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## FINANCIAL DEMANDS OF STARTING COMMERCIAL CATFISH FARMS IN TEXAS

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**Background.** Commercial catfish production is a rapidly growing industry, fueled by the growing demand for catfish. Continued growth in demand is expected as the population increases and as health conscious consumers shift preferences toward fish products. Economic analyses of three commercial catfish production systems were completed so that potential producers and investors would have information to include in their business plans. Computerized spreadsheet programs were developed to facilitate these analyses and allow individuals to customize each scenario to fit their specific production and financial situation.

**Current information.** Levee pond production systems in the analyses differed by water sources and management. One system was supplied by watershed sources from surrounding landscape (watershed), another system was supplied by more dependable sources such as pumping wells or lakes (well), while the other was supplied by a well and included recirculation ponds to decrease the periodic demand for additional water (recirculating). Analyses focussed on estimating investment and operating costs, sensitivity to changing economic and production conditions, and cash flow. Operations were assumed to be turn-key businesses with everything necessary for operations, including land, purchased at the outset. Catfish were assumed sold for \$0.58 per lb.

The watershed system, designed with five 10-acre ponds, required an initial investment of nearly \$160,000 for land, ponds and equipment. Operating this system with targeted production of 3,500 lbs of fish per acre resulted in annual net losses of over \$16,000 per year after paying all operating costs and debt service requirements.

The well system, consisting of five 20-acre ponds, required over \$226,000 start-up costs. Well ponds cost nearly \$25,000 less to build than watershed ponds due to efficiencies in layout and less earth movement required. However, additional equipment and land was necessary for the larger production unit. This system was assumed to produce 4,500 lbs of fish per acre which generated annual net returns of just more than \$3,000 to owner labor, management and profit (LMP).

Pond acreage for the recirculating system totalled 100 acres of which 80 were dedicated to catfish production with 20 being used as a filter system and stocked with a filtering type fish. Commercial sales of filter fish were assumed to generate a minimal amount of receipts compared to catfish sales. This system required an initial investment of nearly \$368,000. Annual net returns to owner LMP were nearly \$15,000 with average catfish production of 10,000 lbs per acre. In

addition, \$36,000 per year was included for either hired or owner labor.

Monthly cash flows were developed and results indicated that additional up-front working capital was necessary to carry all three systems through the first projected fish sale. Borrowing for working capital, in addition to start-up costs mentioned previously, was \$82,000, \$194,000 and \$296,000 for the watershed, well and recirculating systems, respectively. These additional loan requirements brought total borrowings to initiate operations to approximately \$242,000, \$421,000 and \$664,000 for the watershed, well and recirculating systems, respectively.

Relative competitiveness of the three systems was made more obvious by estimating the total cost of production on a per unit basis. Total cost of production included all variable costs plus overhead items including debt service requirements. Cost of production were \$0.66, \$0.58 and \$0.57 per lb. of catfish sold for the watershed, well and recirculating systems, respectively.

Recirculating systems likely offered greater opportunities for profitable catfish production than other systems, in spite of greater initial investment requirements. These systems generally were designed for relatively higher yields per acre and more efficient use of feed, labor, water, and other resources. For example, recirculation systems currently operating in Texas consistently averaged 10,000 lbs or more of catfish produced per acre. Increasing the projected yield in this example by 10% would more than double net returns to owner LMP.

**Recommendation.** These analyses combine some of the latest recommendations and technologies with recent economic estimates to determine the financial feasibility of owning and operating commercial catfish production systems in Texas. Several other important items must be considered prior to beginning such an enterprise. Issues such as water quality, wetlands classifications, market outlets and outlook, labor availability, etc. should be thoroughly investigated, contemplated and dealt with prior to large-scale investments. All issues should be documented, contingency plans developed and information collected into a complete written business plan to serve as an operational guide for making management decisions. Computer software, publications, and specialist assistance are available to facilitate these efforts.