

The Taming of Yellowstone's Native Plants

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Abstract: The Bridger Plant Materials Center (BPMC) has maintained a cooperative agreement with Yellowstone National Park (YNP) since 1986. This agreement facilitates the identification, collection, increase, and reestablishment of indigenous plant materials for revegetation of road construction disturbances resulting from projects within Park boundaries. Plant species are identified at least three years in advance of each project allowing time for collection and production efforts. Park personnel have collected seed of more than 200 species from 147 different locations. The wildland-collected material is sent to the BPMC where detailed records are maintained on the number of person-hours required to collect each seed lot, so the approximate cost of collecting native seed can be estimated. Grasses are the easiest to hand-harvest, with mountain brome consistently yielding the greatest amount at 454 grams clean seed per person-hour of collection. The BPMC has processed, inventoried, and stored more than 2,500 wildland seed collections and then either sent them back to the Park, to private commercial growers, or planted them at the BPMC for seed increase. Only the original generation of seed from the Park is used to establish production fields. The fields are planted in rows 0.9 m apart at 100 to 130 bulk seeds/m. Genetic integrity is maintained by isolating different sources of like species, which greatly complicates the timing of activities such as cultivating, irrigating, mowing, spraying, and harvesting. Native perennial grasses rarely produce adequate quantities of seed the establishment year and, with many species, stands begin to deteriorate after the third year. Annual YNP grass seed production at the BPMC varies from 100 to 200 kg ha⁻¹, with percentage germination ranging from 75 to 100. Nearly 3,000 kg of seed indigenous to YNP has been produced at the BPMC since 1986. Seed is distributed back to YNP, mixed to reflect a desirable plant community, and broadcast-seeded on road reconstruction disturbances at a bulk rate of at least 500 seeds/m².

Additional Key Words: Locally adapted ecotypes, native grass seed production.

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