

tackling the job of standardizing a Hortvet before performing a single test by that method, a technician will gracefully accept the task of running a hundred samples by the thermister unit — and will report data which is completely reproducible and positive.

Since it is not always possible to obtain "control" samples of milks produced hundreds of miles away, official agencies routinely employing thermister cryoscopes are adhering to the 3% tolerance advocated by AOAC. It has been most impressive, however, that freezing points of policed supplies are soon brought to where they regularly demonstrate completely normal values.

The data from samples taken at some receiving stations (and from some plants) have established that watering, accidental and intentional, has not been as uncommon as some might believe. The particular advantage of the thermister cryoscope is that it takes so little time to perform a test and obtain an accurate

figure, that there is no longer any point to just worrying about the possibility of adulteration with water.

#### REFERENCES

1. Association of Official Agricultural Chemists "Official Methods of Analysis" 8th Edition, 249-254. 1955.
2. Findlay, A. The Phase Rule and its Applications. Longmans, Green and Co., New York "Systems of One Component," pp. 15-49, Sixth Edition, 1927.
3. "Fiske Milk Cryoscope" Manual published by Fiske Associates, Inc., Danvers, Mass. 1957.
4. Hortvet, J. The Cryoscopy of Milk. *J. Ind. Eng. Chem.* 13: 198-208. 1921.
5. Robertson, A. H. Cryoscopy of Milk, a 1954-1956 Survey. *J. Assoc. Offic. Agr. Chemists*, 40: 618-662. 1957.
6. Shipe, W. F. Associate Referee's Report on Cryoscopy of Milk. 71st Annual Meeting, Association of Official Agricultural Chemists, October 14, 15, 16, 1957.
7. Shipe, W. F., Dahlberg, A. C. and Herrington, B. L. A Semi-Automatic Cryoscope for Determining the Freezing Point of Milk. *J. Dairy Science*, 36: 916-923. 1953.

## THE LENGTHENING REACH OF THE PUBLIC HEALTH OFFICIAL

WILLIAM V. HICKEY

*Public Health Committee of the Paper*

*Cup and Container Institute, New York*

Anyone who looks at the public health field as a whole today can see that the responsibilities of public health people are increasing by leaps and bounds. The developments in industrial chemistry alone have brought on huge new problems in air and water pollution. The atomic revolution, still in its early stages, has already shown that it is going to create unprecedented problems in the handling of atomic wastes and radiation generally. And other technological, industrial and social changes are also bringing a rich crop of problems.

At the same time health officials are adding, as they historically have in the past, to their own concepts of the ground that their departments must cover. As Wesley Gilbertson of the U. S. Public Health Service has pointed out, more than six times as many departments are now concerned with accident prevention as were 15 years ago. And work in the mental health field, control of swimming pools and regulations of homes for chronically ill old people are only a few of the other new activities coming to be regarded as regular health department responsibilities.

But such basic services as food and dairy inspection, water supply and waste disposal, must be strongly maintained. The demand for public health services had its origin in the dangers in these fields that affect large segments of the population — and

the guard against these dangers must be kept up.

This combination of pressures, new and old, means a great opportunity for all health officials to grow in stature and importance in both their profession and their community. It also means that the problem of enforcement is considerably more difficult than it used to be. No longer does the public health officer have the time to stand over people to make sure they follow the rules. In all probability he never did have that much time, even when his responsibility covered far fewer areas, but he certainly does not have it now.

This being the case, it should be interesting to see some of the ways in which various health officers and their departments have solved the problem of enforcement. A number have come to our attention in the course of our work for the Public Health Committee of the Paper Cup and Container Institute, and particularly in connection with the gathering of information for the Annual Samuel J. Crumbine Awards.

The most important single thing the Institute has observed is that enforcement is generally easiest when the public health officer has created an environment where the following conditions exist: First, operators want to cooperate, because they themselves have helped to make the rules and know they are

sound, and because they recognize the dollars and cents value *to them* of these rules. Second, outside pressure has been enlisted to help secure enforcement.

How has this taken place in various communities?

#### THE CRUMBINE WINNERS' SECRET

In the entries received from health departments for the annual Crumbine Awards, the most successful health departments, varied though their activities may be, almost always have one characteristic in common. And many less successful departments do not. It seems almost to rank as one secret of success. This characteristic is the habit of informing the public early about the department's activities. Witness the failures that many school boards have had recently in getting school bonds approved.

Although a formal citizens' vote may not be taken on a specific public health project, the people in the area will offer it equally little support unless they have been shown how it will help them or protect them.

Some officials never make a public report until an irksome defeat makes them take their program to the public. Others report only at the end of the year or after the completion of a project. Statements of this sort *are* helpful. They at least assure one telling of what has been done.

But the department that announces the start of a new project makes the whole project move more easily. Taking advantage of the public's natural interest in anything that is new, an advance story clears the air of doubts and questions while establishing the project as an accepted community activity.

