

How to determine the stage of maturity of barley for silage cutting?

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Feeding the cow

- Five nutrient fractions
 - Water
 - Carbohydrates (*fiber, starch, sugar*)
 - Protein (*amino acids, RDP, RUP*)
 - Fat (*fatty acids, unsaturated, saturated*)
 - Ash (*minerals*)
- The economics of yield versus quality
 - In cereals, 30 to 60% of yield gains occur after heading
- First and foremost, the cow is a carbohydrate fermenter

The most important day of the year?



Maturation of barley crop

- Moisture 
- Crude protein 
- Neutral and acid detergent fibers 
 - Fiber digestibility 
- Starch 
- Yield 
- Potassium 

Staging barley for silage

- Soft to firm dough?
- Boot stage?
- **Should be harvested at ideal moisture content for fermentation (63 to 67% moisture, 33 to 37% dry matter)**
- Should not have to wilt most barley, unless storing in a tower or bales
 - Should technically be straight-cut
 - Chase the swather with the forage harvester
- Cut height

Milk to firm dough (Whole plant dry down)



Clear liquid phase >
milky liquid >
soft dough >
firm dough >
dry grain

Moisture!

Moisture!

Moisture!!!

Moisture testing (Koster Tester)



Special considerations

- Crop disease
- Drought conditions
- Impending rain
- Field variation



Storage quality (versus chemical quality)



Harvest (particle size)



Particle separator guidelines

Table 1. Corn silage, haylage, and TMR particle size recommendations for lactating cows.

Screen	Pore Size (inches)	Particle Size (inches)	Corn Silage	Haylage	TMR
Upper Sieve	0.75	> 0.75	3 to 8%	10 to 20%	2 to 8%
Middle Sieve	0.31	0.31 to 0.75	45 to 65%	45 to 75%	30 to 50%
Lower Sieve	0.16	0.16 to 0.31	20 to 30%	30 to 40%	10 to 20%
Bottom Pan		< 0.16	< 10%	< 10%	30 to 40%

Pack and cover well!

