

# Key to Forage Management in a Pasture-based Dairy



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# Pasture Nutrition

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Dairy performance is related to:

Intake

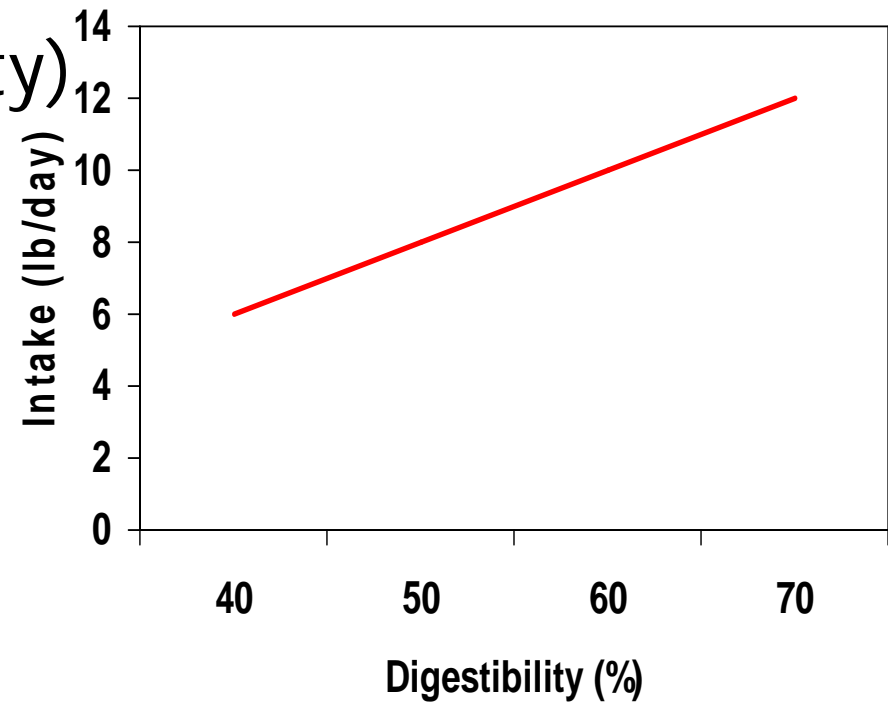
Quality (digestibility)

# Pasture Nutrition

Animal performance is related to:

Intake

Quality (digestibility)





# Pasture Nutrition

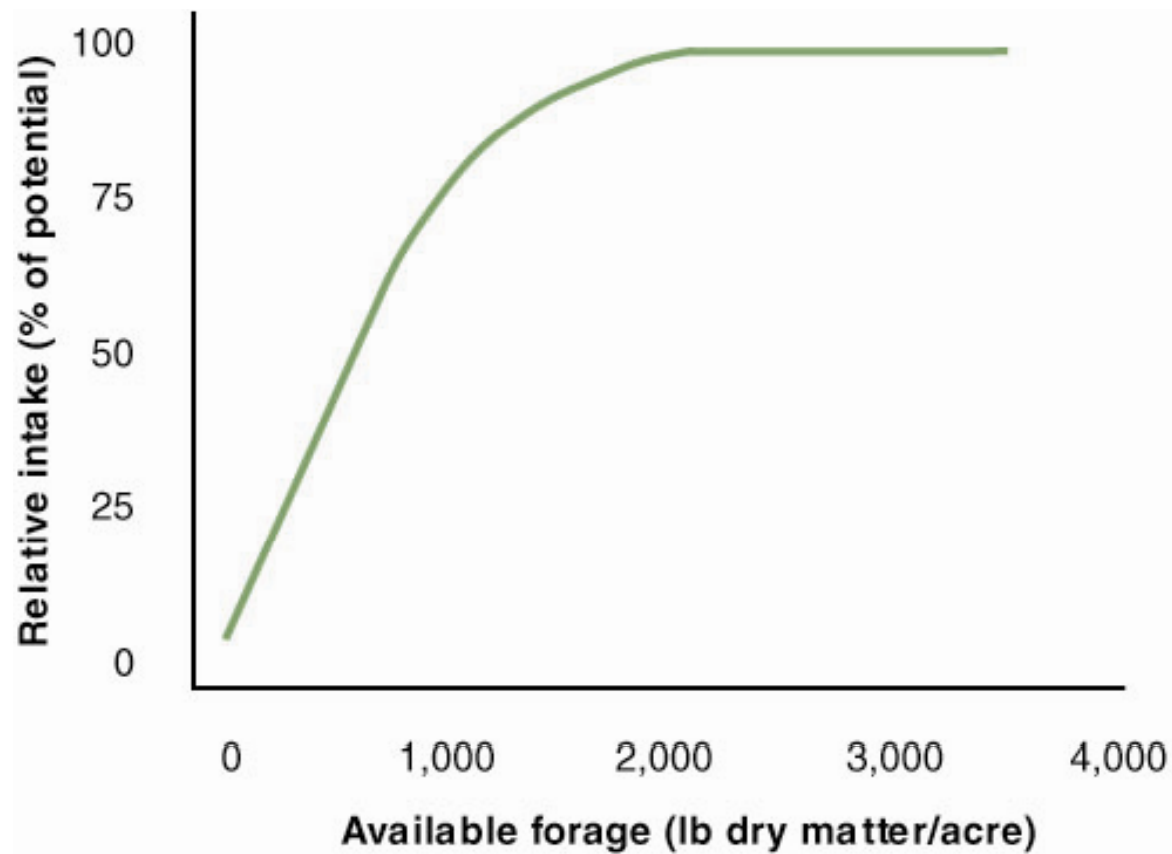
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QUALITY/INTAKE

