

New Products and Equipment . . .

Monsanto Field Testing New Herbicides

Two new pre-emergence herbicides for elimination of weedy grasses in grass-like crops have been developed by Monsanto. The herbicides are now in the field test stage and are not yet commercially available.

L. H. Hannah, of Monsanto says that the new weed killers, alpha-chloro-N,N-diallylacetamide and alpha-chloro-N,N-diethylacetamide, have given excellent control of grasses at rates ranging from three to six pounds per acre. Effective weed control has been obtained in corn and soybean rows by 13-inch band treatments with less than two pounds per acre.

"Although these amides of chloroacetic acid show definite promise as grass-specific pre-emergence herbicides," Hannah says, they are still in an experimental stage and estimates that at least another year of cooperative field trials with growers and experiment stations will be needed before their sale will be permitted.

The results of tests in 2700 widely-scattered plots indicate that under most conditions the new products are superior herbicides for such crops as sweet corn, onions, carrots, broccoli, spinach, snapbeans, lima beans, turnips, radishes and table beets.

In addition to such annual grass pests as giant foxtail, wild oats, cheat grass and crabgrass, satisfactory control was obtained of certain broadleaf weeds such as pigweed and purslane. **PE1**

Pump with Carbon Impeller for Handling Corrosives

A greaseless, multi-purpose, rotary type displacement pump manufactured by the Eco Engineering Co. is available with a self lubricating carbon graphite impeller.

The pump is available in capacities from 1-10 gallons per minute with pressures of 150 p.s.i. It is recommended for crop spraying and chemical pumping operations of all types. Pump housing in bronze, stainless steel, and synthetic rubber are available.

Heat-and-Weather-Resistant Paint

Sili-Kool, a long-lasting, heat-and-weather-resistant paint, has been developed by C. H. Dragert Co.

Formulated of silicone and atomized silver aluminum, the paint is guaranteed to resist up to 1600 degrees while repelling rust and corrosion under severest weather conditions.

The manufacturer's laboratory sub-

jected Sili-Kool to a wide assortment of rigid tests on scores of red hot surfaces exposed to extreme climatic conditions. Dragert chemists claim that a single coat of the new wonder-paint will thoroughly protect for more than a year, smoke stacks, boilers, steam pipes, diesel and gas engines, exhausts, manifolds and mufflers, irrespective of the most punishing temperatures and exposure. **PE2**

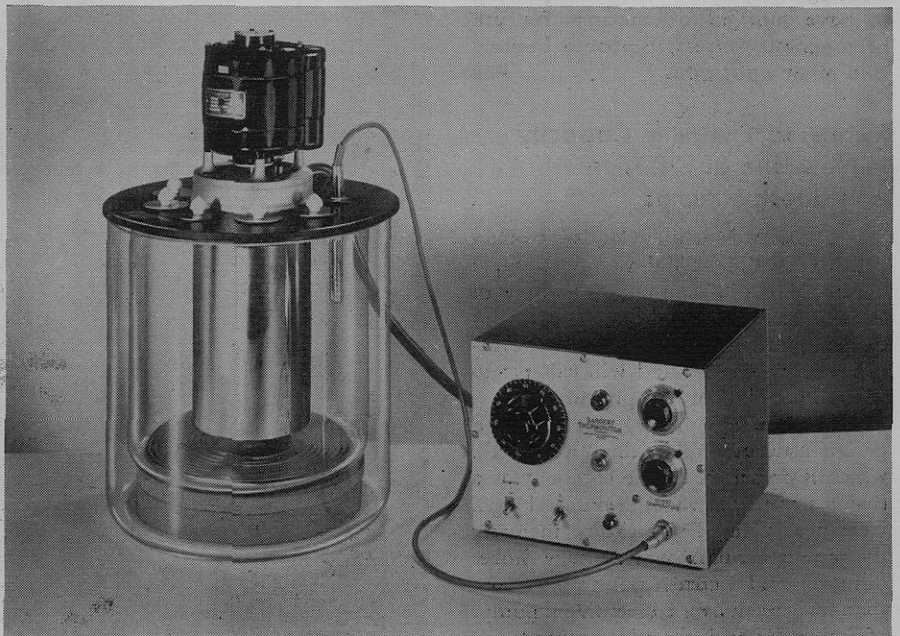
Isotope Analyzer

An isotope analyzer, recently announced by the Forro Scientific Co. is designed to perform rapid and accurate qualitative and quantitative analysis of isotope mixtures containing beta emitting components. The technique is based on the absorption and scattering of beta rays in materials of high atomic numbers.

