STUDY REGARDING THE FEED INFLUENCE ON GROWING PERFORMANCES AT BREED *CYPRINUS CARPIO*, USING FODDER ALLER CLASSIC

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Abstract

The aim of the current paper was to establish the growing rhythm of Cyprinus carpio breed using as food the Aller classic fodder. In the first stage a pond with a surface of 0.5 ha was populated with crap sapling. The total number of the sapling populated in this pond was 3000 individuals with an average weight of 70 grams per individual. To establish the growing rhythm were made, twice per month, a control fishing. The current research was realised in a farm from Moldova region in 2014.

Experiment started in April when the water temperature reached a value of 16°C. After first control fishing, fishes were assigned in three categories function of their weight. Monitoring of biological material took place from April till September resulting a fishes' mean weight from 70 g/individual till 1024 g/individual and the gain was of 1 kg fish for 1.7 kg administrated fodder. For a better development of fishes was kept under control the level of solvit oxygen at a value of 7 mg/l using some aerators. At the same time were administrated lime chloride and antibiotics due to apparition of some specific breed diseases.

Key words: fish, carp, fodders

INTRODUCTION

Fish guided rearing is a ancient occupation, but it is still actual, having in view that food necessary for humans it is in a continuous increasing [3, 4].

Aquaculture has the role to assure the necessary food for humans, this thing being possible to be realised by applying of some efficient and protective biotechnologies for preservation of biodiversity and aquatic environment quality [5, 1].

Since ancient times, in many countries of the world, fishes represented the main cheap protein source to fight against malnutrition, products obtained from aquaculture having a high content in essential amino acids, which frequently are missing in the protein substitutes of vegetal origin [3, 5, 6].

MATERIAL AND METHOD

The utilised biological material in the current paper was represented by 3000 individuals from *Cyprinus carpio* breed (carp) with an average corporal mass of 70 g/individual. Fishes were populated in a pond with a total area of 0.5 ha and depth of 1.2 meters.

Temperature increasing have a decisive importance for activating of digestive and assimilation processes and must be taken in consideration for supplementary feeding, especially in choosing of beginning and ending of feeding, as well as in choosing of maximum intensity periods in fodder distribution [4, 2].

Carp youth was monitored for a period of 6 months, period in which was effectuated a rigorous check for aquatic material through control fishing, but also by measuring the quantity of solvit oxygen in water.

The studied carp had a growth rate quite satisfactory due to fodder and concentration of solvit oxygen in water, this thing being helpful in increasing of corporal mass over the limit cited in literature.

Administrated fodder in pond was Aller Clasic 3 having raw protein RP% of 30 and content in raw lipids RL% being 7. In

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composition of those granulated fodder were mixed several flours such as: fish, blood, soy bean, rape flours as well as fish and vegetal oils.

For fish foddering were utilised two feeding devices with pendulum with a capacity of 50 kg/piece.

After first control fishing, captured individuals were divided in three sorting categories. On whole research period solvit oxygen in water was kept at a value of 7 mg/l using an aerator.

RESULTS AND DISCUSSIONS

Experimental programme started on 22nd of April when pond was populated with biological material at a water temperature of 16°C. First control fishing was realised on 27.05.2014 and were obtained the following results (tab. 1). Water temperature was between 18-19°C.

Table 1 First control fishing 27th of May

Category	Number of pieces	Total kg	Kg per individual
I	82	24.0	0.292
II	114	22.3	0.195
III	49	5.6	0.114

Fodder consumption specific for this growing period (20.04-27.05) was of 710 kg.

On 12th of June was effectuated the next control fishing for establishing the growing rhythm and efficiency of studied fodder (tab. 2).

Table 2 Control fishing 12th of June

Category	Number of pieces	Total kg	Kg per individual
I	33	12.7	0.384
II	63	19.2	0.304
III	57	12.2	0.214

For this period of 16 days we administrated a quantity of 290 kg fodders. Temperature in this period was between 20-24°C.

On 22nd of June we notice apparition of a disease specific for this breed.

Biological material was infested with Aeromonas so we started administration of a treatment based on antibiotics, more precisely administration of oxytetracycline as well as administration of lime chloride in the studied pond. Treatment was administrated in fodder by pulverization, calculating 7 g of antibiotic for 100 kg of fish. Due to acting in time on disease we didn't had losses regarding biological material.

The next control fishing was realised on 6th of July (tab. 3).

Table 3 Results for control fishing 6th of July

Category	Number of pieces	Total kg	Kg per individual
I	99	52.0	0.525
II	93	36.8	0.395
III	19	6.2	0.326

In this period temperature was between 22-24°C and administrated fodder was in a quantity of 430 kg.

On 29th of July we evaluated once again the growing rhythm by a control fishing (tab. 4). At that date was recorded a water temperature of 26°C. Control fishing was realised early in the morning not to stress too much the biological material.

Table 4 Results for control fishing 29th of July

Category	Number of pieces	Total kg	Kg per individual
I	61	51.2	0.839
II	46	27.3	0.593
III	32	14.8	0.462

Consumption of extruded fodders was of 1023 kg on a period of 23 days.

In August we administrated 4 kg of lime chloride for 7 days, the solution was administrated using a sprayer on the water surface. It was also observed an infestation of gills with aeromonas and pseudomonas administrating in fodder enrofloxacin 10 mg/1 kg fish for 7 days. Water temperature in this period was between 23-27°C and solvit oxygen was kept at a value of 7 mg/l. In that month we effectuated only a single control fishing not to stress fishes (tab. 5).

Table 5 Results for control fishing 22nd of August

Category	Number of pieces	Total kg	Kg per individual
I	93	98.6	1.060
II	59	46.2	0.783
III	26	17.6	0.676

For this period was administrated a quantity of 1123.4 kg Aller Clasic 3 fodder.

In first part of September, more precisely on 15th of September we effectuated the last but one, control fishing resulted the following values (tab. 6).

Table 6 Results for control fishing 15th of September

Category	Number of pieces	Total kg	Kg per individual
I	68	77.50	1.139
II	53	52.00	0.981
III	37	29.90	0.808

Consumption of fodders in this period was of 820 kg.

On 30th of September we realized the last control fishing with remarkable results which are presented in table 7.

Table 7 Results for control fishing 30th of September

Category	Number of pieces	Total kg	Kg per individual
I	57	67.83	1.190
II	52	54.08	1.040
III	30	25.30	0.843

Consumption for administrated fodder was in a quantity of 720 kg. Water temperature was an optimal one for fodders' consumption, knowing the fact that *Cyprinus carpio* breed didn't consume fodders after decreasing of water temperature below 8°C.

CONCLUSIONS

In those 161 research days we could conclude that cyprinidae from our pond had a remarkable growing rhythm knowing the fact that in fishery farms from Moldova second summer carp didn't over pass a mean value of 500 grams/individual.

Making a simple calculus results a mean weight per individual, at the end of the current study, of 1024 g.

Fish total quantity obtained at the end of experiment was of 3072 kg.

Fodder consumption per 1 kg growth gain was a very good one, proving that Aller Clasic 3 is a high quality fodder.

For a fish quantity of 3072 kg were administrated 5222.4 kg fodder Aller classic 3 resulting a coefficient of 1.7 kg fodder per 1 kg of obtained fish.

During whole experimental period weren't recorded mortalities even if we had some problems with health state of the studied cyprinidae batch.

For a better efficiency in disease combat we recommend prophylactic treatments, so expected diseases could be avoided.

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