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AQUACULTURE & FISHERIES INNOVATION LAB

## RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

Title: Nutrient Digestibility of Reduced-Soybean-Meal Diets Containing Moringa or Leucaena

Leaf Meals for Nile tilapia, Oreochromis niloticus

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**Abstract:** Vegetable leaf meals are cheaper feed ingredients than soybean meal (SBM) in developing

countries, and leaf meals are less important as human food. We evaluated the nutrient digestibility of practical diets containing reduced levels of SBM in combination with leaf meals made from *Moringa oleifera* and *Leucaena leucocephala* in Nile tilapia, *Oreochromis niloticus*. Five isonitrogenous diets (32% crude protein) were made: the control diet contained 50% SBM, and the test diets were made by substituting 15 or 30% of SBM protein with either *Moringa* or *Leucaena*. Dry matter, protein, and lipid digestibility decreased with increasing *Moringa* or *Leucaena* in the diet. Protein and lipid digestibility were high across diets (75–90%). Ash digestibility of the control diet was similar to that of both *Moringa* diets, while the ash digestibility of the *Leucaena* diets was lower than other diets. Overall, nutrient digestibilities of *Moringa* diets exceeded those of *Leucaena* diets. Dry matter, protein, and lipid digestibilities decreased with increasing dietary fiber, which increased with increasing leaf meals. Ash digestibility was generally low for all diets. Better digestibility of practical diets containing *Moringa* compared to *Leucaena* indicates greater potential for *Moringa* to replace SBM in Nile tilapia diets without compromising fish performance.

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