

Five cats which were injected intravenously or intramuscularly with material obtained by ether extraction of the dried cortex (beef) lived an average of sixty hours. Two cats injected intravenously or intramuscularly with glycerol extract of the cortex lived an average of forty-five hours.

Nine cats which were injected intramuscularly or intraperitoneally with alcohol soluble material from the cortex lived an average of forty hours. One animal receiving intraperitoneal injections of olive oil extract of the cortex lived ninety-three hours.

The average length of life of all of these cats (17), not including those injected with adrenalin, was 49.8 hours.

On the other hand, 22 adrenalectomized cats injected intravenously, intramuscularly, intraperitoneally or subcutaneously with whole saline extracts of cortex lived an average of 146.6 hours.

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Comparative reduction values of carbohydrates by Hagedorn-Jensen, Meyer-Benedict and Folin-Wu Methods.

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Dutcher and Thomas,¹ Greenwald, Samet and Gross,² Williamen and Davison,³ Rowe and Wiener,⁴ have published data on the reduction value of mono and polysaccharides by several commonly employed sugar methods. None of these investigators, however, have examined the behavior of carbohydrates toward potassium ferrocyanide, the principle of the Hagedorn-Jensen method. In this paper a comparison is presented of the values obtained by this method with those obtained by employing the Lewis-Benedict and the Folin-Wu procedures.

¹ Thomas, W., and Dutcher, R. A., *J. Am. Chem. Soc.*, 1924, xlv, 1662.

² Greenwald, I., Samet, J., Gross, J., *J. Biol. Chem.*, 1925, lxi, 397.

³ Williamen, J. J., and Davison, F. R., *J. Agr. Res.*, 1924, xxviii, 479.

⁴ Rowe, A. W., and Wiener, B., *J. Am. Chem. Soc.*, 1925, xlv, 1698.

Carbohydrate	Picric Acid Method.						Folin-Wu.			Hagedorn-Jensen	Schaeffer	Lumsurbing and Thomas
	Pucher	Greenwald	Rowe	Dutcher	Williamen	Pucher	Greenwald	Rowe	Pucher			
Glucose	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fructose	1.174	.96	.99	.99	1.00	1.125	.91	.90	1.187	.90	.91	.91
Galactose	.925	.95	.85		.883	.748	.75	.77	.795	.80	.80	.80
Arabinose	1.110	1.02		1.01	1.000	.866	.80		.919	.80	1.00	1.00
Xylose	1.057	1.09		1.08	1.071	1.028	.94		.918	.96	1.01	1.01
Lactose	.763	.78	.76		.750	.475	.45	.45	.655	.53		
Maltose	.743	.82	.82		.770	.411	.40	.40	.754	.42		

The carbohydrates employed were: glucose, fructose galactose xylose, arabinose, lactose and maltose. The results recorded are the average of a large number of independent series. The purity of all the sugars was checked by means of the polaroscope.

It was found that the Hagedorn-Jensen method gives the best agreeing results. The values found by us in comparison with those of other investigators are summarized in the following table:

Studies were also made to determine some of the factors which might explain the anomolous behavior of galactose toward the Folin-Wu sugar reagents.

The conclusions reached from this study are as follows:

SUMMARY.

1. Our values except those for levulose agree with the data of previous investigators.
2. Levulose has a higher reduction value than glucose.
3. The difference in behavior of galactose and glucose toward Folin-Wu copper solution is not due to difference in velocity of reduction or differences in pH, but to structural differences in the two sugars.
4. Glucose picric acid standards used in the Benedict-Lewis methods are stable for a period of at least two years.

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A rapid method for determination of the free and hydrolyzable sugar content of foodstuff.

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One of the most important factors in the preparation of diabetic diets, as well as in the study of the relationships between diet and sugar metabolism, is the carbohydrate content of the injected foodstuffs. The most extensive data on this subject is