

diluted alcohol may be placed in a clean still of suitable capacity, the lid tightly clamped down and then the mixture heated for the specified length of time.

The advantages of this formula over the present one are many, and I strongly recommend its adoption to replace the formula now official.

LABORATORIES OF  
E. R. SQUIBB & SONS,  
BROOKLYN, N. Y.

### ISO-ALCOHOLIC ELIXIRS.

BY BERNARD FANTUS.\*

Aromatic elixir, which is intended to serve as a vehicle for alcoholic preparations and alcohol-soluble medicaments, falls short of its purpose by reason of its fixed alcohol content, which makes it suitable as a diluent only for hydro-alcoholic tinctures of rather low alcohol percentage, and as a vehicle for drugs that do not require strong alcohol for solution. This difficulty may, of course, easily be overcome by fortifying the elixir with alcohol, so as to give it the alcoholic strength required. It is, however, practically impossible for the prescribing physician to carry in his mind the alcoholic strength of the various menstrua used in the extraction of the drugs he employs, and it is not always possible for him to consult a reference book. The pharmacist, on the other hand, could easily adjust, with the aid of his official books, the proportion of alcohol in the elixir, so as to make it compatible with the medicament it is to carry. Indeed, this ought to be required of the pharmacist by making the aromatic elixir of the Pharmacopoeia "iso-alcoholic," *i. e.*, of an alcoholic strength adjustable to the requirements of the medicament for which it is to serve as a vehicle.

This would not make it necessary for the druggist to carry in stock elixirs of varying alcoholic strengths; as he could easily, by means of a table, adjust the strength of a standard elixir to the alcohol percentage demanded. With this in view, it might be well to reduce the alcoholic strength of aromatic Elixir to five percent, which is that of some of the "aqueous" elixirs of the National Formulary, such as the Compound Elixir of Almond, and the Aqueous Elixir of Glycyrrhiza. This reduction would have several advantages. The "aqueous" elixir would be much less likely to be sought after as an alcoholic beverage. Furthermore, it would reduce the expense of quite a number of preparations, such as the bromide elixirs and many other elixir solutions of water-soluble chemicals of the N. F., the alcohol contents of which are at present decidedly excessive.

The following modification of the official formula for aromatic elixir might therefore be proposed:

#### AROMATIC ELIXIR.

Compound Spirit of Orange.....	10 mils
Syrup.....	375 mils
Purified Talc.....	30 Gm.
Alcohol.....	50 mils
Distilled Water, a sufficient quantity to make.....	1000 mils

Mix the compound spirit of orange with the alcohol. To this solution add the syrup in several portions, agitating after each addition, and afterwards add in the same manner 560 mils

\* Associate Professor of Therapeutics, Rush Medical College.

of distilled water. Mix the purified talc intimately with the liquid, and then filter through a wetted filter, returning the first portions of the filtrate until a transparent liquid is obtained. Lastly, wash the filter with a 5% solution of alcohol in distilled water until the product measures 1000 mils.

TABLE FOR ADJUSTMENT OF ALCOHOL STRENGTH.

Elixir.	Alcohol.	Suitable for preparations of following alcohol strengths.
5 parts + 1 part		10-20%
4 parts + 1 part		20-30%
3 parts + 1 part		30-40%
2 parts + 1 part		40-50%
1 part + 1 part		50-60%
1 part + 2 parts		60-70%
1 part + 3 parts		70-80%
1 part + 4 parts		80-95%

This should be looked upon as merely a preliminary report. Should the 5% elixir be found deficient in keeping qualities, it might be necessary to raise its alcoholic strength somewhat. Its aromatic quality might be increased, if desired, by the use of terpeneless oils in the preparation of the Compound Spirit of Orange.

## ELIXIRS OF NATIONAL FORMULARY.

The Compound Elixir of Almond of the N. F. is suitable for employment as an iso-alcoholic elixir without any change whatever in its formula. On the other hand, the Aqueous Elixir of Glycyrrhiza is precipitated when mixed with considerable quantities of alcohol; it is, therefore, unsuitable for this purpose.

The Compound Elixir of Vanillin might easily have its formula modified in such a way as to reduce its alcohol content to 5%—one-half of its present strength—and might then be used as an iso-alcoholic elixir.

The Compound Elixir of Cardamom might have its formula modified so as to reduce it to 5% alcohol strength. The amount of Compound Spirit of Cardamom would, in that case, also have to be reduced.

## SUMMARY.

The suggestion is advanced to reduce the strength of all elixirs to a low alcohol standard, and to require the pharmacists to so adjust the alcohol percentage of these elixirs as to render them iso-alcoholic, *i. e.*, the alcoholic percentage required to prevent physical incompatibility with the medicament for which the elixir is used as a vehicle.

PHARMACY LABORATORY,  
UNIVERSITY OF ILLINOIS.