The CULTSYS Table in FishBase

Knowledge on the culture performance of fish in various aquaculture systems is useful to assess the suitability of species for aquaculture and to help identify appropriate aquaculture methods and culture systems for these species.

The CULTSYS table was established during the early development of FishBase, contemporary with expansion of research for the development of freshwater aquaculture, particularly of carps and tilapias, and will require modifications and much wider use in order to cover subsequent and ongoing aquaculture research and development.

The main purpose of the CULTSYS table is to summarize data on aquaculture experiments. The table contains information on the experimental systems and includes physico-chemical parameters, quality and quantity of nutrient inputs and production by species (see also the 'CULTSPEC table' below), thus providing a model for a form which scientists might follow when reporting aquaculture experiments.

Fields

The **Country** where the culture was conducted is given.

The **Name** of the farm, station or institute refers to the location where the experiment was conducted; details on **Latitude**, **Longitude** and **Altitude** may also be entered.

Year: Pertains to the date when the experiment was conducted.

Type of culture: Refers to mono- or a polyculture, i.e., whether one or several species are cultured in the same pond.

Sex: Refers to classification of fish used in aquaculture. Choices include: monosex male; monosex female; mixed sex.

Culture system I gives a broad classification of the culture system with the choices: intensive (high density, food added); semi-intensive (medium density, no food but fertilizer added); extensive (low density, nothing added); experimental.

Culture system II gives a more detailed description of the culture system with the choices: ponds; integrated farm pond system; sewage- (excreta and wastewater) fed system; rice field; raceways; static tanks; silos; cages; pens; farm dams; other (see **Description of culture system**).

The number of **Production units** is given including the **Area** (**ha**), **Average depth** (**m**) and the **Volume** of the experimental units (**m³**).

Main water source: Describes the main water supply. The choices are: rainfall; spring; river/creek; lake; reservoir; estuary; lagoon; ocean; groundwater; tap water; cooling water;

sewage; other (see **Description of culture system**). The **Supplemental water source** offers the same choices as in the main water source.

The physico-chemical parameters present values for **Temperature**, **Salinity**, **pH**, **Oxygen** (**mg·l^{-1}**), **Oxygen saturation** (**%**) and **Alkalinity** (**mg·l^{-1} CaCO$_3$**). Ranges are entered in separate lower and upper limit fields and in most cases, the mean or midrange of the available values is calculated.

Description of culture system: Accommodates more detailed description of the whole culture system and water source(s).

Main food: Refers to major source of nutrition. Choices are: *in-situ* production; *in-situ* production plus added feed; only added feed.

Feed quantity: Refers to the total amount of feeds added in kilograms in either wet weight or dry weight.

% BWD: Pertains to the dry weight of feed provided in % of the wet weight of fish fed per day.

Feed quality: Refers to the percentage protein content in dry weight.

Nitrogen and **Phosphate** fertilizer inputs are given either by **kg·ha^{-1} or kg·ha^{-1}·day^{-1}**.

Description of nutrient input presents a detailed description of the main food, including diet composition, food conversion, etc., in a text field.

Comments: For miscellaneous comments not addressed by fields available.

Production: unit cycles (kg/m^2, kg/m^3, kg/m^3/d and kg/m^2/yr); production period in days as well as production cycles are also given.

Status

Although the number of farmed finfish (about 200) is relatively small, there is a huge amount of aquaculture data available in journals, reports, etc. Progress in entering such data is hampered by the lack of standardization in aquaculture experiments. These constraints are being addressed by efforts to document and to standardize data and by providing species profiles..For example, the USAID-funded Pond Dynamics/Aquaculture Collaborative Research Support Program (PD/A CRSP) made considerable progress towards the standardization of pond experiments (Szyper 1992) and Agustin et al. (1993) provided formats for documentation of genetic resources for aquaculture.

Sources

The CULTSYS table contains about 300 records of aquaculture experiments for about 15 species and strains, obtained mainly from the following references: Hopkins and Cruz (1982), Costa-Pierce and Soemarwoto (1990) and Christensen (1994). Most of the data have not yet been checked. However, the data of Costa-Pierce and Soemarwoto (1990) were entered under the supervision of Barry Costa-Pierce and the fields were reviewed by him. Similarly, the data of Hopkins and Cruz (1982) were further verified and analyzed by Mark Prein (Prein 1990; Prein et al. 1993) and entered under his supervision. Other aquaculture datasets will be included in the future.

Internet

The CULTSYS table is not yet available on the web.

Acknowledgment

We thank Liza Agustin for her contributions to this table and to a previous version of this chapter, while a member of the FishBase Team.

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Cite as:

Casal, C. and R.S.V. Pullin. 2011. The CULTSYS table in FishBase. In: Froese, R. and D. Pauly. Editors. 2011. World Wide Web electronic publication, www.fishbase.org, version (04/2011).

Last updated on 14 July 2010. Previous authors of 1998 and 2000 versions were Christine Casal and Roger S.V. Pullin.