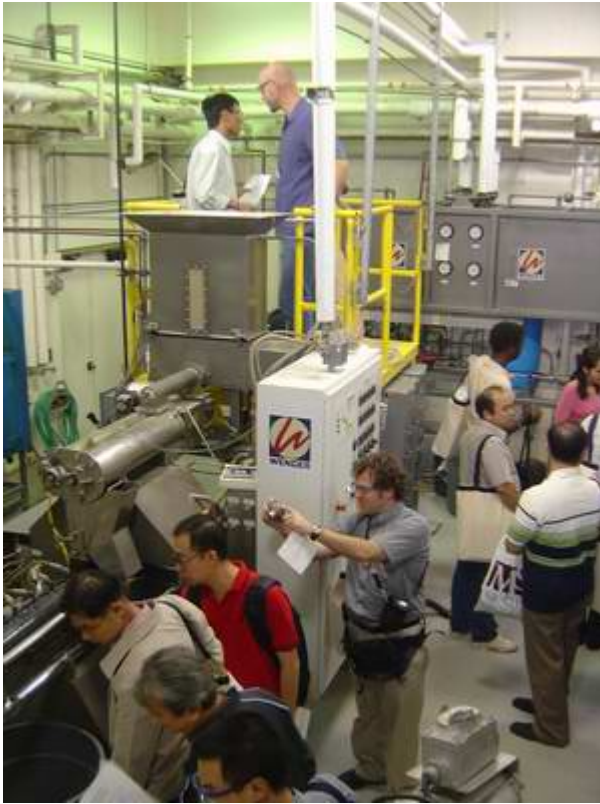


Participants from 18 countries learn about extrusion



The **Extrusion Technology Program of the Food Protein R&D Center (FPRDC)** completed their 13th Annual Practical Short Course on Aquaculture Feed Extrusion, Nutrition, and Feed Management. **Dr. Mian Riaz** organized this “hands on” short course that was held from September 24 to 29, 2006. It was a joint effort between the FPRDC Extrusion Technology Program and Texas A&M University’s Wildlife and Fisheries Department.

The aquaculture course is held every year on the campus of Texas A&M University.

This course was truly an international course as it attracted 40 participants from 18 different countries for the demonstrations and practical instruction.

These countries included Barbados, Bolivia, Brazil, Canada, Chile, El Salvador, Honduras, Indonesia, Jamaica, Malaysia, Netherlands, Peru, Philippines, Thailand, United Kingdom, United States of America, Uzbekistan, and Vietnam.

All of the FPRDC's courses are considered "practical" and "hands on" because they conduct equipment demonstrations in concert with each day's lectures to facilitate the learning experience and allow for 'one-on-one' interaction with qualified industry experts. These experts presented over 30 lectures during the course. The course concluded when the participants visited and took a tour of the Wildlife and Fisheries Department's Aquafarm.

The lectures covered a wide variety of topics regarding the aquaculture industry with emphasis on four major types of extruders: dry, interrupted flight, single screw, and twin screw.

Extrusion principles and the differences between each type of extruder were discussed in the lectures. These discussions included in-depth information on how each extruder type works and which raw materials are used for each type.

Other topics included establishment of new feed mills, feed mill organization, grinding and mixing materials, recycling waste, coating systems (continuous and vacuum batch), conveying, drying, conditioning, minimizing processing costs, odors in the production facility, nutrition and feeding practices and management of fish and shrimp, and techniques for floating, sinking, and slow sinking feed. The class also participated in class lab demonstrations of quick trouble shooting during plant operation.

The lectures began at 8am everyday and lasted until the middle of the afternoon when the class went to the FPRDC pilot plant for demonstrations. Monday's demonstrations focused on the dry extruders manufacturing aquatic feed, full fat soy, and fisheries by-products recycling. Tuesday's demonstrations included an interrupted flight expander creating aquatic feed and full fat soy. Also, a demonstration was provided on a continuous spray coating system. Wednesday's demonstrations presented a single screw extruder making floating catfish feed, a twin screw extruder producing ultra-fine fish feed, and an automated on-line monitoring system for moisture and bulk density. Thursday's demonstrations showed a single screw extruder manufacturing salmon feed (sinking), a twin screw extruder creating high fat yellow tail feed (slow sinking), and a vacuum infusion system. The short course ended on Friday with a tour of the Wildlife and Fisheries Department's Aquafarm.

The Food Protein R&D Center has successfully trained thousands of attendees from across the world with practical instruction since 1981. Every year, the Extrusion Technology Program offers courses and specialized training for the industry in the areas of Aquafeed, Pet Food, TVP, and Extruded Snacks. Their pilot plant is equipped with eight different types of extruders. They also work for the industry providing R&D in the development of their products.

Established in 1939, the Food Protein Research and Development Center is one of the oldest land-grant agricultural research and service programs in the nation. It specializes in process development of diverse agricultural crops and animal products into food, feed, and industrial ingredients. Basic research and testing technology development and training projects are conducted for private industry, trade associations, and state, federal, and international agencies. The Food Protein R&D Center is part of the Texas A&M University System through the Texas Engineering Experiment Station and managed as a center within the Artie McFerrin Department of Chemical Engineering.

Next year's course will be held September 23-28, 2007. Please visit their [website](#) or contact Dr. Mian Riaz at mnriaz@tamu.edu for more information.