



Ingredient And Supplier Approvals

Leading with Technical Expertise - White Paper

Jarrod Kersey & Leah Lambrakis, Department of Technical Services

The Key to Quality Pet Food: Ingredient Control

Pet food is only as good as its ingredients. While factors such as formula, product design, and cooking method all impact pet food, ingredients drive the quality of the food we feed to the dogs and cats we love. Therefore, just as manufacturing facilities, processes and people are constantly monitored to deliver a quality product, understanding ingredients is also important.

What is a quality pet food ingredient?

The most important characteristic of a quality ingredient is consistency. This includes consistency in nutrients, bioavailability and functionality. To characterize what particular attribute is important in an ingredient, it is necessary to understand why the ingredient is being added to the formula. Some ingredients are added to provide energy specifically while other ingredients are added for protein contribution. Additionally, other ingredients are added for a targeted nutrient (ex. DHA from fish oil). And while all ingredients can provide various nutrients (ex. vitamins, minerals, protein, fat or fiber), ingredients have a primary reason they are added to a pet food. Once the intended use is determined, a measurable characteristic can be established as a benchmark to determine the quality of the ingredient.

Build specifications in accordance with the intended use of the ingredient

Beyond food safety requirements of an ingredient, the key criteria that needs to be highlighted in a specification should address the intended use of the ingredient. For example, if an ingredient is intended to provide a specific nutrient, the target nutrient level and limits probably need to be called out in the specification. Other nutritional parameters that are used in the formulation software need to be considered as well (ex. protein, fat, fiber, etc.).

Assess the specifications from the supplier

Ask the supplier to provide a specification first. The supplier should know more about their ingredient than anyone, and most often, the supplier will know the limitations of what the ingredient can provide. Suppliers may have “off the shelf” ingredients that can meet the need. Suppliers often have several different products and while some may not meet the need, there may be another one that does. The point is, use the supplier’s knowledge. If a custom ingredient is needed, clearly outline what success looks like with the supplier.

Assess Food Safety Risks



Ingredient And Supplier Approvals

Leading with Technical Expertise - White Paper

Jarrod Kersey & Leah Lambrakis, Department of Technical Services

Another important consideration for the specification is the food safety component. From toxins to pesticide residues to heavy metals and foreign material, manufacturers of both the raw material and the supplier of the raw material own the responsibility in assessing the food safety of an ingredient. With some more exotic ingredients, it may require some extensive research to understand the unknown risks. It can be difficult to determine the likelihood of presence or levels that might or might not be allowable. Again, talk to the supplier. Develop resources and contacts that can assist in the assessment of what might be of concern. Develop critical concerns and determine what should be tested and when. Compile data and review routinely to understand potential risks, and always hold product until food safety test results are completed.

Test

A qualification test of a certain number of lots is typically used to benchmark and ensure the ingredient can meet the criteria needed to match the intended use of the ingredient. This can be a one-size fits all sampling plan or dependent on any number of variables such as season, region, number of suppliers to the ingredient manufacturer, complexity of process, etc. Due to the number of ingredients used in pet food and the exercise of evaluating each ingredients' variability, most qualifying tests have a set number of samples over a course of time or number of lots. During this time, both nutritional and food safety components can be tested.

Assess the manufacturing facility risk

Not only is it important to understand the inherent risks of an ingredient (ex. aflatoxin in corn), the facility risk should also be considered. Keep in mind, variability exists from manufacturing facility to manufacturing facility, even with the same ingredient from the same company. Therefore, it is important to understand the facility risk. How is the supplier controlling, monitoring and/or mitigating the risk? Does the supplier have proper track and trace capabilities? Is there something in the process that adds risk or is lacking to help control a risk of concern? Metal detection, scales, and nutrient additions should be taken into consideration. Questionnaires, on-site visits and third-party audits can help better assess facility risk and may be required.

(continued on next page)



Ingredient And Supplier Approvals

Leading with Technical Expertise - White Paper

Jarrold Kersey & Leah Lambrakis, Department of Technical Services

In Summary

- Define an ingredient's intended use
- Use the supplier's knowledge of the ingredient to help determine if it can consistently meet the intended use
- Develop a specification that addresses the intended use
- Assess food safety risks
- Test the ingredient
- Assess the manufacturing facility risks
- Develop and implement a supplier and ingredient testing program

Note: This article does not cover the regulatory requirements associated with Subpart G of the Food Safety Modernization Act for supplier verification. Instead, this article is focused on the role of defining quality ingredients and their role in the manufacturing of pet food.