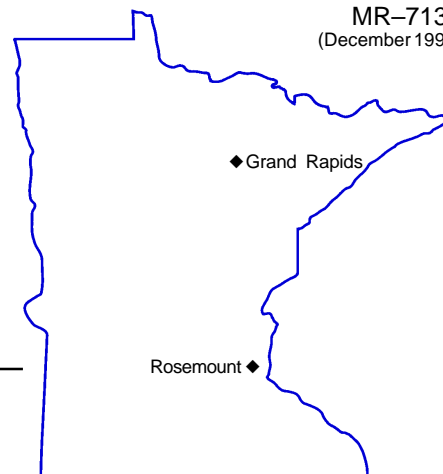


Minnesota Agricultural Experiment Station

VARIETY TRIALS

Birdsfoot Trefoil



Locations of birdsfoot trefoil trials.

Successful birdsfoot trefoil production depends to a considerable extent on selecting the best varieties for a particular farm. For that reason, varieties are compared in trial plots on Minnesota Agricultural Experiment Station fields at Grand Rapids and Rosemount. Varieties are grown in replicated plots at each location. These plots are handled so that the factors affecting yield and other characteristics are as nearly the same for all varieties at each location as is possible.

Variety Classifications

Because of the limited number of varieties being tested, birdsfoot trefoil varieties are not classed into any subgroups. Variety descriptions are arranged alphabetically.

The seed of tested varieties may be eligible for certification, and the use of certified seed is suggested. However, certification does not imply recommendation.

Registered and certified seed of varieties described in this report can be purchased from seed dealers or from growers listed in the *Minnesota Registered and Certified Seed Directory for 1998 Planting*. This annual publication can be obtained without charge from the Minnesota Crop Improvement Association, 1900 Hendon Avenue, St. Paul, MN 55108, or from county extension agents' offices. The

information is also available on-line at:

<http://www.rtrade.org/mcia/>.

Interpreting the Tables

The LSD (Least Significant Difference) figures listed for forage yield are statistical measures of variability within the trials. This statistic is used to determine whether the differences between two quality tests are due primarily to genetic difference in the varieties.

If the quality difference between two varieties equals or exceeds the LSD value listed at the bottom of each quality test column, you can conclude that the higher quality variety was superior in quality. If the difference is less, greater attention should be given to other traits which are also important in making your variety choices.

These birdsfoot trefoil trials are not designed for crop (species) comparisons, because the various crops are grown on different fields or with different management. The data should only be used to compare varieties within a table.

Authors/Researchers

The author of this birdsfoot trefoil report is Nancy J. Ehlke. Fieldwork for these trials was supervised by Gregory Cuomo and Russell Mathison.

Publication Chair Deon Stuthman
EDS Product Manager Larry A. Etkin

The University of Minnesota, including the Minnesota Agricultural Experiment Station, is committed to the policy that all persons shall have equal access to its programs, facilities and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status or sexual orientation.

The information in this report is presented under authority granted the Minnesota Agricultural Experiment Station, by the Hatch Act of 1887, to conduct performance trials on farm crops and interpret data to the public.

Permission is granted to reproduce tables only in their entirety, without rearrangement, manipulation or reinterpretation. Permission is also granted to reproduce a maturity group sub-table provided that complete table headings and footnotes are included. Reproductions should credit the Minnesota Agricultural Experiment Station as its source.

In accordance with the Americans with Disabilities Act, this material is also available in alternative formats upon request. Contact the MES Distribution Center, 20 Coffey Hall, 1420 Eckles Avenue, St. Paul MN 55108-6069, (800) 876-8636.

Produced in the Educational Development System of the University of Minnesota Extension Service.

For Crop Production 1998 _____

BIRDSFOOT TREFOIL **VARIETY TRIALS**

Minnesota Agricultural Experiment Station — University of Minnesota
December 1997

Results of birdsfoot trefoil variety performance tests Conducted by the Minnesota Agricultural Experiment Station. This report was prepared by Nancy J. Ehlke, agronomist, Department of Agronomy and Plant Genetics, University of Minnesota, St. Paul, MN 55108. [phone: 612/625-1791; e-mail: <ehlke001@maroon.tc.umn.edu>].

