Agronomists have given considerable thought the last few years to the probable error concept in the interpretation of the yields from plat experiments. Through various papers presented to this Society, attention has been drawn to the importance of applying probable error analysis to experimental results before their final interpretation. In several recently published bulletins presenting the results of fertilizer experiments a probable error determined for the various treatments is included. So far as yields are concerned, there is reason to believe that in the future there will be fewer instances than there have been in the past where significance will be given to results that are clearly within experimental error.

In the calculation of financial returns equally wide variations in results are brought about by the methods of calculation and the values for fertilizer and crops which must be assumed. Unfortunately, there is no recognized method of determining the significance of this additional error brought into the interpretation of plat results. The value of such interpretations depends to a large extent on the judgment of the experimenter. The author believes that calculations of financial returns from fertilizer experiments are almost without exception unduly favorable to the fertilizer. It is only on the assumption that a more liberal, as well as universal, use of the fertilizer is desirable that the methods frequently used can be justified.

It is true that some attention has been given by this Society to the importance of accuracy in the interpretation of the financial returns from fertilizer experiments. Warren (1) as far back as 1912 drew attention to the error of using relatively low prices for fertilizers and high ones for the crop increases, due to ignoring certain factors connected with the cost of applying fertilizers and of harvesting and marketing crops. Thorne (2) presented in 1913 certain financial aspects of the results of the Ohio experiments, explaining that returns from nitrogen and potash do not necessarily justify their purchase as commercial fertilizers. The same year Warren (3) emphasized "that the difference between the cost of fertilizer and the value of the increased crop is not all profit." Gustafson (4) presented in 1923 certain financial considerations in discussing the fertilization of...