Opinions differ as to the advantages of a relatively high degree of tillering in cereal varieties. It is regarded by many as a distinct advantage. In advertising a new variety it sometimes is stated that because of its unusual tillering ability high yields are obtained or may be expected. Due partly to such statements it is rather commonly believed that freely tillering varieties are high yielders and vice versa. If there is a definite correlation between tillering ability and yield in cereal varieties, the cereal breeder, by knowing this relation, could foretell in part the yielding ability of new strains and eliminate many at the start, thus gaining much time.

In this paper the conclusions reached by some of those who have studied tillering are briefly discussed and data gathered in the cereal nursery experiments at the Dickinson (N. Dak.) substation are presented. These data cover: (a) Tillering as related to yields of different varieties of cereal crops, (b) average tillering in individual years as related to the average yields of those years, (c) tillering as related to rainfall from the middle of May to the middle of July, and (d) yields as related to rainfall for the same period.

REVIEW OF LITERATURE

Comparatively little has been published dealing with the subject of tillering alone. A few investigators have made a special study of tillering and others have studied it in connection with other characteristics. Those who have investigated the subject are not fully agreed as to the relation of tillering ability in cereal crops to quantity or quality of yield.

Among the experimenters who have written on the subject, Buffum (1), Schribaux (17), Gericke (5), Leschenko (9), and Opita (14) record disadvantages in case of too much tillering. They found that in cases of excessive tillering the later-formed secondary stems were barren, or produced lower yields of grain per head than the primary stems, or were later in maturity than the latter.