

RED CLOVER **VARIETY TRIALS**

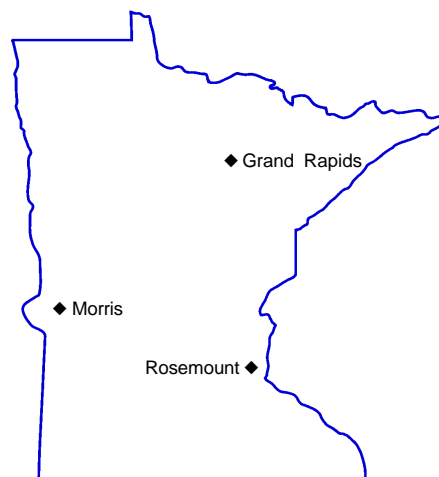
Minnesota Agricultural Experiment Station — University of Minnesota
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This is a report on results of a new series of red clover variety performance tests conducted by the Minnesota Agricultural Experiment Station. This report was prepared by Nancy J. 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 production of red clover 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, Morris 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.

Red clover can be seeded in pure stands or with timothy for hay or silage. It is more easily established in pasture renovation than either alfalfa or trefoil.

Historically, the winter-hardy varieties of red clover have not persisted beyond two crop years in Minnesota because they are susceptible to diseases. However, most of the improved varieties currently sold for use in Minnesota can persist for three years if the weather provides good winter snow cover.



Locations where red clover trials were conducted for this report.

Performance in Trials

Minnesota Agricultural Experiment Station scientists established performance trials of red clover at three locations in 1995. These trials were harvested at Grand Rapids, Morris and Rosemount in 1996 and at Rosemount and Morris in 1997 and 1998. Severe winter injury destroyed the trial at Grand Rapids.

Varietal differences for forage yield were found at all locations except Morris in 1996. Yields were highest at Grand Rapids due to favorable environmental conditions, and lowest in

1997 at Rosemount due to winter injury and at Morris in 1998. The newer varieties, such as Marathon, tended to produce higher forage yields during the third production year.

Interpreting the Table

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 of red clover, in tons dry matter per acre, seeded at 3 locations in 1995.

Average is for Rosemount and Morris only.

The Grand Rapids trials were destroyed by severe winter injury during the winter of 1996-97.

Variety	Grand Rapids	— Morris —			— Rosemount —			Average
	1996	1996	1997	1998	1996	1997	1998	
Arlington	3.7	2.6	3.3	2.9	3.2	2.0	4.8	3.1
Astred	3.3	2.2	2.2	2.7	2.5	1.8	3.3	2.4
Cinnamon	4.0	3.1	3.7	3.0	3.4	2.1	5.3	3.4
Concord	4.3	—	—	—	—	—	—	—
Marathon	4.3	3.2	3.5	2.6	3.4	1.7	4.5	3.2
Randolph	3.8	3.7	3.5	2.8	3.8	2.0	4.7	3.4
Redland III	—	—	—	2.8	3.3	1.9	—	—
Scarlett	3.0	3.0	3.5	2.8	3.7	1.8	4.8	3.3
LSD 5%	0.9	0.9	0.5	NS	NS	0.3	0.8	0.5

Table 2 — Potential 1999 red clover seed sources known to the Minnesota Crop Improvement Association.

ABT/La Crosse Seed Company PO Box 187 LaCrosse WI 54601 800-658-9428	Olds Seed Company Box 7790 Madison WI 53707 800-356-7333, 608-249-9291
Agassiz Seed & Supply 445 7th Street NW West Fargo ND 58078 701-282-8118	Peterson Seed Company Box 346 Savage MN 55378 800-328-5898
Albert Lea Seed House 1414 West Main, PO Box 127 Albert Lea MN 56007 507-373-3161, 800-352-5247	Premium Seed Company, Inc. 7800 East State Hwy 101 Shakopee MN 55379 612-496-1783
Croplan Genetics PO Box 64089, Cenex/Land O' Lakes St. Paul MN 55164 612-451-5490	R.J. Hunt Seed Company 13477 County Road 101 Wadena MN 56482 218-631-4190
Discount Farm Center PO Box 84, West Hwy 212 Watertown SD 57201 605-886-5888	Top Farm Hybrids 17177 60th Street Southwest Cokato MN 55321 320-286-5516
Garst Seed Company 2369 330th Street Slater IA 50244 800-831-6630	Trelay, Inc. 11623 Hwy 80 North Livingston WI 53554 800-421-0397, 608-943-6363
Geertson Seed Farm 1665 Burrough Rd Adrian OR 97901 541-339-3768	Twin Cities Seeds 7265 Washington Avenue South Edina MN 55439 800-545-8873
International Seeds Inc. PO Box 168 Halsey OR 97348 541-369-2251	Werner Farm Seeds 3104 Millersburg Blvd. Dundas MN 55019 507-645-7995

Red Clover 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	252,000	9	50/square foot	Early spring to September 1
In mixtures			5	30/square foot	
