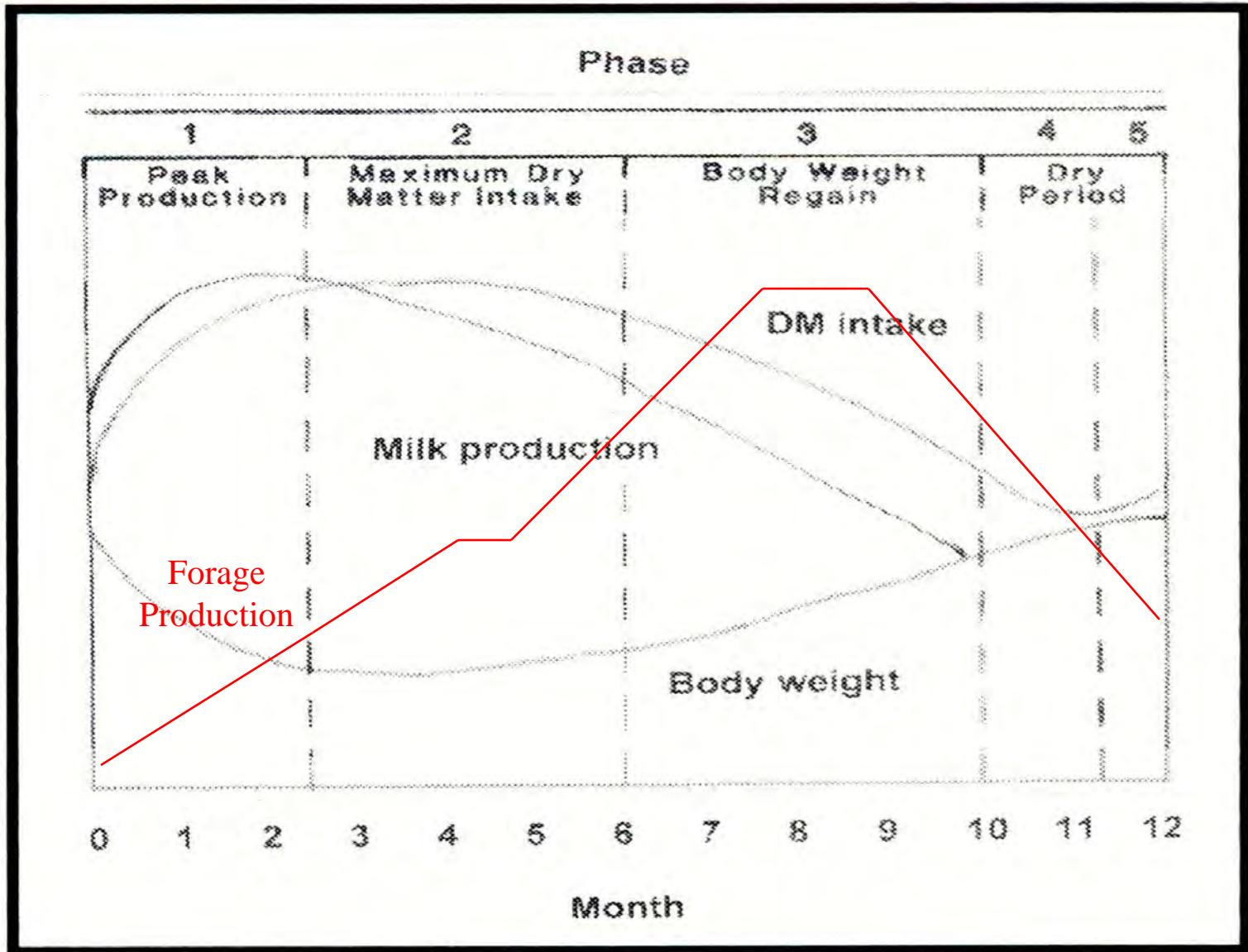
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Schingoethe (1998)

