

Overview of off-flavours in water and fish in aquaculture systems with or without water recirculation

Niels O G Jørgensen^{1,3}, Mikael A. Petersen² and Raju Podduturi¹

Corresponding Author: Niels O G Jørgensen, e-mail: nogj@plen.ku.dk

¹ Section of Microbial Ecology and Biotechnology, Department of Plant and Environmental Sciences;

² Section of Dairy, Meat and Plant Product Technology, Department of Food Sciences; University of Copenhagen, Denmark

Abstract

Production of fish and other aquatic organisms in land-based systems is increasing globally, and today about half of all fish products originates from breeding. Aquaculture facilities vary from shallow earthen ponds with stagnant water to large concrete tanks with controlled water recirculation. All systems may periodically experience growth of off-flavour-producing microorganisms, causing tainting of the fish. The most commonly found off-flavours are geosmin (earthy off-taste) and 2-methylisoborneol (mildew-like off-taste), but other compounds, e.g., some terpenes, may also contribute off-flavour in fish. In this presentation, an overview of off-flavour problems in different production systems and ways to reduce the problems, will be given.