

#9. EFFECTIVE CLEANING, MAINTENANCE, AND PEST CONTROL PROGRAMS FOR YOUR HACCP PLAN

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In past articles, I have discussed supplier control to assure that quality and safe products are received as well as the need for HACCP'd recipes that control the pathogens as food is prepared. In this article, I will present the three essential prerequisite programs of cleaning, maintenance, and pest control.

Cleaning

The first critical step in your cleaning plan (SSOP) is to identify your cleaning requirements in each of your work areas. Figure 1 (all figures follow summary) is an example of a simple cleaning form. You list each work area, beginning with the receiving dock, ingredient prep, refrigerated storage, etc., and then, list the major items of equipment within those areas. Hand tools can be grouped into one category and do not need to be mentioned in each specific area. The same is true for floors and walls, which only need to be covered once.

Typically, in a restaurant, you will have the back door receiving area, dry storage area, refrigerated storage, and frozen storage areas. There is the employee break and restroom area. You will also have the bakery, salad prep, pantry, cooking, and dish washing and pot washing areas.

It is very helpful to number the various pieces of equipment in each area so that they are easily referenced on checklists and on the cleaning schedule. For each item, list the frequency of cleaning, the cleaning chemicals to be used, and what staff person cleans the item. If there is a nighttime janitorial crew to clean the floors, walls, and ceilings, this is listed as a separate group that takes care of these areas of the kitchen. If your facility is USDA inspected, use a new form each morning and leave space on the form for the person who cleaned the equipment to initial and for the person who checked to initial. Leave space for corrective action.

Each item, then, needs a specific cleaning plan. Figure 2 is an example. You can see that a cleaning procedure for a piece of equipment begins by performing lockout / tagout, if necessary, and getting the equipment and chemicals needed to clean that equipment (e.g., buckets of water, goggles, gloves, detergent, sanitizer, scrubbing tools). A typical first cleaning step is to pre-rinse and scrape to remove large particles of food and dirt. Normally, this reduces bacterial counts 1,000 to 1. Then, the equipment is washed, rinsed, sanitized, and air dried. Finally, the tools and other cleaning items are put away in the "clean up" step. This same basic series of steps is followed for each piece of equipment. One should not assume that an employee, when hired, knows how to clean a piece of equipment. It is up to the supervisor to show that employee the specific cleaning procedures, chemicals used, etc. Never count on a sanitizer to make a piece of equipment safe to use. The most important factor is the water during pre-washing and washing, because the water dilutes the bacteria to a safe level.

An important part of HACCP is monitoring and verification. It is not difficult to wash a dirty cutting board, after it has been used for cutting high-bacterial-count meat or poultry, using the established procedure, and to measure with a simple RODAC microbiological contact plate to determine if the bacteria are at a safe level. On a typical wood or plastic cutting board, if

washed, rinsed, and sanitized effectively, the count should be less than 20 per 8 square inches. On stainless stain, it is quite easy to achieve 1 or 2 bacteria per 8 square inches.

Remember, for each chemical, you need a Material Safety Data Sheet and employee training. You should also have an eye wash station in case an employee gets chemicals in his/her eyes.

Maintenance

Maintenance is a critical aspect of HACCP. You do not want the refrigerators, boilers, or dishwashers breaking down during an operating cycle. Again, as with cleaning, the maintenance plan (Figure 3) lists the major items of equipment in each area. These items are basically the same as on the cleaning plan, except that the cleaning plan can include non-mechanical items (e.g., tables, small hand tools).

The first purpose of the maintenance list is to identify the items that need to be checked. The second purpose specifies what to check on each item. For instance, on refrigerator doors, check the gaskets; on sinks, check for leaky faucets; in hoods, check for grease and cleanliness in the hood duct. Fire extinguishers are checked to make sure that they are fully charged.

A complicated piece of equipment requires an actual maintenance procedure. This could be found in the manufacturer's reference manual, but it is likely that you will need to write your own procedure. An example is shown in Figure 4.

