

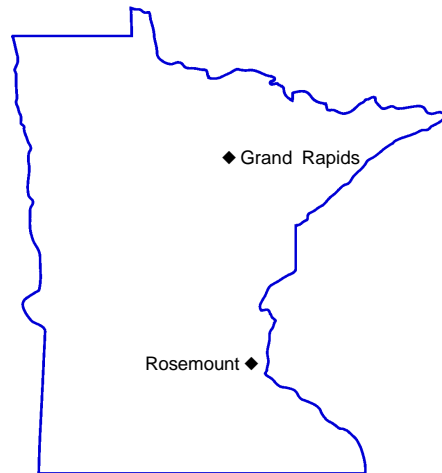
BIRDSFOOT TREFOIL **VARIETY TRIALS**

Minnesota Agricultural Experiment Station — University of Minnesota
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This is a report on results of birdsfoot trefoil variety performance tests conducted by the Minnesota Agricultural Experiment Station in 1998. This report was prepared by Nancy J. Ehlke (612-625-1791; <ehlke001@tc.umn.edu>), agronomist, and Donn J. Vellekson (612-625-9765; <velle001@tc.umn.edu>), research plot coordinator, Department of Agronomy and Plant Genetics, University of Minnesota, St. Paul, MN 55108.

Successful birdsfoot trefoil production can often depend 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.

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 in a mixture with grasses.



Locations where birdsfoot trefoil trials were conducted for this report.

Seed Sources

The seed of tested varieties may be eligible for certification, and the use of certified seed is suggested. However, certification does not imply recommendation. Table 2 lists possible birdsfoot trefoil seed sources, including those growers listed in the *Minnesota Registered and Certified Seed Directory for 1999 Planting* (available without charge from the Minnesota Crop Improvement Association, 1900 Hendon Avenue, St. Paul, MN 55108; 612-625-7766 or 800-510-6242).

Performance in Trials

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 re-established at Rosemount and Grand Rapids in 1993 and 1994. These trials were 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.

A third birdsfoot trefoil variety trial was established at Rosemount in 1997. Few differences were observed in forage yield in 1998. Steadfast, a rhizomatous birdsfoot trefoil, was significantly lower yielding than the other varieties in the trial.

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.

Interpreting the Tables

The LSD (Least Significant Difference) values associated with the data in table 1 are measures of variability within the trials. If a yield difference between two varieties within a single column exceeds the LSD value at the bottom, you can assume that the higher yielding variety was truly better yielding.

A 5 percent level of significance is used in the table. This means that yield differences exceeding the stated LSD value are real 95 percent of the time. If the difference is less than the LSD, greater attention should be given to other traits which are also important in making your variety choices.

Acknowledgements, Permissions and Caveats

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Publication project chair is Leland L. Hardman, professor, Agronomy and Plant Genetics. Web product manager for extension communications is Larry A. Etkin, senior editor.

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Table 1 — Dry matter yield, in tons dry matter per acre, of birdsfoot trefoil varieties seeded at Grand Rapids and Rosemount, 1994-1998.

Note that severe winter injury was encountered at the Rosemount site in 1995.

Variety	Rosemount			Grand Rapids	
	1994-95	1995-96	1998	1994-95	1995-96
AU-Dewey	2.4	—	—	2.5	—
Bright	—	—	3.6	—	—
Carroll	4.1	—	—	3.0	—
Dawn	—	—	4.0	2.5	—
Empire	—	3.6	4.0	2.8	2.2
Fergus	4.0	—	3.9	2.9	—
Leo	—	3.5	3.9	—	2.3
Norcen	3.8	3.6	4.3	2.8	2.2
Steadfast	—	—	3.1	—	—
Trevig	—	—	4.1	—	—
Viking	—	3.8	3.8	—	2.2
LSD 5%	0.4	NS	0.5	0.3	0.2

Table 2 — Potential 1999 birdsfoot trefoil seed sources known to the Minnesota Crop Improvement Association.

The listing of registered / certified sources is not to be construed as an offer for sale by grower, nor is it to be considered as public advertising or as a posting of public notice in any manner. Fields of registered / certified growers have, however, been sampled, tested and inspected by the MCIA. Contact the MCIA for further information, caveats, and considerations.

Registered / certified seed (R = Registered; C = Certified)

Norcen	Lake of Woods	Pieper, Danny	Williams	218-783-4352	R
	Lake of Woods	Pieper, Robert	Williams	218-783-4352	RC
	Roseau	Solberg, Richard	Greenbush	218-782-2107	R
	Roseau	Svoboda - Transgrud	Badger	218-528-3692	C

General forage seed sources that may also be useful contacts for birdsfoot trefoil

ABT/La Crosse Seed Company PO Box 187 LaCrosse WI 54601 800-658-9428	Croplan Genetics PO Box 64089, Cenex/Land O' Lakes St. Paul MN 55164 612-451-5490
Agassiz Seed & Supply 445 7th Street NW West Fargo ND 58078 701-282-8118	Discount Farm Center PO Box 84, West Hwy 212 Watertown SD 57201 605-886-5888
Albert Lea Seed House 1414 West Main, PO Box 127 Albert Lea MN 56007 507-373-3161, 800-352-5247	Garst Seed Company 2369 330th Street Slater IA 50244 800-831-6630

Table 2 (continued) — Potential 1999 birdsfoot trefoil seed sources known to the Minnesota Crop Improvement Association.

Geertson Seed Farm 1665 Burrough Rd Adrian OR 97901 541-339-3768	R.J. Hunt Seed Company 13477 County Road 101 Wadena MN 56482 218-631-4190
International Seeds Inc. PO Box 168 Halsey OR 97348 541-369-2251	Top Farm Hybrids 17177 60th Street Southwest Cokato MN 55321 320-286-5516
Olds Seed Company Box 7790 Madison WI 53707 800-356-7333, 608-249-9291	Trelay, Inc. 11623 Hwy 80 North Livingston WI 53554 800-421-0397, 608-943-6363
Peterson Seed Company Box 346 Savage MN 55378 800-328-5898	Twin Cities Seeds 7265 Washington Avenue South Edina MN 55439 800-545-8873
Premium Seed Company, Inc. 7800 East State Hwy 101 Shakopee MN 55379 612-496-1783	Werner Farm Seeds 3104 Millersburg Blvd. Dundas MN 55019 507-645-7995

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	