EQUIPMENT FOR MICROBIOLOGICAL QUALITY CONTROL

Federal and state health regulatory agencies have been placing increased responsibilities on food processors to insure the safety and quality of the products they produce. To determine the degree of compliance to the various regulations and guidelines, many companies have found it necessary to establish quality control or quality assurance programs. These programs can either be directed by the company or contracted to a testing laboratory that provides the necessary service. Because of relating high costs that sometimes must be charged by consulting laboratories, many processors have decided to establish their own quality control laboratories.

This publication contains a list of the various supplies and apparatus that would be necessary to establish a small laboratory having the capability to conduct the following tests:

1) Total Plate Count
2) Total Coliform
3) Fecal Coliform

Other tests as mold and yeast count and *E. coli* could be added at minimum cost to the list through the purchase of additional materials.

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Davis, CA 95616

(Cummings; A/EA-1)

I. General Equipment

Equipment per test-10 tests		Approx. Cost*
Beakers, 250 ml	12/	10.30
Balance (triple beam)		66.00
Brush (test tube)	12/	15.50
Brush (cylinder)	12/	11.30
Flask (1 liter-Erlenmeyer)	6/	15.97
Flask (2 liter-Erlenmeyer)		4.43 ea.
Flask (1 liter-Volumetric)	6/	73.38
Electric heating unit (magnetic)		147.40
Magnetic bars for stirring (about 3)		2.25 ea.
Bunsen burner		18.00
Blender base		57.00
Blender jars (1 per sample)		5.90 ea.
Blades for jars		6.00 ea.
Scapels	12/	32.25
Forceps	10/	17.00
Test tube racks (72 hole)		9.00
Test tubes (screw cap, 25x150 mm)	24/	15.84
Test tubes (screw cap, 16x150 mm)	48/	20.60
Durham Tubes	48/	4.18
Inoculating needle (holders)	12/	23.00
Inoculating needle (wire)	12/	4.25
Petri plates (disposable-4/sample)	500/	35.50
Pipets (1 ml)	12/	20.20
Pipets (5 ml)	12/	22.90
Pipets (10 ml)	12/	26.35
Dilution bottles w/caps (4 sample)	12/	6.60
Cylinders, graduated (100 ml)		7.83
Cylinders, graduated (250 ml)		10.53
Cylinders, graduated (500 ml)		14.38
Cylinders, graduated (1 liter)		20.15
Thermometer (C° and F°)		6.10
Medicine droppers	grs/	11.00
Glass rods (hockey sticks)	25 lb/	68.00
Cotton (long fiber)	1 lb/	7.50
Marking pencils	Box of 12/	6.00
Detergent for cleaning glassware Sparkleen (3 1/4 lb/box)		4.50
Interval timer		32.50

II. Media and chemicals

Plate count agar	1 lb/	22.83
Phospate buffer solution	1 lb/	14.27
Lauryl sulfate tryptose broth	1 lb/	17.55
Brilliant greet lactose bile broth	1 lb/	25.33
Ethnanol	1 gal.	3.50
EC broth	1lb/	20.55

Water bath	299.00
Incubator	867.00
Autoclave	12,540.00
	189.00
Colony counter	275.00
Still (non-automatic)	1,035.00
Torsion balance	1,078.00
Automatic pipetter	535.00
pH meter	325.00
Oven	135.00
Refrigerator	795.00
Microscope	1,736.00
Distilled water storage bottle	110.25

* Based on 1979 prices.

Approximate Cost

I. General Equipment	970.00
II. Media and Chemicals	105.00
	$1,075.00

IV. Publications containing information on quality Control techniques.

1. "Compendium of Methods for the Microbiological Examination of Foods." Marvin L. Speck, Editor, American Public Health Association, 1976.

   Obtain from:
   American Public Health Association
   1015 18th Street, N.W.
   Washington, D.C. 20036

2. "Bacteriological Analytical Manual for Foods." Joseph C. Olson. Food and Drug Administration, Washington, D.C. Stock No. 1712-00162.

   Obtain from:
   Superintendent of Documents
   U.S. Government Printing Office
   Washington, D.C. 20402

3. "AOAC Methods." 11th Edition. William Horwitz, Editor. Association of Official Analytical Chemists. 1970.

   Obtain from:
   Association of Official Analytical Chemists
   P. O. Box 540
   Benjamin Franklin Station
   Washington, D.C. 20044