

c. In 1957 several inbreds and some early breeding material were observed to top fire. All plants of the line 213-12(S5)9-1-1, planted at several locations within the nursery at Feeding Hills, Massachusetts, top fired. Segregation for this character was observed among twelve S₂ sister lines drawn out of a local Massachusetts open pollinated variety. No clear cut top firing was observed among plants from open pollinated seed of this variety. Plant populations of the S₂ lines were small. No consistent phenotypic ratio obtained.

Surface sterilized isolates made during 1957 suggest that *Gibberella zeae*, or a very similar fungus, is associated with all of the symptoms described. The same fungus, however, was observed among some isolates taken from apparently normal leaves of lines which at no time exhibited any of the symptoms described.

These preliminary observations suggest that a single recessive gene may be involved in the cases of Q83 and Iowa 5125B and may possibly be involved in the top firing symptoms of 213-12(S5)9-1-1. Seed of the material described is available.

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1. Presence of B chromosomes in Andean maize.

B chromosomes were determined to be present in at least three collections from the Peruvian highlands, in a preliminary examination made by Dr. Barbara McClintock at this institution. The maximum number of B's found per cell was three. This is the first report of B chromosomes from the Andean area of adaptation.

2. Frequencies of knobs in chromosomes of three races of the Peruvian coast.

Representative collections of the races of maize from Peru are being studied in order to determine the relative frequencies of presence of knobs in each chromosome, and in each arm of the respective chromosome. These studies were started under the guidance of Dr. Barbara McClintock, and this report deals with preliminary observations on the lowland races Perla (tropical flint), Alazan (floury, red pericarp, of high altitude origin), and Arizona (a Tuxpeño derivative introduced a good number of years ago). Relatively good data are available for the race Perla, while for the other two there are not yet enough observations to make results definite.