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Charles J. Chopak, Department of Fisheries and Wildlife
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What Consumers Want: Advice for Food Fish Growers

Charles J. Chopak

Department of Fisheries and Wildlife

American consumption of fish and shellfish increased from 12.5 pounds per capita in 1980 to 15.5 pounds in 1990, an increase of 25 percent (USDA, various years). In recent years, the low fat levels and high percentage of omega-3 fatty acids in fish have been linked with reduced incidence of heart disease. In addition, fish is high quality protein that also supplies essential vitamins and minerals. Increasing concern among Americans over health and food safety issues has led industry experts to project that annual per capita fish and shellfish consumption will reach 20 pounds by the year 2000 (NOAA, 1988). If this occurs, an additional one billion pounds of edible fish and shellfish will be needed annually.

This increased consumption of fish—coupled with the fact that the world fisheries stocks are at or nearing maximum sustainable harvest levels—is an opportunity for both U.S. and Michigan food fish growers. Aquaculture was the fastest growing U.S. agricultural subsector during the past decade, with a 265 percent increase in production. Michigan ranks seventh in the United States in trout sales, with a growth in trout sales averaging 23 percent per year since 1988. A 1991 survey of Michigan aquaculture producers showed that 62 percent of food fish businesses had been started in the previous five years (Newman, unpublished data).

This report is intended to help Michigan fish growers improve the marketing of their food fish products. After defining marketing, it reviews food fish enterprises in Michigan, what consumers want, consumer tastes and preferences, and consumer awareness of the Michigan aquaculture industry.

The majority of the data used to prepare this report were collected in a statewide consumer survey conducted in 1991. The sample included 336 households that were surveyed by telephone—103 in Detroit, 125 elsewhere in the Lower Peninsula and 108 in the Upper Peninsula.¹

What is marketing?

The first step to improve food fish marketing is to understand what the term “marketing” really means. Growers can approach the marketing of their food fish products in two ways: from either a production perspective or a marketing perspective.

Production perspective: Marketing is the sale (disposal) of food fish to any marketing business or directly to consumers.

Marketing perspective: Marketing includes all decisions that influence the consumers' perception of the fish products. Therefore, all production decisions (what and how much to produce) and distribution decisions (where and how to sell the product) are part of marketing.

¹More detail about the research methods used in this survey can be found in Chopak (in press).

The main difference between these two definitions is that the marketing perspective recognizes that decisions on what, how and how much to produce are in fact marketing decisions. This more complete definition clearly illustrates the influence of production decisions on later choices that growers make about how to distribute their food-size food fish.

What do consumers want?

Because of changing lifestyles, changing populations, and the rapid development of food processing and preparation technologies, consumers increasingly demand convenience, quality, variety, familiarity and value in food products (Pierson and Allen, 1990). Farm-raised fish products have the potential to address all five of these consumer demands. First, to improve the convenience of farm-raised products, some processors in the South are developing ready-to-cook aquacultural products (for both conventional and microwave ovens). Second, because farm-raised products are grown in a controlled environment, they offer quality, consistency and safety. Third, consumers will feel more comfortable about trying new farm-raised products with more information about fish preparation and handling available to them (e.g., recipe cards). Fourth, a diversity of farm-raised products will encourage consumers to try new products, including more species and a variety of processing forms. Finally, as more anglers follow the practice of "catch and release" with sport fish, they will rely increasingly on aquaculture to provide fish for their home consumption. Michigan growers have the potential to deliver farm-raised fish products that are consistent with consumer demands, but work is needed to meet these challenges.

Consumer tastes, preferences for fish and shellfish

An understanding of consumer preferences for fish and shellfish is important to growers marketing aquacultural products. This section examines consumer preferences for fish and shellfish—species, freshness, method of preparation and purchasing behavior. A discussion of some attitudinal questions about preferences is also included.

Consumer preferences for fish and shellfish species, as they varied across the state, are presented in Table 1.

In Michigan, preferences for fish and shellfish are different from preferences in the rest of the nation in two ways²:

- 1) Freshwater fish are consumed more often than saltwater fish because they are more available, more familiar and less expensive.
- 2) Trout is preferred over catfish, not only because it is more available, but also because it is more familiar.

