

IV REPORT ON MAIZE COOPERATIVE

Work of the past year has been directed chiefly toward increasing seed supplies and confirming genetic constitutions of improved stocks. A partial conversion of all genetic stocks is being made to the inbred lines M14, W23, and Oh51A in order to improve their vigor and range of adaptation. A large number of segregating F_2 families were grown the past summer, and seed increases from mutant segregants obtained. The stage in conversion to inbred background which has been reached varies considerably with different stocks. Conversion of dominant traits is in general straightforward and rapid, while conversion of multiple recessive gene testers, especially those involving aleurone color traits, requires extensive confirmation of genotype at each step.

In many of the stocks, traits have appeared that were not indicated in the original pedigrees. The most frequent of these are liguleless, glossy, virescent, or dwarf. An attempt is being made to note in the pedigrees all unidentified traits that are observed. Since, in many cases, stocks free of such extraneous traits are not yet available, it will be helpful in supplying stocks if correspondents in their requests indicate those instances when the presence of certain classes of traits would interfere with their immediate uses.

Many of the older gene traits are still not represented in this collection. The majority of these may be presumed to be lost. However, it is urged that all recipients of the News letter check their own stocks for the presence of any useful traits that should be added to the Cooperative collection. It is important that this be done now to prevent unnecessary further loss of valuable traits.

During the past year about a hundred traits have been added to the collection. The majority of these are unidentified, and their listing must await seed increase and the completion of allelism testing where necessary.

To eliminate space-consuming repetition of stock lists, a complete listing of available genetic stocks is not included in this issue. The stocks which follow represent traits or combinations supplementary to those listed in last year's News letter. Additional copies of the previous catalog of stocks are available upon request. Requests for genetic stocks or for last year's report should be sent to the Botany Department, University of Illinois, Urbana, Illinois. Newly-available stocks are as follows:

Chromosome 1

ad_1 bm_2 ; seg P^{rr} , Kn
 an_1 bm_2 ; seg sr, P^{rr} , br_1 , gs_1
seg an_1 , Kn, bm_2
 br_1 f_1 bm_2 ; seg P^{rr} , an_1 , gs_1
 br_1 f_1 bm_2 ; seg P^{rw} , an_1 , gs_1
seg Kn, Ts_6
 P^{rr} gs_1 bm_2 ; seg br_1 , f_1 , an_1
 p^{rw}

P^{wr} ; seg $ad_1 an_1$ (coupling)
 P^{ww} ; seg $zb_4 ts_2$ (coupling)
 P^{ww} hm $br_1 f_1$
seg sr $zb_4 P^{ww}$ (coupling)
 vp_8
 $zb_4 P^{ww}$
 $zb_4 P^{ww} bm_2$
 $zb_4 P^{ww} br_1$

Chromosome 2

$lg_1 gl_2 b fl_1 v_4$; seg ws_3
 $lg_1 gl_2 b v_4$; seg fl_1, sk
 $lg_1 gl_2 b v_4$; seg gs_2, Ch
 $lg_1 gl_2 b v_4$; seg sk
 $ws_3 lg_1 gl_2 b$

Chromosome 3

$a_1 Ga_7$
 $A_1 ga_7$
 $a_1 sh_2 et$; Dt_1
 ba_1
seg ts_4, lg_2, na_1

Chromosome 4

$su_1 gl_3$; seg Tu
 $su_1 j_2 gl_3$
 $Ts_5 su_1$

Chromosome 5

$A_2 bm_1 pr_1 ys_1$; seg v_2
 $gl_{17} bt_1$

Chromosome 6

$po y$
 $y at si$
 $Y Pl sm$; seg py

Chromosome 7

$gl_1 sl Bn$
 ij
 in ; pr

Chromosome 8

$v_{16} j_1$; seg ms_8

Chromosome 10

na₂ R

Varieties

Ladyfinger Popcorn

Multiple gene stocks

A₁ A₂ C R^g Pr B pl lg₁ fl₁ y
bm₂ lg₁ a₁ su₁ pr Y gl₁ j₁ wx g₁

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