



Sean Ellis/Capital Press

Customers shop at the Capital City Public Market in downtown Boise in September. A first-ever national USDA study shows that 167,000 U.S. farms sold food locally through direct-marketing channels, including farmers' markets, in 2015.

## Survey: 167,000 U.S. farms sold food locally in 2015

By SEAN ELLIS  
Capital Press

BOISE — Eight percent of the nation's 2.1 million farms produced and sold food locally through direct-marketing in 2015, according to a first-ever national USDA survey.

The Local Food Marketing Practices Survey found that more than 167,000 U.S. farms produced and sold food locally in 2015 through direct-marketing practices, resulting in \$8.7 billion in revenue.

The survey was conducted by USDA's National Agricultural Statistics Service and was based on survey responses from thousands of farms around the nation.

Joe Parsons, chairman of the NASS agricultural statistics board, said determining how many U.S. farms sell food locally was a difficult task.

NASS used the small amount of data on local food sales it had obtained from previous Census of Agriculture surveys to reach out to 44,000 farm operations. More than 11,000 responded to the survey.

"I think we have some solid results ... at the national level," Parsons said.

The survey targeted 30 states that existing USDA data showed were likely to have the highest number of farms selling food locally through direct-marketing practices.

The survey results, which include both fresh and value-added food, showed that most of the revenue from direct-marketing practices, \$3.4 billion, came from farms selling directly to institutions and intermediaries, such as wholesalers, who locally branded the food.

A total of \$3 billion in sales came from 115,000 operations that sold directly to consumers, such as at farmers' markets and on-farm stores.

Sales directly to retailers totaled \$2.3 billion from more than 23,000 farm operations.

California dominated direct food sales with \$2.9 billion worth in 2015 and was followed by Michigan (\$459 million), New York (\$441 million), Pennsylvania (\$439 million) and Wisconsin (\$431 million).

In California, 14,315 operations engaged in direct food sales in 2015.

In Washington, 5,341 farm operations that sold food directly brought in \$150 million in 2015 and in Oregon, 5,227 operations brought in \$114 million.

Idaho was one of the states NASS didn't publish data on because of its relatively small population, which would make it a small overall player in direct food sales.

Instead of trying to define "local," which is an evolving definition, NASS focused on the practices that constitute selling locally, he said.

Other survey highlights:  
• Although 73 percent of farms that sold food directly to consumers had internet access, only 8 percent of them sold directly through online transactions.

• In terms of number of operations, beef (52,766) was the top commodity sold directly through all channels in 2015, followed by fruits and nuts (46,130), vegetables (46,029), poultry (32,332) and lamb and goats (15,078).

## Company to make fish feed from raw processing waste

By JOHN O'CONNELL  
Capital Press

HAGERMAN, Idaho — A fish processor has invested in a high-tech feed mill that will convert what has long been a worthless waste product into a key input, valued at about \$300,000 per year.

Leo Ray, owner of Fish Breeders of Idaho, believes he'll soon be the only business in the industry making fish feed directly from raw fish processing waste — an approach he said will result in a pellet fish will more readily convert into body mass while producing less excrement.

"Leo has been one of the innovators in aquaculture in the U.S. for many years," said Kevin Fitzsimmons, a University of Arizona environmental sciences professor specializing in aquaculture.

Fish meal and fish oil — essential components of fish feed often derived from pulverizing undesirable ocean fish — have been rapidly increasing in cost, due to dwindling wild populations. Ray said his own fish processing waste should be sufficient to meet all of his feed demand when blended with plant-based additives.

His largest customer, Whole Foods, will pay a premium for his fillets in order to make a sustainability claim. Ray said he may also make his feed without any ingredients derived from genetic modification, enabling Whole Foods to make a GMO-free claim. Fish Breeders is negotiating with local farmers to contract for wheat, corn and peas and will also use soybeans.

Until about a decade ago, Ray fed the guts and scraps left over from processing fillets to farm-raised alligators. Though Ray had good markets for alligator meat and hides, he had to give up the reptiles, which were prone to catching West Nile Virus. In



Courtesy of Leo Ray

From left to right, Tod Ray, Leo Ray and Coner Ray stand beneath the bins where they will store finished feed made from the raw processing waste at Fish Breeders of Idaho in Hagerman. They say they'll be the only operation in the industry making feed from raw waste.

recent years, Ray has given the guts and bones to area mink farmers.

"Where we process our own fish, we've got that product here, and we've been giving it away," Ray said.

Fish Breeders raises about 1.5 million pounds per year of trout, sturgeon, tilapia and catfish. The new machine, called an extruder, should be operational by the end of January. It will cost \$1 million, and Ray anticipates recouping his investment in about four years.

Ray said an extruder works like a large meat grinder, generating temperatures through friction of up to 300 degrees to cook the feed. His mill will also use supplemental heat. Upon entering, the ingredients are saturated with moisture, which remains liquid under high pressure and instantly becomes steam, creating an expanded pellet when removed from pressure.

Ray said the feed can float in water and remains intact, allowing feeders to better as-

sess how much their fish have consumed. Dog food and cereal are often made using the same process.

Ray currently buys fish feed made with the same process, but the fish meal is cooked into a powder before it's added.

By adding the fish scraps raw, Ray's process reduces the denaturing of nutrients during cooking, and eliminates shipping of fish scraps to a facility where they can be processed into a powder.

His production manager, Starla Barnes, will help get the machine running and formulate feeds for different species for her Ph.D. project. She's taking courses in nutrition online through the University of Wisconsin. Barnes, whose background is in dairy, said the mill should reduce feed costs by 30 percent.

Barnes said she chose to work at Fish Breeders because of her "interest in learning something new, and the fact that there's a lot of research in aquaculture left to be done."

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