The ranking of fish and shellfish species preferred by Michigan consumers varied across the state in three ways:

Shellfish were preferred by more consumers in Detroit than in either the Lower or the Upper Peninsula. In the Lower and Upper Peninsulas, the most preferred fish was lake perch, which ranked second in Detroit.

Ocean fish—for example, orange roughy and tuna—were more popular in Detroit and the Upper Peninsula than in the Lower Peninsula.

Consumer preference for farm-raised fish, mostly rainbow trout, was much larger in the Lower Peninsula than in either Detroit or the Upper Peninsula.

Consumers overwhelmingly stated their preference for fresh fish (66 percent) over frozen fish (4 percent), but a surprising number of consumers stated that they liked fresh and frozen equally well (29 percent).

²The Food Marketing Institute reports that the 20 most commonly consumed fish throughout the nation are: tuna, shrimp, cod, pollack, catfish, clam, flounder, salmon, scallop, crab, snapper, perch, trout, halibut, swordfish, sole, lobster, orange roughy, turbot and surimi products.

Table 1: Top 10 fish and shellfish preferred by Michigan consumers, by group and total sample, 1991.

FISH OR SHELLFISH	TOTAL SAMPLE (%)	METRO DETROIT (%)	LOWER PENINSULA (%)	UPPER PENINSULA (%)
Shellfish ³	22	31	18	20
Lake perch	21	16	20	26
Whitefish	12	6	17	13
Orange roughy	7	12	1	10
Rainbow trout	5	2	11	1
Lake trout	4	1	11	0
Tuna	3	3	4	0
Salmon	2	3	0	2
Walleye	2	1	3	2
Bass	2	5	0	0

³For the purpose of this analysis, all shellfish are grouped together, including shrimp, lobster and scallops.

Consumers who reported they preferred fresh fish stated that they believe it has a better taste (80 percent), they like wild-caught fish (6 percent), it is healthier (4 percent), it has a milder odor (2 percent) or they just don't like frozen fish (1 percent). Consumers who reported that they liked frozen fish better stated that they are easier to prepare (33 percent), are easier to cook (25 percent) or taste better (17 percent).

For home consumption, households reported the following preferences:

- Consumers overwhelmingly prefer to buy fish fillets (68 percent), though other consumers stated they prefer whole fish (10 percent), breaded fish pieces (8 percent) or fish steaks (4 percent).
- Most people purchase fish in quantities varying from 1 to 2 pounds (58 percent).
- The most popular methods to prepare fish were frying (34 percent), broiling (27 percent) and baking (26 percent).
- Farm-raised fish are most frequently purchased in grocery stores or ordered in

restaurants, rather than purchased in seafood or fish markets, directly from commercial fishermen, at fish farms or in specialty stores.

Consumers were asked their opinions about specific qualities of fish and shellfish products available to them in Michigan, including their attitudes about taste, appearance, packaging, availability, quality, and safety of fish and shellfish products. Consumers stated the following preferences (the numbers in parentheses indicate the percentage of consumers interviewed who agreed with that statement):

- Like fish with a mild odor (88 percent), a mild flavor (79 percent), a firm or flaky texture (91 percent).
- Like fish with an appealing appearance (58 percent) that is both well packaged (61 percent) and well displayed (61 percent).
- Eat fish primarily because it is healthy and nutritious (92 percent).
- Are concerned that fish in Michigan contain too many contaminants (72 percent).

Consumer awareness of the Michigan aquaculture industry

Though a majority (57 percent) of the households contacted in all regions of Michigan are aware that fish are raised on farms in the state, consumers are generally not knowledgeable about the industry and its products. Only a third of those respondents who stated that they were aware of Michigan's aquaculture industry were able to identify where Michigan farm-raised fish are sold. Furthermore, only 20 percent of those respondents who stated they were aware of the industry correctly identified species that are raised by Michigan fish growers. Those consumers who had heard about the aquaculture industry in Michigan stated that they learned about the industry from friends (21 percent), a label on the fish product (15 percent), newspapers (11 percent), signs in stores (11 percent) or the media in general (10 percent), or they bought directly from a fish grower (7 percent).

