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World Wildlife Fund
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Comments on the first draft of International Standards for Responsible Tilapia Aquaculture

Dear Mr. McNevin

We thank you for your invitation to comment the first draft of International Standards for Responsible Tilapia Aquaculture and we take the opportunity to welcome the establishment of a set of criteria in order to improve aquaculture practice world-wide.

Nevertheless we had to notice the lack of crucial criteria for the good of the Tilapia itself. **The draft of standards does not at all take into account animal welfare criteria.** This is all the more astonishing as the wellbeing of the animal has a direct and positive impact on the fish quality.

In detail we would like to draw your attention to the following points:

Livestock husbandry system

Serious standards for responsible aquaculture should meet the needs of the species concerned. In order to identify these needs, we have to be able to answer questions like:

- What are the essential behavior patterns of the species?
- What are the essentials of the natural habitat of a species?
- How can these essentials be recreated in an artificial living space in order to allow the individuals of this species to behave and live according to its species?
- Which are the adverse effects on the species to be avoided by the system and its management?

Required action: More ethological research is requested. With the power of WWF, other NGOs, the industry and scientists convened in the Tilapia Dialogue, it should be possible to activate appropriate studies.

Examples of subjects to be studied:

- structures to be integrated in the system (light/shade, withdrawal options, varied flow velocities)
- measures to avoid acoustic or visual disturbance

Scientific Advisory Board:

Prof. Rudolf Hoffmann, Munich, Germany · Prof. Detlef Fölsch, Witzenhausen, Germany ·
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Stocking density

In profitable farms, Tilapia are kept in densities of 100 kg or even more per cubic meter of water. There is no scientific evidence that such densities are appropriate to the species, the only focus on this subject still seems to be the economical interest.

Required action: More ethological research is requested.

Examples of subjects to be studied:

- what is the water volume usually claimed by a shoal of Tilapia in the wild?
- which stocking density is adequate to the proportion found in the wild?
- allowing this proportion in a farm, are there any negative impacts on the fish which urge to increase stocking density? If so, why and to which extent?

One-sex population

In profitable farms, Tilapia are usually fattened in male-only population. We appreciate that the draft for standards excludes genetical prevention of mixed population. But regardless of the method by which female Tilapia are eliminated, one-sex population of Tilapia do not occur in the wild. Any intrusion in the natural consistence of Tilapia shoals may affect animal welfare as long as this cannot be disproved.

Required action: More ethological research is requested.

Examples of subjects to be studied:

- Are there significant differences to be observed in the behavior of farmed Tilapia kept in mixed versus male-only populations?
- Are these differences likely to have an impact on the welfare of the fish? and on the quality of the fish?
- Do the economical advantages of male-only population justify the loss of animal welfare and/or of the quality?

Slaughtering

We are also astonished that the draft for standards do not propose any criteria concerning the slaughtering process although for this issue some relevant studies have already been carried out. To sum up these studies, it seems pretty evident that a fish, like terrestrial farm animals, should be stunned and killed before slaughtering and processing - last but not least in order to prevent stress hormone distribution.

Required action: More physiological research is requested.

Examples of subjects to be studied:

- What are the most effective stunning methods for Tilapia?
- Which of these methods is most likely to be well adopted and carried out in daily practice?
- Can a Tilapia immediately eviscerated after stunning be considered as really dead?

Disease and prevention

The draft does not say much about diseases and prevention of the farmed fish. The relatively high percentage of mortality to be tolerated (draft: 45 percent of fish above 100 grams) seems to reflect poor attention to animal welfare issues.

Required action:

- Identify the diseases which can occur with Tilapia
- describe each disease as indicator for disregard of the above exposed criteria and define appropriate prevention and remedies
- review process which led to mortality rate accepted

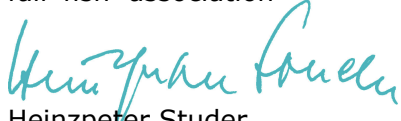
Feeding Tilapia

Besides the animal welfare issues, we are astonished that the standards allow to feed a originally non-carnivore species like Tilapia with fish meal whereas farming such species on vegetable basic would be a major alternative to the depletion of natural fish stocks which we thought to be a top concern of an environmental organization like WWF.

Thank you for considering our comments and taking corresponding action. Within the bounds of our capacities, we are willing to contribute in such action.

Kind regards,

fair-fish association



Heinzpeter Studer

Director

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PS:

We are aware of your invitation to the next Dialogue meeting of 15-16 December in Washington. Please accept our apologies for not being able to attend.

Literature:

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