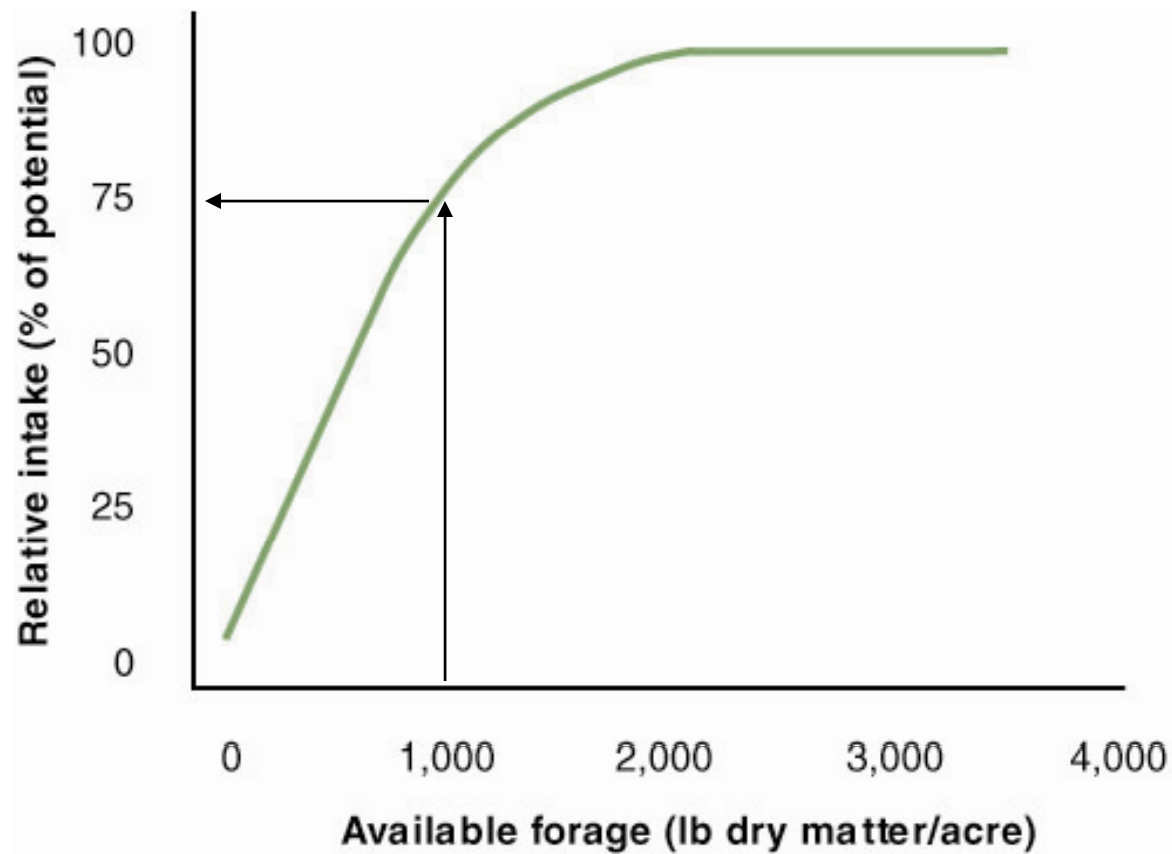
QUALITY/INTAKE

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