## Herbage Mass lb DM/acre





# Forage Species

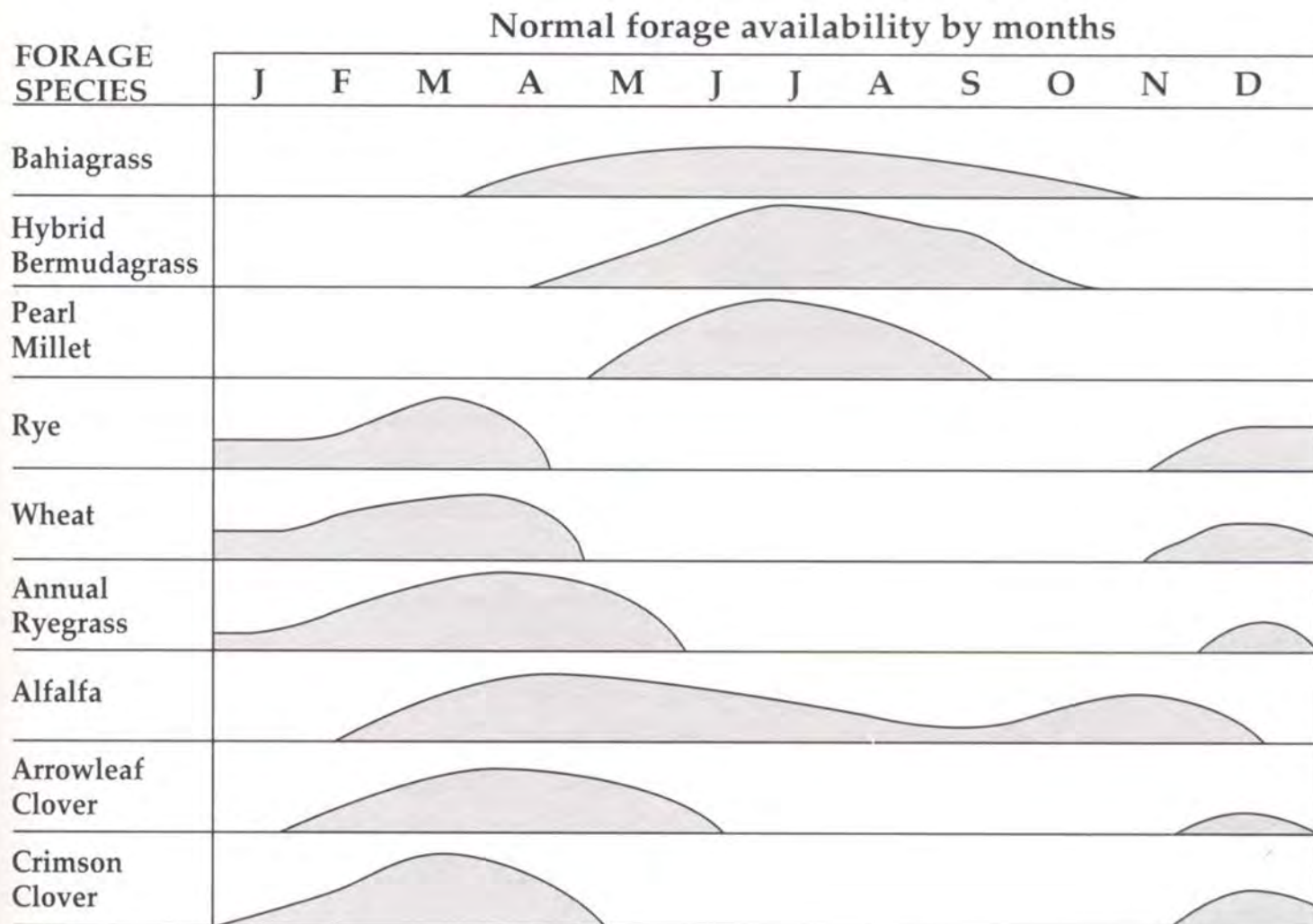


# Forage Species

Forage species	CP	IVDOM
	----- % -----	
Pearl millet	12.9ab <sup>†</sup>	63c
Mulato	13.2a	68ab
Tifton 85	13.8a	63c
Sorghum	12.0b	64b
SE	0.5	16



