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Infrared Reflectance Spectroscopy and Intake

Infrared reflectance spectroscopy is of interest in intake research because it provides a means of studying the problem from a different perspective.

Diet chemical composition ultimately plays a role in influencing intake. It may be possible to relate wavelengths correlated with intake (or other animal responses) to specific chemical bonds and/or chemical constituents. If the indicated chemical constituents are indeed found to affect intake, then this would lend support to results obtained from the empirical, statistical approach of I R. Those laboratory tests which are most useful in intake prediction would be identified, and a better understanding of dietary intake control mechanisms would be gained.

Various animal production models require input variables such as energy, protein, fiber and intake which could be supplied by an IR scan of the intended feedstuffs. The IR prediction equations would be calibrated on a standard type of animal. Correction factors in the animal production model would account for differences in species and level of production. The result would be an estimation of the value of the feed-stuffs in terms of milk or meat.

REFERENCE

Norris, K. H., R. F. Barnes, J. E. Moore, and J. S. Shenk. 1976. Predicting forage quality by infrared reflectance spectroscopy. Journal of Animal Science 43(4):889-897.