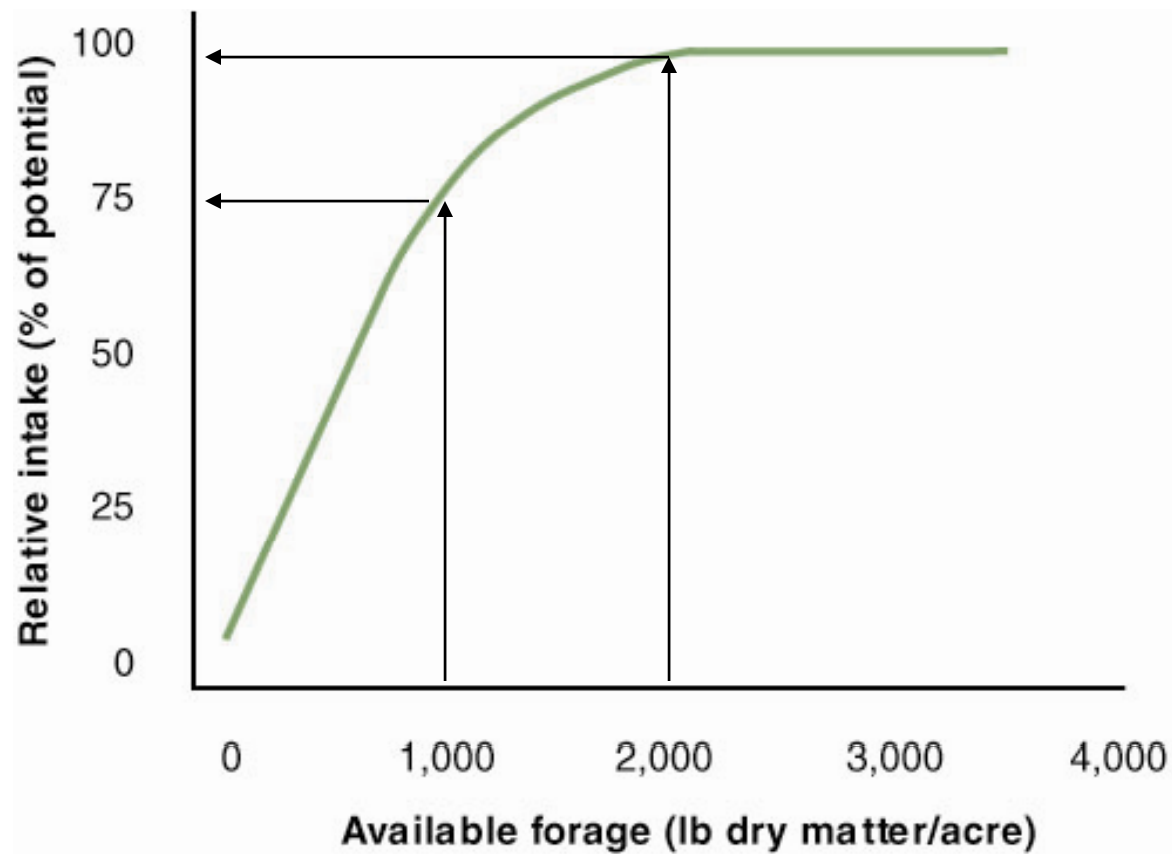
# Effect of forage availability on relative forage intake