# Forage Species

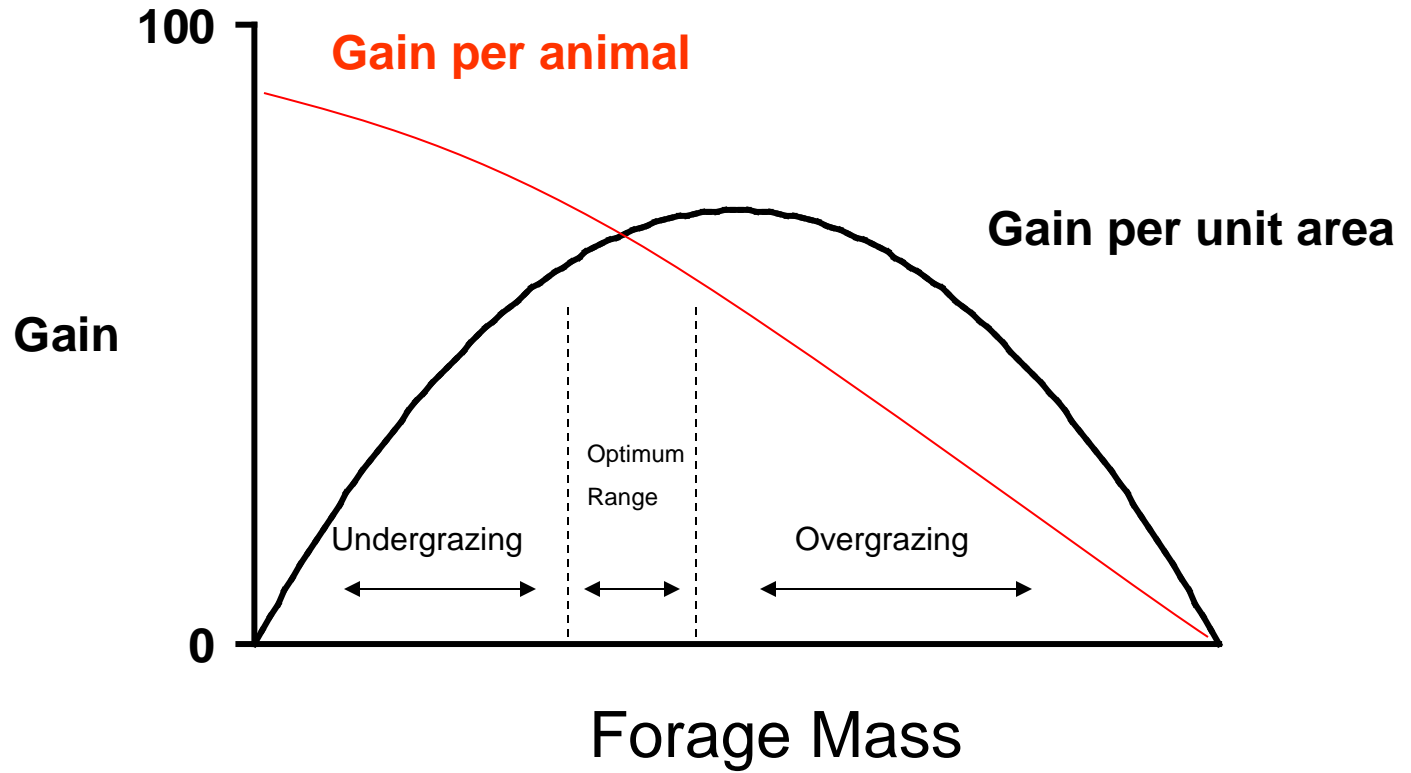


# Grazing

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- ✓ “A high producing dairy cow cannot consume enough forage to meet her nutrient needs during lactation, even though they have a considerable capacity” (Chiba et al., 2014)

