



# AGROECOLOGICAL PRACTICES

Welfare in fish, cows, horses and poultry breeding.

To Become Ambassadors of a Sustainable Agriculture in Europe

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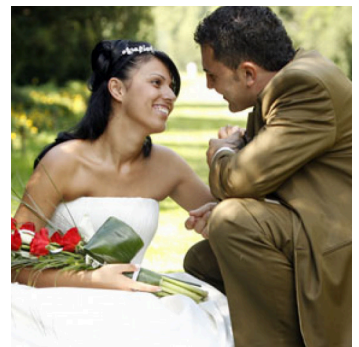
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# A VISUAL GUIDE OF ANIMAL WELFARE

France, Slovakia and Finland



To Become Ambassadors of a Sustainable Agriculture in Europe

# Welfare in aquaculture

What is aquaculture ?

It's the cultivation of aquatic animals and plants, especially fish, shellfish, and seaweed, in natural or controlled marine or freshwater environments.

What about welfare in fish farming ?

**Definition given by Anses in 2018, the welfare of an animal is the positive mental and physical state related to the satisfaction of its physiological and behavioural needs, as well as its expectations. Varies according to the perception of the animal's situation.**

**The principle of 5 freedoms:**

**Lack of hunger and thirst**

**Lack of discomfort**

**Absence of pain, injury and illness**

**Freedom to express specific behaviour**

**Lack of fear and anxiety**





# Best water quality

## **Water quality shall ensure that the developmental, physiological and behavioural needs of animals are met**

Adequate quantities of water for meeting basic fish needs are a prerequisite for life, health and development.

The volume of water for each fish, the velocity of the water flow must be adapted.

Admissible ranges must be indicated for the main water quality parameters for the cultivated species.

First temperature, oxygen, flow and secondly pH, ammonia rate and the level of dissolved micropollutants.

And finally, minimize the environmental impact at the exit of the aquaculture installation with drumfilter for example.



# Good feeding

## **Reply the nutritional needs of species reared at different life stages**

Animals must benefit from a complete diet, in line with the requirements of the species, its physiological state, its age or its size.

The quantity of food must be planned and adapted according to the weather, handling, the behavior of the fish, the state of health.

# Good feeding



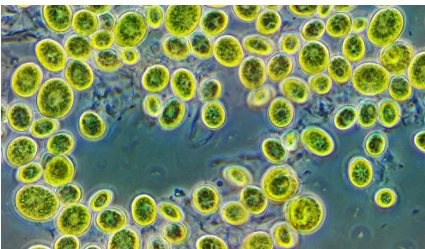
## New food for fish

If huge amounts are taken out to make oil and flour for farms, for example in Europe or North America, the marine food chain will be deprived, whales, seals, sea lions, the predatory fish that we as consumers most desire such as tuna or cod, but also the seabirds will be deprived of food, that is to say, serious problems of functioning of the ecosystem.



## Forced the carnivorous fish to become vegetarian?

Fed them marine culture, a marine fish needed to develop about 40% to 45% protein and about twenty percent lipid. Today in pellets there are mainly protein sources of terrestrial plant origin such as oilseeds or cereals soybeans, corn but there are also fish oils, there is still fish meal left in the fish for marine fish feed.



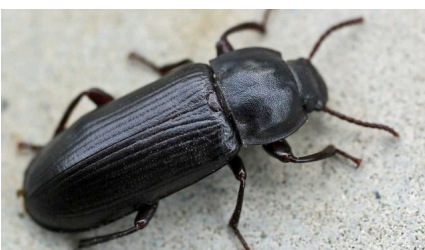
## Microalgae

A consortium of algae with several families inside what can actually be associated with terrestrial grasslands with several species. It will take exactly who is present in these crops to link it to a presence of proteins and lipids interesting for fish farming.



## New industrial sector in France?

She launches a new flour from insects, beetle larvae, a beetle that is very rich in protein, around 55/60% in the dry matter it has as much because it is an insect that does not fly or does not jump which also facilitates the rearing in industrial or even artisanal format.



## Insect meal for aquaculture !

Larvae feed on agricultural waste no impact on the natural environment, Tenebrion flour would have the same properties as fish meal in terms of nutritional needs for fish it grows very well and even in better conditions and better health.



### **Preventive health and safety food**

From the first 6 months the fish are individually vaccinated to allow them to spend their entire life in the best conditions, which now allows them to no longer have to use antibiotics.

# Good health





**Decreases injuries, shocks, bad gests**

Limit handling to just necessary and do not leave the fish out of the water.

Do not feed the fish before handling to limit the oxygen consumption and stress.

Anticipate and prepare for work to go quickly.

Monitor the behavior of fish during work and use liquid oxygen if it's necessary.

# Best handling



# The best aquaculture farmer

## **Educate and change the practices of the breeder**

The breeder is the first craftsman of animal welfare since he is in continuous contact with his animals.

Have staff sensitized and trained in animal welfare in breeding, both trainees and permanent staff.