NATURAL CROSSING IN OATS AT MORGANTOWN,
WEST VIRGINIA

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The extent of natural crossing among plants which are normally self-fertilized is of importance not only to the plant breeder but also to the grower of pedigreed seed. If natural crossing occurs it is always a possible source of contamination where two or more strains are grown in close proximity to one another. In genetic studies it is important to guard against extensive natural crossing, particularly so if one is working with a partially self-sterile strain.

Conflicting opinions have been expressed in regard to the extent of natural crossing in oats, some holding that it occurs relatively frequently, while others maintain that it is practically non-existent. Within recent years there have been reported the results of two carefully planned experiments to determine the extent of natural crossing in oats at two different places in the United States, namely, Akron, Colorado, and Saint Paul, Minnesota. The experiment at the former place was reported by Stanton and Coffman and that at the latter place by Griffie and Hayes. In both of these experiments it was demonstrated beyond doubt that natural crossing in oats does occur. No attempt will be made here to review the literature as a rather extensive survey has been made by Stanton and Coffman to which the reader is referred.

The investigation reported below had for its object the determination of natural crossing in oats at Morgantown, West Virginia.

MATERIAL AND METHOD

The material for this study was obtained from the oat-classification nursery grown at Morgantown, West Virginia, in 1921. Here each variety was grown in a short row containing approximately 20 plants with the rows 1 foot apart. In all cases the plants of a particular variety came from a single panicle selected the previous year. In the oat-classification nursery the varieties with light-colored seed,

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