



*The following protocol is in a process of continual improvement and will be updated periodically.
Last update: 03-24-2021*

Histological Analysis

Regulatory agencies in many countries need to evaluate the effect of a new feed ingredient on the health and well-being of the target animal. This involves microscopic evaluation of tissues from specific organs to see if there is a difference between fish fed the control diet and fish fed the test ingredient. The most commonly examined tissues include intestines, liver, and kidneys. These tissues can often reveal change in nutritional status of the animal before other parameters such as growth or feed conversion are affected. End of grow-out study is the best time for histological analysis since fish would have consumed the feed for the longest time out of all testing stages. Histological sampling may also help diagnose underlying issues that affected performance or survival in grow-out or disease challenge studies. A great deal of training and experience is required to make these evaluations, and trained histopathologists can often be located in Veterinary Schools or commercial Laboratories.

For the questions below - the histology group that will be doing the analysis should be consulted before the grow out study begins.

- Number of samples per tissue
- Any specifics for sample taking
- How the samples should be preserved