The instrument is claimed to be several times as sensitive as beta spectrometers. Three different models are available, with the minimum activity of an isotope necessary for its detection being 4×10^{-9} , 1.2×10^{-9} curies, and 0.2×10^{-9} curies. The isotope analyzer may be operated with any commercial scaling unit having a 0.25 volt input sensitivity and a high voltage supply. **PE3**

Viscosimeter Bath

Sargent Viscosimeter bath incorporates the Model SV Thermonitor for detecting and controlling bath temperature. It is recommended for use with Ostwald viscosimeters in accordance with ASTM method D-445 and provides reliable temperature control from a few degrees above temperature of the cooling coil to 212° F. The design of the bath is based on the Sargent patented control turret system and produces an accuracy of regulation to approximately ± 0.02 ° F. A red light on the front panel indicates when heat is being applied to the bath. The regulating Thermonitor has a working range from 0 to 100° C. with an operating sensitivity of ± 0.01 ° C. **PE6**



The isotope analyzer is particularly useful in medical examinations using multiple tracer technique, in neutron activation analysis and for the determination of the nature of food contamination. **PE4**

Heat Impulse Sealer

An electromag heat impulse sealer incorporating a magnetic bar pressure device for holding the plastic product being sealed is available from The Electronic Processes Corp. The unit is capable of producing a 9 inch seal operating from a standard electrical outlet, controlled by an automatic timer. **PE5**

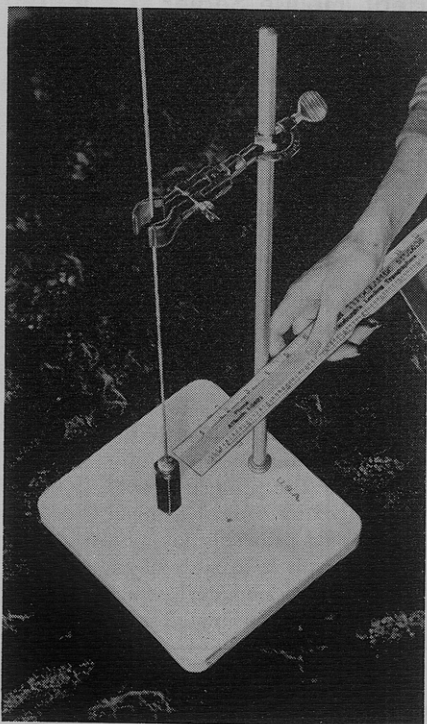
Dry Chemical Fire Extinguisher

A streamlined fire extinguisher, styled by Raymond Loewy Associates and said by its manufacturer to be the most rugged, effective, and easy-to-use unit ever put out in the fire protection field, is being introduced by Ansul Chemical Co.

Designed primarily for industrial use, the new unit is capable of expelling 10 pounds of dry chemical, which is generally regarded as being the latest and most

effective extinguishing agent against fires in flammable liquids, gases, chemicals, and electrical equipment. Its light overall weight of 22 pounds, and simplicity of operation make it suitable for use, by inexperienced personnel, fire protection experts say.

Company officials say the Ansul 10 answers a long-felt need, for an extinguisher with a capacity between the company's four-pound and 20-pound capacity models. **PE7**



Buret Support Stand

Porcelain support stand designed especially for one buret titrations. The white porcelain base of the stand is an ideal background for viewing the changes in an indicator. The stand developed by Fisher Scientific is claimed to have marked advantages for use of magnetic stirrers, portable heaters and other apparatus. **PE8**

Increased Pumping Capacity in New Line of Diffusion and Booster Pumps

F. J. Stokes Machine Co., is introducing two new lines of high vacuum pumps; a series of oil diffusion pumps and one of booster pumps, which have greatly increased pumping capacity over the critical pressure ranges, and will exhaust to substantially higher fore-pressures.

Both of the new pump series embody a design concept, called the "Ring-Jet", which is described by the company as a major advance in vacuum pump design. This new "Ring-Jet" feature increases the pumping capacity of the new Stokes diffusion and booster pumps by more than 50 percent over conventional pumps of similar dimensions and heat input.

For example, the 16-in. diffusion pump will exhaust more than 12,000 c. f. m. at a pressure of 0.5 micron; the 6-in. booster pump will exhaust 700 c. f. m. at 50 microns, 1400 c. f. m. at 15 microns.