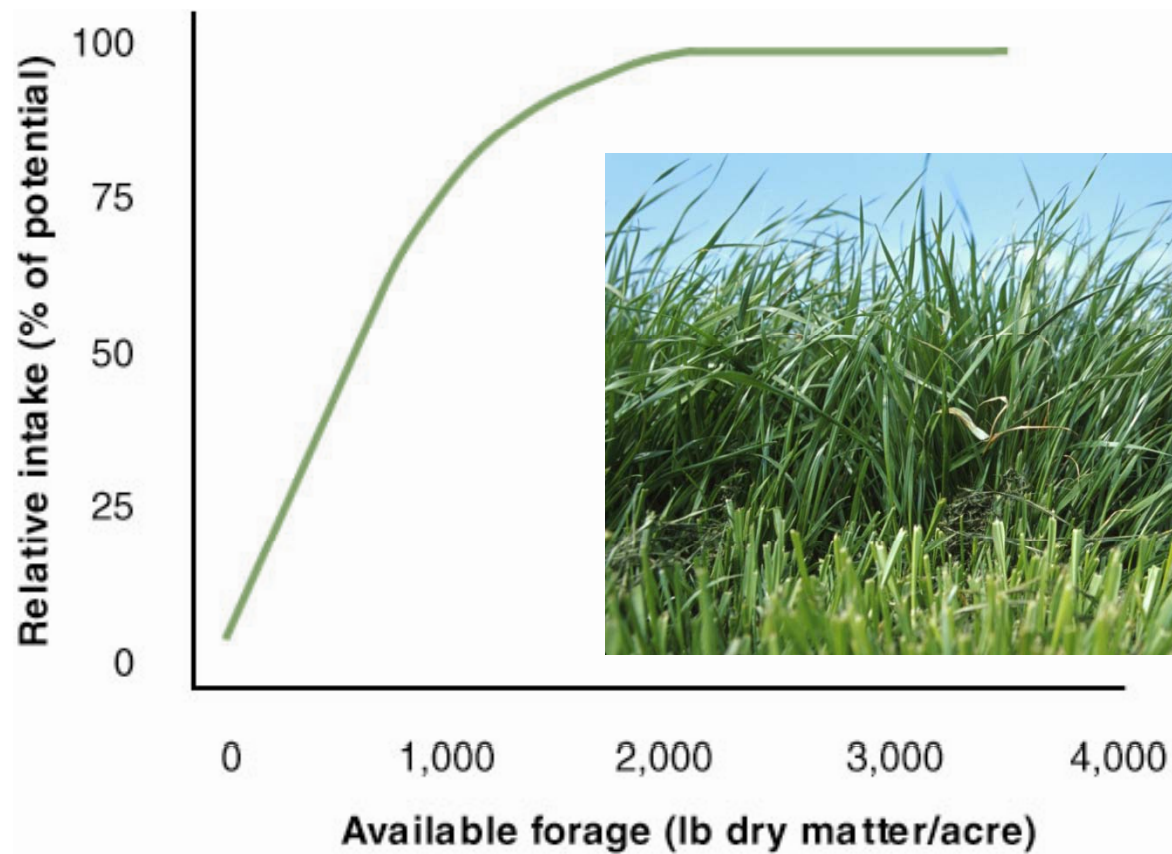
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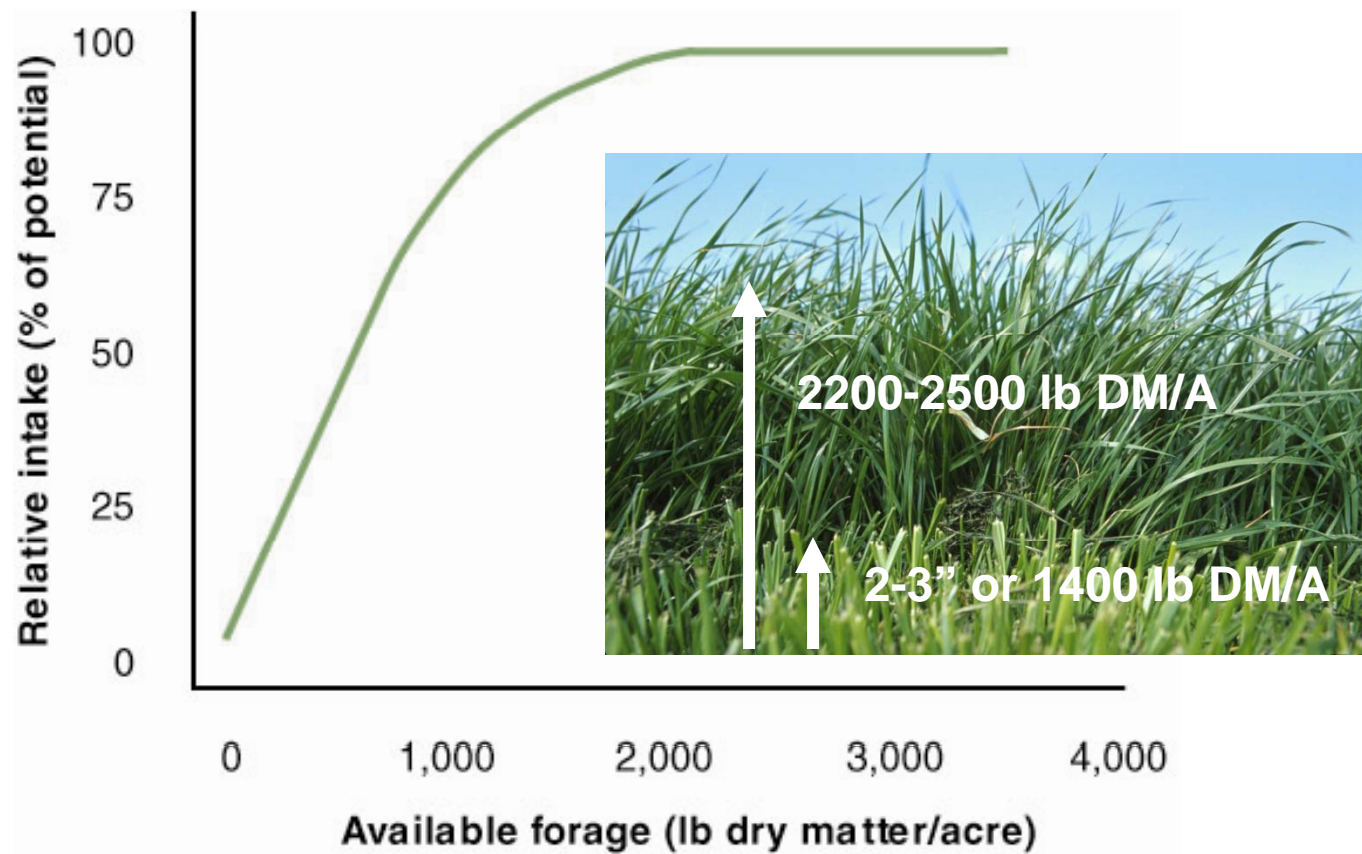
