

New Jersey's Diverse Aquaculture Serves Wide Array of Customers

Freshwater Aquaculture

The Garden State is home to 16 freshwater aquatic farms. What sets these apart from coastal fishery and aquaculture operations is their diversity. Each of these farms has their own unique species, production systems and markets.

The oldest privately owned finfish farm is the Musky Trout Farm, located on the Musconectong River in the valley and ridge country of northwestern New Jersey. The physiographic characteristics of this region are much different from the rest of the state. The higher elevations carved by glaciers result in a cooler climate where the springs flow with water at 51° F, which is ideal for spawning trout. In fact, this is the same region of the state where the New Jersey Division of Fish and Wildlife operates the Charles O. Hayford State Fish Hatchery in Hackettstown and the Pequest Trout Hatchery and Natural Resource Center in Oxford.

Musky Trout Farm was established in 1953. From a property that contained little more than a few spring-fed ponds, Musky employs a system of raceways and circular tanks using water supplied from the on-site spring. Trout are spawned, hatched and grown on the farm. Three live-haul trucks deliver brook, brown and rainbow trout year round.

Most of the trout are sold to customers who want to stock their private lakes and ponds. Because trout require a cooler water temperature, most stocking is done in fall and winter. Live trout are delivered to Chinese, Vietnamese, and Korean markets in New York City and northern New Jersey. Other fish are sold to processors who provide fillets to restaurants in the region. There is also a small greenhouse on the site dedicated to the production of warmer water fish, such as bluegill and crappie, for stocking private fishing ponds. Recognizing the recent growth of ornamental ponds as a landscape feature, koi and water plants are also being grown.

Ornamentals

On a worldwide basis, the majority of aquaculture production is destined for the food market, but aquaculture also caters to hobbyists. Water gardens continue to grow in popularity. In fact, what was once the goldfish bowl in the family living room has grown in size to the ocean reef aquarium and, in many cases, moved outdoors into the backyard koi pond. Several local farms supply fish, plants, snails and supplies to this growing market.

Salem County is home to one of the state's newest aquaculture farms, Nisei Koi Farm. Quality Koi Company started as a retail koi and water garden store in Philadelphia. In an effort to emulate production practices of the highest quality koi breeders in Japan, Quality Koi moved to New Jersey to begin construction of a state-of-the-art koi farm with the

goal of spawning and producing the highest quality koi in North America from champion Japanese bloodlines. In fact, Nisei is a Japanese term for a person of Japanese descent who was born in the United States. Construction began on an old asparagus farm in 2001 and today the farm has over 30 earthen ponds dedicated to producing the first-year koi called tosai.

The highest quality broodstock are spawned in the spring. Once the fry hatch, they are transferred to earthen tosai ponds that have been prepared and fertilized to produce a bloom of zooplankton for the juvenile koi to consume. Throughout the summer, the small koi in the ponds are meticulously graded and only the koi with the best shape, colors and patterns are restocked into ponds for further growth. In the fall, these high quality koi are harvested and transferred to heated greenhouses to ensure growth throughout the winter months. Greenhouses are designed with walkways and decks so customers can view the dozens of varieties with names like kohaku, sanke, showa, platinum ogon, and kumonryu. The last term means dragon in Japanese. The greenhouse systems feature the newest technology in drum screen filtration and ultraviolet sterilization. These systems are also available for sale to customers. Monthly auctions are held at Nisei Koi Farm where some of the finest koi can sell for over \$10,000. Quality Koi staff makes regular trips to Japan and participate in koi shows and exhibitions around the country.

Along with ornamental fish, New Jersey is at the center of a major market for ornamental aquatic plants. The demand is so high that producers who have developed effective marketing strategies routinely sell out. There are approximately 300 varieties of aquatic plants that have commercial value in the marketplace. New Jersey has four main producers who grow about 50 varieties.