Consumer experience with aquacultural products

Slightly more than a third of the households contacted stated they have tried Michigan farm-raised fish. The majority of these households have done so at home (47 percent), but many consumers have also eaten them in restaurants (38 percent) or other people's homes (9 percent). The most often eaten Michigan farm-raised fish throughout the state is trout (42 percent), followed by perch (22 percent) and catfish (11 percent). Consumers in the Lower Peninsula more often eat trout. Perch and catfish, though identified as Michigan farm-raised fish, were probably either lake fish (perch) or farm-raised in the South (catfish). The frequency of consumption of farm-raised fish was low, with almost three-fourths of all households eating these products less than one time per month. The aquacultural products most often consumed away from home were trout (31

percent), perch (19 percent) and catfish (8 percent).

Consumer willingness to try Michigan aquacultural products

To assess consumer preferences for farm-raised fish, given its limited availability in stores and restaurants, consumers were asked some questions about their willingness to purchase these products. An overwhelming majority (82 percent) of the respondents stated that, if it were available, they would purchase Michigan farm-raised fish. Reasons consumers provided for their willingness to eat these products include:

- These products are contaminant-free (18 percent).
- They like fish (15 percent).
- They want to support Michigan businesses and farms (15 percent).
- They believe these products would be of superior quality (14 percent).
- These products are healthy and nutritious (12 percent).
- They want to try them (8 percent).
- These products would be less expensive (4 percent).
- These products would be fresher (4 percent).

Those people who stated they would not purchase Michigan farm-raised products if they were available gave reasons that included:

- They don't like fish (34 percent).
- They prefer to catch their own (28 percent).
- They expect that they would be of poor quality (10 percent).
- They wouldn't taste as good (6 percent).
- They don't eat fish (6 percent).

Consumers stated that the aquacultural products they would most like to see in stores and restaurants are perch (31 percent), trout

(19 percent), catfish (8 percent), whitefish (7 percent), walleye (7 percent), bass (5 percent) and salmon (3 percent).

Summary

Michigan fish growers could supply farm-raised fish products that consumers want, but some obstacles restrict their ability to do so. The largest obstacle is that consumers are generally unaware of Michigan farm-raised fish products. Though a majority of respondents stated that they are aware that fish are raised on farms in Michigan (57 percent), careful examination shows that consumers are generally not knowledgeable about Michigan's aquaculture industry and its products. Many respondents were either not able to identify a market where Michigan farm-raised fish are sold, or incorrectly identified lake fish or aquacultural products from Southern states as originating in Michigan.

Slightly more than a third of the households contacted stated that they have tried Michigan farm-raised fish. The most often eaten

Michigan farm-raised fish was trout, followed by perch and catfish. The number of times per month that households reported eating farm-raised fish products was low, with almost three-fourths of all households eating these products less than one time per month. Yet an overwhelming majority of consumers interviewed (82 percent) stated that they would purchase Michigan aquacultural products if they were available. Reasons offered were that they believe these products are contaminant-free, of superior quality and nutritious. Species that consumers would like to purchase include perch, trout, catfish, whitefish, walleye, bass and salmon.

The challenge to Michigan fish growers is to provide these products that consumers want to purchase, while also addressing their concerns about convenience, quality, safety and value. Furthermore, growers need to understand the critical relationship between production and distribution decisions. Marketing is a difficult task that requires planning, foresight and preparation.

Sources of Information

Extension bulletins

To obtain any of these bulletins, contact your county Extension office or the Michigan Cooperative Extension Service Bulletin Office (10B Agriculture Hall, Michigan State University, E. Lansing, MI 48824).

Fisheries

- E-1179 Great Lakes Fish Preparation
- E-1180 Freshwater Fish Preservation
- E-1323 Commercial Freezing of
Freshwater fish
- E-1775 Making Plans for Commercial
Fish Culture
- E-1776 My Bluegills are Stunted, Help!
- E-2028 Eating Great Lakes Fish
- E-2016 Testing Contaminants—A Guide
for Home and Farm
- E-2409 Promoting Fee-fishing
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- E-2411 What Brokers, Wholesalers,
Retailers and Restaurants Want:
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Other related readings

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