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To cite this article: P. Melotti, A. Roncarati, A. Dees & R. Vicenzi (2005) Largemouth bass (*Micropterus salmoides* Lacépède): results of farming trials, Italian Journal of Animal Science, 4:sup2, 589-590, DOI: [10.4081/ijas.2005.2s.589](https://doi.org/10.4081/ijas.2005.2s.589)

To link to this article: <https://doi.org/10.4081/ijas.2005.2s.589>



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Published online: 03 Mar 2016.



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Largemouth bass (*Micropterus salmoides* Lacépède): results of farming trials

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RIASSUNTO – Prove di ingrasso del persico trota (*Micropterus salmoides*, Lacépède) in Italia. Sono state condotte prove di ingrasso del *Dicentrarchide* suddividendo il ciclo produttivo in due fasi. La prima ha coinciso con il pre-ingrasso ed ha avuto inizio nel mese di marzo a partire da giovanili del peso medio di $5\pm 1,5$ g, provenienti dagli stagni di sverno e immessi alla densità di $60-100/m^3$ in bacini del volume unitario di $500 m^3$

approvvigionati con acqua di pozzo e provvisti di aeratore. Al termine di questa fase, durata un anno, i pesci av

vano raggiunto un peso di 100 ± 37 g, la sopravvivenza è stata del 50% e l'indice di conversione alimentare si

attestato su 1,65:1. I pesci sono stati quindi trasferiti in stagni di maggior volume ($4000 m^3$), dotati di aeratore

diffusore di ossigeno, alla densità di 5 soggetti $/m^3$. Dopo 210 giorni, è stato raggiunto un peso di 362 ± 65 g e l'in

dice di sopravvivenza è risultato dell'80%. L'indice di conversione alimentare è stato di 1,5:1.

Key words: largemouth bass, fattening trials, zootechnical performances.

INTRODUCTION – In the last years in the United States, the demand of largemouth bass (*Micropterus salmoides*) larger than the size usually produced for sport fishing purposes has increased. The growth phase is carried on in ponds, after having evaluated different strains (Williamson and Carmichael, 1990) using feeds for salmonids (Tidwell *et al.*, 1996) supplemented with amino acids (Coyle *et al.*, 2000). Also in Italy, the market currently requires largemouth bass of 300-500 g. This situation has induced one farmer to cooperate with our research centre and carried out trials to verify the possibility of rearing this fish, from the fingerling stage up to the size suitable for food, using the same farming techniques as those currently being applied in the United States (Davis and Lock, 1997).

MATERIALS AND METHODS – The experimental farming cycle was divided in two parts: the first consisted of a pre-fattening phase starting in March with fingerlings of a mean weight of 5 ± 1.5 g collected in the wintering ponds. These juveniles were stocked at the density of 60 fish/m³ in 3-500m³ natural pond supplied with well water and provided with one aerator, where they were kept for one year until they reached the mean weight of 100 ± 37 g. The second part (fattening phase) started in March of the third year of life where fish were harvested and a part of them (40,000 specimens) were transferred at the density of 5 specimens/m³ in 2 larger ponds (4000 m³) filled with well water and equipped with one aerator and an oxygen supplier disposal. In both phases fish were fed floating extruded diets 6 days a week. Feed distribution was stopped when water temperatures dropped below 7 or risen above 28°C. In the pre-fattening ponds the feed (46% protein; 22% lipid) was distributed manually in the late of afternoon at a maximum rate of 2.5% b.w. In the fattening ponds the floating extruded feed (44% protein; 24% lipid) was supplied at a maximum rate of 2% b.w. by means of a solar-powered feeder programmed to distribute the daily allowance during one hour at dusk. After seven months from the beginning of the second part of the trial, fish were collected and the main zootechnical parameters were evaluated: body weight and length, final biomass, weight gain, specific growth rate, food conversion rate and survival rate.

RESULTS AND CONCLUSIONS – The result of the trials confirm the possibility to grow the largemouth bass in Italy. At the end of the pre-fattening phase the weight of 100 ± 37 g was reached and a part of this stock was sold for restocking purposes. The survival rate was 50% and the food conversion rate was 1.65:1 (Table 1). In the growing phase the survival rate (80%) was similar to that reported in the American fattening conditions. A favourable aspect of this bass production is represented by the modest flow rate requested during the pre-fattening and growing phase. If we compare this fish to other similar warm-water species such as striped bass and its hybrids, largemouth bass exhibits more tolerance to the fluctuation of oxygen concentration than the Moronid species (Kerby *et al.*, 1986; Simco *et al.*, 2000).

Table 1. Main aspects of the trials carried out in ponds.

	Pre-fatte	
Farming phase length (days)	365	210
Water exchange (l/sec/ha)	10.0	5.0
Initial body weight (g)	5 ± 1.5	100 ± 37
Final body weight (g)	100 ± 37	362 ± 65
Final body length (cm)	17 ± 4.5	25 ± 7.5
Specific growth rate (%)	0.356 ± 0.04	0.27 ± 0.02