

Feeding Poultry Litter to Beef Cattle

Poultry litter is commonly fed to all classes of beef cattle. Litter is a low energy feed, similar to average hay in energy value, but high in protein (20-35%) and minerals. Litter should be stacked 6 to 8 feet high for 3 to 5 weeks depending on environmental temperature before feeding. Stacking allows the litter to build-up heat, thus killing pathogens and improves the palatability to cattle. Litter should be about 75% to 80% dry matter to handle well and heat properly. Litter can be aerobically ensiled alone or with other feeds and stored for longer periods of time. However, litter is abrasive to silage unloading equipment and hard to pack with tractors unless mixed with silages or haylage. Stacked litter should be fed in 3 months from time of stacking.

High ash litter (greater than 30%) should be avoided because it leads to rumen compaction and reduced intake. Litter can heat excessively and have large amounts of heat damaged protein. Non-protein nitrogen (NPN) from uric acid is high in litter but is used well if there is enough fermentable carbohydrate (grain) in the ration. Litter should be tested for nutrient profiles to determine if it is worth feeding and to determine how much to feed. Because litter is typically free (except for hauling), frequent testing of litter for nutrients is affordable and valuable.

Finishing rations should not contain more than 3 lb of litter dry matter (DM) in order to not limit animal performance. Five to six pounds of litter DM will slightly reduce daily gains. Litter can compose up to 70% of growing and beef cows diets but should not be fed at high levels around calving because of the increased risk of metabolic problems in the fresh cow. When fed at high levels, long hay or pasture should be fed to maintain rumen function. When litter is fed at up to 70% of the ration, only moderate gains (under 1.5 lb/day) should be expected. Unless feed shortages require it, do not feed more than 8 to 9 lb of DM from litter to calves over 600 lb or beef cows. Litter contains high levels of minerals, and depending upon the level fed, may require only vitamin and salt supplementation. Growing cattle can tolerate the mineral excesses for 100 to 150 day periods but sometimes excesses of one mineral can tie-up another mineral leading to metabolic problems. Careful analyses of litter and proper balancing of rations prevent problems and maximizes efficiency and economic returns.

Litter is best used by growing cattle over 600 lb receiving considerable corn silage or 5 or more pounds of corn grain with the litter fed at under 8 lb of dry

matter. This level of litter provides most all mineral and protein needs with only minimal salt, trace mineral, and vitamin supplementation required. Limiting litter to 8 lb of dry matter or less will prevent mineral excesses that potentially tie up other minerals and create metabolic problems.

Example rations using litter are shown on the reverse side for various classes of livestock. Custom formulated, low inclusion ate base mixes are shown for use with the diets. 200R and 300R designated 200 and 300 mg of Rumensin®/head daily.

Example Rations Using Poultry Litter						
Ingredient, lb/day	\$/ton	Grower		Finisher		Mid. Gest. Cow
Litter	20	10	10	6	5	10
Corn silage	25	26	---	10	---	---
Hay	75	---	10	1	3	14
Corn	160	3	3	12	15	---
Litter Base-200R	1200	.06	.06	---	---	---
Litter Base-300R	480	---	---	.19	.19	---
Litter Base	1000	---	---	---	---	.06
Supplement Cost \$/day		.038	.038	.045	.045	.032
Ration CP, %		13.5	15.8	12.3	12.4	15.7
Ration NEm, Mcal/lb		.67	.62	.82	.86	.57
Ration NEg, Mcal/lb		.40	.32	.53	.55	.27

Nutrient Profile of Litter		
Nutrient	Average	Range
Ash, %	20	10 - 50
CP, %	21	12 - 35
NEm, Mcal/lb	.51	0 - .65
NEg, Mcal/lb	.25	0 - .39
Ca, %	2.5	.8 - 5.0
P, %	2.0	.7 - 2.0
K, %	2.0	.8 - 3.0
Mg, %	.6	.2 - 2.2
S, %	.45	.01 - .9
Cu, ppm	400	20 - 1,000
Fe, ppm	2000	400 - 13,000
Mn, ppm	400	100 - 2,000
Zn, ppm	400	100 - 1,000

Values on a dry matter basis. DM ranges from 50 to 90%, average of 80%.