

Feed and Forage TDN Equations

FEED # LIST

Forages

1. Legume and legume grass mixes
 - a. Legume examples include alfalfa, clover, lespedeza, or soybean forage
$$\text{TDN} = 73.5 + 0.62(\% \text{CP}) - 0.71(\% \text{ADF})$$
2. Mostly warm-season grasses
 - a. Warm-season examples include bermudagrass, bahiagrass, bluestems, dallisgrass, johnsongrass, and sudangrass
$$\text{TDN} = 73.7 + 0.463(\% \text{CP}) - 0.595(\% \text{ADF})$$
3. Mostly cool-season grasses
 - a. Cool-season examples include fescue, orchardgrass, ryegrass, bromegrass, matuagrass, triticale, small grain rye, oat, and wheat forage. Straws of small grain do **not** belong to feed #3 (see feed #6)
$$\text{TDN} = 58.4 + 1.034(\% \text{CP}) - 0.42(\% \text{ADF})$$
4. Corn silage
$$\text{TDN} = 85.5 - 0.75(\% \text{ADF})$$
5. Sorghum silage
$$\text{TDN} = 83.4 - 0.83(\% \text{ADF})$$
6. Non-traditional forages (straw hay, crop stubble hay, gin trash)
$$\text{TDN} = (1.0876 - 0.0124(\% \text{ADF}))89.796 + 4.898$$

Poultry Litters

7. Breeder hen *TDN not available
8. Broiler
$$\text{TDN} = 8.05 + 2.42(\% \text{ADF}) - 0.03((\% \text{ADF})(\% \text{ADF}))$$
9. Pullet *TDN not available
10. Turkey *TDN not available

Grains and byproducts

11. Grains and grain mixes (no byproduct feedstuffs)
 - a. Grain examples include corn, wheat, oats, rye, sorghum, rice
$$\text{TDN} = 93.5 - 1.03(\% \text{ADF})$$
12. Byproduct feeds and byproduct feed mixes *TDN not available

Others

13. Cottonseed *TDN not available
14. Soybeans *TDN not available
15. None of the above *TDN not available

Key: CP = Crude Protein

ADF = Acid Detergent Fiber

TDN = Total Digestible Nutrients

University of Arkansas, United States Department of Agriculture and County Governments cooperating.

The University of Arkansas System Division of Agriculture offers all its Extension and Research programs and services to all eligible persons without regard to race, color, sex, gender identity, sexual orientation, national origin, religion, age, disability, marital or veteran status, genetic information, or any other legally protected status, and is an Affirmative Action / Equal Opportunity Employer.