Microscope Slide Incubator

Incu-Stage is designed for use with 1- by 3-inch slides to maintain microorganisms at 37°C. The slide is placed at the bottom of a compartment in contact with the substage condenser. The top of the incubator is covered with a mica sheet with a hole in the center through which the objective projects into the incubating chamber. A soft rubber washer serves as a seal. Incu-Stage has integral heating elements and a bimetallic thermostat. Lab-Line Instruments, Incorporated. Circle 737.

Literature

Water Technology Manual covers 14 methods and has a reference section of hints on spectrophotometry. Bausch & Lomb Analytical Systems Division. Circle 742.

Metro Disc describes a water sampler for heavy metal analysis. Data sheet 18 lists capabilities and applications. Environmental Devices Corporation. Circle 743.

p*H Meters* features the model 103—a precise, reliable model with sensitivity to 0.01 unit. Brinkmann Instruments Incorporated. Circle 744.

Solution Calorimeters are covered in bulletin 1451 for the measurement of heat of reaction from 2 to 2000 calories with an accuracy of 1 percent. Parr Instrument Company. Circle 745.

Catalog 750 features thermometers, hygrometers, and accessories for measurement of heat in research applications. Brooklyn Thermometer Company Incorporated. Circle 749.

1975 Research Products Catalog lists radiochemicals, standards, liquid scintillation and gamma counting supplies and accessories. Amersham/Searle Corporation. Circle 747.

Laboratory Products Catalog 750 describes reagents and specialty chemicals. J. T. Baker Chemical Company. Circle 748.

Model AR-2 Recording Vacuum Balance includes description of stability, features, accessories, and design specifications. Perkin-Elmer Corporation, Instrument Division. Circle 751.

NMR Deuterated Chemicals and Shift Reagents lists an expanded product line for this mode of chemical analysis. Pfaltz & Bauer Incorporated. Circle 752.

Laboratory Products Catalog describes apparatus for cell harvesting, solution pumping, air filtration in vacuum systems, and other scientific applications. Spectroderm International. Circle 753.

Demineralized Pure Water is devoted to the Osmo system of reverse osmosis. Osmonics, Incorporated. Circle 750.

NEWS AND COMMENT

(Continued from page 818)

New Mexico desert, but that won't be ready until the early or mid-1980's.

In spite of these continuing difficulties, the prevailing view of nuclear engineers seems to be that no real technological barriers exist to the safe and economical disposal of nuclear waste. But the continuing muddle over what to do with spent fuel and what to do with the final radioactive dregs of nuclear power generation are doing nothing for the technology's image.

—ROBERT GILLETTE

RECENT DEATHS

Frederick B. Davis, 65; professor of education, University of Pennsylvania; 2 March.

Richard F. DeMar, 50; professor of mathematics, University of Cincinnati; 11 February.

Donald W. Denna, 44; associate professor of horticulture, Colorado State University; 15 January.

Alden H. Emery, 73; chemist and former executive secretary, American Chemical Society; 14 March.

Paul H. Margolf, 78; professor emeritus of poultry science, Pennsylvania State University; 13 February.

Bernard D. Tebbens, 65; professor of public health and engineering; University of California, Berkeley; 10 February.

C. Mildred Thompson, 93; dean emeritus, Vassar College; 16 February.

Adolph E. Waller, 82; professor emeritus of botany, Ohio State University; 28 January.

Edward H. Watson, 72; retired chairman, geology department, Bryn Mawr College; 21 February.

Arnold V. Wolf, 58; dean, Graduate College, University of Illinois Medical Center Campus; 27 February.

Nathan A. Womack, 73; first chairman, surgery department, University of North Carolina School of Medicine; 2 February.

George M. Worrilow, 70; former dean, College of Agriculture, University of Delaware; 27 February.

Bernice M. Wright, 66; former dean, College for Human Development. Syracuse University; 17 February.

Erratum: Excerpts of an address by Benno C. Schmidt (16 May, p. 716), chairman of the President's Cancer Panel, erroneously implied that the Cold Spring Harbor Laboratory is an officially designated "comprehensive cancer center." Although the laboratory receives support from the National Cancer Program, it is not a "comprehensive center."—B.J.C.

RESEARCH NEWS

(Continued from page 823)

ized and separated with flow systems, but the Livermore group is finding that chromosomes are also distinguishable. The investigators stained chromosomes isolated from cultured Chinese hamster cells with ethidium bromide. This dye combines specifically with DNA so that the chromosomes are separated on the basis of differences in their DNA content. The technique does not completely resolve the chromosomes but the resolution was sufficient to detect a chromosomal rearrangement in a mutant line of hamster cells.

Van Dilla thinks that the method is a highly promising approach to karyotyping and to purifying individual chromosomes for biochemical and biological characterization. The Livermore investigators are now attempting to apply the same procedures to human chromosomes. This will obviously be more difficult since humans have roughly twice the number of chromosomes as hamsters. In an early experiment, the investigators resolved chromosomes prepared from cultured cells from a human male (24 different chromosomes) into 7 groups. Again, karyotyping appears to be more limited by availability of suitable methods for preparing chromosomes than it is by the instrumentation.

Numerous additional applications of flow systems are being investigated. For example, the techniques provide a rapid, quantitative means of determining the amount of antigen or antibody on individual cells and thus for studying immune responses. Flow techniques should also prove valuable for studying lectin binding by cells. Lectins are widely used to probe the differences between normal and malignant cells.

The availability of commercial instruments will no doubt accelerate the applications of flow systems to biomedical research. Becton, Dickinson Electronics Laboratory (Mountain View, California) is now producing the FACS-1 after the prototype developed at Stanford. Bio/Physics Systems manufactures a series of systems with capabilities ranging from simple cell counting to multiparameter analysis with sorting. And Particle Technology, Inc. (Los Alamos) is also starting to produce flow instruments. Developments that will further stimulate research include incorporation into the instruments of lasers tunable over a wide range of wavelengths and of lasers emitting infrared or ultraviolet light. The potential impact of flow systems on biology, according to Mullaney, equals that of the electron microscope.—JEAN L. MARX