



Breeding Drought Tolerant Forages FRG.01.09

Project Title: Development of Drought-Tolerant Forage for the Dry Mixed-Grass Prairie

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Background: A drought-tolerant forage supply is needed to reduce risk of drought-related production losses on the Canadian prairies. Forages that decrease the need for fertilizer inputs while meeting the nutritional requirements of livestock throughout the grazing period are also needed. This research will provide new information on the potential of native legumes and grasses to provide drought adapted forages that reduce the production risk for the Prairie region.

Objective: Identify appropriate mixtures of native legume (purple, white and hairy prairie clovers) and grass species (side oats grama, little bluestem, rough fescue, native bromes, and blue bunch wheatgrass) that optimize production potential under drought conditions, assess their nutritional value, and develop effective methods for establishing prairie clovers.

These researchers will evaluate and breed various forages in the semi-arid environment of southwest Saskatchewan. Alfalfa and purple, white, and hairy clovers will be seeded in fall and spring for two consecutive years. Over a three-year period, native legumes and grasses will be screened for yield, drought tolerance, persistence under grazing and tannin content. Appropriate legume/grass mixtures will be identified based on nutritional quality, chemistry and forage yield at Swift Current, Saskatoon and Kamloops. Stand persistence, digestibility, and grazing performance of yearling cattle will be evaluated.

Implications: New drought adapted forages will improve range conditions and production economics. This project will also help ensure that forage breeding expertise is maintained and enhanced in Canada.

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