



## **Feasibility study of breeding the *Macrobrachium rosenbergii* in drain water of sugarcane farms (Mirza koochak Khan sugarcane agro-industry)**

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### **Abstract**

Today, aquaculture experts known as the surest way to reduce the pressure on aquatic resources. Many of the water resources in our country that are not used for drinking and agriculture are suitable ecosystems for aquaculture. In some people's thinking, sugarcane drain water is considered as a harmful and destructive environmental hazard. This study was conducted to determine the feasibility of breeding the *Macrobrachium rosenbergii* using the sugarcane drain water of Mirza koochak Khan Sugarcane agro-industry . In July 2019, the storage of *Macrobrachium rosenbergii* larva cultivation (PL12) was carried out in 1.1 hectare ponds. Storage density was 1.25 pieces per square meter and the breeding period was 174 days. There was no change in water during the breeding period and the physico-chemical parameters of the water were monitored. The pond was aerated overnight for 6 hours (2 hours at noon and 4 hours at night) with two air-conditioning and air-handling units. During the breeding period, in a time interval of fifteen days, 40 shrimps were separately weighed and measured with a digital scale and a biometric ruler. The changing process of EC, pH and TDS in sugarcane farms are  $6.61\pm 0.53$ ,  $8.07\pm 0.07$  and  $4387.9\pm 425.5$ , respectively.



During the period, the average electrical conductivity of pond water EC and pH were  $7.22\pm 0.36$  ppt and  $8.43\pm 0.24$  respectively. At the end of this period the mean weight and length were 15.83 g and 16.51 cm, survival rate was 34.82 % and feed conversion ratio (FCR) was 2.22. At the end of the period, 8 catfish about 5 to 7 kg and about 220 kg crap that each of them was two kilograms were caught from inside the pond, which was the main reason of the decrease in the survival rate and, consequently, production.

**Keywords:** Sugarcane drain water, *Macrobrachium rosenbergii*, FCR, Khuzestan.