RATE OF SEEDING—A FACTOR IN VARIETY TESTS.¹

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In numerous experiment station reports of variety tests of small grains, peas and other crops generally sown with a grain drill, the statement is commonly made that the varieties were seeded at a specified number of pounds to the acre. In many instances, the optimum rate of seeding was determined by means of a rate of seeding test, using the variety most generally grown. In the case of rate of planting tests, the drill calibration was used rather than a known quantity of seed to the acre.

In conducting variety tests with peas, it appeared to the writers that the delivery rate of a drill in some instances seemed to check closely with the calibrated rate (manufacturer's gauge) of the drill, while in others it did not check even within wide limits. It is believed that most investigators generally increase the quantity sown per unit area where large grained varieties are tested in comparison with those producing small grains. Kiesselbach and Helm³ in studying the effect of seeding equal numbers and equal weights of large and small seeds of the same variety state, that,

"It is of vital consideration whether equal weights or equal numbers of seeds are planted in a comparison of the yields from large and small seed. For the three cereals tested, the small seed yielded on an average only ½ of one percent less than the large seed when equal weights of seed were sown. However, when planted in equal numbers the small seed yielded an average of 8 percent less."

It cannot be concluded from these results that the same effect would be shown if a large-grained and a small-grained variety were compared as to yield by sowing equal weights or equal numbers to the same area. Grantham⁴ seeded bearded and beardless wheat

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