



Importance of algae in aquatic culture

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DESCRIPTION

Contamination by bacteria, protozoa, or other algal species is a serious problem for monospecific sterile culture of microalgae. The most common sources of contamination include media (seawater and nutrients), air (from air supplies and the environment), culture vessels, and starter cultures.

Seawater used for algae culture must be free of organisms that can compete with single-celled algae, such as: *B. Phytoplankton*, herbivorous zooplankton or other species of bacteria. Therefore, sterilization of seawater is required either by physical (filtration, autoclaving, pasteurization, UV irradiation) or chemical processes (chlorination, acidification, ozonation). Autoclaving (120°C and 20 psi for 15-45 minutes, depending on volume) or pasteurization (80°C for 1-2 hours) is primarily used to sterilize media in test tubes, Erlenmeyer flasks, and carboys. used for Volumes above 20 l are typically filtered to 1 µm and acid (e.g. hydrochloric acid at pH 3, neutralized with soda after 24 hours) or chlorine (e.g. 1-2 mg.l-1, 24 hours without aeration) incubation). It is then aerated for 2-3 hours to remove residual chlorine. If chlorine is not removed by aeration, sodium thiosulfate must be added to neutralize the chlorine). No water treatment is required when using groundwater from a well. This water

is generally free of living organisms and may contain enough mineral salts to support algae cultivation without further enrichment. In some cases, well water contains high concentrations of ammonia and iron salts, the latter of which precipitate after oxidation in air.

Algae represent a highly diverse consortium of ancient plants, mostly spanning different evolutionary lineages of photoautotrophic organisms. Various groups of algae are polyphyletic in origin and represent the majority of existing plant genera. Algae are halophytes. Their vegetative bodies are not organized into roots and petioles as in cormophytes. Many algae live in single cells, colonies, filaments, or primitive trophozoites and lack vasculature. Unlike phanerogams (seed-producing plants), algae are cryptogams that reproduce using a 'hidden' or 'hidden' reproductive strategy. According to the idea of dividing organisms into five kingdoms (monera, protists, fungi, animal kingdom, plant kingdom), prokaryotic algae (cyanobacteria, cyanobacteria, cyanoprokaryotes) are classified into monera (eubacteria) and eukaryotes increase. Protest algae. Therefore, algae do not belong to the plant kingdom. However, it is widely accepted to interpret algae as 'lower plants' as distinct from vascularized 'higher plants' (because photosynthesis is a common trait). Both freshwater and seawater

contain a wide variety of algae, which are fundamental or key links in many different food chains. Algae, like land plants, synthesize organic foods. Fish and other aquatic organisms depend directly or indirectly on algae, just as terrestrial meat depends on the activity of green leaves, and fish contribute to the daily diet of large sea animals and humans.

CONCLUSION

Many aquatic algae are directly or indirectly fed to fish. Diatoms, filamentous algae, some planktonic green algae, and numerous cyanobacteria are very commonly found in the gut of various species of freshwater and brackish water fish, and appear to be used directly as fish food. *Chlamydomonas*, *Scenedesmus*, *Chlorella* and *Euglena* seeds are used in sewage treatment plants to photosynthe

size the oxygen needed for the rapid breakdown of wastewater by bacteria.

During the summer, the phytoplankton in ponds, lakes, and reservoirs become very abundant and very visible. A floating mat of foam may occur. These signs of algal growth are commonly known as "water blooms". Such algae concentrations are very troublesome not only in public water supplies, but also in water bodies used for bathing, fishing, and other recreational purposes. Blue-green algae are most commonly responsible for contamination of water sources, but greens, flagellated tawnies, and diatoms are also occasionally troublesome. *Prymnesium parvum*, *Gymnodinium veneficum* and *Microcystis* spp. It leads to the death of fish and livestock that drink water infested with these algae.