



QC Specs & Tests for Animal Protein

A) Protein: While most meat-and-bone-meals are sold on the basis of 50 percent protein there are instances where meals can be sold containing other protein levels.

B) Fat: The fat content of meat-and-bone-meal is the residual fat left in the product after centrifuging and pressing, it usually averages eight to 12 percent.

C) Moisture: The moisture content in meat-and-bone-meal is the residual water after the raw material has been cooked and it usually carries between three to five percent. If it is low (one to two percent) it indicates over cooking and this could mean higher fat content in the meal. Moisture content of the meal is critical in rendering operations. High moisture content will adversely affect the quality of the meal so the moisture content is limited to a maximum of 10 percent. There are several ways to analyse for moisture. For example, a sample can be placed in an oven overnight and the moisture calculated by weight difference. Another method could be to use a moisture balance which gives the percentage of moisture in about fifteen minutes. The quickest method is to place a sample in the Neotec machine and in a few seconds get a moisture content reading.

D) Fibre: Fibre is a relatively insoluble carbohydrate, such as cellulose or other carbohydrates that are not easily dissolved. The fibre content in meat-and-bone-meal normally runs below three percent compared to soybean meal which contains five to six percent. Cellulose and other resistant carbohydrates can be digested by animals only through the action of bacteria in the paunch of cattle and sheep. The digestion is less complete than in the case of starch or sugars. These carbohydrates therefore have a relatively low feeding value. For man and such animals as swine and poultry these carbohydrates have little value, for they are digested to a very small extent.

E) Pesticide Residues: Pesticide residues and their maximum tolerances: DDT, DDD, DDE 0.5ppm; Dieldrin - 0.3ppm; PCB - 2.0ppm. These chemical substances are toxic to animals and should not exceed the tolerance levels in any feed ingredient. The method of analysis is by means of a gas chromatograph which entails a long preparatory procedure.