

edge. This type of research includes: the examination of new candidate species for aquaculture, the production of genetically identical high quality fish and the production of monosex (female) and sterile fish stocks. As noted by a DFO scientist, aquaculture is a newer industry than agriculture and animal husbandry and is only in the first phase of the domestication of a wild species. Even so, R&D efforts have resulted in the development of technologies such as monosex culture which are not yet available in the beef and poultry industries. This would tend to show that current aquaculture R&D efforts are mission-oriented contrary to the claims of industry and the BC provincial government.

On the one hand, the industry seems persuaded of the importance and quality of the R&D being carried by DFO scientists; on the other hand, it seems to believe that these R&D efforts are directed to solving long-term problems only, and that not enough efforts is being put into what it considers to be its immediate needs. There is a problem of perception on the part of the industry and a problem of communication on the part of government scientists.

The industry's ambivalent attitude towards DFO Pacific Region R&D efforts may result from a misperception of the nature of research. Industry participants are inclined to think that the time required to solve a problem is inversely proportional to the amounts of money used to address the problem and therefore rather simplistically divides aquaculture research into a short-term/long-term dichotomy which has no factual basis. Other factors are also involved in determining the results of research activities, such as the quality of the research, which is often a function of the time spent on a project, and the nature of the problem being researched. Medical research into cancer is a good example of this: increasing amounts of money have not resulted in the development of final solutions to this problem. Even though bacterial kidney disease (BKD) is currently the salmon farming industry's biggest problem, causing annual losses of about \$5 million, the industry cannot expect that putting all research funds into BKD research would necessarily result in an immediate solution. In addition, such action could jeopardize valuable research (such as that on nutrition) currently being carried out to ensure the long-term development of the industry. For example, it was pointed out that research, aimed at developing cheap but effective diets, only costs about \$150,000 annually but could result in savings of up to \$3,000,000 annually at current production levels. At future production levels, the cost savings could run into the tens of millions of dollars. As well, basic research in one area leads to benefits in other areas. For example, nutrition research can lead to improved knowledge of fish