The fact that large seeded varieties of peas had never been high-yielding ones in variety tests at the Idaho experiment station led to drill calibration studies with this crop. The work showed that, in order to get an equal number of seeds to a unit area of the various varieties, rates of seeding varying from four to twelve pecks were necessary, depending upon the size of seed of the variety.

Further calibration studies showed that there was considerable variation in the number of seed delivered to a unit area with different varieties of wheat and oats. Less variation was shown in barley varieties.

In order to correct this variation between the various varieties, each of them was run through the drill separately and the proper rate of seeding for each variety found.

A study of the effect of the speed of the drill upon the accuracy of delivery was made. It was found that high or low speeds had little effect upon the amount of seed delivered. The greatest difference was found when the drill was set at the higher rate of seeding. In such cases, the amount of seed delivered was slightly decreased at the higher rates of speed.

By using varying amounts of seed in the hopper it was found that the amount of seed delivered was not affected by the amount of seed in the hopper.

From the data secured the writer concludes that, if accurate results are to be obtained in variety tests with field peas, careful consideration must be given the size of seed of the various varieties. Such consideration is probably not of so much importance in variety tests with small grains, since in this case there is less variation in the size of the seed of the various varieties.

(See also paper by R. K. Bonnett and F. L. Burkart, Rate of seeding—a factor in variety tests, This Journal, 15:161–171. 1923).