And it doesn't hurt to make interim reports as well. In fact, many a keen health officer has found that it helps to have fairly complete reports of all the department's work in the newspapers and on the air with some regularity and particularly in the months immediately ahead of the approval of a new annual departmental budget.

#### DELEGATION TO THE CITIZENS

Another procedure used by successful men in many fields shows up very clearly in the Crumbine Award entries. That is the trick of lengthening one's own reach by getting others to do a part of the work. This delegation of work to others is an old story in offices, of course. Getting outside groups to work for you is sometimes more complicated, but often extremely powerful in its effects.

Hundreds of public health departments have sought the cooperation of the industry involved in

drawing up codes when either one of these two conditions has existed:

1. Where new technical considerations, as in the regulation of the mechanized dairy industry, required new information, and the industry itself was in a position to furnish valuable material, or

2. Where nothing else would work.

These techniques of cooperation — now used mostly in special situations — can be extended to many other areas of health department work. Relatively new groups such as the mobile industrial caterers, vending operators, and fun spot owners are flattered to be recognized as industries of rising importance, and cooperation by older groups can likewise be strengthened by getting them to make your cause their cause.

Max Kleiner, partner in the Food Consultant Sanitation Service Company, which provides professional advise for many restaurants and restaurant associations, points out that the cooperation between the industry and government has risen sharply in the 1950's. Teamwork is a popular idea these days and should be considered as one excellent way for a man to extend his reach.

Another kind of group, if carefully chosen, can help in this direction. These are the local power groups. Not outside regulatory or volunteer agencies, but people with roots in the area who are leaders at various levels of the community.

Rochester, New York, solved an old problem by appeal to local groups. It had long been obvious to health officials there that a stronger program could be conducted if the county and city health departments were combined, but the City Fathers could not see the advantages.

The health officials recognized that they needed additional help. They drew up a list of influential groups with a potential interest in one aspect or another of their proposal. They told their story to the county medical society; they enlisted the interest of the visiting nurses association; they even discussed their problem with the University of Rochester. And, of course, they included the service clubs; chamber of commerce and other groups dedicated to civic improvement.

The result was that a strengthened and streamlined city-county department was voted. Services have been greatly improved, the state provides greater aid for the area than ever before, and the department has a stature that it never previously attained. All this by letting others help extend the effectiveness of the health department's naked efforts!

#### MORE POWER IN WORKING WITH INDIVIDUALS

These techniques have helped others to make rapid progress in broad areas. If you are going to lengthen

your reach to the fullest, you must be on the lookout for ways of speeding your work with the individuals covered by your various programs. Here again major savings in time and labor can sometimes be made through an improvement in methods.

One sanitarian in a slum district got bogged down in 167 court cases in one year. His successor, approaching the same people in a different way, was able to get better compliance and more corrections in the following year, and yet had to resort to court only once.

Sometimes health men come to feel that food operators really don't want to cooperate.

On the other hand, Donald Greenaway, Executive Vice President of the National Restaurant Association, in a speech prepared for presentation at Glenwood Springs last August, gave this analysis of the feeling of some restaurant operators:

At the heart of the thinking of many small business men today, there is the thought that the government is pushing too deeply into the private lives and the undertakings of business men.

But the business men in the restaurant industry in the last 30 years have slowly but surely abandoned this idea as they recognize that a business operates in a social as well as a purely economic climate.

Some of the opposition and the troubles that you people have had in dealing with men in our industry arise out of this simple psychological factor.

He also pointed out that smaller operators and those who see their businesses dropping away from them — either through obsolescence or through changes in business patterns — may actually be in a corner financially where it seems dangerous to put further money into improved procedures.

#### FIRMNESS STILL NECESSARY

Many food and dairy operators still need to be followed up whether they like it or not. Without firm action, it is doubtful that San Diego, for example, could have gotten 1,841 restaurants out of 1,915 up to standards meeting "A" card requirements. In carrying out their inspection program, however, San Diego officers took four steps to make it more palatable to operators and thus make the inspections more productive and faster. They developed their regulations in cooperation with the operators; they saw to it that their new sanitarians got enough training to command operators' respect before going out; they told the public through newspapers and broadcasts the advantages of going to well managed restaurants; and they topped the program off by bringing in State Health Department officials to make an independent evaluation of the progress the restaurants were making. By these means they eliminated many of the little frictions between personalities that are

likely to slow down any far-reaching inspection program.

#### MEETING THE OTHER MAN'S INTEREST

Excellent results can often be obtained by trying to see things from the operator's point of view and helping him with things that are important to him. This is obviously a more appealing approach and, far from interfering with getting compliance, it speeds it.

Dr. Joseph Smith, head of the Providence, R. I. Health Department, has had striking success with operators in his area by showing them *how good crowds go with good sanitation*.

