

## Supplements to Complement Forages for Beef

Crude Protein of Forage	TDN to CP Ratio	Stockers, 400 - 800 lbs.	Lactating First Calf Heifers	Lactating Cows	Dry Cows
Less than 7%	>7	dried distillers grains, corn gluten feed, soyhulls + corn gluten, 50:50 corn + SMB,	dried distillers grains, corn gluten feed, soyhulls + corn gluten, 50:50 corn + SMB,	dried distillers grains, corn gluten feed, soyhulls + corn gluten, 50:50 corn + SMB,	corn, soyhulls, corn gluten feed
7 to 10 %	varies	dried distillers grains, corn gluten feed, soyhulls + corn gluten, 50:50 corn + SMB,	dried distillers grains, corn gluten feed, 50:50 corn + SMB, soyhulls + corn gluten feed	dried distillers grains, corn gluten feed, 50:50 corn + SMB, soyhulls	no supplement usually needed
Greater than 10%	<7	distillers dried grains, soyhulls, corn, soyhulls + corn gluten feed	distillers dried grains, soyhulls, corn, soyhulls + corn gluten feed	soyhulls, corn	no supplement usually needed
		<b>Note:</b> Corn may be blended with by-products to increase energy content while limiting starch content of the diet.			
<b>Typical Protein Contents</b>					
<p><b>Less than 7% -</b> Summer fescue hay, fescue straw, wheat straw, shorgum stover, corn stover, drought damaged corn silage. TDN:CP ratio generally &gt;7. High starch supplements (corn, sorghum, small grains) will have a negative impact on forage utilization and performance may be lower than expected. Higher levels of protein supplementation can have a positive effect on forage utilization. Look at supplements having a TDN:CP ratio ≤7.</p>					
<p><b>7 to 10% -</b> Mature cool season grass pasture, June cut grass hay, warm season grass hay, corn silage, shorgum silage, mature warm season grass pasture. TDN:CP ratio can vary - calculate the TDN:CP ratio and use a complementary supplement.</p>					
<p><b>Greater than 10% -</b> Spring cool season grass pasture, vegetative summer cool season grass pasture, early vegetative warm season grass pasture, legume hay, grass legume hay, small grain pasture, winter annuals pasture. TDN:CP ratio &lt;7. High starch supplements (corn, sorghum, small grains) are generally not a problem. Look at supplements with TDN:CP ratio ≥7.</p>					