

an adequate food supply. The worms can be removed and isolated into Petri dishes after the onset of feeding.

The advantages of the aquarium circulation systems are many. The worms can be reared with a minimum of attention, food can be available without the possibility of contamination as soon as the animal is ready to begin feeding, and large numbers of worms can be reared to sexual maturity. By the use of this technique, the author has reared *N. grubei* successfully through the F₂ generation.

DONALD J. REISH

Allan Hancock Foundation
University of Southern California

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Glass Needles and Latex

IN an investigation of the fascial spaces of the face and neck, rubber latex was used as an injection material. Unfortunately, when efforts were made to inject various spaces with latex by means of a large syringe and metal needle, the latex always solidified in the needle and would not flow, no matter how high a pressure was used. After consultation, ammonia and other alkalis were first mixed with the latex, but to no avail; it always solidified almost immediately in the needle. The idea then occurred to us to try glass needles made by drawing out a glass tube over a Bunsen burner. Very surprisingly the rubber flows perfectly through them. The latex solidifies in any metal needle but flows freely through a glass needle of the same bore. We venture no explanation of this phenomenon, but since the fact is not apparently well known, this note may save others from considerable trouble and disappointment.

C. P. MARTIN
S. D. MOHIUDDIN

Department of Anatomy
McGill University
Montreal, Canada

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The Use of Enzymes in Sulfa Drug Analysis

It has been noted that some samples of medicated chicken feed containing sulfaquinoxaline upon long standing suffer an apparent loss of sulfaquinoxaline when analyzed by the AOAC tentative procedure (1) (extraction with caustic and colorimetric determination using the Bratton-Marshall method [2]). These same

feeds, however, appeared to be as efficacious in the treatment of coccidiosis as freshly prepared feeds. This led to the assumption that sulfaquinoxaline was being bound in the feed, possibly to the protein, in such a way that it was available to the chicken as a coccidiostat but was not extracted quantitatively by the AOAC procedure. It was found that a short digestion of the feed with ficin, a proteolytic enzyme occurring in the latex of the tropical tree *Ficus*, would release the so-called bound sulfaquinoxaline and it could be quantitatively determined by the usual procedure. Other enzymes may behave in a similar manner, but have not been tried to date. As typical examples of the assay results we offer:

Sample	Theory	Original date	Current assay date	Per cent SQ	
				AOAC	Ficin
Synthetic					
A	0.0150%	2/53	2/53	0.0130	0.0150
B	0.0163	2/53	2/53	0.0145	0.0170
Commercial					
1	0.0125	1/52	2/53	0.0086	0.0124
2	0.0125	1/52	2/53	0.0070	0.0115
3	0.0125	3/52	2/53	0.0088	0.0103

In these experiments a 5-g sample is shaken for 30 min with 100 ml of 0.1% ficin, then 5 ml of 0.5 N NaOH added and shaken for an additional 15 min. The mixture is made up to 250 ml and centrifuged. A 50-ml aliquot is shaken with 3 ml of concentrated hydrochloric acid and made up to 100 ml and filtered. The color is then developed on a 15-ml aliquot by the Bratton-Marshall procedure.

It is recommended that other investigators who are interested in the problem of assaying the sulfa drugs in the presence of protein might investigate the use of ficin or some other proteolytic enzyme.

C. R. SZALKOWSKI
W. J. MADER

Chemical Control Division
Merck & Co., Inc.
Rahway, New Jersey

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Correction. In the paper "A New Series of Highly Active Local Anesthetics" (*SCIENCE*, **118**, 138 [1953]), in Table I, fourth column "Topical cocaine ratios: Corneal (rabbits)," the value for WIN 4510, the most active compound in the series, should read 500 instead of 1000.

F. P. LUDUENA

Sterling-Winthrop Research Institute
Rensselaer, New York