Merriam, J.R. University of California, Los Angeles. On setting up a lab and kitchen.

Several people have asked me what equipment and suppliers I use in my lab and kitchen. They particularly want to know about low cost substitutes or new products I have found in setting up. I thought it might be generally useful to write down the sources of equipment and supplies we use (listed in the tables below) and recount some of our experiences with this material. The costs listed for equipment are approximate only and from four years ago, so please be warned. It is to be hoped that labs with other ways of doing the jobs will be encouraged to write DIS and give us all the benefits of their procedures.

---- Lightnin Portable Mixer. Very useful, the shaft needs to be extended 8" (Σ=27") in order to mix small batches or when pumping gets down to the last bit of media.

---- National Filamatic Pipeter. No service by company on west coast, but we have only had to replace the front electrical panel in 4 years. The chief advantage of this machine is that the FKS and FUS cylinders are stainless steel and won't break. The machine will operate both cylinders simultaneously for 2 different quantities if desired.

---- Sherer Reach In Incubator. This box may not be suitable for precisely constant temperatures since it operates by alternating blowing hot and cold air. We use ours for keeping stocks and media at 18° and for this it is the best buy for the money. It comes with 4 shelves but we needed 3 more. We built special long narrow trays to fully use all of the shelf space. It holds 48 cubic ft.

---- Dissecting microscopes and lights. Although we use Wild M5 scopes, I think the new Wolfe or similar scope from Japan ($260 from Carolina Biological Supply with built in light source) would be adequate. The Bausch and Lomb lights listed are fluorescent and are the cheapest acceptable lights we found.

---- Disposable plastic bottles. This is perhaps our major innovation. We originally bought these bottles because they are cheap but they are also much lighter than glass and take up less space. They are autoclavable. We have washed and reused our supply constantly for 4 years without problem. They are semi-transparent in that one can see larval tracks and pupae through the bottle walls but not adult flies. We plug the bottles with dispo foam plugs which we recover after autoclaving and wash in a regular clothes washer. Since we bought our supply of bottles three different companies have sold them. Pacific Plastic Bottle Co. (as of Sept. 17, 1973); Van Waters and Rogers may be interested in supplying them also, which would be easier for small class uses and high schools.

---- Baskets and trays. We made all our baskets and trays in the department shop out of metal sheeting or wire fencing. They are considerably cheaper and far better than any commercial varieties we have yet seen. The wire baskets hold 54 plastic bottles; the trays hold 168 vials.

---- Media. We use the Cal Tech formula for which the ingredients are listed in Supplies. The absorbent cotton balls are used to plug vials. Minor items, such as food coloring and sucrose, we obtain from the food market. Propionic acid by Mallingkrodt. As described in another note in this DIS, we add caffeine to the food for mite control. However, this is not a substitute for throwing out old bottles. Mike Ashburner is reported to have a more powerful technique for getting rid of mites which we also plan to try.

Table 1. Equipment

Quantity	Item Description	Address	Approximate Cost
1	Lightnin Portable Mixer	Mixing Equipment Co., Inc. Rochester, New York 14603	$1,500
1	Groen Steam Kettle Model #FT-20	Dover Corp., Groen Division Elk Grove Village, Illinois	
1	National Filamatic Pipeter Model #DAB-5	National Instrument Co., Ind. 4119-27 Fordleigh Road Baltimore, Maryland 21215	$850
1 each cylinder	#FKS-130-75 for 60 ml bottles #FUS-60 for 7 ml vials		

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Table 1 Continued

Quantity	Item Description	Address	Approximate Cost
1	Sherer Reach-In Incubator Model R1-48 (2^{o} - 42^{o}C)	Sherer-Gillette Company Environmental Division Marshall, Michigan 49068	$1,500
	Microscope Lamps Cat.#31-35-32	Bausch and Lomb	$45
6800	1/2 pint milk bottles (round)	Pacific Plastic Bottle Co. 305 E. Home Street Rialto, California 92376 (phone: (714) 875-4661)	$18.35/1,000
50+ from 100' sheet	Wire Bottle Baskets Dimensions: 14 3/8" x 17 3/1" x 5 1/8" Wire # 16 Width 24" Mesh 1/2" x 1"	Any hardware supplier	$38.60/100' roll
30	Vial Trays Dimensions: 10 1/2" x 14" x 3 1/8"; 3 perforated carbon steel sheets (36" x 120") with 1/2" holes, 20 gage, .035" thick, staggered pattern.	Ducommun Metals 4890 S. Alameda Street Los Angeles, California (phone: (213) 588-0161)	$25/sheet
		Plated with Cadmium Irridite by Barry Ave. Plating 2210 Barry Avenue West Los Angeles, California (phone: (213) 478-0078	$30/30 trays
200	Shelf Trays Dimensions: 10 1/2" x 14" x 3 1/8" 20 Galvinized steel sheets (36" x 120") @ 26 gage		$5.00/sheet

Table 2. Supplies

Amount Ordered	Item	Supplier	Cost/Unit
50-100 lbs. (100 #/6 mos.)	Agar (fine ground) powder form A	Mcorehead & Co., 14801 Oxnard Van Nuys, Ca. (213) 873-6640	$71.00/25 lb.
400-500 lbs./ 9-10 mos.	Corn Meal (yellow)	The Pennington Company, Los Argeles, Ca. (213) 938-2941	$3.30/25 lb.
200 lbs./year	Anhydrous Dextrose #2401	Corn Products - Chemstat 720 Centinela Ave. Inglewood, Cal. (213)678-3468	$25.00/100 lb.
10-20 boxes (10/4-5 mos.)	Absorbent Cotton Balls #8329 (large) 4,000/box	Johnson & Johnson, 4100 Bayshore Blvd., Menlo Park, Ca. (415) 329-0400	$10.00/box
10-20 pkgs. (6 mos.)	Dispo Plugs T 1385 (28 x 35 mm)	Scientific Products, 1711 Redhill ave., Santa Ana, Ca. 92705 (phone (213) 860-5551)	$5.95/pkg.
100 lbs. (100 lbs./year	Yeast, debittered dry	Philadelphia Dry Yeast Co. Philadelphia, Pennsylvania	$0.28/lb.