In many industries, companies that offer the most cutting edge technology or have the lowest prices are often the top choice for many customers. However, in the food industry that isn’t necessarily the case. Although technology and price are certainly important factors, even more important is a food company’s ability to prove that there are effective programs in place to ensure the safety and quality of its food products. These Prerequisite Programs set the foundation of any food processing system, including those used in food warehouses and distribution centers.

The overall objective of Prerequisite Programs is to achieve, maintain and improve the environment needed for the distribution of quality, safe, and legal food products. Without established prerequisites, you won’t meet regulations, and customers will be reluctant to do business with you, leading to company demise.

There are six elements that should be established for every Prerequisite Program in use at your facility. If you have all these elements in place, then you will have effective, valid, and defensible programs.
FORMAL PROGRAMS
Customers, auditors, and other external influences demand that food warehouses and distribution centers maintain documentation. The data that documentation provides is critical for improvement. Without good information, there is no way to make sound and appropriate improvements to the facility environment and process over time.

Formal Prerequisite Programs provide structure and documentation for better program management and improvement.

Every Prerequisite Program used at the facility should be clearly written and trained against so that everyone understands its purpose. It is important that every program has a goal that is reasonable, easy to understand, and relates to the overall goal of the Good Manufacturing Practices. This is the only way to measure its effectiveness.

PROGRAM ELEMENTS
There are six elements that should be established for every Prerequisite Program in use at your facility. If you have all these elements in place, then you will have effective, valid, and defensible programs:

Monitoring. This element involves documenting information relevant to an activity or process step, which permits evaluation, decision making, and corrective actions, if necessary. In a nutshell, monitoring is the step where the activity is performed according to written procedures.

Verification. Verification ensures that monitoring is being carried out as designed and that the results are reasonable and acceptable.

Validation. If Prerequisite Programs are not validated, their effectiveness remains open to criticism. The lack of proper validation of programs and activities is one of the biggest failures in food facilities. Programs must be validated with the appropriate techniques, devices, information, feedback, etc., at least annually and anytime when something changes that makes the program’s effectiveness suspect.

Constant program evaluation is necessary when changes occur.

Corrective Action. Corrective action includes the steps taken to correct and resolve the issue. Short-term actions protect the product, equipment, etc., and long-term actions prevent the event from occurring again.

Documentation. Documentation is any written evidence of activity and results. This impacts monitoring, verification, validation, corrective action, and training as all these elements require record keeping.

Training. Training provides employees with the necessary knowledge, information and skills to do the job right. It should always be done before any employee does anything in the plant. Testing is necessary to prove that the trainees understood the teaching. Follow-up with employees to make sure they are correctly applying what was taught.

PREREQUISITE PROGRAMS
There are a number of useful Prerequisite Programs used in the food industry, but there are nine important programs that are critical for every food warehouse and distribution center to implement. The first six of these programs are proactive; the goal is to prevent and control an issue from occurring. The last three programs are reactive; the goal is to manage issues once they occur.

Sanitation Program
Sanitation is quite possibly the most important of all Prerequisite Programs. The goal of a Sanitation Program is to maintain a sanitary environment necessary for the warehousing and distribution of safe and legal products. There are several components of a Sanitation Program that must be in place to meet the goal.

• Master Cleaning Schedule – This lists everything that needs to be cleaned, who has the responsibility to clean it, and the frequency of cleaning. It affects every area of the facility and is related to non-daily activities.

• Daily Cleaning Schedule – This lists every daily cleaning task and who is responsible for the activity.

• Cleaning Procedures – Written cleaning procedures are needed to ensure that cleaning is consistent from person to person. A well-written procedure will provide enough detail for someone to complete the task by strictly following the instructions.

• Chemical Concentration Checks – There should be a written procedure outlining the frequency for testing chemical concentration, the target value, acceptable range, and the method. The procedure should include measures to be taken if the concentration is found to be outside acceptable limits.

