VARIANCE IN POWDERED EXTRACTS.*

BY ELMER H. HESSLER.

To the majority of pharmacists this subject will probably seem trivial, but to the manufacturing pharmacist who specializes in the manufacture of tablets and capsules it is of the utmost importance.

A solid extract should represent the activity of the drug from which it is prepared. It should contain every principle of the drug excepting only the inert matter consisting mostly of cellulose. To insure such a product much care must be exercised in using a proper menstruum. A powdered extract should be the exact counterpart of a solid extract except that all moisture is removed and replaced by some inert diluent.

For the sake of convenience this subject of "Variance in Powdered Extracts" should be divided into

1. Variance in physical appearance.
2. Variance in drug strength.
3. Variance in menstruum used.

Variance in physical appearance consists of difference in the fineness of the powder and difference in color.

In producing a powdered extract the addition of such inert materials as milk sugar, starch, cane sugar, powdered licorice root, magnesium carbonate, magnesium oxide, lycopodium, and powdered marc from the drug are permissible as diluents but unless these substances are clearly mentioned on the label and of the desired degree of fineness it is very evident that two manufacturers' products will be very different even though from a therapeutic standpoint the two products may be of equal potency.

The evaporation of the percolate of course influences the final color of the extract, depending on the degree of caramelization, due to the heat employed. The vacuum process is the only one that should be used as otherwise no definite color will result. Some manufacturers resort to the addition of added artificial color to maintain a color standard. This pertains usually to extracts which should be colored green and the practice cannot be too strongly condemned.

Some definite system should be followed in the powdering and diluting of powdered extracts, especially when intended for tablet and capsule manufacture. Working formulas for tablets and capsules must be constantly changed on account of these physical differences so that the finished tablet or capsule may always be uniform in color and also in order to produce a granulation which will compress properly.

Variance in drug strength has been fairly well taken care of inasmuch as most manufacturers specify drug strength as 1 to 2, 1 to 3, 1 to 4, and so on. This drug strength is usually determined by the amount of soluble constituents in the particular drug. Some unscrupulous manufacturers, however, use standards different from those established by custom and furnish lower drug strength extracts. It is well to insist on labels stating drug strengths and also to compare them with the established ratios. Those extracts which are official and which have official

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assayed strengths are very few and while these standards are a good thing they do not actually insure a standard extract at all times. An extract may have added alkaloid to bring it up to standard and be very deficient in other extractive which is not assayable but which is, nevertheless, an active part of the drug.

Probably the most important factor in the production of uniform powdered extracts is the menstruum used. Some manufacturers will decide on a selling price for an extract and then make the menstruum fit this figure. It is only fair, however, to state that very few manufacturers of this type exist and can be usually picked out by their uniformly low price lists, many of the prices being evidence in themselves that either the product is not up to standard or that the manufacturer is selling at a loss. The latter is not usually the case.

The product produced by different menstruums acts very differently in the process of granulating a tablet mixture and consequently plays havoc with established working formulas.

The writer does not believe that all powdered extracts should be made official but manufacturers should specify on their labels:

1. Drug strength (assayed strength if possible).
2. Menstruum used.
3. Diluent used.
4. Fineness of powder.

DURET'S SOLUTION IN HOSPITAL PRACTICE.*

BY CARL F. DYNA.

I have been requested to write a paper of interest to the Section on Practical Pharmacy and Dispensing, more particularly, I suppose, to Hospital Pharmacists. But, inasmuch as the time remaining is rather short, I will content myself by calling your attention to a hypochlorite solution used in the Southern California State Hospital. This institution cares for some 2500 unfortunates, including the average percentage of chronics, and bed patients with their attendant troubles such as bed sores, gangrenous ulcers, skin abrasions, etc. A few years ago, when the papers were full of articles reporting the wonderful results obtained with the use of chlorine solutions of various kinds in the treatment of infected wounds and lacerations, I came across a formula in a number of our JOURNAL (A. PH. A.), a modification of the usual procedure, suggested by a French physician, Dr. Duret, in which he replaced the sodium salt used with magnesium, this doing away entirely with any chance of the irritating caustic action which would happen (and did in the early days) owing to the presence of free NaOH in the preparation when made in a hurry and not properly neutralized. The formula appealed to me and was tried out here with the result that we have used no other solution since, whenever chlorine irrigation has been indicated. Here is his modification:

Chlorinated lime (30% Cl)	112 grams
Magnesium sulphate	72.8 grams
Water	4 liters

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