In our work at the Delaware Station during the past twelve years considerable attention has been given to the testing of varieties of wheat. An effort was made to analyze more carefully some of the causes for the difference in yield of the varieties, particularly with reference to bearded and smooth wheats. As an outcome of this work it was found that the bearded wheats tiller somewhat more freely than the smooth, as was reported in Bulletin No. 117 of the Delaware Station. Following up this same work it was shown in Bulletin No. 121 entitled, "Wheat Investigations — Varieties," that the bearded wheats in previous tests averaged 3.3 bushels more than the smooth.

In studying varieties of wheat, it has been the custom to grow them on fertilized and on unfertilized land the same season. Even on the fertility plats where different carriers of plant food were applied, two varieties were grown on each plat, so that careful attention could be given to the variation which might occur between these two types. Our special investigations on wheat have given us the opportunity not only to compare the tillering habit and yield of wheat, but also to note the difference in quality. As a measure of the difference in quality, we have adapted the method of weight; that is, the relative quality of two varieties as indicated by the number of kernels required to weigh 10 grams. These were always taken from the ungraded grain.