• Post-cleaning/Pre-operational Inspections – Visual inspection by someone other than the person who conducted the cleaning is one way to determine whether or not the cleaning activities were effective.

• Cleaning Validation – Beyond visual inspection, swabbing may be used to evaluate the effectiveness of cleaning and identify issues that may not be seen by the naked eye.
Plant Documentation

2 Integrated Pest Management Program

Pest management goes far beyond the application of pesticides. It involves many factors, which must all be taken into account to reduce pest populations to an acceptable level to achieve control in a food distribution center. The goal of an Integrated Pest Management Program (IPM) is to manage the pest population to minimize its potential for product adulteration and/or contamination. This is accomplished through proper identification, exclusionary measures, sanitation, monitoring activity, and responding to findings, and occasionally the use of pesticides. As with most plant programs, a typical IPM Program relies on a number of other Prerequisite Programs for its success.

3 Chemical Control Program

There are lots of chemicals used in today’s facilities, so it is important to think about how to protect the food products from accidental contamination. Some chemicals are true food hazards, others less so, but all chemicals, from cleaning compounds to food chemicals, need to be controlled.

The goal of a Chemical Control Program is to identify all on-site chemicals, including those brought in by personnel and contractors, and to ensure their proper storage and use. Program elements include chemical identification, approval, inventory and control, handling and storage, and safety.

4 Allergen Control Program

The goal of an Allergen Control Program is to control the possibility of product cross-contaminations between allergenic and non-allergenic materials. The U.S. recognizes the “Big 8” allergens (peanuts, tree nuts, milk, eggs, wheat, soybean products, fish, and shellfish); however, other countries recognize additional food allergens. For example, in Canada sesame seeds and sulfites are recognized allergens, so if you are a U.S.-based company that does business with Canada you must keep track of 10 food allergens in mind.

There is no single control point for allergens. You must establish a program that covers the whole operation. Program elements include:

- **Allergen identification** – Make sure you have a complete list of all raw materials and analyze the list for all pertinent food allergens. This is the basis for a good Allergen Control Program. Simple allergens, such as milk, egg, etc., are easy to identify. However, make sure to look for hidden allergenic ingredients in compound products, which are more difficult to identify. For example, soy flour in a dough conditioner.

- **Receiving** – Most facilities have procedures for inspecting incoming shipments. These inspections typically address issues such as cleanliness, damage, and pests, but it is beneficial to expand these inspections to include allergen concerns.

- **Storage/Slotting** – Efforts must be taken to prevent cross-contamination during storage. This is typically achieved through segregation of allergens from non-allergens and storage of compatible allergens above one another.

- **Labeling of storage areas** – This is self-explanatory.

5 Maintenance Program

Every warehouse or distribution center, regardless of size or age, requires a well-designed and properly implemented Maintenance Program. Poorly maintained equipment and facilities contribute to product contamination or hinder the ability to efficiently produce safe quality products. The goal of the Maintenance Program is to maintain the environment to optimize operations and minimize food safety risks and equipment failures. The program should be preventive, rather than corrective, in order to increase productivity, quality, and safety and to reduce contamination or adulteration. A sound Maintenance Program will address:

- Maintenance for Food Safety
- Preventive (Routine) Maintenance
- Corrective Maintenance
- Unscheduled Maintenance
- Chemical Identification
- Maintenance Procedures
- Design Specifications
- Documentation

6 GMP Compliance Program

This year will bring about changes to the current Good Manufacturing Practices, as regulations around the Food Safety Modernization Act unfold. However, there are certain requirements of the current GMPs that will not change and need to be implemented into your GMP Compliance Program.

**Personnel** – This program should be established in the Employee Handbook or a similar document. It should include personnel practices, hygiene/health requirements, and operational practices. The goal is to achieve and maintain hygienic practices and procedures by all personnel in the process facility.

**Plants & Grounds** – The goal is to organize, maintain, and operate a sanitary environment. This program includes equipment, machines, locker rooms, etc., not just the physical building.

