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Sustainable Aquaculture for a Secure Future

Title: Culturing the African lungfish in Uganda: Effects of exogenous fish feed on growth performance in tanks

Author(s): J.K. Walakira[1], J.J. Molnar[2], R. Phelps[3] and J. Terhune[3]

1. Aquaculture Research and Development Center-Kajjansi, National Fisheries Resources Research Institute-NARO, P. O. Box 530, Kampala, Uganda
2. School of Agricultural Economics and Rural Sociology, Auburn University, Auburn, AL, USA
3. School of Fisheries, Aquaculture and Aquatic Sciences, Auburn University, Auburn, AL, USA

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Abstract: The availability of African lungfish (*Protopterus aethiopicus*) in many communities in Uganda is declining. Indigenous efforts to culture this fish usually produce poor yields and depend on feeding fish fry, minced meat, and leftover food. This study evaluates three formulated diets (diet- 1, diet-2, diet-3) fed to wild caught lungfish fingerlings reared in indoor tanks for 77 days. Experimental fish gradually accepted sinking pellets, and marginal increases in average body weight were observed. Mean (± SE) final weight (15.86 ± 0.80 g) for fish fed on diet-3 was significantly higher ($p < 0.05$) than fish fed diet-1 and diet-2. Specific growth rates (SGR) for diet- 3 were significantly higher ($p < 0.05$) than diet-1, and marginally more than diet-2 (0.37 ± 0.04 % / d). Feed conversions were similar ($p > 0.05$), ranging from 1.61 ± 0.26 to 2.07 ± 0.11. Survivals after an 11-week culture were relatively low (< 60%), but generally increased ($R^2 = 0.667$, $P = 0.007$) with increasing dietary proteins. Diet-3 had a significant higher survival rate ($p < 0.05$) than diet- 1 and diet-2. Significant growth performance was attained with diet-3. This study demonstrated that sinking fish feed pellets can be used to culture wild-caught African fingerlings in captivity.

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