LODGING IN SMALL GRAINS

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Lodging in small grain is generally recognized as a source of loss. Where a high state of soil fertility is maintained, the prevention of lodging may be a serious problem. Soil management systems which are desirable from the standpoint of crop yields and soil fertility often increase the probability of lodging of the small grain crops.

An accurate evaluation of the resistance of various varieties to lodging is difficult. Abundance of rainfall and relatively high temperature, weather conditions which commonly are associated with the production of weak straw, do not occur every season. Wind storms, which provide a critical test of lodging resistance, occur at irregular intervals. Hence, adequate testing of varieties necessarily requires several years of observation.

The results reported in this paper were obtained through an investigation of certain morphological characters in wheat and barley which might be related to lodging behavior. The work involved the relation between tillering and lodging in wheat and barley, and the relation between breaking strength of culms and lodging in wheat.

REVIEW OF LITERATURE

The strength of culms in small grains and other grasses has been attributed to many causes. Sir Humphrey Davy (3), in 1798, believed the silicon content of "the epidermis of hollow plants" to be a factor in strength of plant. Liebig (8) likewise stressed the importance of potassium silicate in the stems of grass plants. However,