

SMALL-SCALE, LOW-INPUT AQUACULTURE: RETURN ON AN INVESTMENT

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Aquaculture is typically practiced intensively on large scales. First year start-up and production costs (per acre) for intensive aquaculture can be prohibitive. Aerators, pond-side electricity, substrate, and high stocking densities are used to raise freshwater shrimp intensively. Basic start-up and initial production costs for the first year, excluding land purchase and pond construction, can be higher than \$8,000/ac. These costs can be reduced by as much as 73 % with low-input shrimp farming practices. While somewhat less expensive for intensive catfish farming, initial outlays could easily reach several thousand dollars per acre. Again, expenditures can be significantly lowered by reducing inputs.

In addition to higher costs, intensive aquaculture practices generate higher yields. This leads to the need for wholesale markets. Wholesale markets pay lower prices. Therefore, to make significant income, many acres of ponds are needed. Overall, this makes commercial aquaculture impractical for many land-owners and small farmers with limited acreage and capital.

Alternatively, small-scale, low-input aquaculture can be an attractive “investment” for those with a few thousand dollars and an acre or two to work with. Reduced inputs and acreage minimize start-up costs, but per acre yield will be lower too. However, this makes niche marketing and retail sales more manageable and viable. Retail sales command higher prices. Combining the lower costs of reduced input production with higher prices from retail sales can provide substantially greater profits per acre than can be achieved with the same limited acreage under intensive production. For example, let us assume an initial investment of \$10,000 for one, 2-acre production pond. Annual profit for intensive production will be \$200/acre at wholesale prices and \$1,000/acre for low-input production at retail prices. Therefore, the net annual return on the investment is 2% for the intensive practice and 10% for the low-input practice. In other words, low-input practices might provide a substantially greater annual return on the initial \$10,000 investment. Furthermore, the potential risks and losses associated with low input practices are much lower. While small-scale, low-input production may not provide enough income to live on, it may offer an attractive opportunity for a high rate of return with a limited capital investment.