# Grazing Model



# Grazing

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- ✓ Grazing Intensity
- ✓ Grazing Frequency



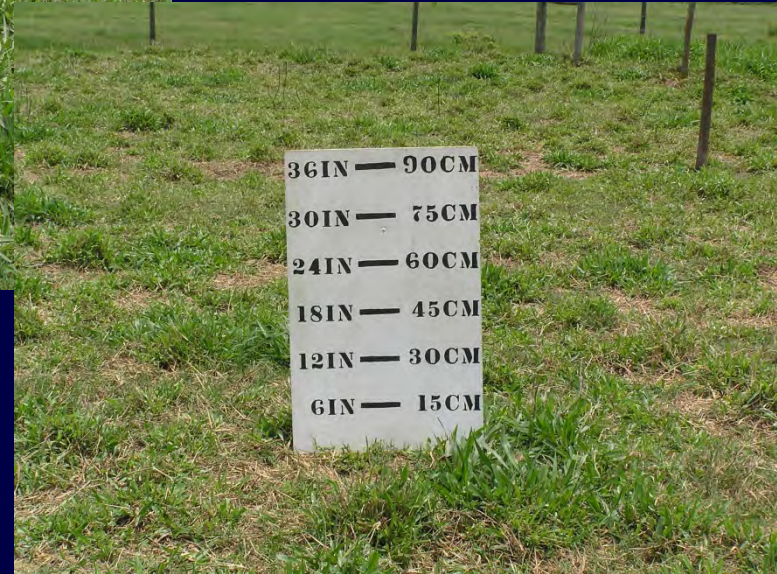
# Stubble Height



36IN — 90CM  
30IN — 75CM  
24IN — 60CM  
18IN — 45CM



36IN — 90CM  
30IN — 75CM  
24IN — 60CM  
18IN — 45CM  
12IN — 30CM



36IN — 90CM  
30IN — 75CM  
24IN — 60CM  
18IN — 45CM  
12IN — 30CM  
6IN — 15CM

# Case Study

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# Scenario 1

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- ✓ Cows producing 44 lb milk/d
- ✓ Stocking rate 4 cows/acre with stubble height of 6 inches
- ✓ Cows lost BCS and decreased pregnancy rates

## Scenario 2

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- ✓ Cows producing 44 lb milk/d
- ✓ Stocking rate 3 cows/acre with stubble height of 12 inches
- ✓ Cows restored BCS and pregnancy rates



# Grazing Intensity

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- ✓ Fike et al. (2003) tested the effects of two stocking rates and supplementation levels on milk production of cows grazing Tifton 85 pastures

# Grazing Intensity

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Response	Stocking rate			
	4 cows/acre		3 cows/acre	
	0.5:1	0.33:1	0.5:1	0.33:1
Forage OMI (lb/d)	18.7	21.1	21.0	20.0
Suppl (lb/d)	15.6	8.4	15.6	8.4
Total OMI (lb/d)	34.6	29.5	36.8	28.4

Adapted from Fike et al. (2003)

# Grazing Intensity

Response	Stocking rate			
	4 cows/acre		3 cows/acre	
	0.5:1	0.33:1	0.5:1	0.33:1
HA (lb DM/lb LW)	1.2	1.2	1.6	1.6
Milk (lb/d)	38.1	31.4	36.6	29.7
Milk (lb/acre/d)	127	106	92	73
Protein (%)	3.03	2.96	3.04	3.04

