

OREGON

EVALUATION OF BIRDSFOOT TREFOIL CULTIVARS
FOR DATE OF FLOWERING AND GROWTH RATE

Stephen W. Johnson
International Seeds, Inc.
P.O. Box 168
Halsey, Oregon 97348

Introduction

The Willamette Valley in western Oregon has a maritime climate with wet, relatively mild winters and warm dry summers. This region has been an area of limited birdsfoot trefoil seed production. Growers here have often combined seed harvests with forage production, cutting hay or grazing in the spring and harvesting seed from the regrowth.

A study was undertaken to determine differences among birdsfoot trefoil cultivars when grown in the Willamette Valley. Characteristics examined included date of flowering and growth rate.

Materials and Methods

In October 1987 seed of several birdsfoot trefoil cultivars was obtained from the Southern Regional Plant Introduction Station and used to establish a spaced plant nursery near Tangent, Oregon, on Concord silty loam. The nursery was split into four replications with 25 plants of each cultivar within each replication.

During the spring of 1990 the plants were visually evaluated for growth and date of flowering. Regrowth ratings were taken one month after the plants were cut to 8 cm using a rotary mower.

Fertilizer applications in 1990 consisted of 45 kg/ha N-P-K in late February and 130 kg/ha N applied in late March.

Results

Flowering dates and growth ratings for 1990 are presented in Table 1.

AU Dewey, a new release from the Alabama Agricultural Experiment Station (Pedersen, et al., 1986), was the earliest flowering cultivar and exhibited the most vigorous early spring growth. Fergus, another variety developed in the Southeast (Hoveland, et al., 1982), was similar to Au Dewey for spring growth and recovery from cutting.

Leo and Mirabel, Canadian developed cultivars, and Empire, a variety derived from a New York ecotype (Garth and Marten, 1985), were later in flowering and exhibited less spring growth and had lower recovery from mowing than the varieties developed in the southeastern U.S.

Table 1. Birdsfoot trefoil flowering and growth near Tangent, Oregon

Variety	Date of 50% Flowering	Spring Growth Rating ¹	Cutting Recovery Rating ²
Au Dewey	5/11	5.4	4.3
Viking	5/16	4.9	4.3
Fergus	5/22	5.0	4.3
Dawn	5/29	4.5	3.6
Leo	6/4	4.5	3.3
Empire	6/10	4.6	3.5
Carrol	6/15	4.7	3.9
Mirabel	6/17	4.3	3.4
LSD 0.05	---	0.4	0.6

¹ Average of 5 ratings taken between 3/30/90 and 4/30/90.
Scale: 1 = dormant to 9 = very vigorous growth.

² Rating taken one month after plants were mowed at 8 cm on 6/25/90.
Scale: 1 = no regrowth to 9 = plants as large as before cutting.

References

Hoveland, C. S., R. L. Haaland, R. R. Harries, and J. A. McGuire. 1982. Birdsfoot Trefoil in Alabama. Alabama Agric. Exp. Stn., Auburn Univ. Bull. 537.

Grant W. F., and G. C. Marten. 1985. Birdsfoot Trefoil. p. 98-108. In M. E. Heath, R. F. Barnes, and D. S. Metcalfe (eds.) Forages - The Science of Grassland Agriculture. Iowa State Univ., Ames, Iowa.

Pedersen, J. F., R. L. Haaland, and C. S. Hoveland. 1986. Registration of 'Au Dewey' Birdsfoot Trefoil. Crop Sci. 26:1081.