farm conditions it is unlikely that any considerable number of barns and sheds will in the near future be so equipped; and in the absence of such, bedding to absorb the liquid manure must be relied upon. Under average Southern farm conditions oat, wheat, or pine straw is probably the most common form of bedding used. Leaves, corn stalks, or sawdust may also be used. The quantity of bedding used should always be sufficient to absorb and hold the liquid manure, and, aside from making the animal comfortable, this may be considered its chief function. It has a further, though a minor, value in decreasing fermentation losses.

Certain materials are used which form with the ammonia of the manure chemical compounds that do not pass off into the air. Calcium sulphate or gypsum is sometimes so used, as are kainit and acid phosphate. All of these have the power of preventing the escape of ammonia or nitrogen, through the formation of more stable chemical compounds. Where they are used, from 50 to 100 pounds to each ton of manure is the amount usually recommended. From two to four pounds per day for each horse or cow should usually give good results. Acid phosphate and kainit should not be allowed to come in direct contact with the feet of animals. Lime should never be used with manure.

## How to Apply Manures

WHERE as many as a half dozen or more grown horses or cattle are kept, there can be little doubt but that the most economical and profitable method of handling the manure will be to put it on the fields as soon as it is made. Such a number of animals will insure at least a wagon or manure spreader load each week, and when so handled the manure is subjected to a minimum of danger from leaching and fermentation. If a score or more animals are kept, the stalls or sheds should be cleaned daily and the manure distributed on the fields.

When manure is so handled, there is apparently no particular need for covering it or mixing it with the soil, unless the land be rolling and subject to erosion. Under such conditions the leachings from the manure, instead of being wasted in the barnyard, go directly into the soil.

In calculating the quantity of manure to use, it is well to remember the amount of plant foods contained in a ton. Farm manures vary very greatly in composition, depending upon a number of factors, but, on an average, we believe it is fairly accurate to assume that a ton contains 10 pounds of nitrogen, 5 pounds of phosphoric acid, and 10 pounds of potash. On this basis, a ton of average manure has the plant food value of a mixture of about 160 pounds of cottonseed meal, 30 pounds of 16 per cent acid phosphate, and 80 pounds of kainit.

From these figures it will be seen that stable manure is not a well balanced fertilizer, being relatively high in nitrogen and potash and low in phosphoric acid. Consequently for best results, an application of from 200 to 400 pounds per acre of acid phosphate with the application of manure will usually pay well.

The **amount** of manure to be applied per acre may of course to some extent depend upon the crop and soil to be fertilized, as well as the amount of manure available; but light applications, two to five tons per acre, will generally be found more profitable than exceedingly heavy applications. It should be remembered that even three tons per acre will contain as much nitrogen as nearly 500 pounds of cottonseed meal, and as much potash as about 240 pounds of kainit.

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Don't be content too easily. Many a man is labeled "contented" who should be labeled "lost ambition."—Selected.

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**Save your papers and get a binder.**