

## Authorized Fish Species

There is a large set of fish species of interest for the use in aquaponics either on mono or in polyculture (polyponics). Climatic and environmental conditions are heterogeneous within Europe, which is reflected in distinct fish biodiversity between regions. Therefore, in one country, one species is autochthonous, while in another, the same species may be considered exotic opportunistic or even invasive.

Invasive Alien Species (IAS) are animals and plants that are introduced accidentally or deliberately into a natural environment where they are not normally found, with serious negative consequences for their new environment. Because they can be considered as one of the main causes of indigenous species and biodiversity loss, care must be taken to ensure that such introductions do not occur, preventing harmful biological interactions with indigenous populations, the spread of non-target species or adverse effects on natural habitats.

European regulation on the use of exotic and locally absent species in aquaculture (directly applicable to aquaponics) consist of the following regulations:

- [Regulation \(EU\) No 304/2011 of the European Parliament and of the Council of 9 March 2011 amending Council Regulation \(EC\) No 708/2007 concerning use of alien and locally absent species in aquaculture](#)
- [Commission Regulation \(EC\) No 535/2008 of 13 June 2008 laying down detailed rules for the implementation of Council Regulation \(EC\) No 708/2007 concerning use of alien and locally absent species in aquaculture](#)
- [Commission Regulation \(EC\) No 506/2008 of 6 June 2008 amending Annex IV to Council Regulation \(EC\) No 708/2007 concerning use of alien and locally absent species in aquaculture](#)
- [Council Regulation \(EC\) No 708/2007 of 11 June 2007 concerning use of alien and locally absent species in aquaculture](#)

The aim of these regulations is to facilitate the diversification of species raised in aquaculture while respecting the necessary precautions with regard to the introduction of species which may be harmful to ecosystems. It regulates the issuance of permits for the introduction of non-indigenous species to be cultivated within the EU by the Member State of destination ([except for the species listed in Annex IV of Commission Regulation EC No 506/2008](#)), with the exception of those species which have been already long and widely used in aquaculture in most countries (e.g. *Oncorhynchus mykiss*).

Aquaponics companies and researchers wishing to introduce exotic species or locally absent species from third countries or from other EU Member States should submit an application to the competent authority of the receiving Member State for an introduction permit on the basis of information required in Annex I to the Regulation.

Movements of exotic species or locally absent species that are to occur in closed and secure aquaculture facilities where the risk of escape is very low are not subject, according to EC No 708/2007, except in special cases, to a prior risk assessment environmental and licensing requirements. In this case, the installation must be entered on the list of closed aquaculture facilities and be maintained as such. Requests for permits to introduce or register for closed

aquaculture facilities should be made to the competent authority of each EU Member State, where the facility to receive the aquatic organisms is located.

Although these regulations apply throughout the EU, some countries restrict, through local legislation, the use of some alien species by classifying them as invasive, even in closed

Country	Restricted fish species	Observation	
Portugal	<i>Perca fluviatilis</i> <i>Lepomis cyanellus</i> <i>Lepomis gibbosus</i> <i>Lates niloticus</i> <i>Oreochromis niloticus</i> <i>Oreochromis leucocistus</i> <i>Tilapia zilli</i> <i>Tilapia melanopleura</i> <i>Stizostedion vitreum</i>	<i>Stizostedion lucioperca</i> <i>Gymnocephalus cernuus</i> <i>Hypophthalmickthys molitrix</i> <i>Osmerus mordax</i> <i>Misgurnus anguillicaudatus</i> <i>Gambusia holbrooki</i> <i>Siluros glanis</i>	Complete restriction (domestic or commercial purposes). Other exotic not introduced species: as long as complying with closed aquaculture systems regulated by EU (necessary license permit).
Spain	<i>Alburnus alburnos</i> <i>Ameiurus melas</i> <i>Channa spp.</i> <i>Esox lucius</i> <i>Fundulus heteroclitus</i> <i>Australoheros facetus</i> <i>Gambusia holbrooki</i> <i>Ictalurus punctatus</i> <i>Lepomis gibbosus</i> <i>Micropterus salmoides</i>	<i>Misgurnus anguillicaudatus</i> <i>Perca fluviatilis</i> <i>Pseudorasbora parva</i> <i>Pterois volitans</i> <i>Rutilus rutilus</i> <i>Salvelinus fontinalis</i> <i>Sander lucioperca</i> <i>Scardinius erythrophthalmus</i> <i>Silurus glanis</i>	

aquaculture systems.

Some of the countries that totally restrict the holding of certain exotic fish species:

Other EU Member States, like France, Germany (in Germany there are state specific lists of species allowed for being used in aquaculture/aquaponics without any necessary license permit, being the remaining exotic ones subject to EU regulation) and UK may use exotic not introduced species, as long as complying with closed aquaculture systems regulated by EU (necessary license permit).

REGULATION (EU) 2016/1141, of 13 July 2016 also points *Percottus glenii* and *Pseudorasbora parva* as invasive alien species of Union concern and, as so, with high potential to be restricted by each EU Member State.

**Note:** Some of the countries also ban some species of crayfish. European Union, through REGULATION (EU) 2016/1141, of 13 July 2016, points some crayfish as *Procambarus clarkii* and *Procambarus fallax* as invasive alien species of Union concern. However, it is intention of this factsheet to only address fish.

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