Seed Production of Russian Wildrye

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RUSSIAN wildrye (Elymus junceus Fisch.) is a recent introduction from desert areas of Russia which shows promise as a range and pasture grass in the Northern Great Plains area of the United States and Canada. This grass is high in drought resistance and nutritive value. Because of poor seed-producing characteristics, the acreage seeded to this grass has been limited. A study of methods of inducing seed production has been made under Montana dryland and irrigated conditions.

EXPERIMENTAL PROCEDURE

Irrigated Studies

All irrigated studies were made at Bozeman and consisted of three separate experiments. Six inches of irrigation water were applied about July 1 and Aug. 15 of each year.

FIELD E PLOTS

Field E plots (table 1) were seeded in May with three replications of 14 treatments on land fallowed for three years. Plots were 30 by 12 feet with rows spaced 0.5 feet apart except for the 2-row spacing treatments. All fertilizer applications are listed on the acre basis. Nitrogen was applied as ammonium sulfate, phosphate as treble superphosphate and potash as muriate. The 14 treatments were as follows: (1) In rows 0.5 feet apart; no treatment except seed harvest. (2) Similar to treatment 1 except that top growth was clipped on April 1 of each year. (3) Similar to treatment 1 except top growth was burned with a blowtorch on April 1 of each year. (4) Thirty pounds of nitrogen applied on surface at seeding time in 1946; 200 pounds of nitrogen applied to surface April 1, 1948. (5) Thirty pounds of nitrogen applied to surface at seeding and on April 1 of each year; no treatment except seed harvest. (6) Thirty pounds of nitrogen applied to surface at seeding and on April 1 of each year; no treatment except seed harvest.