

AG-S4 autogamous broad-leaf birdsfoot trefoil (Lotus corniculatus L.) germplasm was developed and released by the United States Department of Agriculture, Agricultural Research Service, in cooperation with the Oregon, Idaho, and Washington Agricultural Experiment Stations.

AG-S4 originated from a single autogamous clone identified in the broad-based MU-81 germplasm, a genetically diverse, self-incompatible population that was produced by three cycles of intercrossing plants from 56 foreign introductions and 35 experimental synthetics, or cultivars. S₁ seed resulting from both unassisted selfing and hand manipulations were collected from the autogamous clone and grown to flowering in a greenhouse under long-day conditions. S₂ and S₃ generation were produced from 11 S₁ and 16 S₂ plants, respectively, under similar conditions with only unassisted selfing (no hand manipulations). AG-S4 is a composite of equal numbers of S₄ seeds from the 12 S₃ plants.

Plants from AG-S4 are more ovate and lighter green than the original autogamous clone. AG-S4 exhibits no breeding vigor depression when compared to MU-81 and is a prolific seed producer. Examination of polyacrylamide electrophoresis gels for high-salt soluble globulin polypeptide patterns from single-seed extracts indicate that individuals of AG-S4 are highly homogeneous. No seeds are produced from flowers which are emasculated. Somatic chromosome number, as determined from root tip squashes, was $2n=4x=24$. No other reported sources of autogamous broad-leaf birdsfoot trefoil are available for breeding and experimental purposes for this predominantly self-incompatible species.

Limited amounts of seed of AG-S4 will be provided upon written request as supplies permit. Recipients are asked to recognize the source as a matter of open record when this germplasm contributes to the development of a new germplasm or cultivar or when used for experimental purposes. Address seed requests to Dr. Jeffrey J. Steiner, National Forage Seed Production Research Center, USDA-ARS, 3450 SW Campus Way, Corvallis, OR 97331.