Effect of Stage of Maturity

Age of the plant may alter mineral availability. Powell et al. (1978) showed a decline in apparent absorption of calcium, phosphorus, potassium and sulfur with advancing maturity in temperate grasses, and a decrease in retention of calcium and phosphorus by sheep; the availability and retention of magnesium, on the other hand, increased with maturation.

As plants mature, mineral concentrations decline due to a natural dilution process and translocation of nutrients to the root system. In most circumstances, phosphorus, potassium, magnesium, sodium, chlorine, copper, cobalt, iron, selenium, zinc and molybdenum decline as the plant matures (McDowell et al., 1983).

Crude protein content of herbage decreases within the first two months of the growing period; thereafter, the content fluctuates according to season (Bredon and Horrel, 1961; Chicco, 1962). Working in Venezuela, Cunha et al. (1971) reported that the crude protein content of a Trachipogon species at 15, 30 and 105 days after cutting were 8.1 percent, 5.7 percent and 4.7 percent, respectively; the corresponding cellulose digestibilities were 51.3 percent, 30.4 percent and 25.3 percent. Additionally, Minson (1971)