

Teaching Plan:

Module: Crawfish Farming - Section D

Problem Area: Harvesting and Marketing Crawfish

Estimated Time: 4-6 hours

Goal: The goal of this problem area is to develop skills in harvesting and marketing crawfish, with emphasis on when and how to harvest and the development of markets for crawfish.

Learning Objectives: Upon completion of this problem area, students will be able to:

- explain harvesting
- describe efficient harvesting procedures
- explain crawfish grading
- explain functions in marketing crawfish
- describe approaches in marketing crawfish

Resources: The following instructional resources are needed to complete this problem area:

Essential:

Transparencies.

Additional:

Small-Scale Marketing of Aquaculture Products (SRAC Publication No. 350).

Crawfish Production: Harvesting, Marketing and Economics (SRAC Publication No. 242).

The videotape "Crawfish Aquaculture in the South" (produced by the Southern Regional Aquaculture Center and available through the Cooperative Extension Service in each state).

Any books, bulletins or other materials on crawfish aquaculture. Examples include the following:

Direct Marketing of Fish and Shellfish, by Davis, James T. (n.d.), College Station, Texas Agricultural Extension Service.

Introduction to Aquaculture, by Landau, Matthew, John Wiley & Sons, Inc., NY, 1992.

Aquaculture: An Introduction, by Lee, Jasper S. & Newman, Michael E., Danville, IL, Interstate Publishers, Inc., 1992.

Enjoying Louisiana Crawfish, by Patrick, Ruth M. & Moody, Michael W., Baton Rouge, LA Cooperative Extension Service, 1992.

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Journals, magazines, and other periodicals on aquaculture, especially those with articles on harvesting and marketing crawfish. One example is the **Water Farming Journal** published by Carroll Trosclair and Associates, Inc., 3400 Neyrey Drive, Metairie, LA 70002.

Content and Procedures

Preparation (Interest Approach):

To develop student interest in this module, have students name various clothing and food products they frequently use. An example is a hamburger. Ask students to trace the product from the farm to them. Name where the ingredients are produced and the steps that the products pass through before they get them. With the hamburger, many steps are involved because of the large number of different ingredients that go into a hamburger.

Ask students if they feel that crawfish go through some of the same steps. Invite the students to name how they might get the crawfish they eat. (In many cases, the marketing of crawfish is far less elaborate than the hamburger.)

Indicate that understanding the marketing process is essential for financial success in crawfish farming.

Presentation:

A. What is harvesting?

Use TM D1 to present the objectives for the problem area. Use TM D2 to describe harvesting. Tour a crawfish farm during harvest.

1. Harvesting is the process of capturing the crawfish that have been produced.
 - a. Harvesting accounts for 60-80% of the labor in crawfish farming.
 - b. Crawfish are harvested for 120-150 days a year, beginning in November and ending in June.
 - c. The volume harvested may be balanced throughout the harvesting season.
2. Crawfish harvest may be cyclic based on a number of environment h factors, such as temperature, weather, water quality, and forage.
3. Several procedures are important in having a successful crawfish harvest.

Use TM D3 to outline the procedures to follow to insure a successful harvest. Determine the design of the traps used in harvesting.

1. Traps must be designed properly.
 - a. Most traps are made of 3/4-inch meshed wire.
 - b. Trap design includes 2 or 3 entrance funnels.
 - c. Traps should have a collar to minimize crawfish escape.
2. An adequate number of traps should be used.
 - a. The number of traps depends on the density of the crawfish and the rate at which they are to be harvested.
 - b. The general rule is that 20-40 traps are used for each acre of pond.
3. Traps should be properly baited.

Determine the bait used in traps and how the farmer assess the advantages of the different baits.

- a. Many growers use 1/4 to 1/3 lb of scrap fish, such as shad, or fish heads per trap.
- b. Some growers use artificial bait or a combination of fish and artificial bait.

4. Traps should be tended daily.

Ask students how many traps a person should work in an hour. (The number varies depending on the use of equipment. A person wading in a pond can harvest 200-250 a day. Someone in a boat can do that many in an hour!)

- a. In small ponds, people may wade around the water.
- b. With large ponds, specially made boats with powered wheels on the front and rear may be used.
- c. Regardless, individuals must be to move rapidly from one trap to another.

5. Traps are quickly emptied and rebaited.

Emphasize the importance of people developing good speed in emptying and rebaiting traps.

- a. Crawfish are dumped from the trap into the boat.
- b. Harvested crawfish are stored in mesh bags on the boat and protected from damaging sun and other weather conditions.
- c. Bags usually hold 40-50 lbs of crawfish.

6. Harvested crawfish are cleaned of debris and other foreign matter before bagging.

- a. Trash, such as vegetation, should be removed from crawfish before bagging.
- b. Any bait residue must also be removed before bagging.

7. Harvested crawfish must be properly stored in live form.

Ask students to describe what can happen if live crawfish aren't sorted properly (die, spoil, and lose value).