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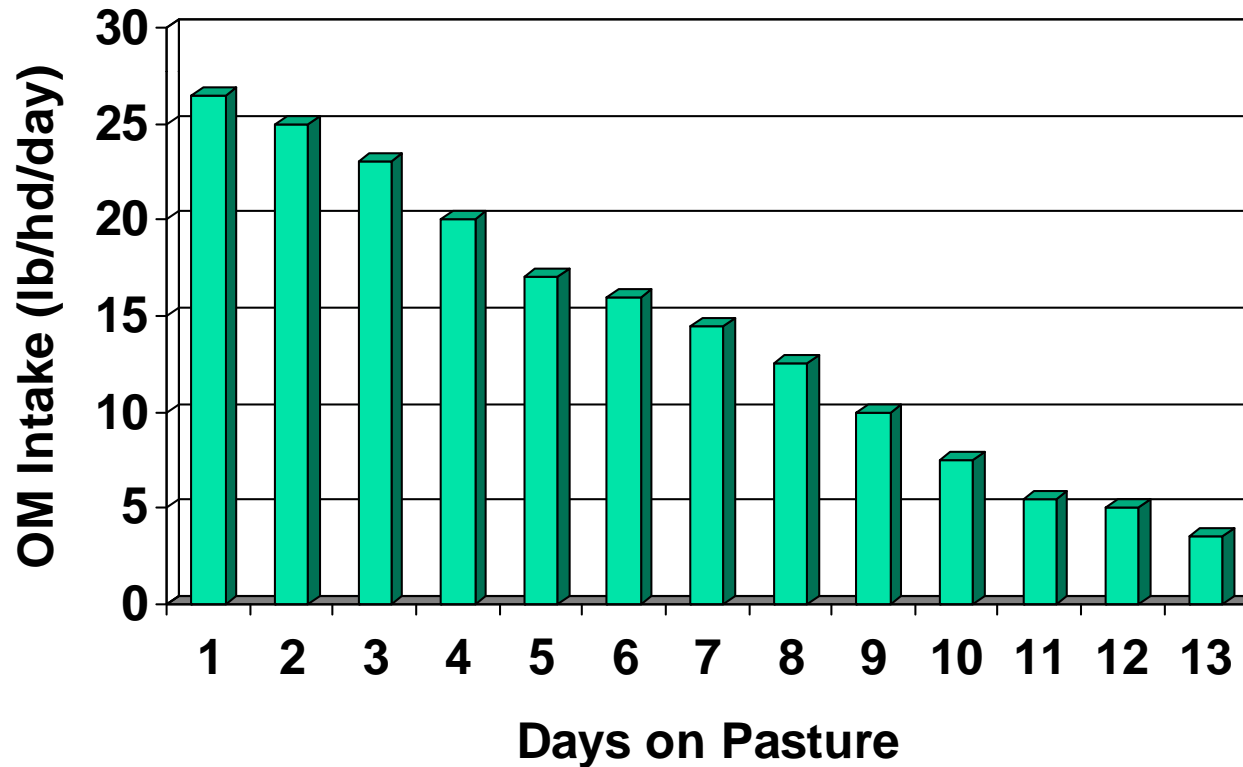
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