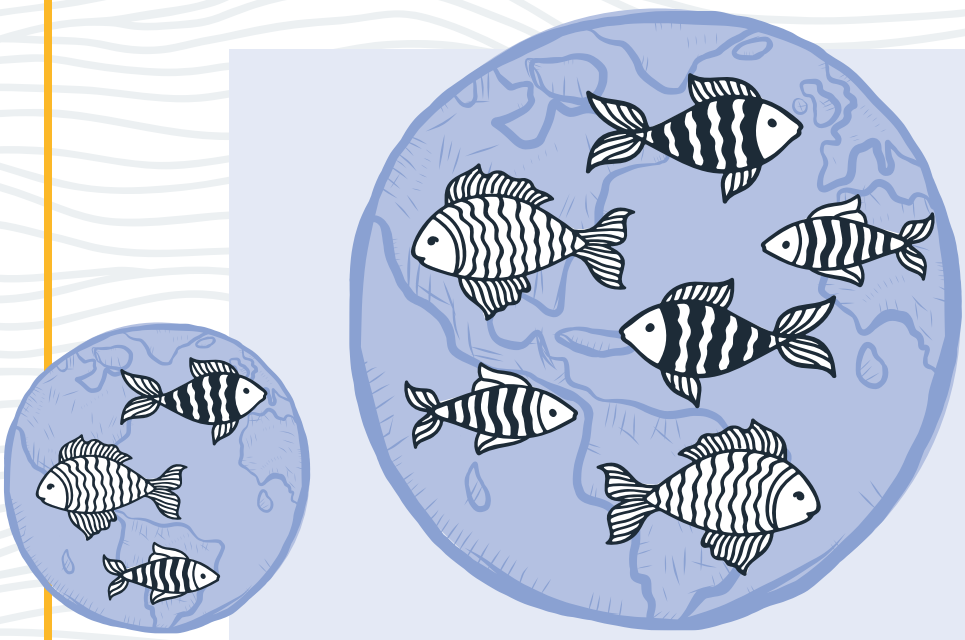
WHY AQUACULTURE?

Globally, fish consumption has nearly doubled in the last 40 years. At the same time wild fish capture has leveled off. This is due to decreasing wild stocks and high scrutiny of fishing practices. As a result, aquaculture has become one of the primary solutions to the worldwide demand for seafood.



1974 2014

Global fish demand continues to increase leading to a growing aquaculture industry (60 mtons/year, 2010)

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Popular Aquaculture Fish

- Yellow Perch
- Bluegill
- Freshwater Shrimp
- Baitfish
- Largemouth Bass
- Tilapia

Science and engineering in aquaculture

Finding solutions to solve the challenges that occur in fish farming is the job of an agricultural engineer. Aquaculture systems are relatively new and require engineers for planning and design. Agriculture engineers use basic physical and chemical science principles to design and maintain those systems. Agriculture engineers enjoy solving problems and often work to design agricultural machinery and facilities to produce our food, feed, fuel and fiber. The growth of the aquaculture industry and fish farming around the world will depend on agriculture scientists and engineers.

Careers in Aquaculture

Aquaculture is now the fastest growing animal-production industry, and it represents nearly a $100 billion dollar industry worldwide. Aquaculture is an applied science that integrates the subjects of biology, ecology, physics, chemistry, oceanography, and engineering. As such, there are a variety of careers available to those interested in this field. These opportunities range from Aquaculture Farmer, Feed Developer, Hatchery Manager, Systems Designer, and Water Quality Technician, to Extension Specialist, Business Manager, Marketing Expert and many others.

Soy based aquaculture feed information: www.indiana-soybean.com or http://www.soyaqua.org/

Soybean Meal in Aquaculture

Traditional aquaculture diets typically contain high levels of fishmeal and fish oil, a high quality protein source that fish grow well on. The aquaculture industry uses 25 percent of global fishmeal supplies and 36 percent of the global fish oil supply. While supplies of ocean fish remains stable, there is not enough to support the growth in the aquaculture industry. Additionally, fishmeal has become more expensive as competition for this limited resource increases. This has led to the evaluation of plant-based proteins, such as soybean meal, as substitutions for fish meal in fish diets. The remarkable progress in developing alternatives has reduced reliance on wild fish caught for this purpose.

Soybeans are an abundant crop and a sustainable, inexpensive feed source for aquaculture. Over the past two decades, evaluation of soybean products in fish diets has been conducted in over 54 aquaculture species. Soybeans offer more than just a nutritional benefit to the aquaculture industry. Diminishing use of fish meal and increasing use of soybean meal appears to improve the effluent characteristics of aquaculture operations. This will be an increasingly important consideration in aquaculture in the future.

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