1.	Record Nr.	UNINA9910141136303321
	Titolo	Larval fish nutrition / / editor, G. Joan Holt
	Pubbl/distr/stampa	West Sussex, England : , : Wiley-Blackwell, , 2011 ©2011
	ISBN	0-470-95986-X 0-470-95983-5 0-470-95984-3
	Descrizione fisica	1 online resource (1208 p.)
	Disciplina	639.3
	Soggetti	Fishes - Larvae - Feeding and feeds Electronic books.
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Includes index.
	Nota di contenuto	Cover; Title page; Copyright page; Contributors; Preface; Section 1: Digestive Development and Nutrient Requirements; Chapter 1 Ontogeny of the digestive tract; 1.1 Introduction; 1.2 Organogenesis of the digestive system; 1.3 Histological structure of the digestive tract and accessory glands; 1.4 Ontogeny of the digestive enzymes; 1.5 Expression of digestive enzyme genes; 1.6 Assessing the nutritional condition of fish larvae: histological biomarkers and digestive enzymes; Chapter 2 Lipids; 2.1 Physiological role of essential fatty acids (EFAs); 2.2 Requirements for EFAs 2.3 Utilization of dietary lipids2.4 Summary; Chapter 3 Proteins; 3.1 Introduction; 3.2 Protein digestion; 3.3 Protein metabolism; 3.4 AA requirements; 3.5 Conclusions; Chapter 4 Micronutrients; 4.1 General introduction to fish micronutrient history; 4.2 Micronutrients in larval feeds; 4.3 Requirements versus recommendations; 4.4 Vitamins; 4.5 Minerals; 4.6 Future challenges; Section 2: Nutritional Physiology; Chapter 5 Effects of broodstock diet on eggs and larvae; 5.1 Introduction; 5.2 Reproductive biology and ovarian development; 5.3 Criteria for egg and larval quality 5.4 Effective feeding periods for optimum broodstock performance5.5 Importance of adequate feed intake on spawning performance; 5.6

	Nutrient requirements and their effects on reproductive physiology and egg quality; 5.7 Specific feed ingredients; 5.8 Summary and conclusions; Chapter 6 Utilization of yolk: transition from endogenous to exogenous nutrition in fish; 6.1 Introduction; 6.2 Origin and yolk formation in teleosts; 6.3 Yolk morphology; 6.4 Yolk composition; 6.5 Mechanism of yolk utilization; 6.6 Rate and efficiency of yolk absorption; 6.7 Nonyolk nutrient sources 6.8 Mixed feeding stageAcknowledgments; Chapter 7 Effects of larval nutrition on development; 7.1 Introduction; 7.2 Nutritional indicators of the digestive system; 7.3 Skeletal development; 7.4 Swimming musculature; 7.5 Pigmentation; 7.6 Conclusions and recommendations; Chapter 8 Bioenergetics of growth in commercially important developing fishes; 8.1 Background and overview of problems; 8.2 Suboptimal growth and development: limiting factors for productivity; 8.3 Bioenergetics: mechanisms of growth and development; 8.4 Energetics of growth through development 8.5 Growth, bioenergetics, and stress: why fish do not grow at maximal rates8.6 Concluding remarks; Chapter 9 Regulation of digestive processes; 9.1 Introduction; 9.2 Digestion in fish; 9.3 Regulatory systems; 9.4 Future research; Section 3: Feeds and Feeding; Chapter 10 Feeding behavior in larval fish; 10.1 Introduction; 10.2 Searching for and detecting food; 10.3 Locomotor capacity and searching strategies; 10.4 Capture and ingestion; 10.5 Effect of feeding and nutrition limitation on foraging ability; 10.6 Concluding remarks: applying feeding behavior knowledge to larval rearing technology Acknowledgments
Sommario/riassunto	Nutrition is particularly important in the healthy development of fish during their early-life stages. Understanding the unique nutritional needs of larval fish can improve the efficiency and quality of fish reared in a culture setting. Larval Fish Nutrition comprehensively explores the nutritional requirements, developmental physiology, and feeding and weaning strategies that will allow aquaculture researchers and professionals to develop and implement improved culture practices. Larval Fish Nutrition is logically divided into three sections. The first section looks at the rol