COLD RESISTANCE OF THREE SPECIES OF LESPEDEZA COMPARED TO THAT OF ALFALFA, RED CLOVER, AND CROWN VETCH

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Lespedeza species, including both the annual and perennial, have come into unusual prominence during the past few years. With increasing interest in the crop, information as to the cold resistance of the different species has been demanded. Reports were received in March, 1932, of late freezes after most of the lespedeza seedlings had appeared in the field which were very destructive to the stands, in some places complete. Here and there, however, claims were made that one lespedeza or another endured a temperature as low as 16°F.

In order to obtain more precise data on the minimum lethal temperature of various lespedezas and the influence of age on cold resistance, controlled freezing tests were undertaken through the use of the facilities of the Plant Pathology Department, Nebraska Agricultural Experiment Station.

MATERIAL AND METHODS

The results herein reported cover 2 years' work. The first year six lespedezas were used, including three of common lespedeza (L. striata), two of Korean lespedeza (L. stipulacea), and the perennial lespedeza (L. sericea), together with Turkistan alfalfa and red clover. The second year the same three species were included, but different seed was used, and crown vetch (Cor nilli varia) was added.

Plantings were made in rows in flats 15 x 18 inches so that all lots tested were included in each flat. The planting order was arranged so each lot occurred at the edge of the flat an equal number of times. Since it was desired to determine the influence of stage of development on resistance to cold, seed was sown at intervals of from a week to 10 days. The groups which were to be hardened were sown 6 to 10 days earlier to take care of lack of growth during hardening. The so-called hardened groups were kept in the hardening room at an average of 2°C for from 5 to 8 days.

1Contribution from the Department of Pathology, Nebraska Agricultural Experiment Station, and the Division of Forage Crops and Diseases, Bureau of Plant Industry, U. S. Dept. of Agriculture, cooperating. Journal Series paper No. 153 of the Nebraska Agricultural Experiment Station. Received for publication July 9, 1934.

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