

PROTECTION OF FOOD PROCESSING PLANTS DURING NATIONAL EMERGENCIES¹

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Food processing is a basic industry that probably is of interest in the Communist plan of infiltration, subversion, espionage and sabotage. If we grant this assumption then we can properly say that we are in a period of continuing national emergency. In times of world tension, such as the present, our enemies could cause constant harassment and consumer complaints in the food industry without attracting a great deal of attention.

How could an enemy cause harassment without attracting attention? The answer is sabotage. You may be thinking that sabotage would be difficult, but consider for a moment the last food plant that you visited while we discuss this subversive type warfare.

The agent must get into a food plant before acts of sabotage can be committed but this is not difficult. The food processing industry has not placed any emphasis on investigation of employees, so the saboteur could very easily be employed in the operation. In addition only a few food plants have any security system such as enclosures and guards. Many operations are such that strangers may walk in and out with no one so much as saying a word to them. Therefore, gaining entrance to commit a subversive act would be no problem for the trained person.

If an enemy does gain access to our plants what is available that might be of interest to him? The answer to this would depend upon what was to be accomplished. If production was to be stopped the plant, personnel, and equipment would be the likely targets.

Much progress has been made in mechanizing the food processing industry and each piece of equipment is vital to the fast moving production lines. Improper maintenance is the greatest cause of work stoppage that most food plants face under present conditions. An excellent example of this, recently seen, was a corn cannery with a breakdown of the waste conveyor belt. The waste could not be removed from the plant fast enough manually so the entire operation had to be closed until repairs were made. This was unintentional but think how easy it would be to do the same thing intentionally. This breakdown could

have been avoided if the maintenance crew were well trained and instructed to check all equipment before the operation began.

Many phases of the food industry make use of control instruments. Tampering with this type of necessary equipment or setting the instruments to give false readings could be used to great advantage by a person desiring to create difficulties in food production. An example of this would be in the milk plant which is of interest to many of you. The retorting or pressure cooking of canned foods is another critical area where control instruments are vital to production. The National Canners Association recommends that retorts be equipped with steam bypasses so that the operation may be carried on manually if necessary. Another protection against instruments that may have been tampered with is the mercury thermometer that is recommended on each retort. Even when the instruments are in use the operator must check the recorder against the mercury thermometer which should be adjusted to a Bureau of Standards thermometer at least once each year, preferably more often. If the retorting operation is not accurately completed loss of product and possibly dangers to health will occur. Other forms of equipment sabotage would include addition of abrasives to bearings or greases, and the improper adjustment of precision equipment, such as the closing machine in a canning plant. If the closing machine adjustments are altered even to a very small degree the final seam may be inadequate to prevent recontamination of the product and loss from spoilage. As a deterrent to equipment damage all parts and supplies used in maintenance should be kept in a separate locked room with the supervisor responsible for the keys. With all possible precautions the greatest hope for avoiding equipment sabotage is a loyal, alert maintenance crew.

Food production may quickly be halted by interfering with or creating dissension among plant employees. One of the methods that may be used is the creation of situations that may cause accidents to key personnel. Stoppages of this type are only temporary but reduced production is generally the result. Materials may be spilled on floors or walkways so that the employee may fall, and guards can be removed from moving equipment to cause injury to the hands or fingers. Such things occur daily in the food plant

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but consider how much greater the problem would be if some of the dangers were created intentionally. Many plants have safety programs which are quite effective but additional effort would need to be expended to cope with intentional hazards. This may be accomplished by the sanitarian since maintaining the work area in a sanitary condition is basic to safety.

Ill feeling among employees, which reduces production, may result if filthy, poorly maintained employee facilities are allowed in the food plant. Plugged toilets, lack of soap and towels could result because someone in the plant made an effort to create these conditions. As all of you know these conditions exist much too frequently without anyone trying to accomplish the task. Efforts must be made by all responsible persons to see that clean, adequate locker rooms, toilets and lavatories are provided.

A complete halt of production occurs when employees strike. If an agitator has one or two points to criticize, this could be sufficient to create dissatisfaction that would end in a walk-out. Safe, clean work areas and adequate, clean employee facilities all add up in keeping down dissatisfaction that could cause complete work stoppage.

Disruption of normal activity in food plants is possible by partial or total destruction of the plant proper. In total destruction explosives may be used but if this is the method to be used the agent must get the materials into the plant. If plant security measures have been taken some protection is afforded against this type of sabotage. Little else is possible in protection except the requirement that all employees change into uniforms and leave all personal belongings and clothing in lockers. When we consider that clean work uniforms add to the general appearance and sanitation of a food plant then this protection from sabotage has all the more to recommend it.

