

any pure blood, nor that it must be of the same breed as the sire used, but we do insist on the use of a pure bred boar and continuing to use one of the same breed started with. It is, however, bad business judgment to start with common scrub sows when grades may be purchased for so slight an increase in cost. Do not purchase an inferior boar. Even \$50 is not too much to pay for a first-class boar, but one of fairly good quality, from 3 to 6 months old, may

be usually obtained for a little less money.

To start hog raising right, study the whole question thoroughly; provide ample feed, as much as three-fourths of which is to be harvested by the hogs, but do not neglect the other fourth of the ration, which should be corn or some other concentrated feed; buy a first-class pure bred boar and arrange to give the hogs regular and intelligent care every day in the year.

WE MUST RAISE MORE HORSES.

The Income From Farm Labor is Almost in Direct Proportion to the Number of Work Stock Used—Good Machinery Useless Without Good Horses.

NO MORE important problem confronts the Southern farmer than that of horse-power. It is to his interest to get the largest legitimate profit from his farm; and to do that, he must till more acres and till them better. Machinery especially adapted to operations will do twice or thrice as much work as human muscle, and do it better. But this machinery would be utterly useless without horse-power to operate it, and a sufficiency of horse-power is the very thing in which most Southern farms are most conspicuously lacking.

In those States where agricultural machinery is extensively used, and the profits of farming correspondingly large, from two to five horses are used. The present supply of work animals on the farms of the South is not sufficient to operate effectively even the scant and crude implements now in use; and I can say from personal knowledge that the greatest hindrance to-day to profitable farming on half the plantations in some of the richest parts of the State is either the lack of a sufficient number of work animals or the poor condition of those in use. This is already a serious problem; and, with the growing general tendency towards the introduction and use of improved farming machinery, it promises to be still further intensified.

This is not an argument against farming machinery; it is an argument for more horses and mules and better ones on our farms. Let us have more machinery and the most efficient that money will buy; but let us have, also, more horse-power with which to run it. That horse-power pays is easily shown by a comparison of the statistics of agriculture for the various States. For instance: In Iowa, where 3.9 horses to each laborer are used, the average labor income is \$511.11; while in South Carolina, where only .5 of a horse to each laborer is used, the average labor income is only \$144.46. In Illinois, where 3.2 horses to the hand are used, the average labor income is \$425.13; while in Florida, where only .6 of a horse to the hand is used, the average labor income is only \$119.72.

But these are comparisons between cotton States and grain States; let us see if similar comparisons obtain between the cotton States themselves. Note the following table:

STATES	No. of horses or mules to each laborer	Average labor income
Oklahoma	3.3	\$458.93
Mississippi	.9	168.33
Texas	2.7	305.63
North Carolina	.7	146.75
Louisiana	1.1	216.47
Alabama	.7	143.98

These figures show that the labor income from the farms of the South is very nearly proportional to the amount of horse-power utilized in

the operation of machinery; and they show further, that to make farming reasonably profitable at least two good mules or horses to the hand are required. In view of these facts, I repeat that there is no more pressing necessity on our farms than that of more horses and mules.

The best way to get them is to raise them. It may be that the raising of horses and mules as an industry per se cannot be made profitable in the Cotton Belt; but there can be no question that almost any intelligent farmer can raise his work stock cheaper than he can buy them. The mares can be used in the ordinary work of the farm almost continuously throughout their reproductive life; and the abundant productiveness of our soils in the principal forage plants and grasses makes the raising of colts comparatively cheap. A few good mares should be kept on the plantation, the best of horses and jacks should be used and good shelter and plenty of grazing the year around should be provided. None of these things are costly; yet they constitute the solution of a problem fraught with much importance to most of our farmers.

L. A. MARKHAM.

Equipment for the Dairyman.

Messrs. Editors: The equipment of the dairy farm is a very important matter. In the equipment every possible piece of labor-saving machinery should be used. The manure spreader I consider the most valuable; next comes a small boiler and steam turbine separator. One who has never used a steam turbine separator instead of the hand machine has no idea of the saving it is of time; and the boiler is an almost indispensable thing for properly cleaning the dairy utensils.

A room should be built some little distance from the barn for the separator boiler. This need not be expensive; 10x10 feet is large enough if one wants to be saving. It should have cement floor and, if possible, cement plastered walls to admit washing. The boiler can be set under a shed, and to the side a stand-pipe running through the wall to the separator and one for sterilizing.

The equipment of this room for a dairy of twenty cows would be about as follows:

Low-pressure steam turbine separator	\$100.00
Single-flue boiler	35.00
Wash sink	12.00
Churn and butter worker	15.00
Butter molds	2.50
Total	\$164.50

There are many little things that will be needed, but nothing expensive. **FELIX WILLIAMS.**

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