Standard Laboratory Operating Procedure #204

Protein Test for Fish Feed/Fish Samples

Laboratory: Biotechnology/Environmental
Location: Science Lab
SOP prepared by: R. Sanders
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General: Proteins have many important roles in organisms. Structural proteins such as collagen or elastin, provide support. Regulatory proteins such as enzymes control cell processes. Proteins also play an important part in the immune system (antibodies), oxygen transport (hemoglobin), movement (muscles) etc.

Safety: Safety Glasses
Be careful: Biuret reagent can stain your skin and fingernails!! (They contain proteins!)

Materials (Refer to Flinn Kit, AP8635 Food Analysis Kit) www.flinnsci.com
Test Tubes
2 mL Food Sample Solution
Vortex
Biuret Solution
Timer
Disposable Pipettes

Procedure

Prep of Solid Sample for Testing

1. Weigh out 5g of food sample using electronic balance, add sample into a mortar.
2. Add 10mL of distilled water to food sample in mortar, grind sample with a pestle to make into a slurry.
3. Filter slurry using filter paper and funnel, to collect liquid food sample into a small graduated cylinder or beaker.
4. Use the filtrate to complete the Protein Indicator Test.
5. Repeat steps 1-4 for each sample.

Protein Indicator Standard Test:

1. Add 1 mL of food sample solution with 1mL of Biuret Solution in a test tube.
2. Gently mix using a Vortex.
3. After 30 seconds, food sample solution will result in a color change to purple if proteins are present in the food sample.
4. Rate the precipitate color change as 0=no color change/negative, 1=weak/positive, 2=strong/positive, 3=very strong/positive