Pet Food Safety: From Feed to Food (Part II)

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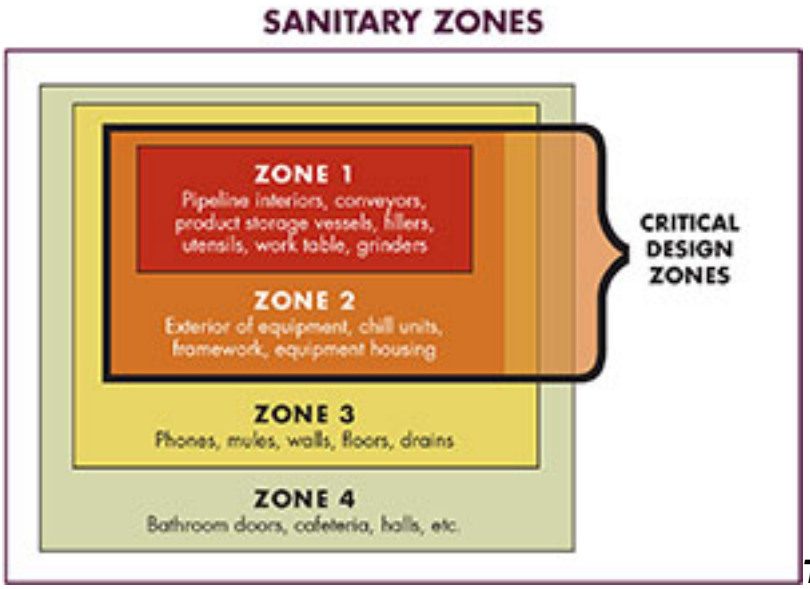
This article is Part II of a two-part series. For Part I, click here ***[1].***



The FDA has raised the standard for pet food processing, and this agency has sharp teeth.

Here is a look at some of the strategies that pet food manufacturers can apply to improve food safety through more effective site selection, facility design, storm run-off and wastewater management, work flows, waste management, and safety training.

Separating Traffic Flow from Materials Flow

In a pet food manufacturing [1] environment, vehicles, people and raw materials come in; vehicles, people and waste/finished products go out. Incoming materials include fresh and frozen meat products, liquid fats, raw grains and supplemental ingredients such as microbiotics. Each has its own characteristics and potential contamination issues to address. What seems to be a logical layout for manufacturing standpoint may in fact introduce sources for cross contamination before the product gets into the process.

An effective site circulation strategy establishes separation to avoid or minimize traffic and cross-contamination issues. This may sound simple, but applying effective routes and wayfinding strategies to a pet food manufacturing site can be challenging.

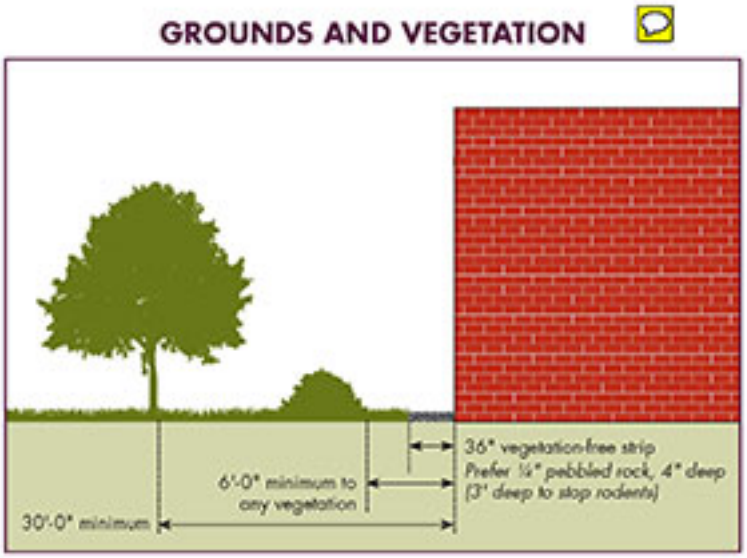
The process of ensuring an optimized traffic flow includes a lot of questions that address the public transportation routes outside the plant itself — railways, highways, narrow access roadways and the traffic patterns of nearby manufacturers who traverse them. Other considerations should be taken into account, such as

whether any routes are prone to flooding, heavy traffic or construction expansion.

In the immediate area surrounding the facility, extra care must be taken to strategically position and create intuitive routes for foot traffic, employee parking and over-the-road trucks. Large, clear signage and traffic direction, sometimes in multiple languages, can go a long way in creating an efficient traffic flow environment.

Early in the design process, all cross traffic situations should be analyzed. This analysis includes pedestrian and vehicular as well as receiving and shipping traffic, and the relationship between raw receiving, finished goods shipping and waste stream mitigation. The solutions that avoid opportunities for cross contamination should be included as part of the proposed design.

The single largest source of cross contamination in any food producing facility is the human foot. Inside the plant, the design should reflect efficiency and strive toward Current Good Manufacturing Processes (cGMP) to tightly control human and equipment cross traffic between raw and ready-to-eat sides of the plant. This requires duplication of entrances and exits, locker rooms, cafeterias and other support spaces. It adds cost, but food manufacturers recognize the value.



Accentuate the Positive. Eliminate the Negative — Air Flow, That Is.

Dry pet food manufacturing bears a lot of similarities to dry cereal manufacturing. Both facility types are notoriously negatively pressured when it comes to air flow. With all the cooking, drying, cooling, toasting and so on, it is easy to see why it is so difficult to maintain ideal positive building pressure to keep the bad things out.