Pest Control

Pest control is the third major component of the cleaning and maintenance program. Again, begin with a checklist that identifies the critical control points for pest control (e.g., outside traps, dumpster area). Then, for each area, identify the pest control device or method used in that area. At the periphery of the facility, there would be traps to catch mice. The doors would have gaskets to assure a tight seal. There would be control to prevent birds from nesting in air inlet ducts. The chemicals used are specified for each area so that people who are allergic to a certain pest control chemical would know if it is being used in their work area.

Of course, the pest control program is typically done by a contractor, and the contractor can write your pest control program for you, according to the rules that you establish in your HACCP manual. Each month, the pest control operator should fill out a report of how many pests were found in traps, the chemicals and quantities used, etc. This way, there is a monitored and verifiable record of pest control in the facility (Figure 5). Again, you need Material Safety Data Sheets for the chemicals being used.

Summary

The cleaning, maintenance, and pest control HACCP prerequisite programs are essential for establishing the safe processing of food. Having HACCP'd recipes is desirable, but it is much more so to have those recipes prepared using clean equipment that functions consistently every day in a clean, pest-free facility. It is not possible to produce safe food in a facility that is not cleaned, maintained, and free of pests.

The next article will cover the last three elements of the HACCP program: 1) training, 2) quality assurance, and 3) third-party auditing.

FIGURE 1. CLEANING AND SANITIZING SCHEDULE

Equipment / area / surface (reference #)	Assigned to*	When done**	What to do, cleaning and sanitizing chemicals to use	Done by (Initial / date)	Comments and corrective action

FIGURE 2. SANITATION PROCEDURES AND STANDARDS (*Example Only*)

Mixer #15

Location: *Kitchen*

Mixer #15

Frequency: *End of day.*

Standard:

Job Time:

Lockout / tagout: *Plug enclosure and tag.*

Equipment: *Wall unit hose; green scrubbie; 3-compartment sink*

Chemicals: *cleaner, sanitizer*

Precautions and Preparation

1. Remove all foodstuffs, packaging materials, portable equipment, or other items in the way, or those that should not be soaked or contaminated.
2. Push STOP button. Unplug and place plug enclosure on plug end. Lock.
3. Remove internal blending knife. Wash in 3-compartment sink.
4. Clean equipment in the area before cleaning the floor.

Cleaning Procedures

1. Spray down entire outside of mixer.
2. Spray inside of mixing bowl and lid with cleaning solution. May need to fill bowl part way with water / soap solution. Using green scrubbie, scrub the inside bowl, outside lip, underside of lip, lid, hinges for lid, attached blade, lips of the lid.
3. Continue until surface is free of batter. May need to rinse surface first before observing.
4. Repeat as necessary. Continue to scrub outside surfaces, legs, etc.
5. After entire machine is clean, rinse with clear water and apply sanitizer to the interior and exterior of the mixing bowl surfaces and lid. Allow to air dry.

Clean Up

1. Return all tools and chemicals to proper storage area. Dispose of excess solutions properly, if necessary.

Safety Concerns

Approved by: *O.P Snyder* Date: *May 26, 2000*

FIGURE 3. MAINTENANCE SCHEDULE

Equipment (reference #)	Assigned to*	When done**	What to do, cleaning and sanitizing chemicals to use	Done by (Initial / date)	Comments and corrective action

FIGURE 4. MAINTENANCE PROCEDURES AND STANDARDS (Example Only)

BATTER APPLICATOR

Person responsible:	Date:
Verifier:	Job time:
Standard	

Employee Maintenance

Equipment required:

Procedure:

1. Clean conveyor following sanitation procedures.
2. Report any unusual noises or visual problems to maintenance (e.g., broken chain, grinding, etc.)

Maintenance Department Maintenance

Equipment required:

Procedure: WEEKLY

1. Inspect bearings. Replace inserts if necessary.
2. Inspect nylon sprockets. Replace those showing excessive wear.
3. Inspect rotating shaft for wear.
4. Inspect wire links for alignment, tension, and damage.
5. Grease fittings on bearings, using food-grade grease. Check bearings for freedom of movement.
6. Check casters for freedom of movement and wear. Replace if necessary.
7. Turn on motor, adjust vari-drive from slowest to fastest setting. This prevents unit from freezing in one place.

Safety Warnings (mechanical, chemical, electrical)