Feeding Corn Stalks, Milo Stalks, and Soybean Hay

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Estimated Forage Intake

Forage Type	TDN, %	DM intake, % of BW	
		Dry	Lactating
Low quality	<52%	1.8%	2.2%
Medium quality	52-59%	2.2%	2.5%
High quality	>59%	2.5%	2.7%

1300 lb cow hay DM intake

Forage Type	TDN, %	DM intake, lbs/d	
		Dry	Lactating
Low quality	<52%	23.4	28.6
medium quality	52-59%	28.6	32.5
high quality	>59%	32.5	35.1

Protein and Energy Requirement of Mature Cows

	TDN, lbs	CP, lbs
Mature cow (1300 lbs)		
Mid-gestation	11.5	1.6
Late-gestation	14.1	2.2
Early lactation	17.0	2.9

https://extension.okstate.edu/fact-sheets/print-publications/e/nutrient-requirements-of-beef-cattle-e-974.pdf

Nutritive content of bales

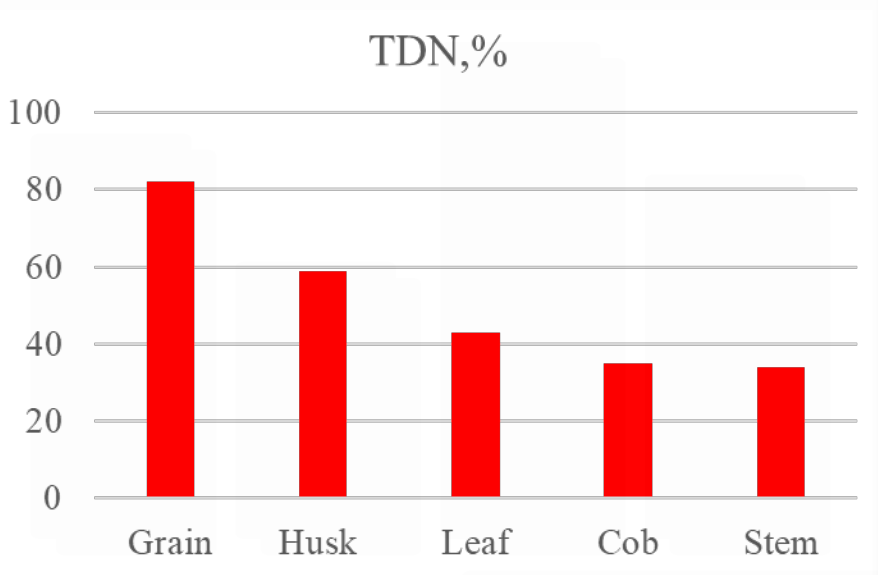
	TDN,%	CP,%
Corn residue	45	3-6
Milo residue	52	5-7
Soybean residue	39	3
Soybean hay	50-55	14-20

