

## COLD WEATHER CAUSES HIGH MORTALITY AT TILAPIA FARMS IN SOUTHERN CHINA

Last week Intrafish reported that sustained cold weather in southern China has killed a significant proportion of tilapia stocks on farms in Guangxi province, China's westernmost coastal province on the South China Sea. An executive from one of the farms estimated 60% of the province's tilapia stocks were wiped out. He said the current cold snap had lasted longer than expected and had caught Guangxi's tilapia farmers unprepared.

The situation is not dire: Guangxi is a relative newcomer to southern China's tilapia farming industry and produces a minority share of the country's tilapia.

Chinese farms produce more than half of the world's tilapia supply. The industry centers on Guangdong province on the south coast, where farms produce close to 50% of China's tilapia. Second tier production areas include Zhejiang province – east along the south coast from Guangdong – and Shandong province – further north on the east coast. Tilapia farms in these three traditional tilapia producing provinces are more established and their farmers more experienced, so they were better prepared to counteract the cold, suffering a much lower mortality rate than farms in Guangxi.

The article pointed in particular to the shallow depth of Guangxi's tilapia ponds as a major factor in the high mortality. Whereas farmers in Guangdong dig their ponds up to eight feet deep, ponds in Guangxi are generally three-four feet deep, meaning that the water cools quicker and farmers have less time to react to unexpected cold weather.

Water temperature is a key factor in any aquaculture operation. Tilapia grow well in water temperatures above 70°F. Along China's warmer southern coast, water temperatures regularly drop below this level in winter. The tilapia grow more slowly during this period but survive so long as the water temperatures remain above 50°F. Persistent air temperatures of 40-45°F in recent weeks have brought water temperatures below the 50°F threshold, leading to increased mortality.

The market will not immediately feel the effect of the high mortality for two reasons:

1. The official Chinese New Year holiday runs from February 7-12, but many seafood processing plants are closed from late January until mid to late February. Any shortage of tilapia raw material will therefore remain hidden until the plants resume processing.
2. The bulk of the dead fish were reportedly undersized fish slated for harvesting in April, May and June.

Whenever the actual flow of tilapia supplies is affected, the market is likely to react if a shortage becomes apparent. In 2004 droughts in southern China meant shallower tilapia ponds, which resulted in increased mortality when the cold winter weather arrived. Markets reacted early, with prices rising by 10% in December of that year, well before the effect was actually felt in the spring-summer harvest season.

Sources: Intrafish, Infofish, Fishbase, Wikipedia

*Implications for frozen seafood buyers:*

- Tilapia prices may rise in the coming weeks if it appears that the 2008 harvest in southern China will fall below expectations.
- The effects on the availability of tilapia supply will be delayed until the summer, when the bulk of the harvest reaches processing plants.

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