

**THE USE OF STRAWS AND HAY FOR ENABLES OF
THE SURVIVAL PERCENT AT *CTENOPHARYNGODON*
IDELLA ALEVINS**

**FOLOSIREA PAIELOR SI FÂNULUI PENRU
CREȘTEREA PROCENTULUI DE SUPRAVIETUIRE LA
ALEVINII DE *CTENOPHARYNGODON IDELLA***

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The use of hay or straws as developing source for plankton ensures a higher survival percentage of the fish of alevins to fry basins than the classic system. Hay or straws are placed in basins in stacks of 15-30 kg and are covered in water in a percentage of 75%. The experiment was carried at the Chiochis acvicultural farm in two basins of 0.25 ha each. The basins were populated with 200,000 and at the end of the experiment the survival percentage in the basin with hay was 36.15% as compared to the 6.7 percentage obtained in the basin without hay. The average weight of the samples in basin 1 was of 3.65 g/sample as compared to 1.8g/sample in the other basin. The objective of the study was to point out that, the use of environmentally friendly methods of growing plankton ensure the larvae a higher survival percentage and better weight gain in their first development stages.

Key words: straw and hay, *Ctenopharyngodon idella*, survival percent

Introduction

The present study started from the objective reality of the phenomena which take place in the aquatic environment and which result in a low survival percentage of the crucian carp alevins.

The current practice in the Romanian piscicultural farms regarding the development period of the alevins, from hatching to fry, shows a survival percentage of 5- 10 %.

The use of hay and straws enables a growth of the survival percentage from 5-10 to 50%. The advantages of using these materials are:

- they are for free
- they are easy to get
- environmentally friendly
- a low percentage of silting
- silting can be removed easily
- silting can be used as organic fertiliser

Materials and Methods

The study was carried from 2004 to 2005 in June – July on crucian carp alevins from Cirja farm, Vaslui County. The amount of used alevins varied from one year to another. Thus in 2004 there were 400,000 alevins, in 2005 there were 600,000 alevins.

The experiment was carried out in two basins with a surface of 0.25 ha each and with an average depth of 1.2 meters.

Basin features:

Surface	0.25 ha
H water	1.2 m
Shape	Square
Material	Soil

The hay (straws) was placed in stacks of 15-30 kg/stack at the edge of the basin so as to be covered in water in a percentage of 75%. The stacks were placed with seven days before the flooding of the basin so as to settle and thus not to be raised by water.

The flooding of the basins was made with 24 hours before populating. Both basins were populated with 200,000 crucian alevins. One was used as a witness and in the other one we placed six stacks of hay in 2004 and straws in 2005. The alevins in both basins were supplementary nourished with a mixture containing:

- powder milk 20%
- fish flour 5%
- soya 15%
- wheat 40%
- maize 20%.

The rations were distributed four times a day at 7 a.m., 11a.m., 3p.m., 9 p.m. over a period of 21 days.

Results and Discussions

The results regarding the survival percentage and the final weight after 21 days are shown in the table bellow:

	Basin 1	Basin 2
Number of alevins	200,000	200,000
Density	800,000/ha	800,000/ha
Period of time	21 days	21 days
Number of alevins harvested after 21 days	72,300	13,400
Survival percentage	36,15%	6,7%
weight	3.65	6.7g/sample

Death rate was noticed especially after 10 days and it was caused mainly by predators (frogs and ducks).

As a result of the study we recommend the use of hay and baled straws in order to stimulate the development of the natural food, especially plankton, which constitutes the alevin's food during the 4-5 days after their hatching as it was shown in the study.

The survival percentage can be increased over 50% if the ichthyophagist consumers are eliminated.

To confirm these results the team will repeat the experiment in 2008 using a closed system in which ichthyophagist organisms are not allowed, namely a pump-fuelled concrete basin in an enclosed precinct.

Conclusions

- The use of hay and straws in basins from alevins to fry ensure a high survival percentage.
- The larva growth dynamics in the basins where there is hay is bigger than in the other ones.
- The used materials are cheap and easy to get.

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