

Recent Advances of Fish Nutrition and Aquafeeds in Japan

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The production of aquaculture in Japan is fairly stable past several years (almost 1.3 million metric tons). As for the marine species cultured, yellow tail is the highest, following by red sea bream, flounder, puffer fish, mackerel, striped jack, kuruma shrimp and others. Yellow tails are produced 151,000 metric tones in 2001. The production figures are not drastically changed in past 10 years in most cultured species. On the other hand, the highest production of freshwater aquaculture is obtained in eel (24,118 metric tones in 2000), following by rainbow trout, carp, ayu, trout other than rainbow trout and others. The production figures of freshwater species are generally declined in past 10 years.

Total production of aqua feeds in Japan has gradually increased in past 10 years, mainly due to the increase of those from marine species while the feeds production of freshwater species has declined in past 10 years. Total production of aqua feeds in 2001 was almost 600,000 metric tones.

Several groups have conducted basic and practical researches on fish nutrition all over Japan for a long time. Recent focuses are as follows: the development of environmental friendly feeds, the effect of GMO ingredient on fish performances, nutrition and immunology, fish meal & oil replacement and so on.

Recent research projects on fish nutrition in Kagoshima University are as follows: vitamins requirements, immunostimulants, alternative protein sources, bioenergetics, amino acid requirement using dual coating method, choline requirement, probiotics, larval feeds and so on. Target species in Kagoshima University are as follows: yellow tail, red sea bream, puffer fish, Japanese flounder, grouper, amber jack, kuruma shrimp, and eel.