



Introduction

The barramundi (*Lates calcarifer*) is a large predatory fish found in tropical regions of Australia. It has a natural distribution extending from the Ashburton River in Western Australia (WA), throughout the Northern Territory (NT), to the Maryborough River in Queensland (QLD). The barramundi is a greenish grey on the dorsal surface, changing to silver on the sides. The mouth is large and the eye glows red at night under flashlight.



Biology

Barramundi can tolerate all levels of salinity from fresh to seawater and frequent a number of environments including coastal regions, estuaries, landlocked freshwater billabongs and rivers. Juvenile males spend the beginning of their lives in the freshwater reaches of rivers, migrating to a brackish environment to breed. All barramundi are hermaphroditic and begin their lives as male, changing sex to female at a weight of around 5kg.

Growth

Stocking rates in tank systems vary, depending on the capacity of the system and the intensity of the operation. Many producers work on a stocking rate of around 30-50kg/m³, however more advanced systems are able to increase the stocking rate.

The optimum temperature for barramundi culture is 28.5°C, with acceptable growth rates between 26-30°C. Temperatures below this range will result in decreased metabolism and growth. Barramundi





generally stop feeding at temperatures below 20°C. At optimum temperatures, barramundi can grow to market size (500g) within 6 months.

Barramundi are gregarious (readily school) and adapt easily to high stocking densities. However, by nature they are also highly cannibalistic and will eat tank mates up to two thirds of their own size. To avoid problems of cannibalism, stock should be graded according to the grading policy of each plant.

Diet

Barramundi are reared on progressively larger pellets as they grow from fingerling to market size. Most farmers prefer to use semi-floating extruded pellets as they float about 20cm from the water surface. Barramundi are reluctant to feed from the water surface or the pond or tank bottom. Diets produced by Australian fish feed manufacturers give good food conversion ratios (FCR) of 1.1 to 1.6:1.

Recent research has shown use of high protein (> 55%) and high energy (> 18% fat) diets for juvenile and plate-sized barramundi can greatly improve growth, FCR (< 1.0 in experimental systems) and profitability of barramundi farming. Formulated feeds need to be stored correctly to avoid loss of nutrients, this is particularly important in the tropics where fats will quickly go rancid and vitamins break down if not stored in an air-conditioned room.

Water Quality

Parameter	Range	Optimum
Temperature	20 - 38°C	28.5° C
Salinity	0-35 ppt	
PH	6.5-8	7.0
Dissolved Oxygen	6-12 ppm	10 ppm
Unionised ammonia	0 - 0.04ppm	0 ppm
Nitrite	0 – 0.04ppm	0 ppm