- a. Within 2 or 3 hours of harvest, crawfish should be moved to a high humidity cooler for storage.
- b. Crawfish can be stored at 46-48°F for several days before being resold or processed.

8. The quality of crawfish varies with the time of the year.

- a. The first crawfish harvested in November are typically the older and surviving brood crawfish that were stocked in the spring.
- b. Growers are cautioned to watch for hollow tails and dark colors.
- c. Dark-colored crawfish may have hollow tails.
- d. As the season progresses, younger crawfish grow and are harvested.

B. What is grading?

Show TM D4. Inspect samples of crawfish for damage or other materials that should be graded out. Weigh individual crawfish to assess grade. Use TM D5 to outline common grades of crawfish.

1. Grading involves sorting crawfish for uniform size and quality.
2. Damaged, dead, diseased, or off-color crawfish are removed.
3. Crawfish are grouped on the basis of weight.

- a. Mechanical graders are sometimes used.
 - b. Hand sorting is labor intensive and requires a lot of time.
4. Crawfish grades are uniformly established and are based on the number of whole crawfish required to weigh a pound.
 5. The common grades are as follows:
 - a. Large or No. 1: 15 or fewer in a pound (weigh 1 oz or more each).
 - b. Medium or No. 2: 16 -25 in a pound (weight .5 to 1 oz each).
 - c. Small or No. 3: more than 25 in a pound (weigh less than .5 oz each).
 6. The preferred size for crawfish is 1-1.5 oz, or the No. 1 grade.

C. What is marketing?

Use TM C6 to define crawfish marketing.

1. Marketing involves connecting the producer of the crawfish with the consumer.
2. Marketing includes providing the product to the consumer in the desired form when it is wanted.
3. Many growers view that marketing has been completed when the crawfish have been sold.
4. Repeat business depends on a quality, uniform product.
5. Markets for crawfish tend to be local or regional.
 - a. Some crawfish buyers may haul crawfish several hundred miles for resale.
 - b. A few crawfish go into processing plants for the production of food products.
6. Different marketing functions may be needed to make the crawfish appealing to customers.

Use TM D7 to outline the functions in marketing crawfish.

- a. Several functions are involved in marketing crawfish:
- b. Grading: to insure uniform quality of the crawfish.
- c. Bagging: makes it easy to handle crawfish.
- d. Storing: is under refrigeration to keep the crawfish of good quality.
- e. Hauling: involves moving the crawfish to places where there is a demand.
- f. Pricing: is establishing a price for the crawfish.
- g. The functions vary, depending on what is needed to satisfy consumer demands.

D. What forms of crawfish are marketed?

Use TM D8 to outline the 4 forms in which crawfish are marketed.

1. Crawfish may be marketed in several forms:
 - a. Hard-shell for human food.
 - b. Hard-shell for recreational bait.
 - c. Soft-shell for human food.

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- d. Hard-shell for brood crawfish (used to stock growing ponds).
2. Growers often use one or more approaches in marketing.
 - a. Soft-shell crawfish tend to have a different marketing appeal from hard-shell crawfish.
 - b. Growers may have various combinations of marketing alternatives for their crawfish.

E. How are crawfish marketed?

Use TM D9 to outline approaches available in marketing crawfish. Ask students to explain why a retail store may be considered a bother to farmers.

1. Crawfish tend to be marketed by growers.
 - a. A sophisticated marketing structure as with some agricultural commodities, such as corn and beef cattle, does not exist.
 - b. Many crawfish producers use small, niche markets.
 - c. Crawfish marketing tends to be seasonal.
2. Several approaches are available to crawfish growers:
 - a. On-farm sales: Growers can sell the crawfish they produce on their farms to consumers or buyers who haul them to other places for resale.
 - b. Retail markets: Growers can operate retail markets in nearby towns or market through established fish markets.
 - c. In some cases, retail markets are little more than a parked pickup truck with the back filled with crawfish and a weighing scale at hand.
 - d. Retail sales may be a bother to some farmers and they prefer to let other people deal with the public.
3. Sales to processors.
 - a. Some crawfish can be marketed through medium to large processors.
 - b. The crawfish may be cooked into a prepared food.
 - c. A few processors prepare special orders for restaurants.
4. Cook and sell. This marketing involves the grower in cooking the crawfish and selling it to the public.

Ask if any students have eaten crawfish cooked by a grower. Have them describe how the business was operated.

5. Wholesalers. This involves selling the crawfish to people who will sell to a supermarket or restaurant.
6. Recreational stores.
 - a. Some crawfish farmers sell crawfish to bait shops for resale to sport fishers.
 - b. The farmer may make the delivery to the shop or a wholesaler with a delivery route may provide crawfish for a number of bait shops.

F. What principles are important for success in marketing?

Use TM D10 to list the principles for success in farmer marketing of crawfish. Ask students to explain why the principles are important for long-term success.

