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Evaluation of the Potential Inclusion of *Dichrostachys cinerea* Pods in Pig Diets in Cuba

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Abstract

Dichrostachys cinerea (L.) Wight & Arn. is an invasive leguminous shrub which has occupied a significant proportion of Cuba's agricultural land over the past decades, thus becoming a primary threat to national food security. As a result of the difficulty to rid this pesky plant through traditional methods, a twofold alternative approach has been considered: to promote improved control of its spread by integrating it into sustainable production systems while making profitable use of its potential products. *D. cinerea* pods contain acceptable amounts of protein, which could be of a benefit for Cuba's smallholder pig sector, which is mainly constrained by the lack of locally-produced protein concentrates and the added difficulties to import them from abroad. Consequently, this work aims to evaluate the potential of including *D. cinerea* pods into pig diets in Cuba. Results will be presented from a study, where different methodologies were applied. Firstly, nutrient composition was determined by proximate analyses. Secondly, an on-farm feeding trial over a 60-day period has been put into practice, including substitution of *D. cinerea* pods for commercial feed at 0%, 15% and 30% levels. Different parameters were evaluated among the three tested groups: net weight gain, daily weight gain, parasites in feces and blood parameters. In addition, an *in-vivo* digestibility trial is being carried out by applying the difference method against a feed source of a known digestibility value. This has been followed by another *in-vitro* digestibility trial for organic matter at the ileal level, using the enzymatic method. Finally, an economical assessment on the potential commercial value of *D. cinerea* as feed for pigs has been made.

Keywords: Cinerea, Cuba, *Dichrostachys*, feeding, mimosa, pig