I-29 Moo U Forage Webinar
Calculating Forage Needs

December 4, 2025
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Inventory forages

- By field
- By cutting
- Quality
- Location

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Intake Factors

- BW
- Age
- Stage of production
- Weather
- Digestive system
- Forage quality, type & moisture

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Species differences

Species	% of BW, DM basis
Beef cattle	2-2.5%
Dairy cattle	2-4%
Meat goats	2-4%
Dairy goats	3-5%
Sheep	2-4%
Horses	1.5-2.5%

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Calculating forage needs

Body weight X	Intake % X	Days of winter feeding X	# of animals /	Forage Dry Matter	Actual # forage needed

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1400	2.5	120	50 cows	85%	247,058

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1400	2.5	120	50 cows	85%	247,058
150	3	150	30 ewes	88%	23,011

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Calculating forage needs

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1400	2.5	120	50 cows	85%	247,058
150	3	150	30 ewes	88%	23,011
					270,069 #
		Plus waste!			Or 135 ton

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			All 5% feed waste Per head per day					Total feeding period				
Cows	Cows	Days	Husklage	CRP hay	Ryelage	Wet Gluten	Mineral	Husklage	CRP hay	Ryelage	Wet Gluten	Mineral
12/1/23 - 3/1/24	75	92	25	10		8	0.25	172500	69000	0	55200	1725
3/1/24 - 5/1/24	75	62	50	5		17	0.25	232500	23250	0	79050	1162.5
5/1/24 - 6/15/24	75	45	0	8	50	16	0.25	0	27000	168750	54000	843.75
Developing Heifers												
12/1/23-3/1/24	15	92	18	3		12	0.25	24840	4140	0	16560	345
3/1/24-5/1/24	15	62	18	5		9	0.25	16740	4650	0	8370	232.5
5/1/24-6/15/24	15	45	17	8		6	0.25	11475	5400	0	4050	168.75
						Lb fed		458055	133440	168750	217230	4477.5
						Tons fed		229.0275	66.72	84.375	108.615	2.23875
						Tons available		240	90	180		

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Hay Storage Losses

Source	On Bare Ground	On Gravel or Pallets		On Bare Ground, Covered			Inside a Building
	No Cover	No cover	Covered	Tarp	Wraps	Roof	
Michigan State U. 1993	35%	30%		15%	23%		12%
Penn State U. 1992	15-40%						4%
Iowa State U. 1996	10-25%	11%					5%
U. of Georgia Journal Production Ag. 1993	50%	35%	14%	10%			4%
Anderson et al 1981	14%						3%
Belyea et al 1985	15%			6%			2%
Verma & Nelson 1983	28-40%			12%	11%		2-9%
Atwal et al 1984	40%			30%			9%
Baxter 1986	33-35%						3-7%
U. Wisconsin (Holmes)	9.5%	8%	4%				2%
Oklahoma State (Huhnke)	5-20%	3-15%	2-4%	5-10%		2-5%	2%
U. Wisconsin (Saxe, 2007)	5-61%	3-46%	2-17%		4-8%	2-10%	
West Va. U. (Rayburn)	7-61%	28-39%	5-10%				
Average	*27%*	*22%*	*8%*	*13%*	*13%*	*5%*	*5%*

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William Edwards, 2017

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Bale Binding

Twine

Net Wrap

B-Wrap

Losses after 12-month storage outdoors on wood pallets			
Dry Matter	5.3%	4.9%	0%
nonstructural carbohydrates (NSC)	3.0%	2.0%	0%

- No differences observed in crude protein, neutral and acid detergent fiber

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Reiter, 2019

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Feeder Design Impact on Waste (MI)

Cone
3.5%

Ring
6.1%

Trailer
11.4%

Cradle
14.6%

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Feeding Waste

Bale Ring	On the Ground	Ground or Processed Hay
Bottom rack: 8% No rack: 15% *Assumes consumed in 1-2 days	1 day's feed: 15% 3 day's feed: 40%	In bunk 5% On ground 15%

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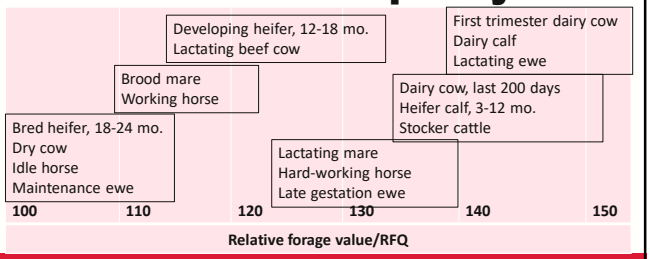
Allocate based on quality



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Plan some cushion

- Plan some carryover
- Stored inside
- For future droughts

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Summary

- Inventory forages based on type and quality
- Calculate total quantity needed based on animal type and numbers
- Include storage & feeding loss
- Allocate forages based on animal requirements
- Factor in some cushion

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Thank You

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