

FACTS ABOUT FERTILIZERS

VIII.—Home-mixed and Ready-mixed Fertilizers

By TAIT BUTLER

There has been much controversy concerning the relative merits of purchasing ready-mixed commercial fertilizers and the purchase of the materials and mixing them at home.

There are advantages and disadvantages in the home-mixing of fertilizers. The advantages have generally been greatly magnified by agricultural writers and farmers; while manufacturers and sellers of ready-mixed fertilizers have greatly exaggerated the difficulties of home-mixing and the superior results obtained from the ready-mixed fertilizers.

The advantages and disadvantages of home-mixing may be stated as something like the following:

- Advantages:**
1. Reduced cost.
 2. Materials may be selected, and a definite knowledge of them permits a selection to meet definite or particular needs.
 3. Mixtures may be varied to suit different soils and crops.
- Disadvantages:**
1. The difficulty of purchasing small amounts of materials for home-mixing.
 2. Injury to crops from imperfect mixing.
 3. Unsatisfactory mechanical condition.
 4. Insufficient knowledge possessed by the home-mixer.

A brief discussion of these advantages and disadvantages will be of value in determining the practice to be followed.

Home-mixing Lowers the Cost Per Pound of Plant Food

The reduction in cost varies from \$3 to \$8 per ton, or more. The difference is generally greatest with low-grade mixtures. The low-grade fertilizers, especially where fillers are necessary to reduce the grade desired, usually cost more per pound of plant food and rightfully so, because the cost of mixing, sacks and handling or freight charges are more per pound of plant food in low-grade goods. The cost of mixing at home is much less and low-grade mixtures are less frequently used. When they are made, by the use of a filler or drier, the increase in cost per pound of plant food is less, because no freight is paid on the useless filler.

In the reduction of cost the advantage of home-mixing is considerable, when any considerable quantity is used.

In the opinion of the writer the greatest advantage derived from home-mixing is the definite knowledge possessed of the materials used. For instance, if a small amount of readily available nitrogen is desired to give the plants a quick start, or if the crop has a short, rapid period of growth, a material like nitrate of soda may be used. Or, if the crop is a long growing one and the soil retentive, less readily available sources of nitrogen, like tankage and cottonseed meal may be used, if they furnish plant foods at as low a price.

Again, for a potato or tobacco crop it is regarded as important that sulphate of potash be used instead of muriate (chloride) or kainit. It must be admitted, however, that most manufacturers are more willing to give the necessary information regarding the materials used in ready-mixed fertilizers than formerly, and some states are requiring that at least part of this necessary information be put in the guarantees.

When manufacturers freely give this information, placing it plainly on the sacks and also make their guarantees simple, definite and as short as possible, they will have removed the best reason which ever has existed for home-mixing, especially for those who do not use large quantities of

fertilizers.

There is some advantage in being able to make a special mixture to fit a special crop or a particular soil, but manufacturers or mixers of fertilizers have multiplied brands and mixtures containing different combinations and percentages of plant foods to such an extent that almost any crop or soil can be suited by an intelligent selection of a ready-mixed fertilizer. When this cannot be done and the farmer has an intelligent understanding of the needs of the special crop and his particular soil, there may be considerable advantages in home-mixing.

The Disadvantages Considered

The disadvantages of home-mixing are largely the result of artificial conditions brought about by the sellers of fertilizers and fertilizer materials, or of a lack of knowledge or facilities on the part of the farmer.

There should be no difficulty in purchasing the materials needed for home-mixing, but such difficulties have often been encountered. We believe it was a bad business policy on the part of dealers, based on a misconception of the best business methods.

There is, however, a real disadvantage

in home-mixing when the quantity used is small. In such cases the difficulty of purchasing the materials and the trouble involved in mixing are not compensated for by the small total saving in cost.