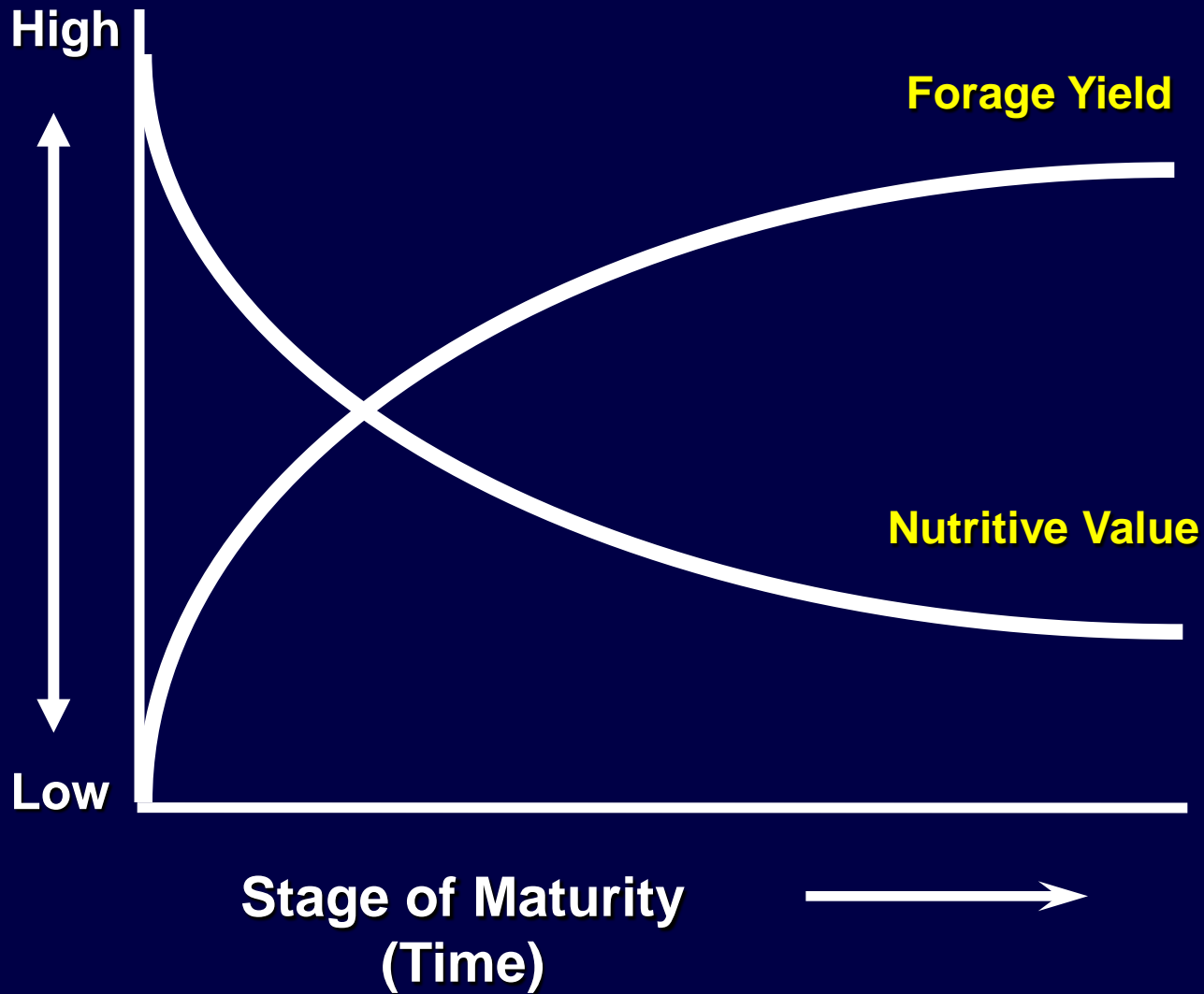
Adapted from Fike et al. (2003)

# Grazing Frequency

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# Grazing Frequency



# Grazing Frequency

## ✓ Coastal bermudagrass

Weeks	Yield (lb/A)	CP (%)	TDN (%)
2	1500	16	56
4	2100	13	57
6	3200	9	52
8	3600	7.5	48
10	4600	8.0	46

