

J. Am. Chem. Soc., 22, 630-634.—Attention is drawn to the fact that no pentosan is really known to exist, and that there is no proof that the pentoses as such are actually in the plant, the balance of evidence pointing to their formation by oxidation of hexose compounds. In fact, the authors lead us to infer that the processes employed in the separation and identification of the pentoses may possibly be the cause of their formation, a point already made by others. On this account the authors propose to define these reputed compounds identified by the furfural reaction, as *furfuroids* (furfural-gebende substances) confining the name pentosan to the theoretical "pentose-anhydride" or the pentose analogue of starch. The results of experiments with cellulose hydrolysis products fed to rabbits show that almost the whole of these "furfuroids" were digested. This is which quite contrary to the result obtained in feeding pentose sugars, are known to be practically indigestible.

Sugar Beets, 1899. BY J. T. WILLARD AND R. W. CLOTHIER. *Bull. Kan. Sta. Agr. Col.*, 94, 49-55. **Experiments in the Cultivation of the Sugar Beet in Nebraska.** BY H. H. NICHOLSON AND T. L. LYON. *Bull. Neb. Agr. Expt. Sta.*, 60, 3-34. **Sugar Beet Investigations in 1899.** BY J. L. STONE AND L. H. CLINTON. *Bull. Cornell Univ. Agr. Expt. Sta.*, 182, 368-385. **Sugar Beets in Sanpete and Sevier Counties.** BY LUTHER FOSTER. *Bull. Utah Agr. Col. Expt. Sta.*, 63, 3-22. **Sugar Beets and Sorghum Investigations in 1899.** BY A. D. SELBY. *Bull. Ohio. Agr. Expt. Sta.*, 115, 175-192.—The titles sufficiently indicate the scope of these bulletins.

The Inversion of Cane Sugar in Various Pharmaceutical Preparations. BY A. H. WALTERSDORF AND W. O. RICHTMANN. *Pharm. Arch.*, 3, 81-94; 102-109.—The article describes an extensive investigation into the inverting effect of the ingredients of the more common syrups and elixirs on the sugar present in these preparations. The work was carried out under three temperature conditions representing the greatest, least, and average room temperatures.

ANALYTICAL CHEMISTRY.

PROXIMATE ANALYSIS.

A. G. WOODMAN, REVIEWER.

Estimation of Fat in Condensed Milk. BY ALBERT E. LEACH. *J. Am. Chem. Soc.*, 22, 589-591.—Twenty-five cc. of the diluted milk, corresponding to 10 grams of the original sample, are measured into a Babcock whirling-bottle. Water and

4 cc. of copper sulphate are added, and the precipitated proteids separated by the centrifuge. The supernatant solution of the sugar is withdrawn by a pipette, using a wisp of cotton over the tip as a filter, and the residue is washed twice with water, withdrawing it in each case with the pipette. Finally, enough water is added to make the volume approximately 17.6 cc., 17.5 cc. of sulphuric acid are added, and the process continued as in the ordinary Babcock method.

The Estimation of Fat in Sweetened Condensed Milk. By JOSEPH F. GEISLER. *J. Am. Chem. Soc.*, 22, 637-645.—The author discusses critically several methods which have been proposed for the estimation of fat in condensed milk and gives results to show the considerable time that is necessary to secure complete extraction in the Adams' coil method. Where only one gram of milk is used and the extraction is continued for four or five hours, fairly satisfactory results are obtained.

The Estimation of Fat in Sweetened Condensed Milk by the Babcock Test. By E. H. FARRINGTON. *Am. Chem. J.*, 24, 267-270.—17.6 cc. of the diluted milk is measured into a Babcock test-bottle, about 3 cc. of the usual sulphuric acid is added, and the bottle shaken vigorously. In order to compact the curd into a firm lump the bottle is whirled for about six minutes in a steam-heated turbine centrifuge, the temperature being kept at about 200° F. The sugar solution is poured off, the curd is shaken up with 10 cc. of water, 3 cc. of acid are added, and the bottles whirled as before. The sugar solution is again decanted, enough of the sugar being thus removed to prevent its interference with the regular test. The results are considered satisfactory, although the reviewer would point out that the error of multiplication, consequent upon dilution, seems greater than in some other methods proposed for the same determination.

The Detection of Coal-tar Dyes in Fruit Products. By A. L. WINTON. *J. Am. Chem. Soc.*, 22, 582-588.—The author has found Arata's wool test (*Ztschr. anal. Chem.*, 28, 639), most satisfactory for jellies, fruit juices, and sirups. In applying this test, 100 cc. of the liquid, prepared if necessary by boiling the substance with water, are boiled for ten minutes with 10 cc. of 10 per cent. solution of potassium bisulphate and a piece of wool, previously boiled out with dilute alkali, and washed. The wool is finally washed with boiling water and dried. The presence of certain coal-tar colors, chiefly of the azo group, may be ascertained by the dyeing of the wool.

The Adulteration and Analysis of the Arsenical Insecticides. By J. K. HAYWOOD. *J. Am. Chem. Soc.*, 22, 568-582.—The

arsenical insecticides most generally used are Paris green, Scheele green, London purple, arsenious oxide, lead arsenate, white arsenoid, pink arsenoid, green arsenoid, and paragrene. These are adulterated in three ways: (1) By addition of some colored substance free from arsenic; (2) by addition of some inert material to increase weight; (3) by a decrease in the amount of combined arsenious oxide in the preparation. The methods for the determination of arsenious oxide in Paris and Scheele greens are compared and critically discussed.

GEOLOGICAL AND MINERALOGICAL CHEMISTRY.

C. H. WARREN, REVIEWER.

A New Meteorite from Oakley, Logan County, Kansas. By H. L. PRESTON. *Am. J. Sci.*, 160, 410-412.—The meteorite, which is the eleventh one reported from Kansas, weighed 61 lbs., 10 oz., and was $7\frac{1}{2} \times 10 \times 12$ in. in its greatest diameter. It consists of "olivine and enstatite chondrules imbedded in a very irregular ground mass of the same material, with numerous particles of iron and iron sulphides." An analysis gives its composition as follows: Metallic part, Fe, 12.76 per cent.; Ni+Co, 1.68 per cent.; silicates, 85.56 per cent.; total, 100 per cent.

Silicious Calcites from the Bad Lands of South Dakota. By S. L. PENFIELD AND W. E. FORD. *Am. J. Sci.*, 160, 352-354.—The crystals are rough in appearance but show with some distinctness characteristic calcite forms. In chemical composition the crystals resemble the silicious calcites from Fontainebleau, containing about 40 per cent. of calcite and 60 per cent. of sand. The sand grains at times attain the size of small pebbles. It appears that these crystals represent a phase of sand stone formation where the calcareous cement was able to crystallize and preserve its external crystalline form.

Cambrian Silurian Limonited Ores of Pennsylvania. By T. C. HOPKINS. *Bull. Geol. Soc. Am.*, 2, 475-502.—Extensive deposits of iron ores occur as irregular pocket-like deposits in the residual clays of the Cambro-Ordovician limestones and slates of Eastern and Central Pennsylvania. The ores consist of the hydrous oxides of iron, chiefly limonite, associated with manganese ores, wavellite, quartz, chert, and fluorite. The ores appear to have been derived from the original iron content of the limestones and slates, by a leaching and concentrating process in which carbonic and organic acids, together with oxygen took part. In position the ores favor the contact of the limestone and the underlying slate.