PEST CONTROL AND FOOD SANITATION *

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For several years I was employed in Public Health work, and from this larger heading, and particularly the field of sanitation, I have drawn considerable experience which is of considerable assistance in my present capacity with the Commonwealth Sanitation Company. This organization is a pest control firm, so I guess you would have to call me, in slang parlance, "a bug man". It is like you sanitarians being called "snoopers".

I am not quite certain of the exact scope of your sanitation work, whether you specialize in one field or cover all phases. In any case, whatever your particular interest, I believe that pest control should be, and probably is, a vital link in your sanitation program.

Pest control in food sanitation implies the control of those insects and rodents living in close association with man and his food products.

Most Common Pests

The rodents most commonly found as pests are the rats and mice. The former group includes three major and one minor species, while the so-called house mouse is the chief mouse pest, although field and other types of mice can sometimes be troublesome. In urban areas, rats formerly outnumbered man two to one, but this ratio has been cut by pest control and rat eradication campaigns so that the estimated ratio is now one to each man. Rats are very prolific breeders, and the damage done by actual eating of human food, as well as the food spoiled by rodents costs the people of the United States somewhere between one-half to two billion dollars annually. At the same time, rodents may spread many diseases and are consequently a constant menace to public health.

The insect pests most common to the milk and food industries are the roaches and flies. There are several other species of roaches, but the German, American, and Oriental roaches are the most common. The common house fly is cosmopolitan in distribution and is a pest everywhere. Besides its annoying habits and markings, it is a disease carrier. Blue bottle and flesh flies are frequently present in large numbers around some food establishments.

These are the insect and rodent pests most frequently encountered in any type of milk or food establishment. They must always be included in any pest control program.

There is one other group of insect pests that is far more destructive than any of the pests already mentioned, with the probable exception of the rodents. These are the pests most frequently encountered in grain mills, bakeries, breweries, warehouses, packing plants, and farms. These are the so-called stored products pests, or industrial pests. Some of the more important of this group are the flour beetles, weevils, mealworms, flour moths, larder beetles, and cheese skippers. These insects live in stored products, and control is somewhat more difficult and more expensive than control of the earlier mentioned pests. Those of you who work with this type of material know the damage and spoilage caused by this group of insects even better than do I.

All of these insects and rodents, and some minor insects, are pests met with in food sanitation. Some of these pests

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can spread disease and are a health menace, while others merely destroy or contaminate food and render the product unwholesome. All of these pests, if not controlled, are detrimental to the food industry. Since lack of pest control in food sanitation is more readily detected by the public than lack of certain other sanitary practices, the food sanitarian often has the valuable assistance of the private citizen as an informer. After all, who wants to eat food with roaches or flies hovering about? or rats? Or who wants to use wormy flour or cereal?

We know what most of these pests are. We should know, too, that they breed rapidly, and that they live in close association with man and his food products. THESE PESTS WANT TO CONTINUE LIVING WITH US AND EATING OUR FOOD. DO WE WANT THEM TO CONTINUE LIVING WITH US AND OUR FOOD? My emphatic answer, like yours, is NO.

Sanitation Practice

To accomplish this negative desire is not so simple as we might expect. We cannot send these pests into exile so easily. The only way to combat the problem is by increasing good sanitary practices. This must be done by you sanitarians. But you alone cannot do this. Employer and employees must cooperate with the sanitarians. Even then, some form of vigilant pest control service must be continually on guard, and the person delegated to pest control service must have the cooperation of all concerned. Good sanitation alone will eliminate a great part of the pest problem; proper pest control should eliminate the rest of the problem. In our work we frequently urge cooperation for the customer’s benefit.

One account I might mention is in a rat-infested neighborhood. We have urged the owner to do some rat-proofing for better rat control. His answer, always the same, "It's cheaper to pay you fellows to kill rats than to rat-proof". As you might expect, he still has rats, and always will. Pest control can do only so much. With his cooperation, I am certain that we could eliminate his rat problem and prevent food damage. I say again, There must be cooperation for success.

Since sanitation alone can do much of the control of pests, but not all, there should be some form of pest control service as a complement. This type of service necessitates the use of insecticides and rodenticides, and sometimes mechanical devices for the control of pests that may continually be brought into a food plant, mill, restaurant, dairy, or other food establishment. Thanks to the scientists and the stimulus given their work by the late war, we now have the chemicals to do an excellent job in controlling insect and rodent pests. Most of you know something about these, so I shall not take time to talk about them at this time. I do want to mention briefly one of the lesser known agents which is very applicable to food processing plants.

