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Western Regional Aquaculture Center

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QUALITY ASSURANCE
WHAT DOES IT MEAN FOR THE PRODUCER ?

INTRODUCTION

Aquaculture quality assurance (QA) programs are educational programs designed to ensure continued production of high-quality, wholesome, farm-raised aquaculture products. It is important to understand the principles involved in quality assurance and how you, the producer, can participate in your particular species QA program.

WHAT IS A QUALITY ASSURANCE PROGRAM?

For aquaculture producers, it is a management educational program emphasizing good management practices in the handling of animal health care products and which encourages a careful evaluation of current production practices. QA is a systematic analysis of those production practices that might compromise the wholesomeness of aquaculture products. The major emphasis of all food product QA programs is the avoidance of drug, pesticide and microbial residues.

Quality assurance is important for all industries. QA programs are developed to help ensure the cars we drive, the food we eat, and the medicines we take are safe, will last and will do the things they are designed to do. Within the last decade, several of agriculture's livestock producer groups have initiated QA programs. These include the beef, veal, dairy, pork, lamb and poultry industries. Most of these programs were developed in response to food safety issues. Fortunately, the aquaculture industry is positioned proactively, rather than having to react to safety issues. This is an excellent opportunity for aquaculture producers to demonstrate that their practices are safe, well monitored and the safety and quality of farm-raised aquaculture products can be assured.

QUALITY ASSURANCE AND FOOD SAFETY

Consumers of all foods have become concerned about the safety of their food supply. They are concerned about microbial contamination, drugs, pesticides and any residues in their food. This is especially true for consumers choosing to eat healthier and more wholesome food. Fortunately, aquaculture products are recognized for their high nutritional value and quality.

Quality and safety can only be achieved through a team effort. Producers, feed manufacturers, harvesters, transporters, processors, distributors and retailers must all do their part. Farm production of aquaculture species is only the first step - but an essential first step. If the product becomes contaminated during production, it may be difficult to "fix it" before harvest and impossible during processing or at the retail seafood counter.

The aquaculture industry may use various animal health care products and water treatment chemicals during production. Most aquaculture products are produced under environmentally controlled conditions, which allows considerable control over product quality. The safety of aquaculture products have been well established. The U.S. Food and Drug Administration (FDA) and U.S. Center for Disease Control consider seafood the safest choice of muscle foods. However, if drugs and chemicals are not used properly, according to label directions, it is inevitable that unacceptable residues will occur. Good management practices will minimize the use of drugs and water treatment chemicals. Violative residues (i.e., those exceeding acceptable tolerances) may also occur in aquaculture products produced in contaminated water or fed contaminated feed.

But, as a producer, it is possible for you to prevent contamination and to assure the public

and yourself of your product's safety and quality. That is the purpose of an aquaculture QA program. What could be more important? That is why your participation is essential.

QUALITY ASSURANCE MEANS COMMITMENT

The high quality of the finished aquaculture product requires a team effort. That effort starts with you - the producer. Everyone must commit to produce the best quality aquaculture product possible; one that satisfies the consumers' high quality standards.

Commitment to quality assurance is fundamental to ensure continued marketing success. Consumer concerns for food safety have increased federal and state efforts to ensure consumer protection. Regulatory agencies have developed and continued to develop drug residue testing procedures and on-site inspection programs that specifically target all farm-raised aquaculture products. These same testing and inspection procedures apply to imported products. A producer-based QA program is intended to help maintain the aquaculture industry-wide violation-free status and ensure superior products. This is a timely opportunity for the aquaculture industry to participate in QA programs that will prevent consumer concerns and assure that the industry continues to flouish.

CURRENT REGULATORY SYSTEM

There are four federal agencies that help ensure the safety and wholesomeness of aquaculture products for consumers. You, the producer, are ultimately responsible for providing a safe, wholesome product.

The four agencies are the U.S. Food and Drug Administration (FDA); U.S. Environmental Protection Agency (EPA); U.S. Department of Commerce (USDC); and the U.S. Department of Agriculture's (USDA), Animal and Plant Health Inspection Service (APHIS).

The FDA is responsible for regulating medicated feeds, drugs, color additives and other fish health products. FDA's Center for Food Safety and Applied Nutrition houses the Office of Seafood which may soon administer a mandatory HACCP (Hazard Analysis of Critical Control Points) seafood inspection program for all seafood processing plants.

The EPA has primary jurisdiction for disinfectants, sanitizers and pesticides such as algicides. The EPA is also responsible for regulating water quality and may issue National Pollutant Discharge Elimination System (NPDES) permits. The EPA also sets limits on the discharge of some commonly used water treatments.

The USDC currently offers a voluntary, fee-based inspection program to the aquaculture processing industry. This inspection ensures proper sanitation and product quality for the consumer.

USDA-APHIS, under the Virus-Serum-Toxin Act, regulates all veterinary biological products shipped into, within, or from the United States. Veterinary biological products include vaccines and disease diagnosis test kits.

The current regulatory system provides the American consumer with the safest food supply in the world. Today, however, the consumer wants assurance that the food supply is free from drugs and chemicals. There is pressure for increased regulation of products and even for removal of some products that are currently in use. For this reason, aquaculture producers must understand the importance of proper drug and chemical usage and prevention of contamination from any outside sources.