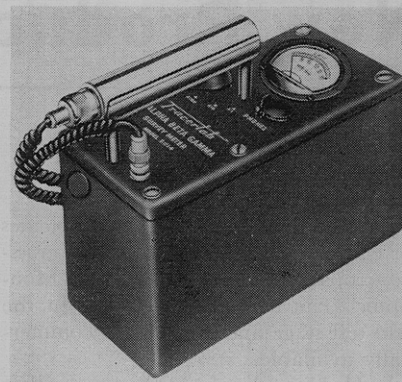
In all diffusion and booster pumps, the pumping speed is limited by the cross-section area of the air-flow path. This in turn is limited by the permissible distance from the oil jet to the condensing surface. The new design replaces the conventional jet cone with a ring of jets, permitting the cross-section area of the air-flow path to be substantially increased without increasing the distance from the beginning of each jet stream to the nearest condensing surface. In this way, the volume of air that can be passed through the pump, and hence its pumping speed, is considerably increased. On some models the increase over conventional pumps is more than 50 percent.

The new Stokes "Ring-Jet" diffusion pump is now available in 4-in., 6-in., 10-in., 14-in., and 16-in. sizes. The "Ring-Jet" booster pump is available in 4-in., 6-in., 10-in., and 16-in. sizes. **PE9**

Enzyme System

Glucose oxidase-catalase and gluconic acid are available from Fermco Chemicals, Inc. This enzyme is used in the manufacture of stable dehydrated eggs, egg solids, for cake mixes as well as in other products such as beer where oxygen or glucose presents a stability problem.

PE10

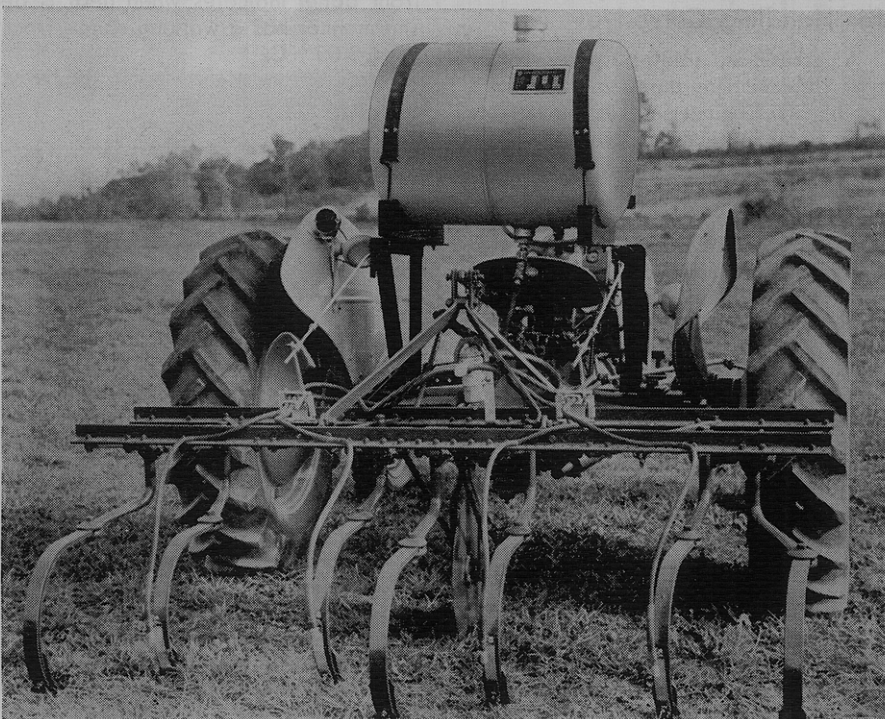


Survey Meter

Tracerlab's new alpha beta gamma survey meter a lightweight, portable, waterproof instrument, which is ideally suited for use both as a radiation dosage rate meter and as a monitoring instrument. Power supply is a simple and inexpensive battery pack rated for 150 hours using standard "D" cells and a 45 volt battery. The instrument is available with a choice of two Geiger tube probes, both of which have 3-foot retractile rubber covered cables which eliminate cable snarling. The side window probe has a sliding shield for the selective monitoring of medium energy beta particles or gamma rays. A thin end-window probe allows the monitoring of low energy beta emitters such as C-14 and S-35, as well as alpha particles. **PE11**

Aluminum Tanks for Liquid Nitrogen

Tanks for storage and application of liquid nitrogen fertilizer are available from Aluminum Company of America. Alcoa offers tanks with capacities from 10,000 to 20,000 gallons for storage, 500 to 1000 gallon tanks for distribution, and application tanks from 50 to 200 gallons. **PE12**