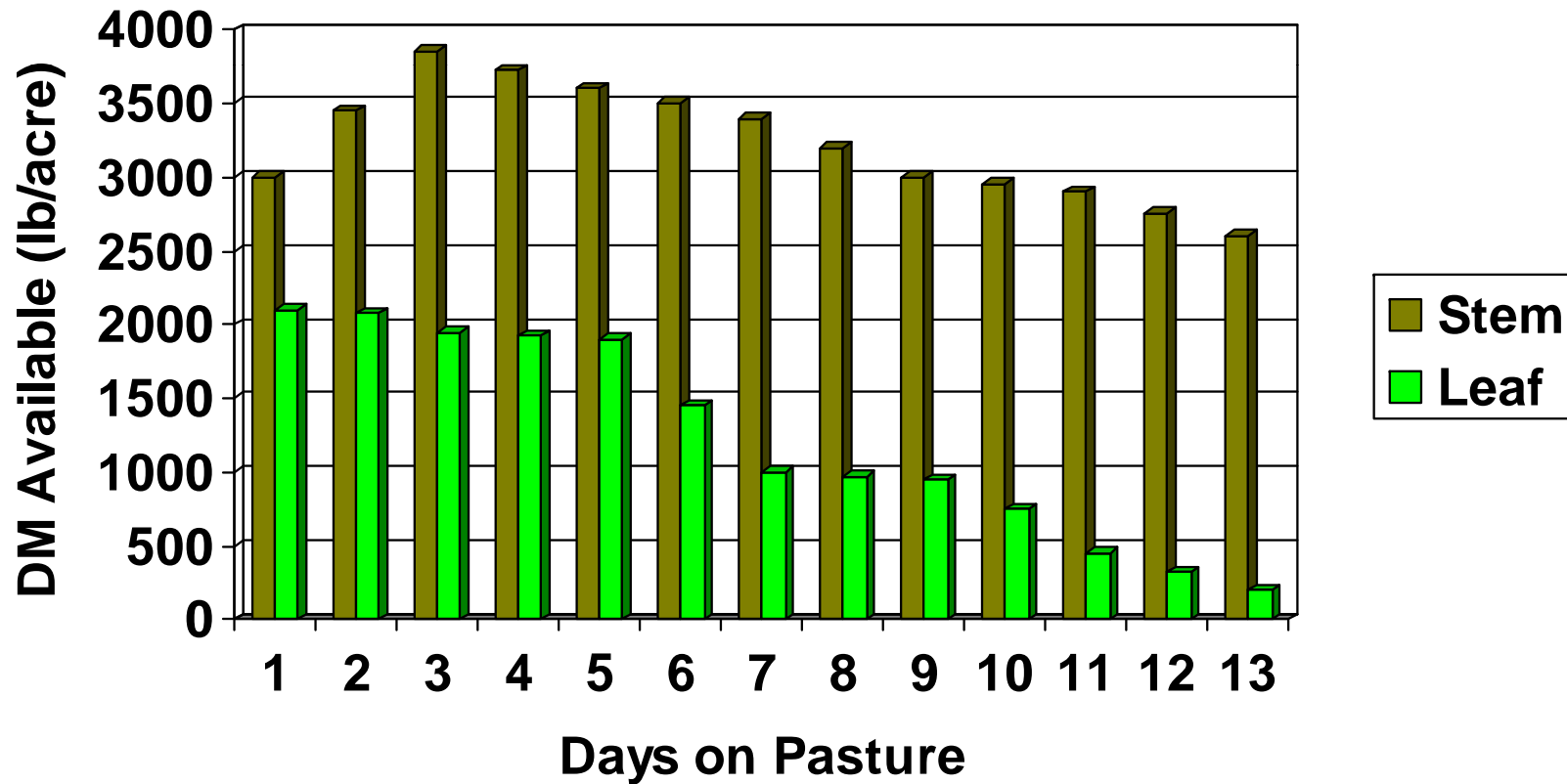
# Effect of forage availability on relative forage intake



