

Rice

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7. Title Understanding and Managing Factors that Influence Crawfish Aquaculture in Forage-Based Production Systems			
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Outputs: This project generated two refereed journal articles, five academic magazine articles, one farm magazine article, two abstracts, one annual research report, and contributions to five electronic newsletters. Recent findings were also presented at a national scientific conference (US Aquaculture Society, New Orleans, LA) and seven Louisiana producer meetings.			
Outcomes/Impacts: To improve and expand markets for live crawfish, acceptable grading standards are needed. This research provided valuable information regarding biological feasibility of establishing size grades in crawfish and offer tangible evidence for three to six potential grade classification systems. Dimorphism associated with maturity in crawfish impacted results of grading operations based on carapace width alone. The research also suggested that this effect can be minimized if grading classifications are kept to a manageable number (<5) while avoiding narrow ranges in the acceptable sizes within a grade category. Crawfish are harvested with traps, typically baited with manufactured formulated bait in warmer weather, but formulated baits are inferior at cooler water temperatures, and fresh-frozen cut fish is used. Research investigated potential attractants for application in formulated cool-water baits to address the cost and handling/storage issues with fish baits and also to help conserve the fishery for some species. Early tests failed to identify a suitable alternative attractant for cool water, yet information showed potential for suspending various attractants in an appropriate medium for testing in experimental or commercial crawfish production ponds. Fish, krill, and squid meal alone and in combination, and a mixture of synthetic amino acids in a bait matrix captured between 25 and 75% of crawfish harvested with cut fish. Minced fish within the bait matrix captured between 58 and 120% of the number of crawfish as with cut fish.			
Publications: Ramalho, R.O. and McClain, W.R. 2011. Capture rate and crayfish movements among experimental crayfish production ponds. <i>Freshwater Crayfish</i> 18(1):7-11. McClain, W.R. 2011. Effects of simulated precipitation extremes on crayfish ( <i>Procambarus clarkii</i> Girard) oviposition in artificial burrows. <i>Aquaculture Research</i> , 2011, 1-6 (Online View). McClain, W.R. 2011. Crawfish study in mesocosms begins. <i>Louisiana Agriculture</i> 54(4):4. Romaine, R.P. and McClain, W.R. 2011. Water resources use in Louisiana aquaculture. <i>Louisiana Agriculture</i> 54(4):32-33. McClain, W.R. 2011. Assessing the efficacy of releasing crawfish back to the pond for further growth. <i>Louisiana Agriculture</i> 54(3):14-15. Stout, M.J., Hummel, N.A., Lanka, S., Hamm, J.C., Meszaros, A., McClain, W.R., Frey, M.J., and Barbee, G.C. 2011. Making rice fields safe for crawfish. <i>Louisiana Agriculture</i> 54(3):13. Stout, M.J., Hummel, N.A., Lanka, S., Hamm, J.C., Meszaros, A., McClain, W.R., Frey, M.J., and Barbee, G.C. 2011. Rice water weevils: new tactics for managing in Louisiana rice. <i>Louisiana Agriculture</i> 54(3):10-12. McClain, W.R. 2011. Crawfish on-board grading practice may not be profitable. <i>Louisiana Farm and Ranch</i> 7(18):24-25.			

