Milk Urea Nitrogen
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- Urea is normal in blood and milk
- MUN reflects BUN
- Influenced by protein intake, energy intake, and water intake
- Digestion of Protein in the rumen creates ammonia which can be used by rumen bacteria or enter blood, where it is converted to urea
- Urea can then be absorbed by milk
Testing for MUN
- Can use infrared sensing, just like for fat and protein testing

What should MUN be?
- Average levels ~14 mg/dl
- Range of .5 to 39.5 mg/dl
- Group averages of 11 to 18 mg/dl

*MUN values should be interpreted based only on groups of cows!*

*MUN values should only be interpreted with the entire feeding program*
- ration formulation
- ration delivery
- water intake
MUN too high?
- excess DIP or SIP
- amino acid imbalance
- shortage of fermentable carbohydrate
- poor rumen microbial environment (acidosis, ineffective fiber, etc.)

MUN too low?
- Too little ammonia in rumen
- Carbohydrate to protein ratio too high

*Synthesizing urea costs energy
~7 lbs. of milk if MUN > 20
*Protein converted to urea costs more than corn
*High MUN can reduce conception rates
*Excess protein can affect cow health
*High urea increases manure odor concerns

Ask your nutritionist!