by the same mechanism as that in the high-DIMBOA lines. Non-preference as a mechanism cannot be ruled out by this study since freeze drying removes any volatiles from the leaves that might be involved in non-preference.

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Male sterile cytoplasm evaluation and development — We initially collected 38 sources of cytoplasmic male sterility and transferred these cytoplasms to a series of inbred lines. By growing one generation a year in New York and two successive generations in Florida we were able to complete the transfer of the cytoplasms to the inbreds in just over two years. By using the HmT toxin-injection technique we were able to rate the resistance to H. maydis race T of all of the inbred-by-cytoplasm combinations in the field in each successive generation without fear of fungal contamination and spread. We also have rated the cytoplasm-by-inbred combinations for fertility restoration reactions. We realized early in our conversion process that many of the cytoplasms we tested could be assigned to three groups (T, C and S groups), as Duvick and Beckett have previously reported, by fertility restoration reactions. We discovered that although many of the cytoplasms fit into the three groups, there was significant variation between cytoplasms within groups, especially within the S group. A characterization and regrouping of the different cytoplasms as well as an evaluation of which cytoplasms seem best suited for hybrid development in each inbred background has been published (Agron. J. 65:654). A total of 247 cytoplasm-by-inbred combinations was released to the public in March, 1974.

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Cryptic lateness in maize — Shaver (MNL 46:24) and Shaver & Prior (MNL 48:24) have described the phenomenon of "cryptic earliness" in maize wherein id/id lines, although having a medium or late phenotype, nevertheless contribute extreme earliness to hybrids when the other parent is Id/Id (normal).

The opposite phenomenon could be called cryptic lateness, where a homozygous recessive line has an early phenotype but contributes lateness to a hybrid when the other parent is normal. Conversions of inbreds to the recessive state could find use in practical seed production because early x late crosses could be made in straightaway plantings. If the incorporated gene is completely recessive, the resulting hybrid would not be changed. If pollen production is good, then the use of a converted, cryptically late male might be preferable to incurring the hazards

and expenses of split planting which might otherwise be necessary to consummate a "nick".

Cryptic lateness was observed as a side effect in the recessive phenotypes of one of our routine conversions. The alteration in days to ½-silk was noted in the 1975 Hawaii winter nursery:

Inbred	Normal version days to ½-silk	Homozygous recessive conversion days to ½-silk	Stage of recovery
Fr3	63	56	BC_1I_2
Mo16	67	61	BC_3I_2
K55	66	57	BC_3I_2
659	63	56	BC_3I_2
907	67	60	BC_3I_2
Average	65.2	58.0	

These data indicate that converted lines are 7.2 days earlier to ½-silk and that, extrapolating to a seedfield situation, the use of a converted line could avert the need for a one leaf split in planting male and female.

It should be noted that in making "cryptically late" conversions, recoveries can be made as exactly as for any other normal conversion. This is not the case with "cryptically early" conversions based upon id/id, since this genotype is normally ear-barren, and an undetermined number of complementary loci would have to be transferred along with id in order to restore workable ear-fertility.

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Flavonoid analysis of Zea mays tissues at different developmental stages — Much work has been devoted to flavonoids associated with gene action in maize. However, most work has centered on flavonoids found in the aleurone. It is the purpose of this report to survey flavonoids found in three tissues at two different developmental stages.

Flavonoids were extracted from roots, sheaths and leaves of two-week- and four-week-old plants with the following genetic background: R R W22 (A, A2, C, C2, R, Pr). The two-week-old plants were grown in a growth chamber at 22°C. The four-week-old plants were grown in a growth chamber for two weeks and transferred to a greenhouse for the remaining time.