Fumigation

When fumigation of mill, granary, warehouse, or box car is indicated, the fumigant in most cases should be methyl bromide. This fumigant gives an excellent kill of all pests and rodents. Its penetrating power allows it to reach even the innermost parts of grain bins, bags, and bales of stored products. At the same time, all evidence to date appears to show that the foodstuffs themselves are not affected by the gas. Acrylon is an excellent fumigant for spot treatment of equipment. It is our opinion that large mills should be periodically fumigated, and incoming shipments, particularly infested materials, should be fumigated before being brought into the plant. In an otherwise clean plant, this practice indicates that just about everything humanly possible is being done to prepare clean food.
Pest Control Program

Thus far we have briefly mentioned the most frequently encountered pests to the food industry, pests that we must control if we are to have clean foods. We have also established that good pest control must be a cooperative part of good sanitation. We know there are chemicals and materials available to do good pest control. The next question is—How are we going to do the job of controlling these pests?

If there is to be some form of pest control, that control may be done in three ways.

The first way the job of pest control may be done is by purchasing some form of insecticides and other chemicals and having some handy-man employee do an occasional spraying or poisoning. This occasional control work will generally be done only when pests become apparent. The handy-man, most frequently selected to be the “bug specialist” at least the boss thinks he will be, is a porter or janitor, who, in most cases, does not know where to look for the source of trouble. Consequently, the job will probably be poorly done and a false sense of pest control will result. This type of pest control (and I use the term very loosely) is economical as far as known expense is involved. The materials and spray equipment are the only cost. I do not think this type of pest control is the answer to good pest control.

The second approach to pest control is most applicable to a large food processing plant. In this type of organization, the management hires a well-trained sanitary engineer. A well-trained sanitarian will know where to look for pests. He will know how to eliminate the pests and then to prevent their ingress again. The well-trained sanitarian should be in charge of all sanitation and should have the necessary authority to enforce his program. He may be the person responsible for doing the actual pest control, or, he may think it advisable that a competent pest control firm do the actual pest control service. If the latter course is his recommendation, and the present trend seems to be in that direction, he should be sure that the pest control operator is doing his job properly. A good plant sanitarian, whether he does the work himself or hires it done, is still responsible for good pest control. I believe, that if it is at all possible, this approach to pest control in food sanitation is ideal. Smaller organizations might benefit in the same manner by pooling the services of a sanitarian. We of Commonwealth look upon this idea with enough interest to contemplate offering such services.

The third approach to pest control sometimes fits in with the first approach, that where they do their own occasional pest control. In some cases it fits in with the second or sanitarian approach. In many of the small food establishments, the management believes they are doing their general sanitation well, but call in a professional to do the pest control. This third approach to pest control is the use of a professional pest control operator.

The professional pest control man fits in with the occasional or handyman approach only after it is apparent that the “handy-man specialist” has failed and the place is badly infested. In some cases the professional is engaged only long enough to rid the plant of pests, after which the pest control reverts to the original handy-man. In some cases, however, the management learns that they cannot do the job properly and place the plant under routine professional service. In other words, there is more to pest control than the insecticide salesman claims.

When professional pest control service is utilized by a plant sanitarian, pest control results should be apparent by the absence of pests. Where the professional pest control operator routinely serves a food establishment (and this may be of any size), pest control results are generally good. But here again, there must be cooperation for
excellent results. All the fly spray the pest control operator can apply is not too effective, if the building is not screened. The same logic applies to rodent control if the building has many openings for rats and mice to enter. Chemical and other controls can do only so much.

These three ways are the approaches to pest control as I see the problem. I trust you will agree that the second two approaches are preferred.

**Precautions**

Since you are trained in the protection of food supplies, a few precautions should be stated here. You all know that interstate food shipments are under the jurisdiction of the Federal Food and Drug Administration as well as under local and state health agencies. Since the toxic agents used for pest control are, also toxic in most cases to humans, precautionary use of these materials is necessary to prevent contamination of foods. The previous speaker has given an interesting paper on insecticides in milk. Detection of these chemicals in foods can lead to their seizure and prosecution by the Federal government. In the case of 1080, the chemical does not have to be present in foods. Negligent use of this chemical is sufficient grounds for prosecution. May I urge, if you do your own pest control—BE CAREFUL.

