


ronmental conditions in ponds from which fish with this flavor came are being evaluated to determine the cause of the flavor. This flavor occurs most frequently in heavily fed ponds.

Diets containing various levels (1.5 to 4.5 percent) of supplemental fat (soybean oil) added to satisfy dietary energy requirements were fed to catfish in ponds during two, 6-month growing seasons (1980 and 1981). Dietary fat did not affect dressing percentage or amounts of fat in the whole body, offal or dressed flesh.

Acid hydrolysis was compared with solvent extraction for measuring fat in various feedstuffs. Either extraction by the Goldfish method was satisfactory for plant feedstuffs and pelleted or meal-type feeds, but underestimated the fat in heat-processed feeds such as extruded (floating) fish feeds. Acid hydrolysis was a more reliable method for the latter types of feed.

A gas chromatograph was purchased and is being equipped for quantitative identification of musty, muddy flavor compounds in catfish. Standards for two musty, muddy odorous compounds, geosmin, and 2-methyl-isoborneol, are being synthesized. Taste thresholds of those compounds, determined with sensory panels, will be compared with instrumental analyses.

**South Carolina.** Small tilapia (*Tilapia mossambica*) which were undesirable for human consumption were tested as a substitute fish meal. Fish that were fed a control and a plant substituted diet did not differ in terms of growth rate or chemical composition. The data indicated that *T. mossambica* produced for use as plant control agents would be a suitable fish meal source.



**Tennessee.** Work is progressing at the University of Tennessee to evaluate freshwater mussels as a human food source. Samples of the washboard variety were collected from four places at four times when mussels were being harvested for shell. Analyses have shown levels of 40 percent protein and 25 percent ash (largely complex silicates) along with 2 percent fat and the balance carbohydrates on a dry weight basis. Broad spectrum pesticide analyses revealed low levels of persistent chlorinated hydrocarbons and one sample had 3.2 ppm Thiodan I. Microbiological tests showed reasonable total counts and very few or no indicators of human pathogens. Amino acid distribution implies protein of good nutritive value. Preliminary evaluation of foods prepared with mussels were encouraging.

**Tennessee Valley Authority.** Labor efficiencies of two small-scale tilapia processing operations were documented. The crew of one