**Sanitary Facilities & Control** – The goal is to maintain control of restrooms and lockers. Make sure they are clean, properly supplied, and well designed.

**Production and Process Control** – The goal is to maintain control over those elements of the process that control or eliminate potential food safety risks, especially temperature and time.

**Customer Complaints Program**

You need a written program that outlines how you will deal with customer complaints when they arrive in order to resolve them in a satisfactory manner for both the customer and the plant. Customer complaints provide good information. Every food safety complaint forces you to prove that you have an effective food safety program in place that controls or eliminates food safety issues.
Recall and traceability are two separate programs. However, for them to be effective, they must be implemented jointly. The goal of a Traceability Program is to be able to identify any ingredient or finished product in the event of a recall. All incoming ingredients, including direct contact packaging material, must be recorded as far as date of receipt and lot number. To manage your system properly, you’ll also need to record finished product identification. This allows you to trace forward in the distribution system. Shipping records are critical because they allow you to focus on only the customers who received your product. You won’t have to recall the adulterated product from all receivers, only those to whom you shipped it.

Recall ties to a Recall Program, and is a key component when a company has to recover product from the market. Recall is a legal term, and should not be used when talking about a market withdrawal. Recall is something that is in violation of the law, and regulatory agencies must be notified. Recalls always occur at the least expected moment, so we must be ready to respond effectively.

The goal of a Recall Program is to be able to remove suspect product from the market in a timely and effective manner.

**ADDITIONAL PROGRAMS**

In addition to the nine Prerequisite Programs described, there are several others that warehouses and distribution centers should consider implementing.

- Body Fluids
- Water Quality
- Metal-to-Metal
- Microbiological Control
- Glass, Brittle Plastics, and Ceramics Control
- Foreign Material Control
- Packaging Material/Labeling
- Food Defense
- Employee Safety
- MSDS Program
- Regulatory Inspections
- Technical Assistance

**SUMMARY**

Formal, written Prerequisite Programs provide structure and documentation for better management and improvement. They provide the basis for a sound and safe warehousing or distribution-center environment and are essential for a thriving company. Prerequisites are needed to meet today’s demanding set of consumer and security needs. Make sure you maintain and add to these programs as the need is recognized. AIB

The author is Publications Coordinator, AIB International.

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**Food Industry Fun Crossword Puzzle Answer Key:**

This crossword is part of AIB’s Food Safety FUNdamentals CD. Along with 73 files of posters previously featured in the AIB Newsletter, the CD contains an indexed PDF file of 54 puzzles on a variety of food industry topics including crossword puzzles, word search, spot the differences, word tile, and Who Am I?

You have AIB’s permission to use the posters and puzzles as creatively as you choose to meet your food safety training needs. Popular uses include posters, training slide shows and e-mail attachments, T-shirts, employee handbooks, and break room refresher training. The CD is $50 and is available from AIB.
AIB Is the One-Stop Shop To Help Your Company Get Ready To Meet The Food Safety Modernization Act Requirements.

The requirements food processors can expect when the new law comes into effect include:

• Sanitation Program for equipment and facilities
• Environmental Monitoring Program
• Allergen Control Program
• Recall Program
• Supplier Verification Program for domestic and international suppliers
• Vulnerability Assessment
• Food Defense Plan
• A workforce that is trained on these programs, including supervisors and employees.

AIB can help you meet each of these new requirements with our trusted products and services:

• Set up a new Sanitation Program or enhance your current program by attending one of our seminars or by inviting an AIB consultant to provide input relevant to your facility
• AIB’s microbiologist can help you set up an Environmental Monitoring Program
• Attend our Developing and Implementing Programs seminars to learn how to set up an Allergen Control Program or a Recall Program
• Our Food Defense Experts can provide a detailed Vulnerability Assessment and then help you write a Food Defense Plan with recommended procedural and physical security measures that address the vulnerabilities
• AIB provides training on any topic related to food safety and food defense and can customize the training to meet your company’s specific needs

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