The second precaution I would like to bring to your attention concerns pest control itself—the professional. If you are looking for, or have requests for recommended competent pest control firms, be careful whom you select. I regret to say that there is a very wide extreme in the work and ethics in this field. There are many excellent and ethical firms taking pride in their work, and who look upon themselves as men with a profession. There are, on the other hand a great number of shady, untrained operators whose main objective is a fast dollar, and their ethics have not been heard of. In my opinion, some of these shady charlatans should be barred from pest control and the handling of such toxic agents. A recent report by a pest control operator who left the employ of a firm because he was frightened at what might happen, tells of the use by his firm of 1080, poured into a pond to kill rats seen drinking at the pond. This sort of report, and many others, only hurts the entire pest control industry, but hurts worse those doing a conscientious job.

In general, if there is a big discrepancy in comparative prices for a pest control service, the low-priced job generally means the quality of the work is comparably low. I believe that a pest control firm should carry liability insurance of at least $1,000,000, and that does not include vehicles. This is for customer protection. Since pest control operators could be secondary pilferers, all pest control operators should be bonded. This, too, is for customer protection.

There are several ways to check the competency and type of work done by a certain pest control firm. Check their advertisements. Some of these are pretty deceptive and misleading. The local Better Business Bureau should be consulted to determine whether frequent complaints are registered against a certain pest control firm. Probably most important in determining the type of work done by a prospective pest control firm is to contact some of the accounts served by that pest control firm. This way you can check how their chemicals are applied as well as the results to the customer.

I have not gone into the actual work of controlling insect and rodent pests, since that is not the scope of this talk. Actually, our prospective operators receive a month of classwork on pest control before they ever as much as see one of our jobs and start their field training. Our last school of five was (Continued on page 307).
there is a heavy infestation requiring a great deal of effort to eliminate.

The preventive sanitation program properly applied automatically catches casual invaders as they attack the plant. We feel that there must be maintained in every bakery a thorough educational program ranging from general management down to the lowest porter. Each individual working in the bakery must be trained to understand the role of his job in the sanitation picture. This is necessary because it is our belief that if he understands the things that he can do to destroy good sanitation he will not be so prone to do them. No one likes to work in an insanitary plant. It has often been said that man fouls his own nest worst of all. If this is true, we believe that it is because of ignorance of the factors involved not because of an innate desire to do so. An educational program for every employee in the plant is a must to go along with the application of preventive measures involving infestation and the establishment of sound housekeeping.

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Pest Control

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carefully selected from over 200 applicants. You see, we no longer believe that any one can be a pest control operator.

In some cases regarding pest control, we do not have the answer. I am not sure wherein the responsibility lies. A few provocative thoughts might serve to illustrate. Have you ever thought of how beer and beverage cases spread roaches? What can be done about this situation? What happens to badly infested food that is fumigated? Sure, the insects are dead, but is the material usable as human food? Sometimes I wonder whether some phases of pest control and sanitation are not working backwards.

In closing, I want to emphasize the thought that competent pest control is a vital link in food sanitation. Good sanitation itself does a large part in pest control, but where food is involved, some form of good pest control is also necessary. I hope the day will not be too distant, when through the cooperation of all concerned, we can say PESTS ARE UNDER CONTROL IN THE FOOD INDUSTRY.

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Vermont Dairy Plant Operators' Conference

Vermont's Twenty-ninth Annual Conference for Dairy Plant Operators and Milk Distributors, October 25 and 26, is offered by the Dairy Department of the University of Vermont and State Agricultural College, Burlington, Vermont, at which O. E. Reed, Chief, Bureau of Dairy Industry will discuss the "New Developments in Dairy Research".

The Milk Plant Operations section will have papers concerning "Maintenance and Operation of Boilers", "Maintenance and Operation of Refrigeration Systems", and a discussion of "Reflective Insulation".

Cleaning problems will be fully presented by talks on detergent sterilizers, the problem of water in washing dairy equipment, glass piping, and 3A Standards for dairy equipment, as well as a report on what is new at the dairy show.

Milk surplus will be discussed under the title "The Manufacture of Foreign Type Cheeses".

Milk quality will receive attention: "High Temperature Short Time Pasteurization" with full discussion. There will also be a three man panel discussion of "Milk Flavors".