



# Perry Johnson Registrars Food Safety, Inc.

## Safe Food Storage – Where to Start?





## What is Safe Storage and Why is it Important?

Production of safe and high-quality food may seem like the most important aspect of an organization's procedures, but what happens to that food after it comes out of the oven or through processing? Ensuring that food remains safe while awaiting packing, further manufacturing, or distribution should receive equal attention when planning and auditing. With potential threats that range from improper holding temperatures to contamination by foreign bodies or allergens, every phase in a product's storage should be considered through thorough risk assessments.

Wasted product is not the only thing hanging in the balance of safe storage; the damage to both an organization's reputation and bottom-line that may be caused by a recall or life-threatening product contamination event can be impossible to recover from. Regardless of whether the organization in question stores food in a general holding area, a warehouse, or is moving product in vehicles, laying out a strategy for safe storage can be instrumental to preventing harm to the organization and customers both.

## Assessing Storage Conditions, from Food Type to Storage Continuity

Those considering food storage for the first time have every right to feel overwhelmed. The possible combinations of food types and their individual requirements can be daunting, from frozen or refrigerated items to those containing allergens or perfumes. Thus, each range of products must have their own individual risk-based storage strategies in place to ensure they do not become contaminated or otherwise unsafe.

Because land and other aspects of warehousing are quite costly, many producers or distributors lack the ability to store products separately in different structures. With this in mind, it is crucial to consider four things: temperature control while loading and unloading, pathogen and allergen concerns during storage, meeting regulatory and customer requirements, and general storage risks that depend upon the specific mix of products.

Possibly one of the most often-overlooked aspect of the points above is the continuity of safe storage. Receiving safe food into a facility does not necessarily mean that it is safe food that will depart. For example, while temperature may be easy to maintain in a refrigerated truck or warehouse space, what about the areas a product may travel through to make it from one to the other?

## Controlling Cross-Contamination and Allergens

Also to be considered, especially in situations where mixed products come into close contact, is the issue of cross-contamination. The introduction of harmful bacteria from one product to another may result in an unsafe situation for the end consumer. Care should be taken to avoid storage arrangements where it is possible for bacteria-prone food products are stored in a position to drip or otherwise leak onto other items, causing contamination.

A general rule of safe storage is that all raw products, such as meat, poultry, eggs, and fish, should be stored separately from ready-to-eat or non-raw products. Relying on packaging alone is not ideal; soft plastics can leak, rigid containers can crack or otherwise be compromised; creating actual physical distance to avoid contamination is key.

Bacterial contamination is not the only form of cross-contamination to consider; food allergies are more common than ever, and can result in serious harm or death for an unsuspecting consumer. All employees of a facility should be made familiar with which products and ingredients/components are considered allergens to avoid unsuspecting contamination.

While some potential allergens may require less caution in handling, 100% allergens such as eggs, milk, peanuts, soy, tree nuts, etc. must be given special consideration. Avoiding fragile packaging or storage options (such as paper or thin plastic) should be avoided to prevent leaks, breaks, or spills that may cause contamination.

## Hot, Cold, and In-Between: Temperature Requirements

The challenge of meeting the temperature requirements of a mixture of products requires a balancing act. Without appropriate controls, the growth of harmful bacteria and spoilage may occur, compromising the safety of the end product.

Frozen products must be kept below 0°F, and even lower than that for products that must be stacked to avoid slacking. Aside from the obvious risks of bacterial growth or spoilage, frozen products' quality can be negatively impacted by thawing and re-freezing, as ice crystal formation can affect mouth feel and consumer enjoyment.

Non-frozen, perishable foods are most commonly required to be stored below 40°F. While coolers and refrigerators may have adjustable temperature controls, it is important to also take into account external temperatures – particularly for high-traffic situations where cold air may be lost. A common practice for helping a refrigerator maintain a consistent temperature on some more sensitive produce (raw chicken, broccoli, etc.) is applying ice over the items in order to bring them to temp faster. It is critical to ensure that such practices are only undertaken in spaces equipped with drains and proper facilitation of melting ice to avoid pooling; puddles in coolers or refrigerators may lead to the development of *Listeria monocytogenes*.

Temperature abuse, or allowing perishable, temperature-sensitive products to fall out of the recommended range, can result in bacterial growth and toxin development. Many of these toxins cannot be removed through cooking or heating, and lack any signs (off flavor, smell, or visible signal) that could warn consumers. For this reason, it is crucial that temperature abuse is avoided in all areas, from receiving and storage to shipping.

For shelf-stable items that are not at risk of pathogen or toxins resulting from temperature abuse, maintaining a consistent temperature may still be an issue of quality control. For example, items such as chocolate or other confections may soften or deform at too-high temperatures. Managing all three – frozen, refrigerated, and shelf-stable – is a delicate balancing act that can challenge even the most sophisticated organization, particularly in instances of mixed product types in one facility.

## Protect Your Products With Food Safety Certification

Developing a food safety plan that adequately addresses safe food storage is only the first step – make sure your plans are effective enough to avoid recalls and costly product wastage through certification! PJRFSI offers a wide range of certification programs and standards; to decide which one is the right fit for your organization, give PJRFSI a call at (248) 519-2523 today!







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