Evaluation of ten tropical legume forages for their potential as pig feed supplement

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CIAT and Hohenheim University tested 10 alternative forages for their nutritional value and *in-vitro* digestibility for pigs in order to predict their potential as alternative protein supplement in a tropical smallholder context.

Herbage of *Cratylia argentea*, *Desmodium velutinum*, * Fleminigia macrophylla,*   *Leucaena diversifolia,*   *Canavalia brasiliensis*, *Centrosema brasilianum*, *Clitoria ternatea*, * Lablab purpureus*, *Stylosanthes guianensis* and *Vigna unguiculata* from the CIAT (International Center for Tropical Agriculture) gene bank were assessed for their nutritional value and *in-vitro* digestibility for pigs in order to predict their potential as alternative protein supplement in a tropical smallholder context.

Crude protein (CP) contents ranged from 137 to 257 g kg -1 dry matter (DM) (mean 191 g kg -1 DM), although a considerable proportion of it, 27 % on average, was bound to neutral detergent fiber (NDF). Interesting levels of lysine were found in * Cratylia argentea* (14 g kg -1 DM) and *Leucaena diversifolia* (13 g kg

-1
 DM), whereby the latter was also high in tannic acid concentration (49 g kg

-1
 DM) thus limiting the amino acid digestibility.
Vigna unguiculata
 presented highest
* in-vitro*
 enzymatic degradability (521 g kg

-1
 DM), which even increased in a 40:60 mixture with maize. Lowest degradation was obtained with
* Flemingia macrophylla*
 (248 g kg

-1
 DM), while the median of the forages approached 390 g kg

-1
 DM. It is concluded, that
Vigna unguiculata
 herbage meal has the highest potential to be successfully included in pig diets, while
Cratylia argentea
 meal should equally be assessed
in vivo
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Keywords:
 amino acids, fiber, in-vitro digestibility, tannins

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