

Feed composition – what does it mean and how is it determined?

Feeds and ingredients can be analyzed for their nutrient content, which is routinely done to determine how much or how little of a particular ingredient might be used in a diet. This type of analysis is done for animal feeds as well as human foods.

The information provided by the analysis depends on what types of tests are run. The chart below outlines the components of feeds and ingredients, and what each component represents to the nutrition of your animal.

For information on the nutrient content of Mazuri® diets, take a look at the spec sheet for each diet – we provide the complete nutritional breakdown of each diet, based on years of analysis of raw ingredients and final diets.

For information on the nutrient content of commonly fed supplemental food items, click on the links below.

Keep in mind that ingredient analyses will vary in plant and animal product due to season, life stage, type of processing, and many other factors.

Go to Technical Papers for links to:

[Greens and lettuce comp](#)

[Hay and grass comp](#)

[Legume comp](#)

[Vegetable comp](#)

[Starch comp](#)

[Fruit comp](#)

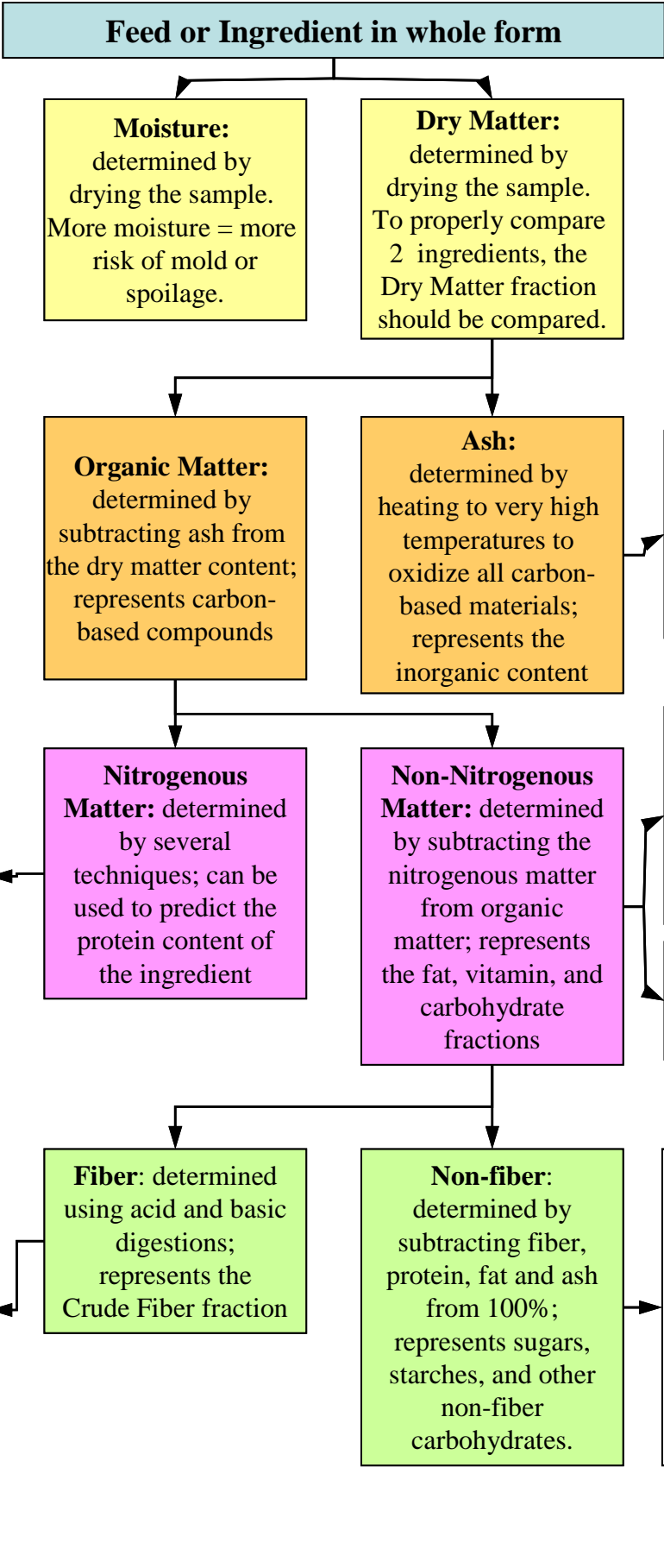
[Nuts and Seeds comp](#)

[Prepared foods comp](#)

[Animal products comp](#)

[Fish and shellfish comp](#)

[Insect comp](#)



Feed or Ingredient in whole form

Moisture:

determined by drying the sample. More moisture = more risk of mold or spoilage.

Dry Matter:

determined by drying the sample. To properly compare 2 ingredients, the Dry Matter fraction should be compared.

Organic Matter:

determined by subtracting ash from the dry matter content; represents carbon-based compounds

Ash:

determined by heating to very high temperatures to oxidize all carbon-based materials; represents the inorganic content

Minerals: determined using several techniques; provides information about the mineral content of the ingredient

Protein:

determined based on the % nitrogen, or via absorbance of infrared light. **Amino acids:** determined using an HPLC system.

Nitrogenous Matter:

determined by several techniques; can be used to predict the protein content of the ingredient

Non-Nitrogenous Matter:

determined by subtracting the nitrogenous matter from organic matter; represents the fat, vitamin, and carbohydrate fractions

Fat: determined after extraction with a solvent or acid. **Fatty acids:** determined with gas chromatography

Vitamins:

determined using a variety of methods

Acid Detergent Fiber (ADF) & Neutral Detergent Fiber (NDF):

determined after extraction with either an acidic or basic solution. ADF represents the cellulose and lignin fractions, NDF represents the hemicellulose, cellulose and lignin fractions.

Fiber: determined using acid and basic digestions; represents the Crude Fiber fraction

Non-fiber:

determined by subtracting fiber, protein, fat and ash from 100%; represents sugars, starches, and other non-fiber carbohydrates.

Sugars: determined using liquid chromatography. **Starch:** determined by heating (gelatinizing) then using enzymes to break down starch units into glucose.