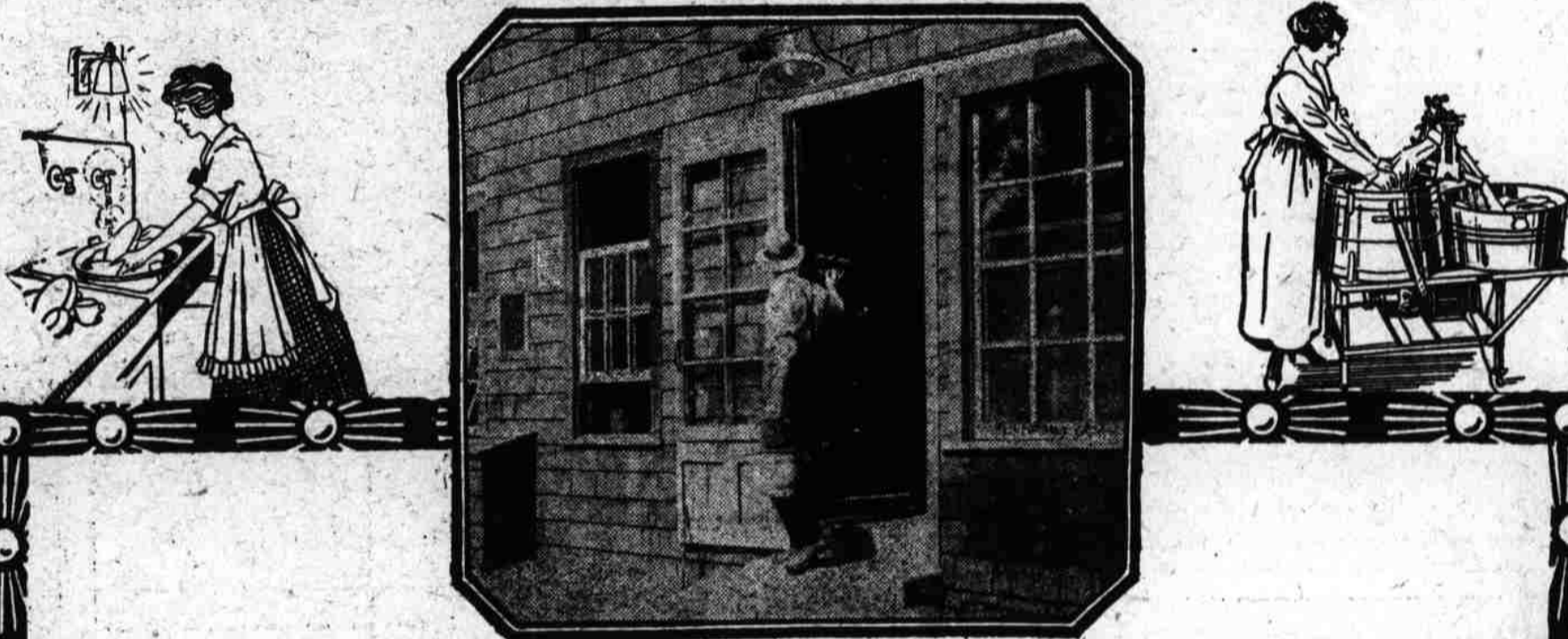
Usually any man familiar with business methods can easily find some one who will sell him any material he needs; hence, the useless dissatisfaction caused by the dealer in fertilizers refusing to sell materials needed for home-mixing. At present, however, no one can easily or cheaply secure potash-supplying materials for home-mixing, except he happens to be able to find a supply of tobacco stems or other tobacco waste products, or some other material supplying potash in limited quantities. And even then, the price is likely to be high. If potash is required in more than the smallest quantities it is now almost necessary to buy ready-mixed fertilizers, and the percentage of potash is generally lower than formerly in these. The injury to crops, either from too much of one plant food available for some plants, or not enough for others, has been greatly exaggerated. Any farmer who will observe simple care in his work can mix fertilizers sufficiently well to practically do away with all danger from this source. Where the quantity used is considerable a machine for mixing may be easily provided; but this is not absolutely necessary, for with care, materials may be sufficiently mixed with shovels on a floor to meet all practical requirements of the crops.

Some trouble may result in home-

mixing, by certain materials like nitrate of soda and muriate of potash having become hard and lumpy, but this can be overcome by crushing the lumps with a tamper or by running through a feed grinder. The lumps may be removed from any lumpy material by running through of home-mixed fertilizers may be a screen with four to six meshes to the linear inch. By a little intelligent care the mechanical condition made entirely satisfactory and certainly as good as in some ready-mixed fertilizers, although as a rule the mechanical condition of the ready-mixed fertilizers is better.

In the opinion of the writer the greatest disadvantage to the home-mixing of fertilizers is found in a lack of the knowledge on the part of farmers required to obtain the chief advantages of home-mixing, namely the selection of the best materials and the fitting of the fertilizer to the needs of special crops and the deficiencies of particular soils. It requires considerable knowledge to obtain these advantages to any marked degree. We think few home-mixers fully obtain the most from this advantage, but when they mix materials like cottonseed meal and acid phosphate, for instance, under the advice of their experiment stations they no doubt obtain a fertilizer of equal value to the ready-mixed fertilizers, at considerably less cost. A further discussion of methods, the calculation of amounts of materials necessary to furnish definite percentages of plant foods, etc., will be discussed in next week's issue.

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