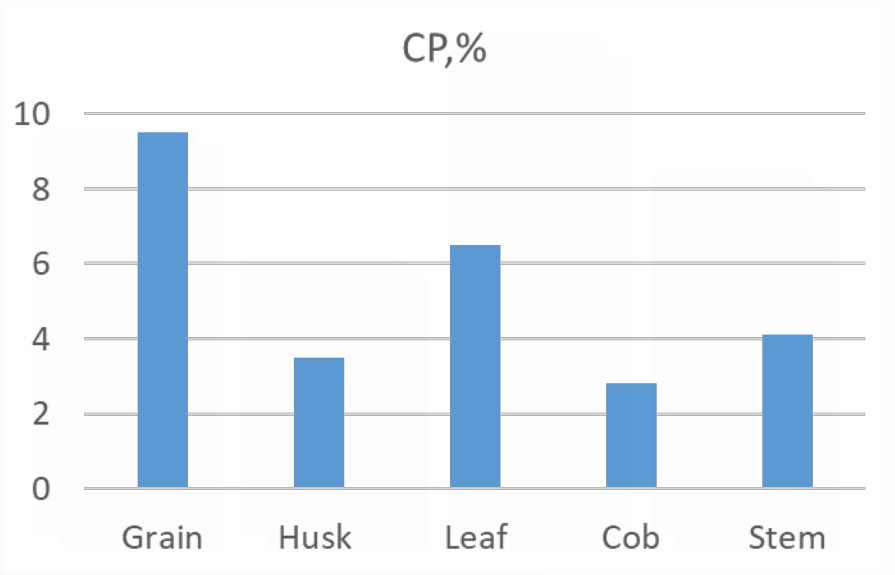
Intake example

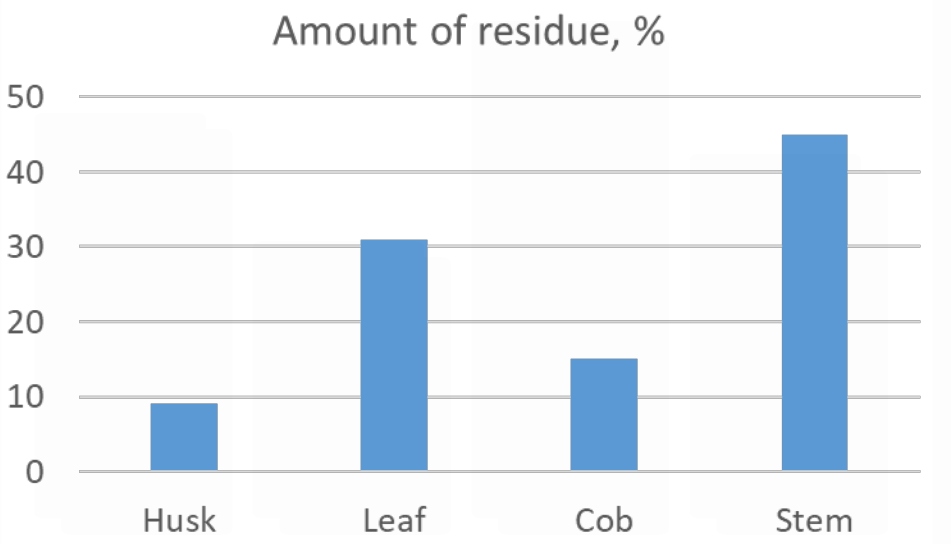
	TDN,%	CP, %	% BW	DM, lb	TDN, lb	CP, lb
Corn residue	45	6	1.8	23.4	10.5	1.4
Milo residue	52	7	2.2	28.6	14.9	2.3
Soybean hay (high)	55	20	2.2	28.6	15.7	5.7

	TDN, lbs	CP, lbs
Mature cow (1300 lbs)		
Mid-gestation	11.5	1.6
Late-gestation	14.1	2.2
Early lactation	17.0	2.9

Quality of residue







Feeding corn residue in round bale feeders

- As-offered
  - 45% TDN
  - 5-6% CP
- As consumed
  - 55% TDN
  - 4% CP
- BUT low intake (1.2% BW)
  - 15 lbs DM (18 lbs as-fed)

Use as a hay stretcher?

Provide supplement to meet needs?

Feeding corn residue in round bale feeders

Requirements of 1300 lb cow		
	TDN	CP
	Needs, lbs	
Mid-pregnancy	12.0	1.6
Late-pregnancy	13.5	2.0
	Intake, lbs	
Corn residue	8.3	0.6
	Supplemental needs	
Mid-pregnancy	3.7	1.0
Late-pregnancy	5.2	1.4

- Alfalfa (55% TDN 15% CP)
  - Mid- 7.9 lbs + waste
  - Late- 11.0 lbs + waste
- Supplement
  - Mid- 4.0 lbs DDGS
  - Late- 5.3 lbs DDGS

Limit feeding alfalfa hay

Unrolling or hay processing
Limiting the amount of time to access to round bale feeder

	Hours of access to alfalfa hay			
	3	6	9	24
Intake, lb DM	11.9	18.7	20.0	20.7
Waste, lb DM	5.9	5.7	9.2	13.4
TDN (61%) intake	7.2	11.4	12.2	12.6
CP (15%) intake	1.8	2.9	3.1	3.2

Miller, 2007

Soybean Hay = alfalfa?

- Need to capture leaf ! Stem = low energy
- TEST! (Summative equation)
  - Value can vary significantly
    - 14-20% CP
    - 50-55% TDN
- Do you have a lot of mature beans?
  - Increase fat = need to limit feed
  - Ether Extract (3 to 12% of DM)
- Weeds? Test for nitrates

Test your hay -use a hay probe

- Grab samples from a bale represent 1ft^2 in the field

- Hay Probes allow you to get small amounts from multiple layers in the bale
  - 18 inches long and min of 3/8 diameter
  - Make sure it is sharp!

https://www.foragetesting.org/hay-probes

Spring calving cows grazing corn residue

Dam	SUPP	CON	P-value
Oct BCS	5.4	5.4	0.89
Feb BCS	5.6	5.4	0.02
Preg rate, %	94	91	0.18
Calf birth wt, lb	86	86	0.27
Calf weaning wt, lb	548	552	0.35

Heifer progeny	SUPP	CON	P-value
ADG, lb	0.97	1.01	0.20
Age at puberty, d	343	336	0.23
Preg rate,%	75	78	0.64

Warner, 2011 PAS

Recommended stocking rates for grazing gestating cows on corn residue

Corn Yield bu/ac	Animal Unit Month[1] (AUM)/ac	1200 lb cows per ac for 30 days	# of grazing days stocked at one 1200 lb cow/ac
100	1.1	0.9	28
125	1.4	1.2	36
150	1.7	1.4	43
175	2.0	1.7	50
200	2.3	1.9	57
225	2.6	2.1	64
250	2.8	2.4	71

[1]One Animal Unit Month (AUM) is the amount of forage required to sustain a 1,000 pound cow or equivalent for one month and it has been determined that a 1,000 pound cow will consume 702 pounds of dry matter monthly

It is all about the HUSK!

Milo residue

- A bit higher quality that corn residue
  - 7.5% CP and 52% TDN
- Can be high nitrate
- Cattle will sort if fed in round bale feeder

Costs?

Feed	$/ton as-fed	DM	$/ton DM	TDN	$/ton TDN	CP	$/ton CP	Bunk or sheeted ring waste $/ton TDN	Bunk or sheeted ring waste $/ton CP
Corn ($7.10 bu)	254	85	298	83	359	8	3729	377	3915
DDGS	280	90	311	104	299	30	1037	314	1089
Premium grass	250	85	294	60	490	14	2101	549	2353
Good grass	160	85	188	55	342	10	1882	383	2108
Good alfalfa	230	85	271	59	459	19	1424	514	1595
Corn residue	90	82	110	45	244	5	2195	354	3183

Feed Cost Cow-Q-Lator

Question?

Beef.unl.edu