Crop Background

Birdsfoot trefoil is an excellent nonbloating pasture legume which can also be harvested for hay and silage. It grows under a wide range of soil conditions, and persists longer and performs better than other legumes under poor soil conditions such as low fertility, acidity and poor drainage. It is also persistent when grown with Kentucky bluegrass and timothy.

Eight birdsfoot trefoil varieties were established in pure stands in August, 1989 on Minnesota Agricultural Experiment Station fields at Rosemount and Grand Rapids. Severe winter injury at Grand Rapids destroyed the trial at that location. The trial was harvested twice in 1990 and three times in 1991 and 1992. The trial was discontinued in 1992.

Performance trials of birdsfoot trefoil were established at Rosemount and Grand Rapids in 1993 and 1994. The trial was harvested twice at Grand Rapids and three times at Rosemount from 1994 through 1996. Yields were lower at Grand Rapids than Rosemount due to less favorable growing conditions.

Winter-hardy varieties such as Norcen produced the highest overall yields. Norcen was released in 1983 by the agricultural experiment stations of Minnesota and six other states and has performed exceptionally well in grazing trials.

Table 1. Dry matter yield, in tons per acre, of birdsfoot trefoil varieties seeded at Grand Rapids and Rosemount (1994-97). [1]

Note Key:

[1] Trials were established in 1993 and 1994 at Rosemount and Grand Rapids.

[2] Severe winter injury in 1995.

Variety	1994	Rosemount			Grand Rapids			
		1995	1995	1996	1994	1995	1995	1996
		[2]						
AU-Dewey	3.8	0.9	—	—	2.6	2.3	—	—
Carroll	4.3	3.8	—	—	2.7	3.2	—	—
Dawn	—	—	—	—	2.5	2.5	—	—
Empire	—	—	4.8	2.4	2.7	2.8	2.4	1.9
Fergus	3.9	4.0	—	—	2.8	2.9	—	—
Leo	—	—	4.7	2.2	—	—	2.5	2.1
Norcen	3.9	3.7	4.9	2.2	2.9	2.7	2.3	2.0
Viking	—	—	4.6	2.6	—	—	2.4	2.0
LSD 5%	NS	0.5	NS	NS	0.4	0.2	0.2	0.2

Table 2. Birdsfoot trefoil seed sources for 1998 production. Alphabetical listing, with marketed variety noted with each entry.

Marketer	Variety
Agassiz Seed & Supply 445 7th St. NW ... West Fargo, ND 58078 ... 701-282-8118	<i>Empire, Norcen</i>
Albert Lea Seedhouse 1414 West Main/PO Box 127, Albert Lea, MN 56007; 507-373-3161	<i>Empire, Norcen</i>
Croplan Genetics PO Box 64089, Cenex/Land O'Lakes ... St. Paul, MN 55164 ... 612-451-5490	<i>Empire, Norcen</i>
Kaltenberg Seed Farms Inc. 20155 Biscayne Ave. W ... Farmington, MN 55024 ... 612-463-8997 PO Box 278 ... Waunakee, WI 53597 ... 608-849-5021	<i>Empire</i>
Peterson Seed Co., Inc. Box 346 ... Savage, MN 55436 ... 612-445-2606	<i>Norcen</i>
Premium Seed Co., Inc. 7800 E State Hwy 101 ... Shakopee, MN 55379 ... 612-496-1783	<i>Empire, Norcen</i>
R.J. Hunt Seed Co. RR 1, Box 112 ... Wadena, MN 56482 ... 218-631-4190	<i>Empire, Norcen</i>
Twin Cities Seed 7265 Washington Ave. S ... Edina, MN 55439 ... 612-944-7105	<i>AU-Dewey</i>
Werner Farm Seeds 3104 Millersburg Blvd. ... Dundas, MN 55019 ... 507-645-7995	<i>Leo, Norcen</i>

Birdsfoot Trefoil Planting Rate and Date

Rate is based on normal seedbeds and on normal size, good quality seed. Rate used can vary greatly depending on seed cost, desired stand, expected mortality, emerging ability, seed weight, seed germination, seedbed condition, depth of planting and planting equipment. Weight given is the most widely accepted in the U.S.

Crop Use	Bushel Weight (pounds)	Seeds/pound (number)	Rate/acre (pounds)	Rate (seeds)	Planting Date
Alone	60	372,000	7	60/square foot	Early spring or summer
With grass			4	34/square foot	
