

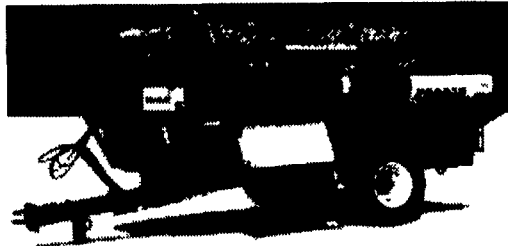
Keenan SYSTEM

Better Farming - Better Food

WANT TO REDUCE COW SORTING IN A SINGLE FEEDING

Start using the Keenan System on your farm.

The Keenan System combines on-farm TMR guidance built around the mixer wagon's unique tumbling action to precisely cut and mix hay, straw or baleage to the proper length (2"-4") without destroying ingredients. It produces an even, fluffy ration that preserves the feed structure, discouraging sorting and optimizing rumen function for healthier cows. Healthier cows are productive cows. Productive cows are profitable cows.

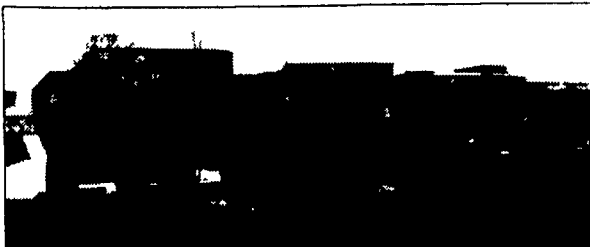


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Enhance Dairy Cattle Nutrition

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severely lacking in fiber or too high in non-structural carbohydrates (NSC), hindgut fermentation may be extensive, resulting in negative effects on cow health and production. Any feed particles or nutrients that are not digested and absorbed are excreted in feces and urine.

Manure evaluation is not a precise science; it cannot provide definitive answers to nutritional questions. Manure evaluation may be a useful diagnostic tool for some health-related issues, but it merely gives the nutritionist or farm manager a hint of what might be happening during the digestive process. It is important to understand that there are no published scientific publications that demonstrate specific effects of nutrition on manure color, consistency or nutrient content. However, since manure evaluation has some potential as a nutrition and health observation tool we have put together some of the known facts related to manure evaluation to aid in interpreting the results.

The Three C's Of Manure Observations

Manure evaluation can be described by three C's: color, consistency, and content.

Color. Fecal color is influenced by feed type, bile concentration, and the passage rate of feedstuffs and digesta. Typically, manure is dark green when cattle graze fresh forage and darkens to a brown-olive if animals receive a hay ration. When cows consume a ration containing large amounts of grain, a typical TMR for example, feces are usually a yellow-olive color. This color results from the combination of grain and forage and will vary by the amount of grain and processing of that grain. If an animal experiences diarrhea, feces may change color. Animals undergoing medical treatment may excrete abnormal colored feces as a result of drugs that are administered. Dark or bloody manure may indicate hemorrhaging in the GI tract from watery dysentery, mycotoxins, or coccidiosis. Light-green or yellowish manure combined with watery diarrhea can result from bacterial infections such as salmonella.

Consistency. The consistency of feces largely depends on water content and is a function of feed moisture content and the amount of time feed remains in the animal. Normal fecal material has a medium porridge-like consistency and forms a dome-shaped pile 1 to 2 inches high. Diarrhea may be caused by poisoning, infection, or parasites but also may result from extensive hindgut fermentation of carbohydrates and increased acid production. Loose feces also may result from excessive

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