

A STUDY OF VEHICLES FOR MEDICINES.*

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VII. AROMATIC SYRUP OF ACACIA.

In the course of our studies on vehicles we have secured abundant proof that colloidalness has distinct disguising value. We, therefore, became interested in syrup of acacia which might be taken to represent colloidalness to as high a degree as can be found in any pharmaceutical preparation.

The deletion of this syrup from U. S. P. VIII might possibly count against it in consideration as an eligible vehicle. This deletion, we believe, was chiefly due to its poor keeping qualities. In spite of the deletion, however, its usage, as shown by the Gathercoal survey, has been 15 per 10,000, which would entitle it to admission to the National Formulary merely on the basis of its use.

That the syrup of acacia has disguising value can very easily be proved among other ways, by the following prescription for urea as a diuretic.

℞ Urea	15.0 Gm.
Syrup of Acacia,	
to make	60.0 cc.

M. and label: Teaspoonful in water every 4 hours.

The taste of urea is sharp and much more disagreeable when the solution is made with simple syrup instead of the syrup of acacia. Similar results could be secured with any readily soluble and highly diffusible medicament, that has no intrinsically unpleasant taste. We were indeed unable to find anything that was superior to or as good as the syrup of acacia for the disguising of urea, excepting that the lack of flavor gave one the impression of "flat taste" which might be possibly one of the reasons why the syrup of acacia is not more popular.

We felt, therefore, that, to improve the syrup of acacia and increase its utility, we would have to do two things: *First*, impart to it keeping qualities; and, *secondly*, give it a pleasant flavor.

To improve the keeping qualities of this syrup, we increased as a first step the proportion of sugar from 80 to 85 parts per 100 which can be done by merely dissolving the powdered acacia directly in the syrup: there being no necessity of dissolving the acacia separately as was done in U. S. P. VIII. To make assurance doubly sure, however, we would suggest the addition of 1 to 1000 of sodium benzoate, so as to protect the medicine against spoiling, even if the doctor had to use a little water in order to dissolve the medicament he intends to introduce in the syrup.

It is strange that the delicious wintergreen flavor has thus far not been made use of in the production of vehicles. After trying a number of flavors, it seemed clear to us that methyl salicylate was the ideal flavoring vehicle for the syrup of acacia; and we have the belief that, by using it for making the syrup of acacia more pleasant, we are at the same time enriching our flavoring resources to an important degree.

As a result of these considerations and on the basis of our experimentations we herewith, respectively, suggest the following formula for admission to either the United States Pharmacopœia or the National Formulary.

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SYRUPUS ACACIÆ AROMATICUS.

Aromatic Syrup of Acacia.

Syr. Acac. Arom.

Acacia, in fine powder.....	100.0 Gm.
Sodium Benzoate.....	1.0 Gm.
Methyl Salicylate.....	1.0 cc.
Syrup, a sufficient quantity, To make.....	1000.0 cc.

Mix the acacia, placed in a dry mortar, with the sodium benzoate. Add the syrup, at first in small portions, with active trituration, so as to avoid the formation of lumps; and, gradually, the remainder of the syrup. Bring the preparation to a boil and when cool strain through cheese cloth. Finally incorporate the methyl salicylate by thorough agitation and add enough syrup to make the product measure 1000 cc.

HOW MUCH IS A TEASPOONFUL?*

BY F. W. NITARDY.

During the last twenty years considerable effort has been made toward more accurate standardization of medicinal products. Tolerances have also been developed for individual dose forms such as tablets, capsules, ampuls, etc., and these tolerances, determined upon very largely by a committee of the A. D. M. A. and A. P. M. A., have received official sanction from the Department of Agriculture and other bodies. In view of this effort for accuracy in potency and dosage, it appears wise to again give consideration to the dose measure most commonly used by the public in the use of liquid medicinal substances, namely, the teaspoon.

Efforts have been made from time to time to supplant the teaspoon with an accurately graduated medicine glass, and while such idea is laudable it has met with little success, probably because of the convenience of the teaspoon and the almost universal habit on the part of the public to use it and, possibly, its belief that it represents a reasonably accurate measuring device for such purposes.

Originally, a teaspoonful was considered the equivalent of the fluidram and because a fluidram is approximately 4 cc., the equivalent of 4 cc. for a teaspoonful has been more or less generally accepted since the metric system became official, notwithstanding that it is quite an incorrect equivalent. Unfortunately, this incorrect equivalent has official sanction, but a survey of literature indicates that attempts have been made to adopt the more nearly correct equivalent of 5 cc., also that these efforts received the approval of both the pharmaceutical and medical professions, but for some reason not clear failed in being adopted by the U. S. P., which still gives the approximate measure of a teaspoon as 4 cc.

"Arny's Principles of Pharmacy" (Second Edition, 1924) states, "A teaspoonful is supposed to be one fluidrachm." "Remington's Practice of Pharmacy" (Seventh Edition, 1926) states, "A teaspoonful is estimated as 4 cc. In almost all cases, the modern tea cups, tablespoons, dessert spoons and teaspoons after careful test by many authorities were found to average 25%

* Section on Practical Pharmacy and Dispensing, A. Ph. A., Washington meeting, 1934.