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Title: Polyculture of tilapia with marine shrimp

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Abstract: The potential for tilapia-marine shrimp polyculture 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 ppt to 40 ppt, but best growth occurs at salinities below 20 ppt. Red tilapia, either from Florida or Taiwan, survive and grow well in salinities of 36 ppt. Mozambique tilapia is able to tolerate salinities as high as 120 ppt, but good growth is reported through salinities of 36 ppt. While these tilapia can spawn in waters of various salinities, greater fingerling production is achieved in freshwater or slightly saline (2 ppt to 5 ppt) 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 is best accomplished by increasing salinity from 2.5 ppt to 5 ppt daily until the desired salinity is reached. Season, choice of culture species, market, and management/logistical considerations of tilapia-marine shrimp polyculture are discussed. Polyculture of tilapia and marine shrimp may be limited to 6 to 7 months each year during and immediately following the rainy season along the Pacific Coast of Central America depending on the tilapia species selected for culture. Tilapia can be stocked directly into ponds or into cages placed in ponds, supply canals or drain canals. It remains necessary to determine the optimum stocking rates of tilapia for polyculture with marine shrimp and to validate these production systems on commercial farms.

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