

All the details given above are worked out for 1/100 grain compressed tablets which are by far the most common nitroglycerin tablets used. For tablets of other grainages a proportionate aliquot must be taken for the final analysis. Results checking within 0.5% of each other should be easily obtained.

The use of the nitrite method in routine work in preference to the nitrate method is advocated for the following reasons:

- (a) No evaporation in a vacuum desiccator is necessary.
- (b) The pink color resulting from the nitrite method can be more accurately read on a colorimeter by most people than the yellow color resulting from the nitrate method.

With careful work, however, the nitrate method gives accurate results and it may be used as a check if desired, or routinely by those who prefer the yellow for colorimetric work.

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#### NOTES ON THE VARIABILITY OF COMPOSITION OF U. S. P. SYRUP OF WILD CHERRY.\*

BY L. F. KEBLER AND W. F. KUNKE.<sup>1</sup>

During the examination of a sample of syrup of wild cherry, purchased as of U. S. P. quality, it was found that the sucrose content was materially lower than that calculated from the formula. In fact, a large portion of the saccharine material was in the form of reducing sugar. Another brand of wild cherry syrup was purchased and it likewise proved to be low in actual sucrose content.

Examinations of certain galenicals, marketed under trade names, have also been found to contain considerable quantities of invert sugar compared with the sucrose claimed to be present. Manufacturers generally contend that they do not use glucose but sucrose only in preparing their goods. No reasons are usually offered to explain the presence of the invert sugar. In one instance a chemist, with the formula available to him but not to the Government, made the point that owing to the fact that a considerable quantity of the sucrose had been inverted, some combination of drugs possessing unknown or unrecognized medicinal properties might be present.

The literature contains some observations on the inversion of sucrose in medicinal syrups. F. W. Haussmann,<sup>2</sup> who reports some of the earliest results, found that the sucrose in the regular acid syrups was materially inverted in from one day to four months. In the case of the syrups prepared with plant drugs the inversion was comparatively small. He tested *Althæa*, *Senega* and *Lactucarium* syrups. Among other observers may be cited Joseph L. Mayer<sup>3</sup> and G. W. Lloyd Plette.<sup>4</sup>

It was then decided to prepare a U. S. P. wild cherry syrup, according to the present Pharmacopœial formula and ascertain the degree and rapidity of inversion of this syrup under several conditions. One sample was kept in a bottle at room temperature and another in an ordinary ice-cooled refrigerator. In a little over four months practically all of the sucrose in each sample was inverted. The in-

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<sup>1</sup> Bureau of Chemistry, U. S. Department of Agriculture.

<sup>2</sup> *Am. J. Pharm.*, 70, 585, 1898.

<sup>3</sup> *Jour. A. Ph. A.*, 4, 945, 1915.

<sup>4</sup> *Ibid.*, 7, 609, 1918.

version appeared to be slightly retarded in the sample kept in the refrigerator.

Neither the original sample received as of U. S. P. quality nor the second sample purchased on the open market contained any hydrocyanic acid. The Pharmacopœia, however, prescribes no standard, either by formula or otherwise, for the presence or absence of this chemical. The distillation process, with silver nitrate as the titrating agent and ferric ammonium sulphate as indicator, was used for the hydrocyanic acid determination.

The two samples of syrup stored under different conditions were also tested as to the rapidity of loss or disappearance of hydrocyanic acid. The percentage of acid gradually diminished but not as rapidly as the sucrose inverted. Refrigeration seemed to retard the rate of acid changes.

Many workers have made observation on the diminution of the hydrocyanic acid content of various wild cherry galenicals. The most extended work is that of A. B. Stevens<sup>1</sup> who shows clearly the gradual loss of hydrocyanic acid in the bark itself and certain preparations.

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#### COMPOSITION OF SOME MIXTURES SOLD FOR MAKING ALLEGED GENUINE CONTINENTAL WINES.\*

BY L. F. KEBLER.†

For some time past this country has been flooded with literature offering for sale mixtures for the manufacture of various continental or European wines possessing the genuine flavors, bodies, and aromas of the original wines. In one case the promoter offered to sell, for one dollar, a mixture which would make two and one-half gallons of any of the following genuine wines: "Rhine, a magnificent wine with great body; Moselle, a good round dinner wine; Sherry, full flavor; Port, grand fruity; Bordeaux, a very soft flavor wine; Burgundy, a good body and flavor; Tokay, very choice; Malaga, unique of its kind."

A number of the mixtures offered for sale were examined in the Bureau of Chemistry.

Several consisted of barley, rose hips, European mountain ash fruit and St. John's bread. Others contained dried figs dyed as well and one mixture contained weed seeds and an artificially dyed wood.

In the manufacture of these alleged wines no grapes or grape juice was necessary. The basic fruit is the fig, which is entirely different from the grape. "Wines" made from such mixtures by any directions cannot be said to resemble even remotely the Continental wines enumerated.

Other promoters offered to sell for a dollar enough dry concentration, alleged to have been obtained by evaporating the respective wines to dryness, to make two and one-half gallons of any one of the wines described. Wines produced from these concentrations, according to given directions, were guaranteed to be full bodied, possessing all of the basic characteristics, such as bouquet, alcoholic content and body.

The alleged dry concentrations from wines were found to contain coloring

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<sup>1</sup> *Proc. Am. Pharm. Assoc.*, 48, 207, 1900.

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† Bureau of Chemistry, U. S. Department of Agriculture.