Chinese study LSU food packaging

By ED CULLEN
Advocate staff writer

There are things the people at LSU could learn from a visiting fisheries researcher from China. How China feeds 1 billion people, for instance.

As it happens, Ji-Xiang Wang, on leave from Shanghai Fisheries College, is at LSU to look at the processing and packaging of seafood, something the university's Food Science Department excels in.

"Our packaging technology is not so advanced," Wang said. "We have vegetables not cut up. It is a lump. We cut in small pieces and put in beautiful packages and can sell more" at home and in the export market. "I'm very interested in the packaging industry.

"Mr. Wang will work with our researchers," said Auttis M. Mullins, head of the Food Science Department. "LSU is known for processing, improving the qualities of catfish, crawfish, shrimp, crab, oysters... waste fish."

Improving the qualities of waste fish.

"Waste fish are fish not normally consumed," Mullins said. "We flavor it, bread it, form it, make artificial lobster, crab, shrimp."

An artificial shrimp looks like a real shrimp, complete with head, to the casual observer, Mullins said.

Wang, at 58 years of age, may be six years from retirement or about to take a new lease on his job as teacher and researcher in Shanghai, the largest city in the world with a population of 11 million people.

"We may retire at 65 but that may be extended on the basis of health and ability. If my health and ability are good, I may go until 80. The head of my college is Y.T. Chu, the famous ecologist from Shanghai."

Most of the college professors Wang knows anything about retire at age 65.

The average income of teachers in Wang's college is $70 a month. A farmer's income is about $60 a month. A lowly government official earns $250 a month. "That is changing," Wang said. "We have reformed the system."

Shanghai grew up along the Whangpo River. Just north of the city, the Whangpo joins the Yangtze River and empties into the East China Sea. Great Britain forced China to open Shanghai to foreign commerce in 1842. The city, one of the world's leading trading and banking centers while under the influence of British, French, Japanese and American business interests, was taken by the Chinese Communists in 1949.

Today, skyscrapers and neighborhoods built by foreigners give the northern part of the city a more metropolitan feel. Many Chinese workers live in slums in the old part of the city.

By the early 1900s, there was enough unrest among the working classes that students, laborers and merchants were protesting the influence of the foreign concessions. Some of those protestors founded the Chinese Communist Party in Shanghai in 1921. In 1927, many Communists in Shanghai were killed by Chinese Nationalists or driven from the city.

Shanghai was in the hands of the Japanese from 1937 until 1945. By the end of the war, the United States and Great Britain had given up their concessions, and France followed suit in 1946. The Communists came to power in 1949. The city's government was again disrupted in 1966 when Party Chairman Mao Zedong launched a "cultural revolution" to strip the party's ranks of its enemies. The city was placed under the control of a committee directed by the army.

Today, virtually every aspect of daily life is touched by the government, but the government is, now, encouraging a flirtation with free enterprise. This year, the story of a farmer who was successful enough to buy a new Toyota automobile received international press play.

University professors are encouraged to work on innovations beneficial to manufacturing, Wang said. "A professor receives a bonus for innovations in factories," he said.

Wang's own college works hard in glove with Maling, the giant, government-run food processing concern.

"The factory is next to my college. It is our neighbor.

Wang's students work in the factory as part of their training.

Wang, his wife, Maling, and the couple's son, Liqun, a 22-year-old mechanical engineering student, are the Chinese equivalent of the upwardly mobile family. Maling is a physician. Wang's $80-a-month salary combined with Wang's gives the family a monthly income of between $150 and $200. Most of Wang's colleagues' spouses are college educated — high school teachers, college professors, physicians. Female medical doctors are common in China.


"We are very competitive," he said. Wang, who holds a bachelor of science degree, teaches about 50 percent of the time, spending the rest of his university day on research. Wang's research centers on the relation between particular fish food components and the composition of fish feeding on those components. Bottom line: Find fish feed that produces big, fast-growing, good-tasting fish. In China, that fish is the carp.

Before Wang left China, most of his research time was spent analyzing amino and fatty acids in carp.

A piece of boneless beef sells for about 80 cents a pound in China, cheap by American standards but way beyond the means of most Chinese. About 70 percent of the population in China is involved in the production of agricultural products. The typical Chinese family spends about 60 percent of its total income on food.

The breadwinner in a Chinese family works 500 minutes to buy a pound of pork compared to the 17 minutes worked by an American head of household. A Chinese worker labors 200 minutes to buy a pound of bread. An American worker works 375 minutes to be able to afford a dozen eggs, an American worker, five minutes.

The Chinese consume about twice the amount of pork consumed by Americans — 120 pounds a year to 60 pounds — but it is carp, at about 40 cents a pound, that turns the heads of Chinese housewives on market day.

Chinese fisheries research is aimed at producing as much fish meat as possible in as small an area as possible. Land is so dear a farmer probably wouldn't be permitted to dig a pond on his land. Most carp production is done in communities.

In communal fish production ponds, a carp reaches 10 pounds in about three years. The fish are usually harvested at three pounds, when the fish is about six months old. The fish feed on wetlands grasses or ground shell fish. The Chinese are also working with tilapia, a pan-size member of the carp family.

"It's five to seven inches long," Mullins said. "And similar to a white perch in appearance."

"They grow in waste water from (coal-fired) power stations," Wang said.

There is some growing of prawns in rice fields, not unlike Louisiana rice farmers taking a second cash crop from crawfish grown on rice stubble, Wang said, but prawn isn't that common in farmers' markets.

In addition to his work on communal land, the Chinese farmer may also work a private plot made available to him by the government. Most farmers grow vegetables for their own consumption or for sale at the market.

At LSU, Cooperative Extension Service specialists spend much of their time translating research into information of use to farmers. An American farmer might take a flyer on a catfish pond or crawfish pond. Most of the information generated by Wang and his colleagues is used by government-owned businesses.

"Farmers try to do other things," Wang said, "but they don't have enough time. If land is good for crops, the government wouldn't let a farmer grow aquaculture on it."

Wang has a mission at LSU in addition to his primary one of studying food chemistry, instrumental analysis and instrumental characterization of organic compounds. He hopes to pave the way for his son to come to LSU.

"Maybe he can get his doctorate at LSU," Wang said.