

been excellent with very satisfactory ear production and seed yields. Although seed size, yield and quality are inferior to seed grown out-of-doors, its germination and vigor are sufficient to produce extra generations in a given time and this allows for speeding the program.

Literature Cited

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1. Hybridization and parallel variation studies with the wild relatives of maize.

Genetic and cytogenetic studies of Tripsacum, teosinte, maize x teosinte hybrids, and maize from field collections made in Central Mexico (MGNL 44:188) are now under investigation. Previous studies have indicated that the maize grown in fields where teosinte was present as a weed often exhibited more variation than maize from fields some distance from a teosinte population; yet this variation was not as great as the segregation seen in experimentally produced maize x teosinte hybrids and subsequent backcross generations. A second observation, in fields where teosinte was present and did hybridize with maize, was the surprisingly low frequency of hybrids.

The frequency of maize x teosinte hybrids, which seems to be lower than what one might expect in certain fields, is under study to determine if there are in fact genetic isolating mechanisms operating between the two taxa. Previous studies have indicated the presence of the Ga_1 (Ch. 4) allele in teosinte and, since most maize is ga/ga , this gene might be operating as a barrier to gene exchange where teosinte is the maternal

parent. At present a survey of the Ga locus in all the teosinte races is underway.

The problem of detecting the effect of teosinte introgression in the maize of the region is also under study and several lines of investigation are being pursued. Seed ears and obviously introgressed ears from the study fields are being inbred to recover plants with more pronounced effects of teosinte introgression and homozygous chromosome segments from teosinte. Cytological studies of these plants have indicated a frequency of B chromosomes from 0-6. The number of B chromosomes appears to be higher (4^+) in those plants which exhibit pronounced introgressed morphology. A working hypothesis in these studies is that B chromosomes may act as sponges "absorbing or buffering" the extreme effects of homozygous teosinte introgression. Teosinte from these same fields exhibits 0-4 B chromosomes. Parallel with the investigation of the B chromosomes are cytological studies of the effects of homozygous knobs on the morphology of the inbred maize from these fields.

Further attempts to hybridize the clones of T. lanceolatum from the study area with both maize and teosinte are continuing.

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1. On the longevity of corn seed.

A collection of the sweet corn, "Chuspilllo," made by Fr. Steinbach, Cochabamba, Bolivia and placed in cold storage at the Harvard Biological Lab. by P. C. Mangelsdorf in 1941 was found to germinate 100% in May 1970, almost 30 years after its harvest. This is believed to be the oldest corn seed ever found to be viable and it is hoped that this note will help to inspire the continued maintenance of cold storage collections.