Although there are, naturally, professional limits that a health officer should not exceed, there are a host of things related to sanitation that will help operators to make their businesses more efficient and more profitable. For example, one sanitarian has found that he can render a valuable service to operators by informing them where they can see particularly effective new layouts and equipment in restaurants in the area. This is flattering to the operator who has made the improvements, in addition to being helpful to others who may wish to consider making similar innovations.

If the operator is well financed, he is often interested in machinery that will give him efficient quantity production without the use of human hands. He may also want ideas about the continuous processing of food, automatic time and temperature controls, use of non-rusting easy-to-clean alloys in his kitchen and the other techniques that the sanitarian has seen during his well run operations.

The beauty of this kind of thing is that it helps the restaurateur to operate better, at the same time it advances the cause of sanitation.

With smaller operators where money is tight or even almost non-existent, similar progress can often be made with ideas scaled to their needs. Introduction of disposable paper service can save them all kinds of labor and equipment costs and may help them to add services such as take-out that can mean a difference of life and death to the success of their businesses.

Best-selling casserole-type dishes can be served for take-out in plastic-coated paper containers for reheating in the housewife's oven. In many restaurants, particularly specialty operations, this has increased volume and profits 30 percent or more.

Another way to help operators to raise volume is by increasing the speed with which customers can be served. Suggest to operators that they preportion condiments, salads, vegetables, dressings, seafood

and fruit salads in pleated portion cups of the appropriate sizes, holding them on trays in the refrigerator until needed. Left-overs, too, can be economically saved for later use by refrigerating or freezing them in wax or plastic-coated paper containers.

An excellent sanitation technique that also saves staff time is to use paper cups for water. A small stack of cups (upside-down with a napkin underneath) and a water pitcher can be put on each table so customers can serve themselves.

If this kind of idea appears to be useful in talking to restaurant and other operators, it should not be hard for each sanitarian to build a broad inventory of ideas of all kinds from his own observations once he starts to keep an eye out for them.

This technique was pointed up by the featured speaker at a convention of advertising experts who

make their living by getting people to buy things by mail. He was heckled with one piercing question: "What *single thing* can I say to sell more goods?"

Without a moment's hesitation, the speaker flashed back: "Don't tell people how good your goods are. Tell them how good your goods make them." To this man who had sold millions of dollars worth of merchandise this was the strongest action-getting approach that can be devised.

Although sanitarians are not in the direct mail business, there is a lot to be learned from this homely anecdote because it shows how anyone can increase his effectiveness — lengthen his reach — by spending additional time thinking how to help the people he deals with to be as good as they want to be.

This is the finest kind of enforcement — and the strongest in the long run.

## FURTHER STUDIES ON THE SELECTIVITY OF VIOLET RED BILE AGAR<sup>1 2</sup>

PAUL A. HARTMAN

Department of Bacteriology, Iowa State University, Ames

(Received for publication September 18, 1959)

Direct plating on selective media is the method of choice for the routine enumeration of coliform bacteria in most frozen foods (4, 8), yet little is known regarding the selectivity of these media under various conditions of use. It is often desirable, and sometimes essential, to know what types of bacteria are being counted when the red colonies on a plate are being tallied. The problem becomes more acute when only a few colonies per plate can raise serious questions regarding the sanitary history of the product.

During the course of a recent project<sup>2</sup>, opportunity was afforded to study factors which influenced the coliform count of several different types of frozen foods. Some pertinent data are reported here to serve as a basis for a better understanding of the meaning of the coliform count of frozen foods determined on Violet Red Bile (VRB) Agar.

### MATERIALS AND METHODS

The plating procedures have been described previously (5). Pie samples were taken from the con-

tents only, unless specific mention was made that crust was included. Purplish-red colonies 1 mm. or more in diameter were termed "typical" colonies (3), while purplish-red colonies of less than 1 mm. diameter were called "small" colonies. The results would not have differed materially had an arbitrary colony size of 0.5 mm. diameter (11, 12) been used, since a considerable proportion of the small colonies were less than 0.5 mm. in diameter. Isolated colonies were streaked on Eosin Methylene Blue Agar, then the plates were incubated for 24 hours at 37C. This method had been found to be about 90% effective for presumptive identification of *Escherichia* from VRB Agar when compared with isolation followed by IMVIC tests (5).

### RESULTS AND DISCUSSION

Some previously reported results obtained on chicken pies (5) are included in Part A of Table I for comparative purposes. Approximately 67% of the typical colonies and 35% of the small colonies were identified as *Escherichia* when the sample was devoid of crust. When a representative portion of crust was included in the samples (B, Table 1), only 33% of the typical and 13% of the small colonies from chicken pies were confirmed as *Escherichia*. Lesser proportions of the typical colonies from turkey and beef pies were confirmed as *Escherichia*, but the pro-

<sup>1</sup>Journal Paper No. J-3730 of the Iowa Agricultural and Home Economics Experiment Station, Ames, Iowa. Project 1379.

<sup>2</sup>This investigation was supported (in part) by research grant No. E-1141 from the Institute of Allergy and Infectious Diseases of the National Institute of Health, Public Health Service.