(The following is a list of principles for success in direct marketing crawfish from farm to consumer adapted from Direct Marketing of Fish and Shellfish by James T. Davis, Texas A&M University):

1. Always sell a good product.
2. Prepare crawfish the way customers want them.
3. Maintain a mailing list of potential customers.
4. Advertise in the newspaper and on the radio. (Don't overadvertise.)
5. Establish regular hours for making sales and post the times.
6. Use signs to identify that crawfish are for sale.
7. Have a convenient location.
8. Treat customers with respect.
9. Always evaluate marketing success to determine what worked and returned a profit.

Review:

Review the problem area by having students explain the objectives. Call on various members of the class to explain the content of each objective. The problem area can also be reviewed by asking students questions about the harvesting and marketing. The performance of students in the laboratory and in their supervised practice can help make review of the content relevant to students.

Application Activities:

Application can occur as a part of the review process or separately of review. Application can be in laboratory activities or in supervised practice.

Evaluation:

Evaluations should focus on the extent to which students achieved the objectives for the problem area. This will include the performance of the students on the review and application as well as written or oral tests. Example exam questions are attached.

TM D1

Objectives

- Explain harvesting
- Describe efficient harvesting procedures
- Explain crawfish grading
- Explain functions in marketing crawfish
- Describe general approaches in marketing crawfish

TM D2

Harvesting

- Harvesting is the process of capturing the crawfish that have been produced.
- Most crawfish are captured with traps.
- The harvest season begins in November and ends in June.

TM D3

General Harvesting Procedures to Insure Success

- Use properly designed traps
- Use an adequate number of traps
- Properly bait traps
- Tend traps on a daily basis
- Quickly empty and traps
- Remove debris from harvested crawfish;
store properly

TM D4

Grading

- Grading is sorting crawfish for uniform size and quality
- Damaged, dead and off-color crawfish are removed
- Group on basis of size

TM D5

Grades of Crawfish

- No. 1 (Large):
15 or fewer in a pound
Each crawfish weighs at least 1 oz
- No. 2 (Medium):
16-25 in a pound
Each crawfish weighs .5-1 oz
- No. 3 (Small):
More than 25 in a pound
Each crawfish weighs less than .5 oz

TM D6

Crawfish Marketing

- Connecting producer with consumer
- Producer provides what consumer desires

TM D7

Functions in Marketing Crawfish

- Grading
- Bagging
- Storing
- Hauling
- Pricing

TM D8

Forms in Which Crawfish Are Marketed

- Hard-shell for human food
- Hard-shell for recreation (bait)
- Soft-shell for human food
- Brood crawfish

TM D9

Approaches in Marketing Crawfish

- On-farm sales
- Retail markets
- Sales to processors
- Cook and sell
- Wholesalers
- Recreational stores

TM D10

Principles for Success in Marketing Crawfish

- Always sell a good product
- Prepare crawfish the way customers want them
- Maintain a mailing list
- Advertise
- Establish and post regular sales hours
- Use signs
- Have convenient location
- Treat customers with respect
- Evaluate marketing success

Quiz for Section D

Name:

Date:

Quiz on Harvesting and Marketing Crawfish

Directions: Answer the following questions in the space provided. Be sure to spell correctly and provide the most complete information you can.

1. What is harvesting?

2. What procedures are important in order to have a successful harvest?

3. When are crawfish harvested?

4. What is grading?

5. What are the common grades of crawfish? Describe each.

6. What is marketing?

7. What functions are involved in marketing crawfish?

8. What crawfish forms are marketed by producers?

9. What marketing approaches are used by crawfish producers?

10. What important principles should be observed for success in marketing crawfish?

Key for Quiz - Section D

1. Harvesting is the process of capturing the crawfish that have been produced. Traps are often used for this purpose.
2. The following are needed in order to have a successful harvest: Traps must be designed properly. An adequate number of traps should be used. Traps should be properly baited. Traps should be tended on a daily basis. Traps should be quickly emptied and rebaited. Harvested crawfish are cleaned and bagged. Harvested crawfish should be properly stored in live form.
3. Crawfish are harvested when they are large enough, usually November through June.
4. Grading is the process of sorting crawfish for uniform size and quality.
5. The common grades of crawfish are as follows:

No. 1 - large: 15 or fewer per pound.
No. 2 - medium: 16 to 25 in a pound.
No. 3 - small: more than 25 in a pound.
6. Marketing is connecting the producer with the consumer. The product is provided in the desired form when it is wanted.
7. Marketing functions are grading, bagging, storing, hauling, and pricing.
8. The forms of crawfish are hard-shell for human food, hard-shell for recreational bait, and soft-shell for human food brood crawfish.
9. The following marketing approaches are used with crawfish: on-farm sales, retail markets, sales to processors, cook and sell, sales to wholesalers, and sales to recreational stores.
10. The important principles to observe in marketing crawfish are the following:

Always sell a good product.
Prepare crawfish the way customers want them. Maintain a mailing list of potential buyers. Advertise.
Have and post regular business hours.
Use signs to promote the crawfish sales.
Have a convenient location.
Treat customers with respect.
Always evaluate marketing success.