Parent-Progeny Yield Relationships in Bromegrass, *Bromus inermis* Leyss

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*Bromegrass* (*Bromus inermis* Leyss.) has become increasingly important to the agriculture of the north central states during recent years. In studies aimed at the improvement of this species, much effort has been devoted to the search for more effective methods and techniques of breeding and evaluation. The purpose of this investigation was to study yield relationships that may exist between selected parental clones and their open-pollination progenies.

In 1913, Keyser (4) observed that among 121 selections from a number of bromegrass lots obtained from different sources, seedling progenies tended to resemble the parent plants in several morphological characters. In 1921, Waldron (12) found a high degree of variability among clonal lines in yield and other agronomic characters. The relative yields of inbred progeny sibs planted from seed outyielded transplanted parental clones in the first year of planting, but in the second year, yields were about equal. Leaf areas of parental clones were greater than those of inbred progenies, but the range in area was greater within inbred progenies than within parental clones.

In a preliminary report, Wilsie (13) found that *S* progenies averaged 67.4% of the yield of noninbred progenies.