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:

Methods and Strategies to Mitigate Cold Water Effects During Freeze Events in Marine Foodfish and Ornamental Fish Production

SRAC's Board of Directors has authorized up to $350,000 for a 3-year project on *Methods and Strategies to Mitigate Cold Water Effects During Freeze Events in Marine Foodfish and Ornamental Fish Production.* 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 The RFP may be withdrawn or start dates delayed based on timing of USDA NIFA funding.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

Historically, the Gulf Coast was subjected to a major freeze event about every 10 years from the 1960s-2010s. However, in the past six years there has been a major freeze event three times. This has dramatically impacted the production of tropical, sub-tropical, and marine fish species along the Gulf and lower east coast. Species impacted include red drum and ornamental fish. With increased volatility in weather events and increased frequency of freeze events, producers in these industries need more tools and resources to mitigate the effects of freeze events on farm and prevent massive fish losses.

Objectives

1. Evaluate potential engineering solutions to improve thermal refuges in ponds and/or outdoor tanks.
2. Develop selection protocols to alter cold tolerance of ornamental fish populations.

Experimental Approach

Potential engineering solutions could include but are not limited to temporary heating systems such as in line heaters in isolated locations, solar heaters, piping warm boiler water through in-pond coils, solar covers, heat escapement barriers, etc. Cold tolerance selection should be applied to freshwater species of interest to the tropical ornamental fish industry. For the species identified, broodstock from multiple sources should be assessed for cold tolerance using thermal trials (e.g., critical thermal minimum) and maintained/bred as separate families. Molecular markers for cold tolerance could be identified in species exhibiting potential for genetic

improvement. Performance of improved species/families should be demonstrated in outdoor pond/tank production scenarios to assess winter survival and growth.

How to Respond

Pre-proposals must address both 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.