
THE RIBOFLAVIN, NIACIN, AND PANTOTHENIC ACID CONTENT OF OKLAHOMA SORGHUM SIRUP¹

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Unpublished data from this laboratory reveals that the juice of the sorghum plant is rich in carotene, the members of the B complex, and vitamin C. Nelson and Heller (1925) found that blackstrap molasses contained considerable quantities of what was then referred to as vitamin B. Sheets (1934) reported the presence of substantial amounts of iron, calcium, and phosphorus in various molasses and sorghum sirups. Sucrose prepared from these sources is practically devoid of any trace of vitamins. It is obvious, therefore, that during the purification process the vitamins are removed with the discarded liquids or are destroyed by the heat treatment. Renewed interest this year in the production of sorghum sirups suggested the question of whether any of the more stable members of the vitamin-B complex are still present in the sirup, and if so to what extent.

Seven samples of completed sorghum sirup produced by the open-pan-
evaporation method were secured for study of the vitamin-B distribution.²
Samples of the sirup were weighed out and diluted. Microbiological methods
were used for all determinations. Riboflavin was determined by the method
of Snell and Strong (1939), niacin by the method of Snell and Wright
(1941), and pantothenic acid by the procedure outlined by Tepley and
Strong (1942). The varieties used and results obtained are shown in Table
I.

The data indicate that measurable amounts of these three vitamins
still remain in sirup prepared by the open-pan procedure. The quantities
are not sufficient to give it any significant value as a special vitamin source.

TABLE I.

The riboflavin, niacin, and pantothenic acid content of sorghum sirup

Sample	Riboflavin	Niacin	Pantothenic acid
Micrograms per gram			
Leoti	0.88	9.20	9.05
Sumac	0.90	10.50	9.20
Collier	1.15	8.85	11.50
White African	1.00	12.00	13.30
Sugar Drip	0.95	6.00	9.35
Honey	0.85	8.85	12.25
Red X	1.08	10.00	8.35

LITERATURE CITED

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pantothenic acid, and pyridoxine in wheat and wheat products. J.
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²Contribution from the Department of Agricultural Chemistry Research.
J. E. Webster and John E. Sieglinger of this station have been conducting experiments
during the past year to determine the most satisfactory variety of sweet sorghums and the
best method of preparation of the sirup. These workers very courteously furnished samples
for analysis.