



# THE ROLE OF CEREALS IN CARP FEEDING

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**Abstract:** *In Central and Eastern Europe, carp are widely farmed and reared in fishpond conditions. The effectiveness of the activity is basically determined by the quality of the feeding. The type, content and preparation of the grains used show great diversity in practice, not to mention the growing popularity of grain-based by-products. The work was aimed at reviewing and processing the available, relevant literature in order to prepare a research.*

## • Introduction

The carp has become one of the most sought-after sport fish in Hungary and other European countries due to the constantly developing fishing industry and the growing fishing community (WOYNÁROVICH ET AL., 2019). According to FAO statistics, carp and carp type species are still the most widely produced fish species worldwide. Due to the above, quality fish is becoming more and more important, including the production of properly kept and fed quality carp, without which the expansion of the consumption of domestically produced fish in Hungary cannot be imagined, but without it, access to European markets and a permanent presence cannot be imagined either.

The aim of our work was to prepare and establish a research project in the field of fish feeding with different species of cereals.

## • Material and method

The important role of cereals in the feeding of carp (*Cyprinus carpio*) was presented in order to establish the basis of our planned investigations based on the data of the previously published Hungarian and international literature. The use of cereals in the composition of feed is particularly important in a grain-growing area such as the south-eastern part of Hungary, where the planned research will be carried out.

## • Results and discussions

In the case of carp produced in a lake environment, they can use complete feeds that satisfy the animal's needs in all aspects (which are rarely used from an economic point of view in Hungarian conditions), or supplemental feeding that also takes into account the natural nutrient supply capacity of the waters. Energy-bearing feeds: **corn, barley** and **wheat** - these are the most common supplementary feeds of natural fish food, but because they are rich in carbohydrates, they can increase the fat content of fish meat. **Sorghum, rye** and **millet**: their use in aquaculture is very rare in our country. By-products from mill industry and ethanol production are more and more important to reduce feed costs.

Recommended mixing ratio of grains and grain products (%)

Feed ingredient	Minimum	Maximum
Wheat	30	80
Corn	10	26
Barley	-	40
Oats	-	20
Rye	-	20
Wheat bran	-	15
Wheat germ	-	5
Wheat starch	-	3
Rice bran	-	10

## • Conclusions

In Hungary, as in other European countries, carp are extensively fed with various cereals, which are primarily used not for the production of complete feeds, but for supplementary feeding. The effective use of individual feeds is significantly influenced by their species, content, digestibility, processing method and particle size, age of the fed animals, etc. Among the by-products of the mill industry, bran can only be fed with limits due to its high fiber content. The role of DDGS as a by-product of ethanol production is also increasing due to its favorable nutrient content and digestibility.