

Summary

A study with tropical legumes (*Calliandra* spp., *Dioclea guianensis*, *Flemingia macrophylla*, *Phyllodium* spp., *Tadehagi* spp., and *Desmodium ovalifolium*) was conducted to determine the effect of forage preservation method on tannin level and biological activity. Fresh-frozen, freeze-dried or oven-dried leaf samples of the legumes were analyzed for extractable condensed tannins (Butanol-HCl) and for tannins bound to protein and fiber. Relative degree of polymerization of tannins and their capacity to precipitate protein (BSA) were also measured.

Level of extractable condensed tannins was higher in freeze-dried legume samples than in fresh-frozen and oven-dried samples. Freeze-drying also resulted in higher precipitation of protein by tannins, and in less tannins bound to plant protein and fiber. Thus, freeze-drying was the best preservation method for tannin analysis in the tropical legumes evaluated.

Method of forage preservation had a negligible effect on relative polymerization of tannins. However, legumes with what appeared to be less polymerized tannins precipitated more protein (BSA) than legumes with more polymerized tannins. These suggest that in the evaluation of tropical legumes it is necessary to measure not only the level of condensed tannin but also the type of condensed tannin present in the plant.