# Impact of Days on Paddock on Organic Matter Intake



# Impact of Days on Paddock on Change in Sward Composition



# Factors affecting intake





# Factors Affecting Intake

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- Biting Rate
  - Average 50 bites/minute
- Biting (Grazing) Time
  - Cattle graze up to 10 hr (600 min) per day
- Bite Size
  - Cattle average 0.3 g DM per bite
  - Measured range of 0.07 g to 0.59 g per bite
  - Related to availability



# Factors Affecting Intake

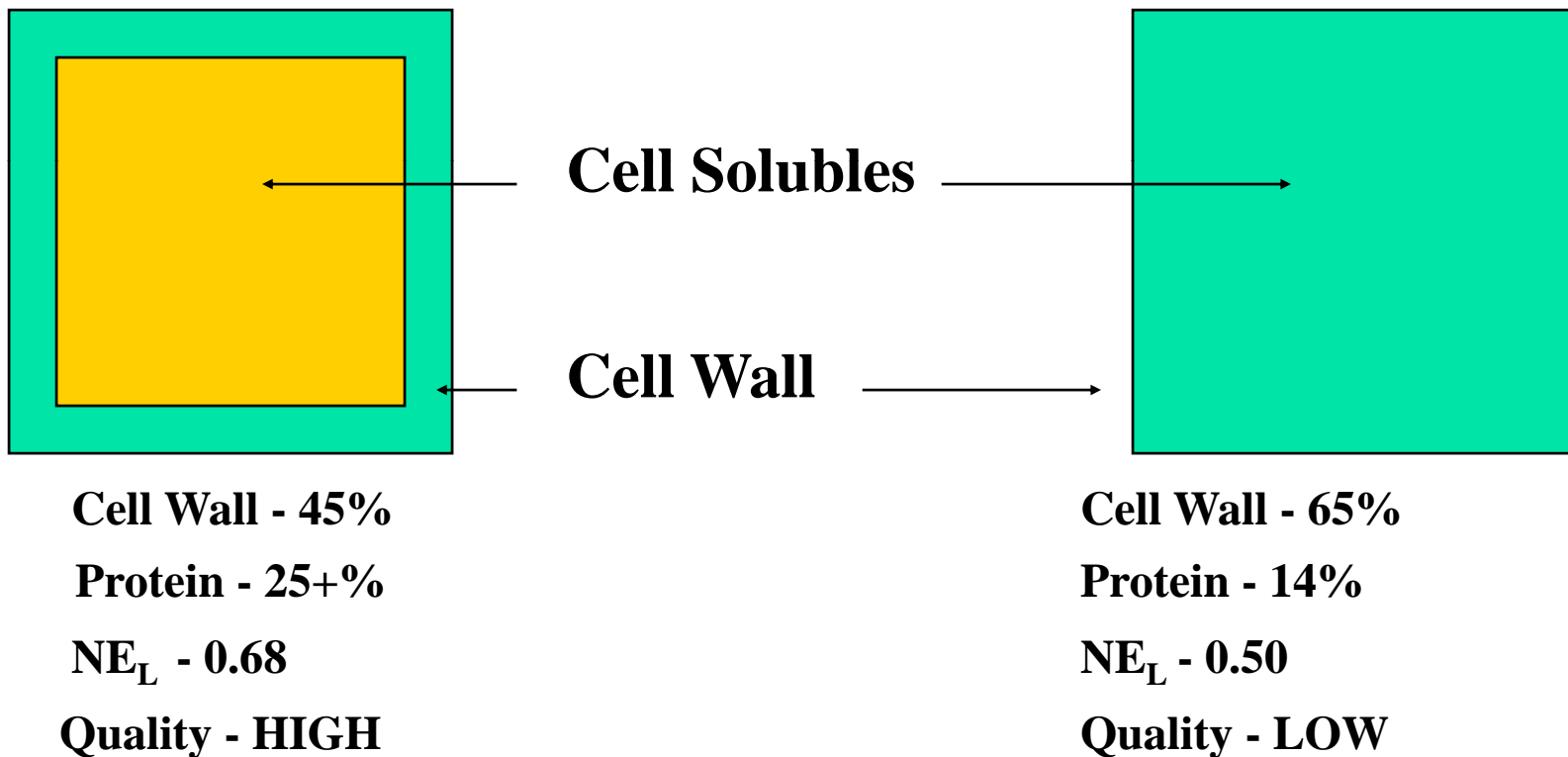
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# Estimated Nutrient Content of PRye at Different Maturities

	NDF %	ADF %	CP %	NE <sub>L</sub> Mcal/l b	
Vegetative	42	18	26	0.79	
Late boot	57	36	16	0.56	
Mature	70	42	10	0.50	

# Cell Wall & Quality



**A cow can consume 1.2% of BW as cell wall (NDF)**



# Animal Requirements vs Forage Quality at Different Maturities

1100 lb crossbred dairy cow, 60 DIM, 70 lb Milk

