

XXX. THE CHEMISTRY OF THE PECAN**W. G. Friedemann, Assistan Chemist****Oklahoma Agricultural Experiment Station**

The pecan contains 40% to 60% kernals. An average of 14 analyses of the pecan kernel is water 3.20%, ash 1.57%, protein (Nx 6.34) 11.00%, crude fiber 2.20%, nitrogen-free extract 10.04%, fat 71.99%.

The carbohydrates of the pecan were investigated by W. G. Friedemann and found to be sucrose 9.03%, invert sugars 21.90%, araban 14.82%, methylpentosans 1.68%, cellulose (crude fiber) 14.29%, amyloid 4.54%, tannins 2.57%, other hemicelluloses¹ etc., 31.17%.

The protein of the pecan kernel was found to be a globulin by Cajori. Dowell and Menaul obtained the same nitrogen distribution in the 2-10% NaOH solution soluble protein.

The nitrogen distribution of pecan globulin is amide nitrogen 9.8%, humin nitrogen 3.6%, arginine nitrogen 23.0%, histidine nitrogen 3.7%, cystine nitrogen 0.8%, lysine nitrogen 5.9%, mono-amino nitrogen 52.0%, and non-amino nitrogen 0.8%.

Pecan oil was analyzed by Deiller and Fraps and had a specific gravity at 15° of 0.9184, saponification value 189.0, iodine value 106.0, Reichert-Meissl value 2.2, and insoluble fatty acids and unsaponifiable matter 93.4%.