Fire is another method of interfering with production by destroying or damaging the plant. Fire fighting equipment must be available in all areas, and employees should be given thorough instructions in fire fighting. The greatest protection is the maintenance of a sanitary plant in which starting a fire would be difficult. If warehouses, storage rooms and the production areas are kept free of waste paper, litter, and other debris, we will have established the first line of defense against work stoppage by fires.

It is possible that the enemy would not want to stop production but would wish to reach many hundreds of people through the products produced in food plants. Illness, injury and fear could occur among our people if such a program were carried on by enemy agents. Three types of materials could be used for contaminating the foods. These are: extraneous

material, chemical agents, and bacterial agents.

Extraneous materials are in the category of nuisance additives, yet a great deal of confusion and waste could result from such materials. The enemy would have a wide selection of foreign objects to use that might include glass, metal fragments, wood splinters, or soil. Such foreign materials present sufficient problems to the food industry from accidental entry even now, but if intentional addition took place the confusion and ill will would be beyond comprehension.

Thousands of chemical agents could be used in sabotage of food products and the selection made would depend a great deal upon the purpose to be achieved. The damage done could vary from giving the food an off-odor or off-flavor to causing illness or death if the food were consumed. Some chemicals may be available in the plant but in all likelihood the saboteur would bring the compound into the plant.

The use of bacterial contaminants is a subversive method that may be considered as relatively new yet the difficulty that could be caused makes this intentional additive one to which serious thought must be given. The bacteria, or in some cases the toxins produced by certain bacteria, could be brought into the food plant in such small containers that they could be easily concealed on the person of the saboteur. One of the most potent poisons known is botulinus toxin which if added to a food, water, or milk could create havoc in an entire city. As a plug for the canning industry, canned foods would be the safest food available if enemy agents were attempting to contaminate our food supply with bacteria or toxins. The final heat treatment of the closed container is the greatest protection we have against this type of subversive act.

How and where could contamination of the food or water occur? Around food plants many avenues are available if we assume that the enemy has gained entrance to the plant and has the contaminant available. In those plants that have their own water supplies this could be an easy way to get chemical agents into all phases of the production process. Stand pipes and storage tanks are all too frequently covered without locking. The contaminated water may be used directly in or on the product or in the clean-up of the production equipment to such an extent that the chemical would be in the final food.

In addition to chemical contamination of the plant water supply, bacteria could be used to some degree. In those industries when foods are not heated sufficiently to destroy the harmful bacteria this would be an easy avenue for the saboteur. Illness would occur among the employees and those foods that were produced would cause illness among the consumers.

One source of product contamination that would be well suited for any of the three classes of materials—foreign objects, chemicals or bacteria—is the ingredient materials that are added to the food. This would cover such things as salt, sugar, spices, and flavorings. Frequently these materials are stored in large quantities in areas where little activity takes place thus the saboteur could do his job with little risk of being observed. A rodent-proof storage room, built in accordance with good sanitary practice and kept locked, is the best protection available against contamination of these materials. A responsible employee should be assigned the task of cleaning and maintaining the room. In addition, this employee should check and rotate the stock so that any tampering would be observed.

Contamination of the product itself is possible at many points in the production cycle and would be subject to all types of contaminants. The most logical place to add materials to the product would depend upon the type of food being produced. In the manufacture of most foods mixing or blending tanks are used and contaminants added at this point might easily escape observation before packaging. In the canning plant the sirup or brine tanks would be placed where all types of contaminants could be added. Detection of the material would be difficult since the brining often occurs just before the can enters the closing machine. The addition of contaminants could also be made directly into the product at the supply tank for the filler or the filler bowl. Tightly covered tanks are recommended for general sanitary reasons

and this would make the task of the saboteur more difficult. The only other protection is close and constant supervision of production areas by trustworthy personnel.

If an enemy was successful in contaminating the food production of a plant there still remains another line of defense. The products must reach the consumer before the purpose has been achieved. The quality control laboratory can thwart the aims and hopes of the agent. Statistical sampling and examination of all products is becoming more and more the rule rather than the exception in food plants. These trained technical people may detect only the slightest variation in a product but this would be sufficient to require further tests and sampling which could lead to the detention of the food. If a contaminant is found by the laboratory its source must then be found before the operation could safely continue.

Open warfare with bacteria, chemicals, or radiation would present entirely different problems from those discussed. We have dealt with sabotage since this type of activity has received only slight attention in the food industry. If the word sabotage is mentioned the average person thinks of the industrial plant, aircraft factory, or shipyard, yet as a possible danger to the people of this country the food plants could be the prime target for enemy agents.

If the next time you are in a food plant you begin to think about what could be done to protect the food against sabotage, this discussion will have served a purpose.