

CLASS D. Applied to Ready-Made preparations whether Trade-Marked or Standard, too expensive for pricing under Class C.

| Cost Including Container. | Percentage to Be Charged on Cost. | Selling Price to Customer. |
|---------------------------|-----------------------------------|----------------------------|
| \$.20 | 200 | \$.60 |
| .25 | 180 | .70 |
| .30 | 160 | .80 |
| etc. | | |

Explanation of Rule for Pricing under Class B; under 1:

It is assumed that a 4-ounce liquid preparation is dispensed for internal use, the cost of ingredients for which is \$.35.

Multiply \$.35 by 2 = \$.70.

Now add the Professional fee for 4-ounce preparations under liquid preparations for internal use (1st column). \$.70 plus \$.40 = \$1.10.

Explanation of Rule for pricing under Class B, under heading 2 (b).

It is assumed that 30 capsules are dispensed, the cost of ingredients for which is \$1.50.

Cost = \$1.50.

Multiply cost up to \$.50 by 2. Add this to Cost: \$1.50 plus \$1.00 = \$2.50.

Take $\frac{1}{2}$ of the amount of cost over \$.50. In this case the amount over \$.50 is \$1.00. $\frac{1}{2}$ of \$1.00 is \$.50.

\$2.50 plus \$.50 = \$3.00.

To this is to be added the professional fee. (Fee covering time element given under Class B.)

Professional Fee for 30 capsules is \$.75.

\$3.00 plus \$.75 = \$3.75, the cost of the prescription to patient.

SYRUP OF AMMONIUM MANDELATE.

BY B. FANTUS AND O. U. SISSON.

Mandelic acid, first introduced by M. L. Rosenheim (1) but a year and a half ago, seems to be taking the country by storm, both in the number of articles published and in the number of proprietary forms in which it is offered on the market. These signs augur well for the probability that a valuable remedy has been added to our armamentarium. The chief drawback in the present situation is the costliness of mandelic acid which reflects itself—multiplied, of course—in the price charged the patient for the proprietary preparation. This is particularly unfortunate, in view of the fact that mandelic acid must be administered in large quantities (8 to 12 Gm. daily) in order to produce the desired therapeutic effect.

With the hope of making it possible for the pharmacist to deliver a suitable product at a lower price than he would have to charge for any one of the proprietary preparations—which latter must necessarily include advertising charges—we are offering a formula for a Syrup of Ammonium Mandelate, with the hope that it might serve as a basis for discussion, criticism and possible improvement.

While A. L. Clark (2) advocates the sodium salt of mandelic acid, he admits that the objection to it is the large quantity of ammonium chloride that must be administered in conjunction with this salt in order to overcome the alkalinizing action of the base. It is obviously better, therefore, to employ ammonium mandelate. As this salt is hygroscopic, it is desirable that it be prepared extemporane-

ously; and this can easily be done by employing the principle used in the preparation of the official Solution of Ammonium Acetate.

While the formula offered might not be suitable for extemporaneous dispensing, it will be seen that it presents no difficulty whatever from the standpoint of preparation to the well-trained pharmacist. Ammonium chloride has been added to the formula to the limit of palatability for the purpose of securing acidification of the urine with the use of a smaller quantity of the expensive mandelic acid. We find saccharin necessary to make the product sufficiently sweet, in spite of the fact that we are using sugar as well as fluidextract of glycyrrhiza, a combination which, after numerous experiments, seemed to yield the best available disguising vehicle.

Compound Syrup of Ammonium Mandelate.*

| | |
|--|-------------|
| Soluble Saccharin | 1.00 Gm. |
| Ammonium Chloride | 50.00 Gm. |
| Ammonium Carbonate, in hard translucent pieces (crushed) | 80.00 Gm. |
| Mandelic Acid | 200.00 Gm. |
| Sucrose | 400.00 Gm. |
| Benzaldehyde | 0.04 cc. |
| Oil of Fennel | 0.10 cc. |
| Anethol | 1.00 cc. |
| Fluidextract of Glycyrrhiza | 175.00 cc. |
| Water, a sufficient quantity, to make | 1000.00 cc. |

In a capacious vessel mix the mandelic acid and ammonium carbonate with 400 cc. of warm distilled water; let stand until effervescence ceases. Dissolve the ammonium chloride, the saccharin and the sucrose in this solution by agitation. Add the fluidextract in which the oils have been dissolved, and finally a sufficient quantity of distilled water to make 1000 cc.

