AN ECONOMIC STUDY OF METHODS OF HARVESTING SOYBEANS FOR SEED

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The object of this investigation, conducted in 1924, was to study soybean harvesting methods and equipment with special reference to:

1. Waste of seed in harvesting,
2. Cleanliness of the seed saved,
3. Damage to the seed,
4. Rate of harvesting,
5. Cost of harvesting,
6. The factors affecting successful harvesting.

MATERIALS AND METHODS

This investigation was made on Virginia farms and was confined to the equipment and methods in use. Two methods of harvesting soybeans were found on these farms, namely, the "cut-and-thresh" method and the "row-harvester" method. In the first method, which is similar to the method of harvesting small grains, mowers, grain binders, and corn binders were used for cutting the crop, while either a grain thresher or "pea huller" was used for threshing. The grain thresher was altered to thresh soybeans successfully, while the bean and pea huller, commonly called a pea huller, needed no alterations. The second method of harvesting consisted of gathering the seed in the field direct from the plants with the row-harvester, a machine operated in some cases by one man while in others two men are required. The one-man row harvester is equipped with a mechanical seed cleaner, while the two-man machine is not, and, therefore, requires a second man to perform this operation.

In the cut-and-thresh method the percentage of seed wasted while cutting and shocking was obtained from the comparison of seed counts made upon plants before cutting with the number found upon the stubble of the same plants and upon the ground after shocking. The percentage of seed lost while the crop was curing was found by weighing the beans found beneath the shocks at threshing time. Since it was not feasible to gather up all the beans beneath a shock, the area was measured and the beans in 1 square foot were gathered and weighed accurately, the loss per acre being computed from this. The percentage of waste in threshing was found by retaining beans shattered in hauling to the thresher in sheets on the wagon beds, together with saving beans shattered about the thresher in sheets spread about the

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