The use of colored solutions in hospital dispensing is also increasing so that certain widely used preparations will be easily recognized. We color our mouth wash with a red coloring, our alcohol with fluorescein to give it a green tint. Colored capsules have also found their place in modern pharmacy. We manufacture thousands of capsules of codeine, caffeine, aspirin; and codeine, caffeine, aspirin with atropine for our student health division which serves 3300 students. The capsules which contain atropine are colored with charcoal to give them a distinctive appearance. Another special formula we color with carmine to make it easily recognizable.

Our hospital is very closely allied with the Duke Medical School, and it is our good fortune to know the teaching staff of this organization. All the chemicals which are used in the medical school are purchased by our pharmacy and this contact helps us a great deal. The research problems that are under way are discussed with us when materials are purchased to carry out these projects. This knowledge gives us a keener insight into the medical problems and enables us to keep step with the advancement of medical knowledge.

Clinic patients who visit our Public Dispensary travel an average distance of 75 miles each. There are from 150 to 300 such patients daily except Saturday and Sunday. Any patient who has visited the clinic may have his prescription filled in our pharmacy. These people are treated in the same way as a person is treated who visits an ethical retail drug store. Individual attention is paid to them, and any suggestions that we can make regarding storage, proper method of taking, length of time before consumption, etc., is given them.

Another phase of our work is to teach our senior medical students practical pharmacy and prescription writing. A demonstration of the routine procedure of pharmaceutical manufacturing of the different types of preparation is given. All the drugs that are taught in lectures on prescription writing are shown to the group when the drug is discussed and a prescription for each of them is written by every member of the group. Weights and measures and incompatibilities are covered thoroughly.

We try to do a good job of promoting pharmacy interests. Our men work a 45-hour week, receive fair salaries, get a vacation of from two to four weeks and have every Saturday afternoon and all day Sunday off duty. All of our pharmacists live in the hospital and get to know the doctors personally. We never hesitate to question a physician about the medication that he prescribes and they appreciate all that we can do for them to increase their knowledge of the use of drugs. This coöperative spirit makes our work easier and never do we find pharmacy in our hospital anything other than a very interesting profession.

SOLUTION OF FERRIC CHLORIDE EASILY PREPARED.*

BY C. O. LEE,[1] F. J. LEBLANC[2] AND H. BANG.[3]

It would be interesting to know how many teachers of pharmacy require the preparation of the official ferric chloride solution as a regular laboratory assign-

* Section on Practical Pharmacy and Dispensing, A. PH. A., New York meeting, 1937.

[1] Professor of Pharmacy, Purdue University School of Pharmacy.

[2] Assistant Professor of Pharmacy, South Dakota State College, Brookings, S. D.

[3] Assistant Professor of Pharmacy, State College School of Pharmacy, Pullman, Wash.

ment. It would be also just as interesting to know how many of us have had sufficient experience with it to have abandoned it except as a special problem for the more advanced and experienced students.

We, at Purdue, have found the manufacture of this preparation so troublesome that it seems to us to be an impracticable assignment for beginning students.

The fact that it is a tedious preparation to make constitutes a challenge. The simplified procedure for making it, which is given here, is not a new one. It consists of oxidizing ferrous chloride with hydrogen peroxide. The formula and procedure are as follows.

SOLUTION OF FERRIC CHLORIDE

Solution of Ferrous Chloride.....100 Gm.
Hydrogen Peroxide.....125 Gm.
(Not less than 3 per cent strength)

To make.....**100 Gm.**

Procedure: Weigh 100 Gm. of the solution of ferrous chloride in a suitable, tared dish. Add the hydrogen peroxide from a burette slowly and with gentle stirring. Place on a water-bath and concentrate to 100 Gm.

The solution of ferrous chloride is prepared by the procedure given in the U. S. P. IX for the ferric chloride solution. If this is done with care and carefully oxidized, according to the procedure just outlined, a product of U. S. P. quality will be the result.

In this work we have taken the pains to assay the hydrogen peroxide which was used. An amount somewhat in excess of the theoretical requirement for complete oxidation of the iron solution seems advisable. However, there appears to be no advantage in adding large amounts in excess if the procedure is carefully followed.

It might be well at times to assay the ferrous solution if there is any reason for believing it to be below the required strength. The reason for the suggestion is obvious.

Six ferric chloride solutions, one by the U. S. P. IX formula and procedure, and five by the method under discussion, have been assayed. The results are tabulated as follows:

	Per Cent Ferric Iron.	
Sample.	Peroxide Method.	U. S. P. IX.
1	10.2%	.....
2	10.3%	.....
3	10.6%	.....
4	10.5%	.....
5	10.5%	.....
6	....	11.07%

The procedure for these assays is that of the U. S. P. XI. We feel that enough has been done with this formula and procedure to recommend it. The assays have been consistent and up to the official requirement.

It has been observed that it is possible in some cases to get tests for ferrous iron in the ferric solutions made by both the old and new procedures. However, the percentage found to be present seems to be negligible and in some cases not present.

In addition to the use of hydrogen peroxide 3 per cent as the oxidizing agent, a solution of 30 per cent strength was also used. This solution of high concentration caused such a violent reaction that it had to be added very carefully and slowly. About 15 ml. of the stronger solution oxidized 100 Gm. of the ferrous chloride solution. This reduced the amount of evaporation necessary to make the finished product weigh 100 Gm. However, we feel that the 3 per cent hydrogen peroxide is the one to be preferred in making this preparation.

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GRAPEFRUIT, CITRUS GRANDUS, C. DECUMANA AND RELATED SPECIES AS A PHARMACEUTICAL FLAVORING AGENT AND VEHICLE.*

BY DAVID J. MASON.[1]

PART I.

The present trend in pharmaceutical vehicles is toward the natural fruit flavors. The recently popularized SYRUP OF CHERRY N. F. VI is an indication of how readily our medical colleagues will seize an opportunity to minimize the patient's resistance to unpleasant tasting medication. While there is no lack of flavoring vehicles to mask harsh-tasting active principles, we must admit that the superiority of one vehicle over another varies with the drug under consideration and the individual's taste. Hence, any increase in the physician's repertoire of pharmaceutical flavoring vehicles should yield a proportionate increase in the number of nasty tasting medications that can be "brought under control." Because of the abundant national supply, its relative lower cost and its pleasant-tasting constituents and aroma, the author sees in the grapefruit, a potentially new pharmaceutical vehicle.

A search of the pharmaceutical literature reveals that no work has been done upon grapefruit as a flavoring vehicle and because of some pleasant experience the author has had with this flavor he thinks it is advisable to further investigate this matter. To present the subject properly the author plans to cover its various aspects in a series of papers. This paper, the first of a series, will concern itself with the bibliography, a description of the chemical and physical properties of the grapefruit constituents, and the botanical classification.

The grapefruit is variously known as the Pomelo or Shaddock, so called from Captain Shaddock who first brought the fruit from the East Indies. The name Shaddock generally applies to the pear-shaped varieties and the Grapefruit or Pomelo to the round ones.

* Section on Practical Pharmacy and Dispensing, A. PH. A., New York meeting, 1937.

[1] Member of the Professional Relations Committees, New York Pharmaceutical Council.