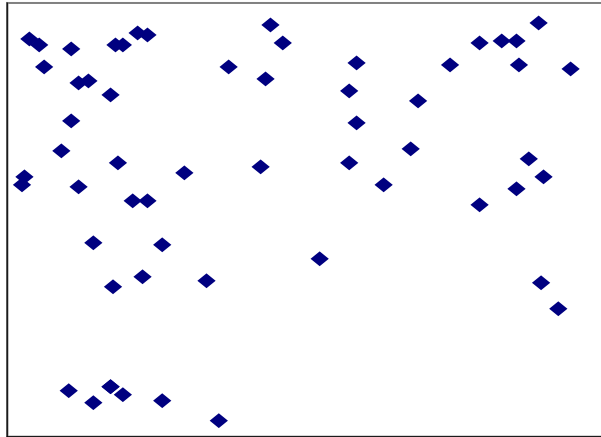
# Grazing Frequency x Intensity

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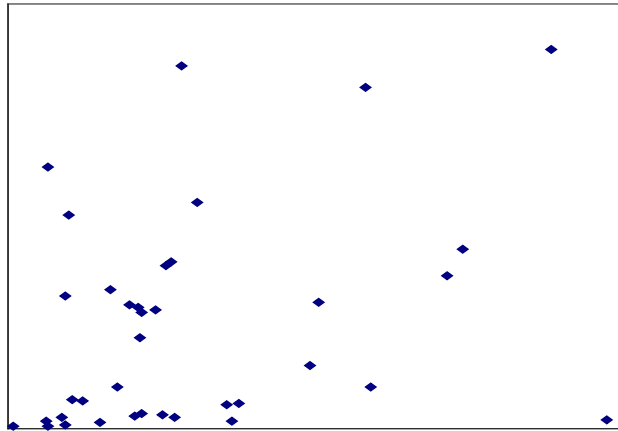
Response Variable	Stocking rate		
	4	9	14
Jiggs, %	95	78	39
Common bermuda, %	4	17	36
Weeds, %	2	5	25

# Continuous vs. Rotational Stocking

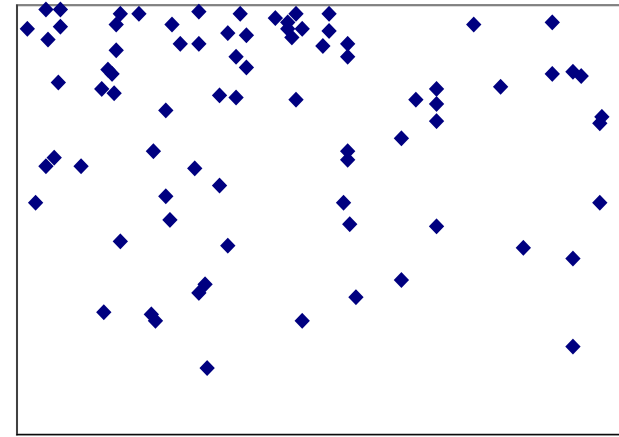
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**Rot. 1-d**