It used to be common place to see large rolling screen doors serve as ventilation for overhead and personnel doors that remain open during all work shifts. While screen doors may seem to keep some bugs at bay and help ventilate a building, tiny bugs, microbial life forms and air borne particles pass right through. From a sanitary

standpoint, it is much better to seal the building and provide sufficient ventilation to control temperature and air volume.

Large volumes of clean, outside air are needed to ventilate the inside, but that air should pass through filters with a Minimum Efficiency Rating Value of 11 (MERV 11) or better as they are the primary barrier for controlling airborne particles such as mold spores, tiny bugs and a variety of dust particles. Heating, Ventilation and Air-Conditioning (HVAC) systems should be segregated and systems for raw materials and ready-to-eat areas should be completely separate. Air flow direction in each area should parallel the processing flow.

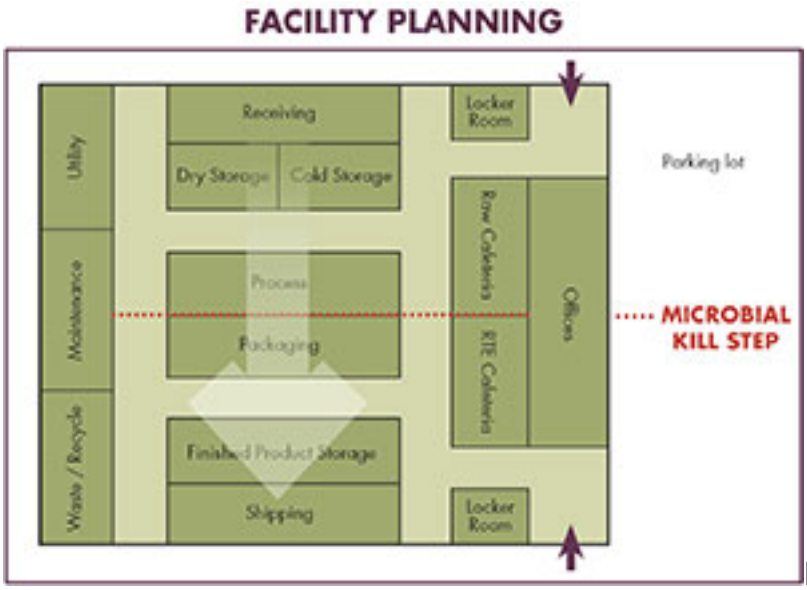
Take Out the Garbage, Please!

Pet food manufacturing byproduct waste has a strong potential to create a cross contamination problem, especially when it is wet. Just as clearly, incoming raw materials and outgoing waste must be separated to prevent cross contamination. The optimal waste management solution is not always so clear.

At dry pet food plants, for instance, the extrusion process creates a waste stream that needs to be removed. In the past, maintenance staff would use fork trucks several times a day to transfer byproduct or waste of a process, called offal, outside and dump it in a hopper truck. There were two problems with that approach: The fork truck tracked in contamination from the outside and the exposed waste pile ends up being an attractant to animals and insects.

To solve both problems, engineers recommended that a dedicated fork truck be used to dump the offal directly into a container within a refrigerated compartment inside the building. This involved the installation of an insulated, refrigerated single-bay loading dock to serve as an enclosed waste compartment, physically separated from the extruder room. The closed container remains refrigerated until it is hauled from the site daily by a waste removal contractor.

When the same equipment is going in and out of the plant or between the raw and finished sides of the plant, it is exposed to external areas, which can in turn contaminate the raw material and finished product. Preventing cross contamination requires equipment isolation, separation or segregation.



Lead, Train, Empower, Reward

Sanitary safety is no different from general workplace safety. In any food plant with a culture of safety, the first thing en route to the plant is a safety banner. It should be the same for food safety as well. In meat processing plants, there is also a pond of sanitizer that every employee must walk through. Every opening in a frozen food and other plants with open product, including doorways between office area and the plant are equipped with hand wash stations. When employees cross into a raw section, they de-smock and re-smock. These are invaluable operational practices, but they must be reinforced to ensure food safety.

Pet food manufacturers can nourish a culture of safety through leadership, with top levels of management doing so by example. Regular safety and refresher safety courses should be performed, at least quarterly, and made to be fun and competitive with prizes and rewards. A constant undercurrent of teamwork should be promoted where employees look out for each other to avoid situations that aren’t safe for the food being produced.

For example, at one frozen food manufacturer, while a plant assessment with one of the plant’s engineering staff was underway, it was noticed that every member of the team followed the plant’s sanitary protocol: gowns, booties, no jewelry, have empty shirt pockets above the waist and so forth. Two contract construction supervisors came toward the group, and it was clear that they were not following the same protocol. The plant engineering staff member immediately stopped them and required them to conform. A fully empowered workforce, free and encouraged to take these kinds of actions leads to an embedded culture of food safety.

Pet food companies should apply insights gained from the food industry when it comes to improving food safety through more effective site selection, facility design, storm run-off and wastewater management, work flows, waste management, and safety training.

The FDA has raised the food safety bar for pet food manufacturers and, like the pet food industry's end-customers, the FDA has sharp teeth. In the evolution from feed to food, many pet food manufacturers have not yet addressed all of the issues that

can compromise food safety. They may be running out of time.

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