

Fungal and Bacterial Count Guidelines for Agricultural Feeds and Total Mixed Rations

Mold, yeast, *Enterobacteriaceae* (enterobacteria), & *Clostridia perfringens*

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Feed	Corn Silage	Legume/Mixed Forage	Corn Grain	TMR
Anti-Nutrition Compound	Mold, CFU/g			
Mean	175,000	70,000	350,000	100,000
Median	10,000	< 10	10,000	10,000
Goal (15th Percentile)	< 10	< 10	< 10	< 10
Upper Limit (85th Perc.)	> 200,000	> 30,000	> 350,000	> 180,000
Feed	Corn Silage	Legume/Mixed Forage	Corn Grain	TMR
Anti-Nutrition Compound	Yeast, CFU/g			
Mean	2,800,000	1,200,000	4,200,000	4,000,000
Median	200,000	15,000	200,000	1,000,000
Goal (15th Percentile)	< 10	< 10	< 10	< 100,000*
Upper Limit (85th Perc.)	> 4,000,000	> 500,000	> 8,000,000	> 8,000,000
Feed	Corn Silage	Legume/Mixed Forage	Corn Grain	TMR
Anti-Nutrition Compound	<i>Clostridia perfringens</i> , CFU/g			
Mean	50	15,000	100	60
Median	< 10	< 10	< 10	< 10
Goal (15th Percentile)	< 10	< 10	< 10	< 10
Upper Limit (85th Perc.)	> 1000	> 1000	> 100	> 100
Feed	Corn Silage	Legume/Mixed Forage	Corn Grain	TMR
Anti-Nutrition Compound	<i>Enterobacteriaceae</i> , CFU/g			
Mean	500.0	2,500	500	25,000
Median	100	200	100	2,000
Goal (15th Percentile)	< 10	< 10	< 10	< 200
Upper Limit (85th Perc.)	> 10,000	> 40,000	> 1,000	> 30,000
Bedding Type	Organic	Inorganic (Sand)		
Organic Matter, % of DM	NA	< 6%		
Aerobic bacteria counts	CFU / g (as-is)			
Gram positive bacteria	< 1,000,000	< 1,000,000		
Gram negative bacteria	<250,000	<250,000		

**The tables list goals and upper limits built from 4-year database population statistics generated from over 10,000 commercial observations from the United States (CFU count).*

***The tables lists goal and upper limits built from Rock River Laboratory database population statistics (n > XXXX samples over 4 years). Enterobacteriaceae count has been suggested as a bacterial contamination tool ("high" count suggested as 10,000+ CFU/g; 2001 Food Standards of Australia and New Zealand). C. perfringens has been implicated as a bacteria negatively affecting gut health (Dennison et al., 2002).*

****Total mixed rations guidelines are estimates based on sample analyses population data (n < 200) and butyric acid bacteria spore count values adapted from Vissers et al. (2007).*

Disclaimer: Many factors beyond feedstuff fungal and bacterial content affect animal performance. We cannot be held responsible in any way for any management decisions, performance or actions taken following Rock River Laboratory microbial enumeration results being delivered.

References

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