

3.5 Applied research results with an existing or prospective economic impact on society: representative examples FFPW

Amur Mirror Carp (breed)

A new breed derived from the Amur wild carp (*Cyprinus rubrofuscus*), the first carp breed after more than twenty years in the country. High resistance against the new emerging diseases, e.g. Koi Herpes Virus (= significant contribution assuring also the future production of this important fish; ~90% of domestic fish production, important species globally). Almost 10 million fry (F1 hybrids) sold from faculty hatchery in the evaluated period.

Adaptation and culture of pikeperch (*Sander lucioperca* L.) juveniles in recirculating aquaculture systems (verified technology)

Pikeperch is a highly valuable fish species but its cultivation since the onset of exogenous feeding is difficult. This technology defines critical steps in achieving high survival, good growth and adaptability of stocking material for intensive aquaculture, resulting in stable and economically feasible production (achieved results reflected at the national level but also in numerous fish farms in Europe).

AquaSheriff (SW and HW)

Effective and low-cost IoT device for continuous online monitoring of basic physicochemical parameters of water. Suitable for fish culturists, water managers and others. Sold under licence, in production.

Device for loading live fish (Czech licenced patent)

Innovative mobile device for loading live fish (carried by the truck for transport of fish), helpful during demanding pond harvesting. Suitable mainly at small and middle-sized ponds where harvesting usually rely exclusively on demanding manual work. These ponds predominate from their total number of ~ 24 thousands in the country.

A method for the ethological monitoring of crayfish and a system for this method (EPO patent)

An improvement of a non-invasive system for biomonitoring water quality using the crayfish as a bioindicator. The novelty of the solution is the contactless approach of crayfish heart beat monitoring using the remote camera instead of sensors placed on the crayfish body. It improves crayfish welfare and keeps all the advantages of using crayfish as a bioindicator.