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characteristics and feed acceptability; 2.6 Concluding comments; 2.7 References; 3 Techniques for Measuring Feed Intake; 3.1 Introduction; 3.2 Stomach contents analysis; 3.2.1 Technical aspects; 3.2.2 Applications and limitations; 3.3 Dyestuffs and chemical markers; 3.3.1 Technical aspects; 3.3.2 Applications and limitations; 3.4 Direct observation and video recording; 3.4.1 Technical aspects; 3.4.2 Applications and limitations; 3.5 On-demand feeder with feed waste monitor; 3.5.1 Technical aspects; 3.5.2 Applications and limitations; 3.6 X-Radiography; 3.6.1 Technical aspects; 3.6.2 Applications and limitations; 3.7 General discussion; 3.8 References; 4 Experimental Design in Feeding Experiments; 4.1 Introduction; 4.2 How does one design an experiment?; 4.3 The structural model equation; 4.4 Sums of squares; 4.5 Evaluation of the experimental design; 4.6 The compromise; 4.7 Sensitivity analysis; 4.8 Nuisance variables and ways of controlling them; 4.9 Adding extra factors: why do it and what considerations are necessary?; 4.10 Measuring individual feed intake - what are the benefits?; 4.11 What can be done when life becomes more complicated?; 4.12 Conclusions; 4.13 References; 5 Gustation and Feeding Behaviour; 5.1 Introduction; 5.2 Peripheral gustatory sensation; 5.3 Gustatory pathways in the central nervous system; 5.4 Taste and feeding behaviours; 5.5 Conclusions; 5.6 Acknowledgements; 5.7 References; 6 Environmental Factors and Feed Intake: Mechanisms and Interactions; 6.1 Introduction; 6.2 Abiotic factors; 6.2.1 Light; 6.2.2 Temperature; 6.2.3 Other physical factors; 6.2.4 Chemical factors; 6.3 Biotic factors; 6.3.1 Stocking density; 6.3.2 Social structure; 6.3.3 Predators; 6.3.4 Human disturbance; 6.4 Conclusions; 6.5 References; 7 Environmental Factors and Feed Intake: Rearing Systems; 7.1 Introduction; 7.2 Feed intake of fish in pond systems; 7.2.1 Pond characteristics; 7.2.2 Variability of environmental factors; 7.2.3 Variations in feed intake in relation to pond environment

Sommario/riassunto

The intake of food by fishes is an area of study that is of great importance to the applied sciences of fisheries and aquaculture for a number of reasons. For example a thorough knowledge of factors influencing the ingestion of feed can lead to successful manipulation of the rearing environment of cultured fishes, thereby ensuring improved growth performance and feed utilisation, and decreasing the amount of waste (and consequent pollution) per unit of fish produced. This important book, which has arisen out of a European Union COST programme, illustrates how insights into the biological