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## Apparent Digestibility Coefficient of Housefly Maggot Meal (magma) for Nile Tilapia (*Oreochromis niloticus* L.) and Carp (*Cyprinus carpio*)

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### Abstract

Several feed ingredients including animal and plant protein sources, have been investigated in order to find substitutes for fish meal in fish diets. Though these feed ingredients may be cheaper than fishmeal, diverse responses on growth parameters have been reported. The reasons for the variations are summarised to include the protein composition and amino acid profile, palatability/acceptability, phosphorus content and availability, anti-nutritional factors (especially in plant protein sources) and apparent digestibility of alternative feeds. Digestibility gives the relative measure of the extent to which ingested food and its nutrient components have been digested and absorbed by animal. From its chemical composition a feed ingredient may appear to be an excellent source of nutrients but unless it can be digested and absorbed in the target species the actual value can be limited. Interests to study the use of housefly maggot meal (magma) as substitute for fishmeal in fish diets have increased in recent. However, no report has been published so far on the digestibility of this alternative protein source. This study was therefore designed to determine the apparent digestibility coefficient of magma for Nile tilapia (*Oreochromis niloticus*) and carp (*Cyprinus carpio*). In order to evaluate the digestibility of magma formulated reference diet (containing fishmeal as primary protein source) and a test diet (containing 70 % reference diet + 30 % maggot meal) were fed triplicate groups of tilapia and carp with initial average body weights of  $108.3 \pm 32$ g and  $110.3 \pm 23$ g respectively. Faeces were collected over a period of 15 days by siphoning. The apparent digestibility coefficients (ADCs) of tilapia fed with test diet was lowest (80.11 %) and significantly different from carp ( $87.08 \pm 0.8$ ), however no difference was observed with ADC of crude fat. Magma digestibility of dry matter (47.65 %), crude protein (57.7 %), crude fat (86.1 %) and energy (58.1 %) for tilapia are significantly lower than for carp (dry matter: 63.84 %, crude protein: 84.9 %, crude fat: 96.8 %, energy: 74.9 %). Spawning activities of experimental tilapia and soft faeces consistency of carp may have affected the results.

**Keywords:** Carp, fibre, housefly maggot meal, nutrition, Tilapia