

imately 50% of the adults of our colony survive when treated for a time after adrenalectomy either with cortical extract⁸ or with salt,⁹ whereas much smaller percentages survive when untreated. The work of Lascano-Gonzalez indicates that in the Lewis colony all of the animals have cortical accessories.

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Proteolytic Enzyme Content of Latex from the Fig Tree
(*Ficus Carica L'*). Seasonal Variation.*

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We have reported^{1, 2} the isolation and proteolytic activity of the anthelmintic agent in the sap obtained from numerous species of the fig tree (genus *Ficus*), from South America, Cuba, and Alabama. The sap from *F. laurifolia* and *F. glabrata*, has been widely used as a general anthelmintic by the natives of South America and Panama and its anthelmintic action confirmed by several medical investigators who have noticed that it was particularly effective against *Trichuris trichiura*.³⁻⁷

In the present study we have followed the variation in the enzyme content of sap taken from the domestic fig, *F. carica L'*, throughout the year. Mrs. E. L. Caldwell, at the International Health Division Laboratory in Andalusia, Alabama, has collected and sent us 8 samples at regular intervals over a 12 month period. The samples were analyzed within 4-5 days after their collection.

One cubic centimeter of the sap is added to a 2% solution of gelatin and a formol titration made immediately on an aliquot portion

⁸ Gaunt, R., and Gaunt, J. H., *Proc. Soc. Exp. Biol. and Med.*, 1934, **31**, 490.

⁹ Gaunt, R., Tobin, C. E., and Gaunt, J. H., *Proc. Soc. Exp. Biol. and Med.*, 1934, **32**, 134.

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¹ Robbins, B. H., *J. Biol. Chem.*, 1930, **87**, 251.

² Robbins, B. H., and Lamson, P. D., *J. Biol. Chem.*, 1934, **106**, 725.

³ Caldwell, F. C., and Caldwell, E. L., *Am. J. Trop. Med.*, 1929, **9**, 471.

⁴ Hall, M. C., and Augustine, D. L., *Am. J. Hyg.*, 1929, **9**, 602.

⁵ Mouat-Briggs, C. E. F., *Trans. Roy. Soc. Trop. Med. and Hyg.*, 1914, **8**, 216.

⁶ Paez, F., *Trans. Roy. Soc. Trop. Med. and Hyg.*, 1914, **8**, 217.

⁷ Montoya, T. W., *Trop. Dis. Bull.*, 1922, **19**, 240.

to determine the amount of amino nitrogen present at the beginning of the experiment. Then the mixtures are incubated at 35° for 24 hours and a second titration made. The difference between the 2 determinations gives the increase of amino nitrogen due to the hydrolytic action of the enzyme added, which is indicative of the concentration of the enzyme. Controls, using sap from *F. glabrata*, which had been in the laboratory ice box for 12 months, were run with each test. Table I shows the fluctuation in enzymatic activity during the year as estimated by the liberation of amino nitrogen.

TABLE I.
Mgm. N₂ Liberated by Action of 1 cc. Sap on 100 cc. of 2% Gelatin at 35° for 24 Hours.

Date	Control <i>F. glabrata</i>	<i>F. carica L'</i>	Remarks
Feb. 10	55	67.	Sap thick and creamy
April 1	53	71.	
May 1	56	24.	
June 1	53	4.2	Sap thin and watery
July 10		10.	
Aug. 13	54	43.	Sap thick and creamy
Oct. 10†	64	62.	„ „ „ „
Dec. 5	50	66.	

†The temperature of the incubator reached 45° over the night and this accounts for the relatively high rate of hydrolysis.

The amount of each sample of sap was not sufficient for studies on the concentration of solid material present, but it was obvious from visual examination that the samples collected in May, June and July contained very little solids in comparison with the winter samples.

Summary. There is a marked seasonal variation in the amount of enzyme present per unit volume of sap and the concentration is lowest in early summer.