CRITICAL CONSIDERATIONS IN AQA PROGRAM

There are several critical considerations that must be addressed by any QA program. These considerations are similar in function to critical control points used by HACCP-based seafood processors. Proper decision making at each critical consideration decreases the possibility of environmental contamination and drug or chemical residues in aquaculture products and is vital to good management and responsible resource stewardship. These considerations include the following:

- Production site selection
- Water supply selection
- Water quality management
- Waste management
- Maintenance of the various life stages
- Feed quality and feeding practices
- Integrated animal health management
- Proper drug and chemical use
- Harvesting, holding and transporting

- Accurate and detailed record keeping

Each producer's QA program must be developed through careful evaluation of their respective operation. Discussion with Extension and fish health professionals can be important as you tailor the QA program to your own operation.

WHY SHOULD YOU - THE PRODUCER - PARTICIPATE IN A QA PROGRAM?

Specific benefits to your participation in an aquaculture QA program are:

- Being part of a nationwide program to ensure continued availability of high-quality, wholesome aquaculture products for consumers and other customers.
- Avoid harmful drug or chemical residues.
- Improved production and waste management practices.
- Decreased production costs.

OTHER BENEFITS INCLUDE:

An aquaculture QA program will allow the industry to showcase those practices it is already doing to ensure quality and educate consumers about the controlled conditions under which aquaculture products are produced.

The FDA supports voluntary aquaculture QA programs and QA programs may provide for proactive involvement in the regulatory process.

Employee confidence and pride increase when a QA program is implemented.

Exported products will meet the high safety and quality requirements of the receiving country.

By participating in your specie's QA program and maintaining QA records, you will meet the needs of your processor's effort to comply with the HACCP seafood safety program.

Remember that you, as a food producer, have a responsibility to consumers of the products you grow. The number of animals that you grow does not change this responsibility. The high quality of aquaculture products requires a team effort and you are the first step toward that effort.

HOW CAN PRODUCERS PARTICIPATE IN A QA PROGRAM?

Several aquaculture QA programs are either already available or in development. The Catfish Farmers of America and the U.S. Trout Farmers Association each have species-specific programs. The American Tilapia Association and the Striped Bass Growers Association are developing producer QA programs. A group of cooperating universities and fishery product organizations in the Northeast is establishing a HACCP-based QA program for growers of pen-raised salmon, farmed and relayed molluscan shellfish and hybrid striped bass. The National Aquaculture Association is developing generalized QA materials for finfish and shellfish growrs.

These QA programs are completely voluntary, but all aquaculture producers should participate. The goal of the aquaculture industry is to enroll every aquaculture producer in QA. The benefits to you and your farm are obvious, and the benefit to your industry will also be obvious.

So join today and work to make QA a vital part of this important industry. Contact your local or state aquaculture association about existing or proposed quality assurance programs. Your State Cooperative Extension Service or Sea Grant Marine Advisory Service can also provide information.

RESOURCE PUBLICATIONS AND VIDEOS

Aquaculture Quality Assurance: Become Involved. 1994. A 14-minute video available through your State Cooperative Extension Service or Sea Grant Marine Advisory Service.

Aquaculture Quality Assurance: A NationalTeleconference. 1994. A video available from Department of Fisheries & Allied Aquaculture, Swingle Hall, Auburn University, Auburn AL 36849-5628.

Federal Regulation of Drugs, Biologicals, andChemicals Used in Aquaculture Production.1993. Joint Subcommittee on Aquaculture, Working Group on Quality Assurance in Aquaculture Production. Available through the National Agricultural Library.

Guide to Use of Drugs, Vaccines and Pesticides in Aquaculture. 1994. Produced by the Joint Subcommittee on Aquaculture. Available through National Agricultural Library or your State Cooperative Extension Service or Sea Grant Marine Advisory Service.

ADDITIONAL INFORMATION

FARAD - Food Animal Residue Avoidance Databank. North Carolina State University, College of Veterinary Medicine, Raleigh NC 27606; (919) 829-4431, FAX (919) 829-4358.

Department of Environmental Toxicology, College of Agriculture and Environmental Sciences, University of California, Davis CA 95616; (916) 752-7507.

University of Illinois, 1220 Veterinary Medicine Basic Sciences Building, 2001 S. Lincoln Ave., Urbana IL 61801; (217) 333-6731.

Aquaculture Information Center:
National Agricultural Library
USDA. Room 304, Beltsville MD 20705
(301) 504-5558.

PRODUCER ORGANIZATIONS

Catfish Farmers of America
1100 Highway 82 E.
Suite 202, Indianola MS 38751

National Aquaculture Association
NAA, Executive Director
P.O. Drawer 1569
Shepherdstown, WV 25443
PH: (800) 626-330l or (304) 876-2251
Fax: (304) 876-0946

American Tilapia Association
111 W. Washington Street, Suite 1
Charles Town, WV 25414-1529
PH: 304/728-2175
Fax. 304/728-2196

Striped Bass Growers Association
P.O. Box 5452, Raleigh NC 27650-5452

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