



# Aquaculture



## Facts, Tips and References

Aquaculture is the general term used to describe the propagation and rearing of aquatic animals in controlled or selected environments. Although this is a growing industry in the United States, the vast majority of fisheries food products eaten here are imported. Aquaculture sales for the nation for 1998 surpassed 290 million dollars.

For the state, sales totaled more than 2 million dollars. Michigan households and restaurants consume an estimated 144 million pounds of fish annually. The approximately 70 commercial aquaculture operations in the state produce only 12 percent of this number. This leaves us importing from other avenues 78% of our fish market. Over half the fish raised commercially are trout. Other important species here are striped bass, perch and walleye. Fish are produced primarily for fee fishing and recreational use. "Retail sales" is listed as the third highest market.

It is estimated that to start a trout production would cost approximately \$200,000. Lower levels of investment will limit income. The average sale price for food-sized trout in 1990 was \$2.34 a pound.

Aquaculture is one of the fastest growing segments of agriculture. Its popularity and success as an investment opportunity and a means of diversifying farming operations have resulted in a growing interest among traditional agriculture producers.

A fact sheet put out by the North Central Region Aquaculture Center lists a 4 step process to establishing a commercial fish business. A study of the water supply should take place as early in the process as feasible. Stages include:

Step 1	Planning
Step 2	Training
Step 3	Small scale pilot tests
Step 4	Commercial operations

This bulletin (Making Plans for Commercial Aquaculture in the North Central Region) can be obtained on-line or by contacting your extension office (see addresses below).

Aquaculture ventures can be extremely labor intensive. The cost of labor may be the single most limiting factor in terms of production costs. Less labor intensive setups usually have high feed costs. Poor understanding of the nutritional requirements of the fish can result in rigid diet formulations. This adds to the cost of production.

The two greatest constraints to growth that were indicated in a survey taken by growers already in the business were marketing problems and lack of capital. Insufficient water availability was also listed as well as lack of time and restrictive regulations. Currently the number of permits required to establish an aquaculture business in Michigan are minimal however the process does take time. Expect it to take a year for the planning and permitting stages to be completed.

**For more information:**

"Managing Michigan Ponds for Sport Fishing" is a good reference book to get the construction portion of the business started. It lists species examples, regulation requirements and gives construction tips. This book can be purchased for \$3.50.

Three bulletins put out by MSU Extension that will give you more information are:

E2456 Michigan Aquaculture Fact/Sheet,

E2455 A guide to licenses and permits for aquaculture in Michigan

E1775 Making plans for Commercial fish culture.

You can obtain any of these by contacting the MSUE Bulletin Office at 10B Agriculture Hall, MSU, East Lansing 48824. There are other bulletins concerning aquaculture available as well. A complete list will be at the extension offices and the cost per bulletin is \$1.00.

Another good source of information is "Making Plans for Aquaculture". This is put out by NCRAC and can be downloaded from AquaNic.

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AquaNIC- On-line at [www.aquanic.org](http://www.aquanic.org)