	Intake % bw	Intake lb DM	CP lb	NE <sub>L</sub> Mcal
Requirement	<b>3.7</b>	<b>40.9</b>	<b>7.7</b>	<b>33.1</b>
Vegetative				
Late boot				
Mature				

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1100 lb crossbred dairy cow, 60 DIM, 70 lb Milk

	Intake % bw	Intake lb DM	CP lb	NEm Mcal
Requirement	3.7	40.9	7.7	33.1
Vegetative	<b>4.0</b>	<b>44.0</b>	<b>11.4</b>	<b>34.8</b>
Late boot				
Mature				

# Animal Requirements vs Forage Quality at Different Maturities

1100 lb crossbred dairy cow, 60 DIM, 70 lb Milk

	Intake % bw	Intake lb DM	CP lb	NE <sub>L</sub> Mcal
Requirement	3.7	40.9	7.7	33.1
Vegetative	4.0	44.0	11.4	34.8
Late boot	<b>3.2</b>	<b>35.0</b>	<b>5.6</b>	<b>19.6</b>
Mature				

# Animal Requirements vs Forage Quality at Different Maturities

1100 lb crossbred dairy cow, 60 DIM, 70 lb Milk

	Intake % bw	Intake lb DM	CP lb	NEm Mcal
Requirement	3.7	40.9	7.7	33.1
Vegetative	4.0	44.0	11.4	34.8
Late boot	3.2	35.0	5.6	19.6
Mature	<b>2.3</b>	<b>25.3</b>	<b>2.5</b>	<b>12.6</b>

