

Mutants in <u>Coix</u>	Similar to mutants in corn
11. ' <u>Striate</u> ' - very narrow white longitudinal striations on margins of leaves in older plants.	Striate <u>sr</u> ₁
12. ' <u>Narrow leaf</u> ' - leaf blades narrow.	Narrow leaf <u>nl</u>
13. ' <u>Brachytic</u> ' - shortening of internodes, leaves semi-erect.	Brachytic <u>br</u> ₁
14. ' <u>Male sterile</u> ' - anthers fail to exert.	Male sterile <u>ms</u> ₂ and <u>ms</u> ₈
15. ' <u>Tassel seed</u> ' - in <u>C. aquatica</u> and <u>C. lacryma-jobi</u> -anthers and styles produced by male spikelets.	Tassel seed <u>Ts</u> ₃

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3. Somatic mutation affecting style colour in Coix.

In an otherwise white styled plant, a single pistillate spikelet in Coix aquatica and an entire tiller in Coix lacryma-jobi showed purple style. This might be the result of the occurrence of somatic mutations in the primordia from which the particular pistillate spikelet and tiller arose in C. aquatica and C. lacryma-jobi, respectively. As earlier studies showed that purple style is dominant over white style, the tiller with purple style in C. lacryma-jobi should be heterozygous and this was selfed to check for segregation of style colour.

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4. Androgenic haploid from an autotetraploid Coix lacryma-jobi.

Autotetraploid ($4n = 40$) and diploid ($2n = 20$) plants of Coix lacryma-jobi were grown in alternate rows in June, 1967. The diploids were characterized by green colour of seedling base, white style and presence of long hairs on the upper surface of leaves and the tetraploids by purple colour of seedling base, purple style and glabrous leaves. Purple style and purple colour of seedling are dominant over white style and green seedling, respectively and the

presence of hairs on leaves is incompletely dominant over glabrous leaves (MNL 43:3-4, 1969). One way of rapidly screening triploids through natural crossing (Coix being naturally cross pollinated) between tetraploids and diploids is to harvest seeds only from the recessive parent (diploid) and to raise the progeny. Individuals of this progeny showing dominant traits would be triploids. Since one of the genetic markers used is a seedling character, a large progeny can be raised and scoring can be done in germinator trays. Several hundred seeds from the diploid parent were harvested in November-December, 1967 and 800 of these seeds were space planted in germinator trays in June, 1968. 504 seeds germinated and 12 of the seedlings showed a purple base. These were identified tentatively as triploids and removed to pots kept in a greenhouse. At maturity 11 of these plants had a purple style and short hairs on the leaves while a single plant showed purple style but glabrous leaves. The former showed a triploid chromosome number (numbers ranged from $3n = 29$ to $3n = 31$) and low seed setting while the latter exhibited a diploid chromosome number and good seed setting. Since this plant showed all the genetic characters of the tetraploid male parent but had a diploid chromosome number, it is believed that this individual was derived as an androgenic haploid (autopolyploid) from the autotetraploid parent by the development of the male gamete in the ovule of the diploid female parent. As seeds from the diploid recessive parent were harvested by hand and germinator trays were filled with fresh saw dust, the possibility that this might be a contaminant or self sown seed of a normal diploid with dominant traits is overruled.

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