

almond water, 100 gms., and the mixture colored deep green.

WOODRUFF ESSENCE.—Bruised tonka beans, 100 gms.; alcohol (90 per cent.), 480 gms.; water, 140 gms., are macerated for 7 days, water 400 gms., is added, then 700 gms. is distilled mixed with orange flower water, 50 gms., and colored green.

LEMON WINE.—The fine cut peel of 4 to 5 lemons is treated with sherry, 1,000 gms.; cognac, 300 gms.; and filtered after 24 hours. To the filtrate add orange flower water, 50 gms.

PINEAPPLE WINE.—A pineapple of about 500 gms. and one quarter of a vanilla pod are cut up and macerated with port wine, 1,300 gms.; cognac, 200 gms.; allowed to stand two days, filtered without strong pressure.

ORANGE WINE.—Two blood oranges are stuck with cloves, and the whole fruit is then covered with Burgundy, 1,000 gms.; cognac, 300 gms.; alcohol (90 per cent.), 200 gms., and filtered after standing for four days.

ARTIFICIAL ORANGE JUICE.—Tartaric acid, 2 gms.; citric acid, 80 gms.; water, 300 gms.; lemon essence, 10 gms.; orange essence, 50 gms.; caramel, 0.2 gm.; mix.

ARTIFICIAL LEMON JUICE.—Citric acid, 10 gms.; phosphoric acid, 1 gm., water, 40 gms.; lemon essence, 50 gms.; mix. These juices mix clear and bright, have a pleasant odor and taste, and do not become mouldy in less than three to four months.

FROTH HEADING.—(1) Quillaia bark, 5, is covered with water, 15, allowed to stand for three hours, and then heated for four hours on a water bath. It is now filtered, the filtrate evaporated to 8, and glycerin, 2, added. (2) Saponin, 5, are dissolved in water, 80, and alcohol (90 per cent.), 20, added.

Banana Flour.

The banana, which grows in almost all tropical countries, is very nutritive, and forms a nearly perfect food. It contains more than 25 per cent. of assimilable organic matter. According to Humboldt, it is forty-eight times more nutritious than the potato, while Crichton Campbell has stated that the banana is twenty-five times more nutritious than the best wheaten bread. The analysis of Thoms shows the presence in the flour of banana of 9.01 per cent. of nitrogenous matter. The best wheaten flour contains no more

than 9 to 11 per cent. It is preferable to manufacture the starch from unripe fruits, because the starch is converted into sugar in ripening. In Venezuela the flour of the banana is given especially to children; it is equally good for aged people, convalescents, nursing women, and is of great service in the feeding of those suffering from complaints of the stomach. In Central America, Colombia, and Venezuela the banana flour is prepared on a large scale, and sold under the name of Musarina. The flour of the banana may be used in the same way as wheaten flour, except for the preparation of bread, for which it is unsuitable, inasmuch as it contains no gluten. Various formulæ are taken from the *Tropenpflanzer* for preparing banana flour for dietetic use. Thus a teaspoonful of the flour in a cup of chocolate or cocoa facilitates the digestion of the drinks, and renders them more nutritious. This addition enables cocoa to be taken by those whose stomachs are in a weak state. A sustaining drink may be made by adding a teaspoonful of the flour to an egg yolk beaten up, mixed with milk, and sweetened with sugar. The sale of banana flour in London is insignificant, on account of its high price and the fact that its uses are not yet understood.—*Revue des Cultures Coloniales* (*Phar. Journal*).

Moabi Seed.

The Moabi tree is a real giant of the African equatorial forests, says *Les Corps Gras Industriels*. It is especially abundant in the valley of Kouilon (French Congo State) and in the forests traversed by the road from Loango to Brazzaville. It belongs to the Sapotaceæ, and its trunk attains a diameter of 8 or 10 feet, 6 feet from the ground, without branching, till it reaches a height of 100 feet. The bark is unusually thick, sometimes 6 inches, and contains a latex which yields quantities of guttapercha. The seeds are about 2 inches long, 1½ inches wide, and an inch thick. They contain under the brown skin a kernel formed by two fleshy cotyledons filled with oil, while the embryo is full of latex. The oil is present to the extent of 45 to 50 per cent. of the kernel, and of 30 to 35 per cent. of the whole seed. Determined attempts are being made by the French authorities to exploit this oil.

Cold varnish for negatives may be made by mixing equal parts of best japanners' gold size and benzol.

Relative Solubility of Liquids Not Miscible with Water.

W. Herz has determined the solubilities of certain fluids which are practically insoluble in water, as well as the amount of water such liquids will take up when left in contact together. The figures give the volumes or fractions of volumes which will dissolve in 100 volumes of the solvent, at a temperature of 22° C. (76° F.):—

Chloroform in water.....	0.420
Water in chloroform.....	0.152
Carbon sulphide in water....	0.174
Water in carbon sulphide.....	0.961
Ligroin in water.....	0.341
Water in ligroin.....	0.335
Ether in water.....	8.110
Water in ether.....	2.930
Benzol in water.....	0.082
Water in benzol.....	0.211
Amylic alcohol in water.....	3.284
Water in amylic alcohol.....	2.214
Anilin in water.....	3.481
Water in anilin.....	5.220

—*Journal Soc. Chem. Ind.*

A New Essential Oil.

Perrier has described the oil obtained by distilling the green leaves and twigs of chrysanthemums, which he found yielded 0.10 per cent. (*Bull. Soc. Chem.*, 1900, 216). It is a greenish oil with an odor of mint and chamomile, of sp. gr. 0.932, and refractive index 1.4931. It is very insoluble in alcohol, and contains a stearoptene (probably one or more of the paraffin hydrocarbons), esters and aldehydes.

The Midsummer Fiction Number of Frank Leslie's Popular Monthly.

The brilliant August number of *Frank Leslie's Popular Monthly*, which is the regular Midsummer Fiction Number of this periodical, may fairly be called an epoch-making achievement in ten cent magazine literature. A summary glance at its table of contents serves to justify this claim. Here in a single number are included stories by F. Hopkinson Smith, A. Conan Doyle, Mary E. Wilkins, Edgar Fawcett, Alix John, Marietta Holy ("Josiah Allen's Wife"), and R. K. Mun-Kittrick; illustrated articles by the Infanta Eulalie of Spain, Captain Robert E. Lee, and the Rev. W. B. Rankin; and poems by Harriett Prescott Spofford, Edith M. Thomas, Samuel Minturn Peck, Ethel Morse, Frank L. Stanton, William Hamilton Hayne, Madison Cawein, Henry Tyrrell, Martha McCulloch-Williams, Hattie Whitney, Roy Farrell Greene, and Wallace Dunbar Vincent. The contributions of these well-known and popular writers are presented with the collaboration of illustrators equally famous, including Albert B. Wenzel, B. West Clinedinst, Charles Runwald, Hugh M. Eaton, G. A. Davis, Walter Russell, George Bonawitz, H. C. Edwards, and H. S. Eddy.