Average dose: 15 cc.
 Each average dose represents:
 3 Gm. of mandelic acid
 0.75 Gm. of ammonium chloride

* The term "Syrup of Ammonium Mandelate" might stand for the same formula without the ammonium chloride, which might then advantageously be replaced by the same amount of sugar.

This preparation is to be used in tablespoonful doses freely diluted with water and taken four times daily. The dose should be increased, if necessary, until the urinary p_H is sufficiently low. It has been calculated that urine of p_H 5.7 requires a concentration of one per cent of mandelic acid, that at p_H 5.3 only one-half per cent is needed, and at p_H 5.0 one-quarter per cent suffices. The simplest way of determining whether a satisfactory acidity has been reached is by means of methyl-red solution: 5 drops of which added to 2 cc. of urine produces a red color when the acidity is satisfactory. If it is not, the color remains yellow or orange.

SUMMARY.

A formula is offered for the preparation of Syrup of Ammonium Mandelate which, with or without the addition of ammonium chloride as desired by the physician, may be readily and economically put up by the competent pharmacist.

REFERENCES.

- (1) Rosenheim, M. L., *The Lancet*, 1, 1032-1037 (May 4, 1935).
- (2) Clark, Anson L., *J. A. M. A.*, 107, 1280 (Oct. 17, 1936).

THE NEXT STEP.*

BY W. F. RUDD.

Any well-run business keeps a pretty close check upon its inventory. In war consolidation of ground won is usually a sine qua non for the next advance. In education comprehensive surveys of where we are, how we got there, and has it all been worth while are fundamental to success in the next venture. The researcher whose notes do not tell the whole story of what he has done usually flounders hopelessly.

Not many years ago pharmacy set for itself certain objectives which seemed worth while to those with even reasonable vision. A catalog of some of the more important items and an inventory of how much progress has been made in their accomplishment are necessary before any sort of program for the future can be satisfactorily formulated.

On the professional side of pharmacy with a highly commendable spirit of co-operation, the boards, the colleges, the AMERICAN PHARMACEUTICAL ASSOCIATION, and even some of the national organizations, whose main concerns are commercial, set high school graduation and the completion of a standard four-year course as the minimum requirements for the practice of pharmacy. Thus in two decades we have seen these requirements go from less than high school training and no required college work at all in most states to the complete fulfilment of these educational objectives in all but four states of the union. Truly an accomplishment of tremendous significance!

Professional recognition of pharmacy by the army, navy and public health service has long been another major objective. In the effort to realize this, national groups have worked in complete harmony. Not, however, until pharmacy put itself on a comparable educational equality with other professions were our claims seriously considered. Step by step the fight progressed until at least the principle for which we have striven has been almost completely recognized. With a limited number of well-trained pharmacists commissioned along with physicians and dentists in the army and the public health service, the service will be improved and the morale of pharmacy greatly strengthened. This has been a fine piece of team work. Hats off to those who have borne the brunt of the fight that has been waged across the years for its accomplishment. The future of the venture is in the hands of the few who will soon be commissioned. Their careers will be followed with profound concern by American pharmacy. If they do well, the service will be enlarged. If they fail, pharmacy will suffer a major defeat.

Objectives on the commercial side have centered largely around (1) legislation for price protection and fair competition, and (2), increase in sales volume. The legislation program beginning with fair trade laws in individual states saw one of the major objectives realized with the passage of the Patman Act at the last session

* Section on Education and Legislation, A. Ph. A., Dallas meeting, 1936.