

UNIVERSITY OF MISSOURI
Columbia, Missouri
U.S. Department of Agriculture
and
ANHEUSER-BUSCH, INC.
St. Louis, Missouri

1. Mass selection for seedling survival in a shrunken-2 (sh_2) population.

Our population of southern corn belt material has undergone 8 cycles of selection for seedling survival. Additional selection pressure was applied in the last 4 cycles for kernel weight and kernel density. The population now expresses greatly improved seedling survival, kernel weight, and kernel test weight when compared with corn belt inbred lines homozygous for the sh_2 gene or genetic stocks currently in use.

Seed stocks can be obtained from the Missouri Agricultural Experiment Stations.

	<u>Seedling⁺ survival</u>	<u>Kernel weight</u>	<u>Test weight</u>
Mo sh_2 population	55%	.16g	54 kg/hl
(N15 sh_2 x B37 sh_2)F ₁	19%	.08g	39 kg/hl
Corn Belt SX (dent)	86%	.60g	72 kg/hl

⁺Average of 13 planting date - corn belt locations in 1971.

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MSU/AEC PLANT RESEARCH LABORATORY
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1. Complex regulatory scheme for catalase in early maize development*.

Maize catalase ($H_2O_2:H_2O_2$ oxidoreductase, EC 1.11.1.6) is a

*A portion of this work was completed at Michigan State University under AEC Contract AT(11-1)1338.