

GROWTH PERFORMANCE OF DIFFERENT RAINBOW TROUT *Oncorhynchus mykiss* STRAINS REARED IN TRENTO (NORTHERN ITALY)

Filippo Faccenda*, Emilio Tibaldi, Giuliana Parisi, Oreste Franci and Fernando Lunelli

Edmund Mach Foundation
Centre for Technology Transfer
via E. Mach 1, S. Michele all'Adige (TN), 38010, Italy
filippo.faccenda@iasma.it

We will present some results of an ongoing project aimed at analysing the major biotic and abiotic factors that influence the rainbow trout (*O. mykiss*) productive yield in the Trentino region (Northern Italy). Five trout strains were compared for their overall farming performance and suitability to be reared in the local farms. Eyed-egg samples of different strains were obtained from local and foreign suppliers. In the first part of the trial, the strains were compared in terms of egg size, hatching and growth rates up to the parr stage in a single farm and the intraspecific genetic variability was assessed using a microsatellites technique by analysing DNA extracted from random samples of caudal fin tissue.

Significant among-strains differences in growth performance were found after 8 rearing months (Table 1). In the second phase of the trial, parrs of each strain were divided into 3 lots. Then the lots of the 5 strains were transferred to 3 selected Trentino trout farms to carry out a performance test up to a market size of around 0.7 kg. Regardless of the location, all fish lots were kept at the same density and were fed the same commercial trout feed, six days a week. Individual weight and length were measured on random samples of 100 fish per lot every 2 months. At the same time, major water parameters were registered in the different farms. Specific growth rate (SGR), thermal growth rate (TGR), condition factor, allometric coefficient (Table 2) and feed conversion ratio (FCR) were calculated. Statistical analyses were performed with SAS and STATISTICA 9.0. The growth graphs fit quadratic equations and coefficient of relative daily growth ranged from 1.56 to 1.74 % during the weaning period, and from 0.50 to 0.92 % during the performance test. Among-strains differences in growth performance, condition factor, feed conversion and age at sexual maturity were found at market size. To summarize a local trout strain achieved the best growth performance during the juvenile stage, but a foreign strains recorded the best overall performances.

Coeff. of relative daily growth (%)		
Strain	weight	Length
A	1.563 c	0.499 c
B	1.676 ab	0.523 bc
C	1.672 abc	0.536 b
D	1.74 a	0.574 a
E	1.584 bc	0.498 c

Table 1: coefficient of daily growth

ALLOMETRY strain	Fish plant		
	1	2	3
A	3.30 b	3.37 b	3.17 a
B	3.26 b	3.30 c	3.12 b
C	3.42 a	3.48 a	3.17 a
D	3.31 b	3.26 c	3.17 a
E	3.30 b	3.30 c	3.13 b

Table 2: allometric coefficients