THE
UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE

AND

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

AND

NORTH DAKOTA AGRICULTURAL EXPERIMENT STATION

ANNOUNCE

THE RELEASE OF 'MANKOTA' RUSSIAN WILDRYE

Parent clones for 'MANKOTA' Russian wildrye [*Psathrostachys juncea* (Fischer) Nevski] were selected by personnel at the USDA-ARS Northern Great Plains Research Laboratory, Mandan, ND. MANKOTA has been performance tested as Mandan R1808 by USDA-ARS in North Dakota and by Agriculture Canada and the Manitoba Department of Agriculture in Canada. The USDA-SCS Plant Materials Center, Bismarck, ND is responsible for production of foundation seed. The name MANKOTA refers to Mandan, North Dakota, where the cultivar was developed. MANKOTA is being released jointly by USDA-ARS, USDA-SCS, and the North Dakota Agricultural Experiment Station.

MANKOTA, a six-clone synthetic, traces to a diploid ($2n = 2x = 14$) source population that consisted of 2300 individually spaced plants from 29 different cultivars, experimental strains, and plant introductions. Open-pollinated seed was harvested from 150 selected plants based on visual observation of plant vigor, heading date, lodging, seed yield, regrowth, and resistance to leaf-spot diseases, primarily *Septoria spraguei* Uecker et Krupinsky. Half-sib progenies of these 150 selections were compared with 'Vinall' and 'Swift' checks in replicated tests for coleoptile length (growth chamber), emergence from a 5 cm planting depth (greenhouse), stand establishment in the field, reaction to leaf-spot diseases, lodging, and forage and seed yields. Based on these half-sib progeny tests, three clones from PI314675, two from Mandan Bulk Population 34, and one from PI272136 were selected and intermated in isolation to produce the synthetic strain, Mandan R1808 (MANKOTA). Performance of Mandan R1808 was compared with other experimental strains and check cultivars in local and regional tests. Cultivar release of Mandan R1808 and the name MANKOTA were recommended September 13, 1990 by the Cultivar Review Committee of the North Dakota Interagency Research and Education Liaison Group.

Forage yields and apparent plant vigor of MANKOTA have been superior to current Russian wildrye cultivars adapted to the northern Great Plains. In regional tests, relative forage yields from 20 station-years at 5 locations averaged 100 and 85%, respectively, for MANKOTA and Swift. At Mandan, relative forage yields in preliminary tests averaged 100, 92, and 81%,

respectively, for MANKOTA, Swift, and Vinall. MANKOTA has maintained an advantage in forage yield over other cultivars in dry years. During the three drought years of 1988-90, forage yields at Mandan averaged 1884 and 1376 kg per hectare, respectively, for MANKOTA and Swift, a 27% advantage for MANKOTA. In regional tests, relative seed yields from 10 station-years at Mandan and Swift Current averaged 100 and 104%, respectively, for MANKOTA and Swift. Over a 5-year period, seed yields of MANKOTA in a dryland test at Mandan ranged from 95 kg per hectare in 1988, a drought year, to 218 kg per hectare in 1987. At Mandan, in vitro digestibility of forage samples collected when seed was in the hard-dough stage averaged 58.2 and 59.9%, respectively, for MANKOTA and Swift. No serious disease or insect problems have been observed in field tests of MANKOTA.

Once established, Russian wildrye is drought resistant and persistent under heavy grazing. Russian wildrye has an abundance of basal leaves, and forage from this grass species maintains its nutritional quality better than most other grasses during the curing process. Thus, Russian wildrye has often been used as complementary pasture to extend the fall grazing season when quality of most other grasses is low. Extensive use of Russian wildrye has been limited by slow seedling establishment. MANKOTA has improved stand establishment capability and higher forage yields in standard performance tests than Vinall, the most commonly used cultivar in the northern Great Plains region of the United States. Cultivar release of MANKOTA Russian wildrye should increase usage of this valuable forage grass.

Breeder seed of MANKOTA Russian wildrye will be maintained at the USDA-ARS Northern Great Plains Research Laboratory, P.O. Box 459, Mandan, ND 58554. Foundation and certified generations of seed increase beyond breeders seed are authorized. Foundation seed will be available from the USDA-SCS Plant Materials Center, P.O. Box 1458, Bismarck, ND 58502.

Release date for publicity purposes shall be effective on the date of final signature on this release notice.

MAR 2 0 1991

Administrator — Date
United States Department of Agriculture
Agricultural Research Service
Washington, DC

3/12/91

Chief — Date
United States Department of Agriculture
Soil Conservation Service
Washington, DC

2-28-91

Director — Date
North Dakota Agricultural
Experiment Station
Fargo, ND

3/4/91

State Conservationist — Date
United States Department of Agriculture
Soil Conservation Service
Bismarck, ND