

Care of Newly Captured Barramundi Broodstock

G. Schipp, Darwin Aquaculture Centre

The procedures described are based on those successfully used at the Darwin Aquaculture Centre

CAPTURE TECHNIQUES

Gill Netting

Gill netting is the preferred method for capture of broodstock. If carried out correctly this method will not jeopardise the survival of valuable fish.

The nets are checked frequently throughout the fishing period and any fish caught are quickly removed and transferred to a 200 litre fibreglass tank on board a dinghy. Oxygen is bubbled into this tank via a medical oxygen regulator at between 4 and 6 litres per minute. The water temperature in the tank is monitored and if it rises above 30°C, ice is added to bring it down to 26°C. The tank is kept shaded and a maximum of 40 kilograms of live fish are kept in it at any time. Fish can be kept on board the dinghy for up to six hours.

Transport

Newly captured fish are transferred to a 1000 litre-trailer mounted fish tanker for transport to the hatchery. A maximum of 80kgs of live fish may be carried in a tanker of this size. Oxygen is bubbled through the water and the temperature is kept below 30°C. Anaesthetic is not necessary for short journeys in a well-aerated transport tank.

ACCLIMATISATION

Arrival at the Hatchery

At the hatchery the fish are placed in 8000 litre tanks through which brackish water is flowing at a salinity of 9 ppt. This lower salinity level aids the recovery from capture injuries. Transfer of the fish direct from normal sea-water to brackish water has no

Apparent ill effects

The 8000 litre tanks serve two purposes. Firstly they act to quarantine the new arrivals from resident broodstock; and secondly, they make observation and training the fish to feed much easier.

Acclimatisation of Barramundi Broodstock

Before the fish are placed in the tank, the wounds of those with significant injuries are swabbed with Betadine antiseptic. As a rule, antibiotics are not used in the hatchery because their indiscriminate application may lead to problems with bacterial resistance.

Once the fish have recovered from their capture injuries and are feeding well, they are weighed, measured, tagged and the salinity of the water is raised to 30-32 ppt over several days. The fish are transferred to the main broodstock holding tanks 2-3 weeks later.

Feeding

Live bait fish, principally mullet, are used for the first few feeds for newly caught broodstock. Three to four small fish per barramundi should be sufficient. The delay before feeding commences depends largely on the extent of capture injuries sustained by the broodstock. Newly caught barramundi will occasionally eat the day after capture.

Once feeding has been established the diet of live fish can be changed gradually to freshly thawed fish, squid and prawns. The transition period may take up to two weeks or longer.

It is important that high quality food is used for the broodstock. Food should be snap frozen when fresh and stored at a temperature of less than -18°C. Good quality feed helps maintain condition and aids reproductive development. A varied diet is best and may consist of small whole mullet, squid, whiting, garfish, bream and prawns in varying proportions. Whole fish and squid, up to 15 cm total length, are given if possible, to save preparation time.

Feeding should be at approximately the same time every day, between 1-2:00pm. Generally no more than 3-5% of their body weight is given per fish per day. Greater quantities may lead to fat deposits which interfere with roe development in the females.

The actual quantities of food eaten depend on water temperature. Barramundi eat much less when the water temperature falls below 28°C.

NOTE: Any sudden drop in appetite should be investigated as this may indicate a health problem.

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