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## RESEARCH REPORTS

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- Title:** Inclusion of tilapia as a diversification strategy for penaeid shrimp culture
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- Abstract:** The potential for tilapia culture in brackish water shrimp ponds is evaluated. Aquaculturally important tilapia are the Nile tilapia (*Oreochromis niloticus*), blue tilapia (*O. aureus*), red tilapia (*Oreochromis spp.*) and, to a lesser extent, Mozambique tilapia (*O. mossambicus*). Nile and blue tilapia can tolerate salinities as high as 36<sup>0</sup>/00 to 40<sup>0</sup>/00, but best growth occurs at salinities below 20<sup>0</sup>/00. Red tilapia, either from Florida or Taiwan, survive and grow well in salinities of 36<sup>0</sup>/00. Mozambique tilapia is able to tolerate salinities as high as 120<sup>0</sup>/00, but good growth is reported through salinities of 36<sup>0</sup>/00. While these tilapia can spawn in waters of various salinities, greater fingerling production is achieved in freshwater or slightly saline (2<sup>0</sup>/00 to 5<sup>0</sup>/00) waters. Maximum salinity tolerance in tilapia appears to be reached at a total length of 50 to 70 mm. Acclimation of tilapia from freshwater to saline water appears best accomplished by increasing salinity from 2.5-5<sup>0</sup>/00 daily until the desired salinity is reached, although some producers acclimate more rapidly. Season, choice of culture species, source of tilapia fingerlings, market, and management/logistical considerations of tilapia-marine shrimp polyculture are discussed. Along the Pacific coast of Central America, polyculture of tilapia and marine shrimp may be limited to 6 to 7 months each year during and immediately following the rainy season depending on the tilapia species. Tilapia can be stocked directly into ponds or into cages placed in ponds, supply canals or drain canals. Both cage culture of tilapia in shrimp farm supply canals, and polyculture of tilapia and shrimp in production ponds are being implemented on shrimp farms in Latin America. Management systems have been developed for this polyculture where either tilapia or shrimp is the principal culture species.

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