

in finding a simple method of concentration, using 96 per cent. ethyl alcohol as the dialyzing liquid or "outside solution."

According to this method, 40 ml of the taka-diastase solution free from $\text{Na}_2\text{S}_2\text{O}_4$ is concentrated by dialyzing through a Cellophane bag for about six hours against 96 per cent. alcohol as "outside solution," the alcohol being changed two or three times.

During the concentration, part of the enzyme was precipitated and deposited on the Cellophane. After concentration the small residual solution (about 3 to 5 ml) was precipitated by the same volume of absolute alcohol, centrifugated and, together with the Cellophane bag (containing very active substance) dried in the desiccator over H_2SO_4 . The yield was about 50 mg, *i.e.*, 2.5 per cent. of the original substance.

Using the same method, we concentrated solutions of the commercial taka-diastase without any treatment by reductants (which required only half the time of the concentration of the taka treated by $\text{Na}_2\text{S}_2\text{O}_4$). The yield was about 3 per cent. of the commercial product. Owing to the small quantity of the taka-diastase it sometimes happened that all the substance was precipitated and deposited on the Cellophane. In this case, the substance after drying was either carefully separated from the Cellophane, or pieces of the Cellophane containing the enzyme were placed in water and filtered off after the substance had dissolved. The substance precipitated on the Cellophane was even more active than the substance precipitated from the concentrated solution by absolute alcohol.

The dried product was tested for activity on maltose and sucrose. It was found that the product retained the full maltose activity splitting power of the original preparation but was practically inactive on sucrose.

This confirms the theory that taka-maltase and taka-sucrase are two distinct enzymes.

JACOB FEIGENBAUM

CANCER RESEARCH LABORATORIES,
THE HEBREW UNIVERSITY,
JERUSALEM, PALESTINE

A PLATINUM SCOOP FOR TRANSFERRING STERILE POWDERS

THE transfer of small quantities of sterile powder or chemicals to another container or a medium usually is accomplished with a loop or with a pipette having a wide bore. By such a procedure some powder usually is spilled or scattered on the table, which is obviously undesirable. To overcome this inconvenience, the writer has devised a platinum scoop (shovel) which will accomplish conveniently the transfer of powder from a container or test-tube to another container or a culture medium.

The scoop is made by folding a piece of platinum

sheet into a U-shaped shovel which is attached with a platinum wire, a copper wire or lead glass to an inoculating needle holder. Fig. 1 illustrates three sizes: (a) $24 \times 5 \times 2$ mm; (b) $25 \times 5 \times 3$ mm; (c) $20 \times 10 \times 3$ mm. Scoop (a) will hold about 0.17 grams of starch powder; (b), 0.23 grams; and (c), 0.45 grams.

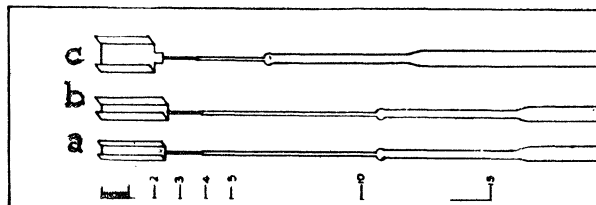


FIG. 1. Platinum scoops (a) $24 \times 5 \times 2$ mm; (b) $25 \times 5 \times 3$ mm; (c) $20 \times 10 \times 3$ mm.

This scoop has been successfully used by the writer in adding sterile rice starch and starch and charcoal to various media for culturing *Endamoeba histolytica* and *Trichomonas vaginalis*. These scoops can be used also in analytic chemical weighings, and have several advantages over glass or metal spatulas.

This simple apparatus has the advantages of being readily sterilized by flame and requiring only a few seconds for cooling. Because of this, the transfer of sterile powder and chemicals is conveniently and neatly accomplished for a large number of culture tubes or containers in a short period of time.

A. PACKCHANIAN

THE SCHOOL OF MEDICINE,
UNIVERSITY OF TEXAS,
GALVESTON

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