



Research article

## Effect of phenophases on nutritive value, fodder quality and digestibility of different ecotypes of *Moringa oleifera*

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### Abstract

A study was conducted to assess fodder quality and digestibility with varying levels of maturity of leaves and phenophases among fourteen *Moringa oleifera* ecotypes collected from different geographical regions of India. Mature leaves had near to neutral pH (6.23) with high crude protein (24.50%); however, dry matter was observed maximum (26.80%) in twigs. In general, dry matter was higher in north Indian ecotypes, while CP was more in south Indian ecotypes (28.70%). South Indian ecotypes had low concentration of fibre and as a result found best for fodder quality traits. Dry matter intake, digestible dry matter, total digestible nutrients, and relative feed value were maximum in tender leaves due to comparative low amount of NDF and ADF in tender leaves. ME was found higher in tender leaves. *In vitro* dry matter digestibility was found higher in mature leaves than twigs and tender leaves. North Indian ecotypes showed higher *in vitro* dry matter digestibility (81.90%) than others. In general, MO3 (ODC-3) ecotype was found best for high crude protein (~28.7%), while MO3 (ODC-3) and MO4 (PAU local source) both had highest metabolized energy (~2.83 Mcal/kg), and highest *in vitro* dry matter digestibility (~81.90%) was recorded in MO11 (PAU-5). However, MO4 (Mandya, Karnataka) ecotype was found best for fodder quality traits. The high proximate composition and adequate cell wall fractions in *M. oleifera* leaves showed its potentiality as quality forage.

**Keywords:** Dry matter digestibility, Ecotypes, Fodder quality, *Moringa oleifera*, Phenophases