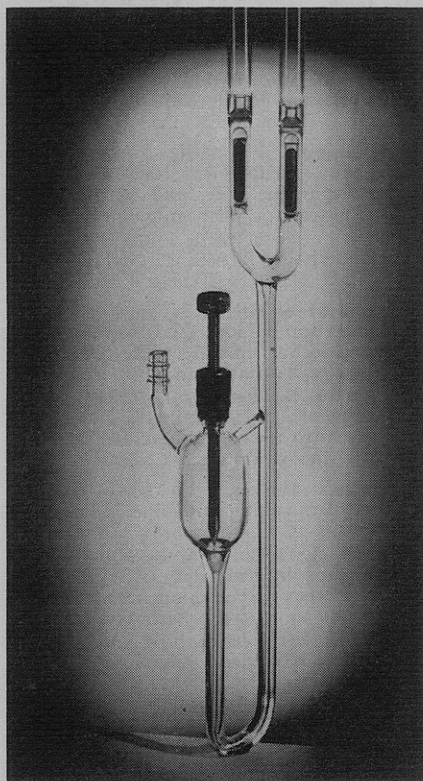
Warburg Apparatus

A circular, rotatable Warburg apparatus for precise micro-gas analysis, is available from Bronwill Scientific, Inc.

The 31-inch high, 20-inch diameter unit has an exclusive intramolecular, lagless heating system that assures extraordinary uniformity of temperature. The platform is rotatable through 320° permitting any of the 14 Double Capillary Manometers to be easily read.

Unique features of both models include six reproducible shaking speeds and three amplitudes, temperature constancy of $\pm .01^\circ$ C. or better, magnetically operated tilting reaction vessels and a double capillary (single rod) manometer.

PE13



Grease Free Stopcock Valve

Greaseless mercury float valve developed by Delamar Scientific Laboratories. Most mercury float valves incorporate a lubricated stopcock to control the flow of mercury in and out of the float chambers. This design eliminates the potential grease contamination from the stopcock by replacing the stopcock with a mercury sealed needle valve. The needle valve is incorporated on the mercury reservoir and screws down on a ground glass set. The entire valve is grease free

PE14

Corrosion Resistant Primer

LockPrime, a corrosion resistant liquid primer for new or corroded steel surfaces, has been developed by Pennsylvania Salt Manufacturing Co.

According to the manufacturer, LockPrime offers excellent resistance to undercutting by corrosion when cover coats are mechanically damaged.

On either sandblasted new steel or wirebrushed rusted steel, LockPrime forms a tight adherent bond to the surface and provides excellent adhesion for following top coats of (liquid neoprene) or a chlorinated aliphatic hydrocarbon. It is equally effective in acidic and organic atmospheres.

Applicable to all ferrous metal surfaces, tile red LockPrime contains 28% solids content by weight and covers 200 square feet per gallon per 1 mil coat. Since the bond strength of this primer actually increases with age, immediate application of top coat is unnecessary.

PE15

Gas Scrubbing for Contact Sulfuric Plants

Substantial increases in capacity from existing contact sulfuric acid plants are claimed for a 2-stage exit gas scrubbing process now being offered for licensing to other manufacturers by Olin Mathieson Chemical Corp.

Increases as high as 20% have been demonstrated, and greater increases are possible, it is said.

Olin Mathieson has exclusive licensing rights in the United States to the process, developed originally by the Consolidated Mining and Smelting Co. of Canada, Ltd., and known as the Cominco SO₂ recovery process. A modification was developed by Olin Mathieson for use in its own operations.

Olin Mathieson has established a Western Sulphur & Acids Division, which will offer engineering consulting service or will undertake design, installa-

tion and initial operation of the process under contract to licensees.

Even at the most efficient rates of operation contact sulphuric acid plants normally sustain some economic loss in the sulphur which is discharged into the air in exit gases as sulphur dioxide and sulphur trioxide. The Cominco 2-stage scrubber returns this sulphur to the production unit.

In addition, plants equipped with the Cominco system can be operated at rates well in excess of normal capacity, according to these higher production rates are practical, even though conversion of the sulphur to sulphuric acid is efficient, because substantially all the unconverted sulphur is recovered and reprocessed.

In areas where discharge of sulphur dioxide from the stacks creates an air pollution problem, the Cominco process provides effective abatement, at the same time disposing of the recovered sulphur in such a manner as to avoid water pollution. The process can be used on any gas stream containing sulphur dioxide, such as may occur in smelting and petroleum refining operations.

The first system utilizing the Cominco process in the United States was put into operation more than a year ago by Olin Mathieson at its Pasadena, Texas, plant. There the 2-stage scrubber, using ammonium sulfite-bisulfite scrubbing solution, returns sulphur to the production unit and converts part of the acidic values in the exit gases to ammonium sulphate. Olin Mathieson pipes the ammonium sulphate to its fertilizer manufacturing operation, but the sulphate can also be recovered as crystals.

The entire unit is automatically controlled and requires no additional personnel for its operation.

PE16

Use...

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