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Types and sources of environmentally-derived off-flavors in pond-raised channel catfish (*Ictalurus punctatus*)

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Pond-raised channel catfish *Ictalurus punctatus* often develops off-flavors during culture. Pre-harvest off-flavors are caused by the uptake and bioaccumulation of waterborne odorous compounds or by ingestion of foods that contain odorous compounds that accumulate in edible fish tissues. Waterborne odorous compounds include geosmin, 2-methylisoborneol (MIB), and other metabolites produced by cyanobacteria (blue-green algae) and other aquatic microorganisms. In addition, catfish may then seek other foods, including dead fish or plants, and become off-flavored from consuming odorous substances in the decaying materials. Off-flavors may also be caused by pollutants that may inadvertently enter the pond, although this is rare in commercial pond aquaculture. Off-flavors affect consumer acceptance of the product and are a serious management problem in catfish farming. In an effort to prevent off-flavored catfish from reaching the marketplace, catfish samples from each crop of harvest-sized fish are taste-tested by trained personnel before the crop is accepted for processing. If catfish are found to be off-flavor, the crop from that pond is not accepted for processing, and farmers must wait until the odorous compounds are eliminated from fish either by passive diffusion or metabolism. The harvest delays associated with off-flavors in pond-raised catfish can cost the industry \$10 to 60 million annually. The different types/descriptors of pre-harvest off-flavors in catfish and their sources (e.g., certain species of microorganisms) will be presented.

Biography

Kevin K Schrader completed his PhD in 1995 from Auburn University, AL, and Post-doctoral studies from Mississippi State University in 1996-1997. He is a Research Microbiologist at the USDA, ARS, Natural Products Utilization Research Unit, National Center for Natural Products Research. He has authored and co-authored more than 80 papers in peer-reviewed journals, one US patent, an edited book and over 10 invited book chapters; and he has been serving as an Editorial Board Member of repute.

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