**Cont.**



**Rot. 7-d**

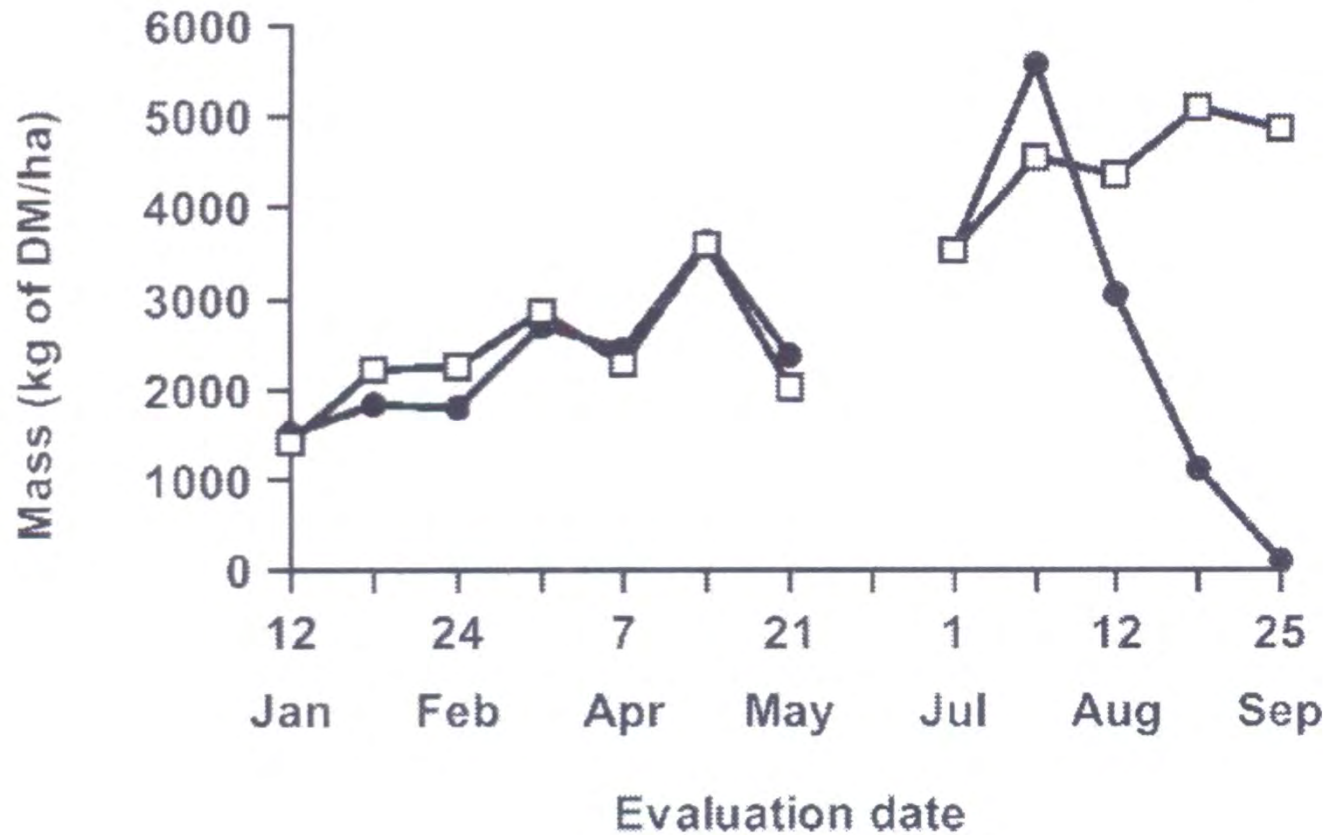


# Grazing x Confinement

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- ✓ Fontanelli et al. (2004)  
compared two grazing systems  
and confinement on dry matter  
intake and milk production of  
dairy cows

# Grazing x Confinement



# Grazing x Confinement

	Winter Pasture	Summer Pasture	Free-stall
DM intake (lb DM/d)	54	42	52
Body weight (lb/d)	-248		-58
Milk Production (lb/d)	55		65

Adapted from Fontanelli et al. (2004)

# Summary

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- ✓ Select a forage species suitable for the specific grazing program
- ✓ Grazing intensity and frequency will dictate forage production, nutritive value, and persistence and consequently impact animal performance

# Summary

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- ✓ Grazing may allow more flexible feeding and allocation of inputs. In addition, rotational grazing results in efficient nutrient distribution
- ✓ In general, milk production per cow is lesser in grazing than free-stall feeding systems

# Summary

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- ✓ Good ballpark numbers in Florida
  - 3-4 cows/acre on bermuda or stargrass for cows receiving 20-25 lb concentrate/d from June to September

# Thanks!

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