REQUEST FOR PRE-PROPOSALS

Please Copy and Distribute to All Interested Parties

The USDA-NIFA Southern Regional Aquaculture Center solicits response from qualified multi-state teams interested in participating in the regional project:

Tailoring Feeds with Optimal Protein:Energy Ratios for Hybrid Catfish

SRAC's Board of Directors has authorized up to $300,000 for a 3-year project on *Tailoring Feeds with Optimal Protein:Energy Ratios for Hybrid Catfish*. This project will be developed using the "comprehensive method" where a team of multi-state scientists having demonstrated records of expertise in the subject complete a single pre-proposal that addresses all project objectives. One proposal will be selected for funding based on review by a committee of scientists not involved in any of the proposals that are submitted. No funds are currently obligated or authorized by USDA NIFA and therefore no awards will be made in this RFP cycle until SRAC receives the funds from USDA. The RFP may be withdrawn or start dates delayed based on timing of USDA NIFA funding.

Background

Despite the production of hybrid catfish for more than 20 years, and the production of the hybrid catfish comprising ~50% of the U.S. catfish industry, little is known about their nutritional requirements. Formulated feeds for channel catfish are still being provided to the hybrids assuming that they will meet their nutritional requirements. When providing extruded pellets in ponds, it is striking the difference on the feeding behavior between hybrids and channels. In the wild, blue catfish presents a different food predilection when compared to channel catfish, suggesting that these species may have different tolerance towards plant protein ingredients and different energy requirement. The hybrids also grow faster and may display higher nutritional needs for optimum performance. Lastly, the feed conversion ratios (FCRs) reported by producers and research conducted in ponds, presents to be suboptimal ranging from 1.8 to 2.6, showing that there is room for improvement in feed formulation.

Objectives

1. Estimate the digestibility of nutrients and energy of commonly used ingredients in hybrid catfish feed.
2. Conduct a comparative feeding trial with experimental feed and commercial feed currently available to the producers.

Experimental Approach

Production performance will be estimated for hybrid catfish in three different life stages (fingerlings, juveniles, and growth out phase). Feeding trials in aquaria will be conducted to assess protein/energy apparent digestibility coefficients (ADCs) of established ingredients used in catfish feeds (*e.g.*, soybean meal, cottonseed meal, corn germ, peanut meal, animal protein concentrate, fishmeal, corn, wheat midds). After ADCs are established, experimental feeds will be formulated containing different digestible protein and energy ratios to achieve optimal production performance of hybrid catfish. A comparative feeding trial with experimental feed and commercial feed will be performed in ponds along with an economic analysis to assess net returns when using the different feeds. Experimental hybrid catfish will be filleted and gutted to evaluate optimal carcass yield.

How to Respond

Pre-proposals must address all objectives. Preference will be given to pre-proposals that show a high degree of collaboration and coordination among participants. To meet the criterion for a regional project, the pre-proposal must include collaboration from scientists in two or more states or territories in the Southern Region (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, U.S. Virgin Islands, and Virginia).

The pre-proposal must include a one-page vita for each participant and a proposed budget for each participating institution or organization. Pre-proposals, vitae, and budgets that are not in the proper format will not be considered. (See “Guidelines for Writing a SRAC Pre-Proposal (Comprehensive)” file attached or contact Kristen Walters with the SRAC office at 662-686-3269.)

Send an electronic copy of the pre-proposal in Word format to Jimmy Avery, SRAC Director as an email attachment (jimmy.avery@msstate.edu) by **July 1, 2025**. Proposals received after that date will not be considered.