

Use dung analysis to determine the quality of forage in
cattle feeding

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Simple way to determine the quality of forage in cattle using dung view

Dung evaluation is a good way to look at the interaction of cattle and their forage quality, especially in extensive farming. The colour, shape and condition of the dung reveals the diet, how the rumen is functioning and how well the existing forage is being digested.

Amongst other things, **using dung observation does not require any special equipment to carry out** (in a herd of 50, evaluating dung of 10 to 15 cattle should provide concluding results). Dung evaluation can also be used as an objective measure of what is really happening in the herd, this **reveals if there is consistency in what animals are feeding** (Karen, 2014).

Other forms of determining the quality of forage (advanced fecal analysis) consumed by grazing animals are rather costly, time consuming and difficult to conduct (Robert, n.d).

Other ways to determine the quality of forage:

- **The NIRS technology**

The NIRS technology (*Near Infrared Reflectance Spectroscopy*) enables producers to **directly assess diet quality**. Results from numerous NIRS and conventional analyses have been compared to develop calibration equations to analyse fecal samples. These **NIRS calibration equations**

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produce predictions of the diet quality attributes for a sample being analysed, predicting attributes such as **dietary crude protein (CP), dry matter digestibility (DMD), faecal nitrogen (N) concentration, non-grass proportion of diet and growth rate.**

- **Feeding trials**

Conducting feeding trials is also another advanced method of determining quality of forage, **measuring factors such as [cattle weight gain](#) and milk production.**

- **Chemical composition**

Chemical composition focuses on **measuring forage quality in the laboratory**, using proximate analysis that looks at the crude fiber (CF), ether extract, nitrogen-free extract, crude protein (CP), and ash.

Classification of forage quality

Forage quality categories are divided on a crude protein basis because this approach provides the clearest association to visual changes in droppings. Cattle are well known to be grazers, primarily opting for grasses and forbs. These new plant growth (mostly leaves and with little fiber) contain high levels of easily digestible compounds such as *proteins, sugars and lipids*, which makes smooth cattle droppings that result from the consumption of immature, high quality forages tend to fall to the ground in relatively shapeless deposits. But **as grasses mature, the fibrous content increases** and the appearance of cattle droppings becomes hard, **reflecting a lower quality diet that is high in fiber** (Robert, n.d).

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Which key factors could influence the aspect of the dung?

Fecal color is influenced by **feed type, bile concentration, and the passage rate of feedstuffs**. For instance, dung is dark green when cattle graze fresh forage and darkens to a brown-olive if animals receive a hay ration, feces are usually a yellow-olive color. The yellow-olive color results from the combination of grain and forage and will vary by the amount of grain and processing of that grain. If a cattle experiences diarrhea, feces may change to a gray color, and cattle undergoing **medical treatment** may excrete abnormal colored feces as a result of drugs that are administered (Karen, 2014).

In conclusion, conducting dung analysis by observing color, shape and form saves cost and is easy to carry out.

This approach is important for effective management of herd health and nutrition, as it is informative.

References

- ***Karen. H., (2014). Manure Evaluation: Key to nutrition and herd health***
- Robert. L., Richard. M., & Jerry. S, (n.d). Evaluating Diet Quality Selected by Grazing Beef Cattle Using Photographic Guidelines