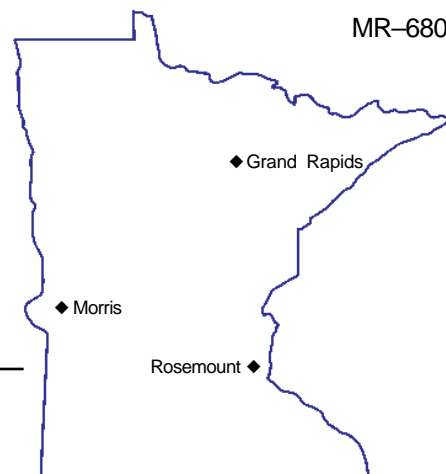


Minnesota Agricultural Experiment Station

VARIETY TRIALS

Timothy



Locations of timothy trials.

Successful production of timothy 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. Timothy 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

Timothy varieties are classed into the groups "early-intermediate" and "late" maturity. Though only a limited number of varieties are being tested, varieties descriptions are arranged alphabetically within these maturity groups in the tables of this report.

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 1997 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 timothy 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 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, MES.

TIMOTHY **VARIETY TRIALS**

Minnesota Agricultural Experiment Station — University of Minnesota
December 1996

Results of Timothy Variety 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

Timothy is adapted throughout Minnesota for use in hay and pasture mixes. When timothy is the major component in hay, its stage of maturity affects both yield and quality. Harvesting timothy at early heading is the preferred time. Timothy produces the majority of its forage at the first harvest.

Varieties of timothy differ in maturity so care should be taken in choosing ones that fit the management requirements of the crop and mixture. Early varieties are best adapted to a three-cut system with alfalfa.

Varieties that are intermediate to late maturing should not be harvested more than twice during the growing season. Therefore, appropriately selected timothy varieties are compatible with red clover and birdsfoot trefoil in mixtures for hay production.

Varieties in the experiment station timothy trials were established in pure stands in 1992 at Rosemount and Morris and again at Grand Rapids in 1993. Nitrogen was applied at all locations in the early spring and after each harvest at a rate of 40 to 50 pounds per acre.

Early maturing varieties of timothy had greater forage production than the late maturing varieties at all locations over all harvest years. At Morris and Rosemount, the yields of timothy were exceptionally high in 1993 and 1994. These results may be partially attributed to mild winters, and abundant rainfall and cool temperatures during the growing seasons. Timothy is normally less persistent than other cool-season grasses such as reed canarygrass.

Table 1A. Dry matter yields, in tons per acre, of timothy varieties seeded at Grand Rapids and Rosemount (1993-1996). [1]

Note Key:

[1] Trials established in 1992 at Rosemount, and in 1993 at Grand Rapids.

[2] One harvest at Rosemount in 1995.

Variety	Grand Rapids			Rosemount		
	1994	1995	1996	1993	1994	1995 [2]
Early - Intermediate Maturity						
Climax	3.8	3.9	3.1	4.8	4.7	1.9
Comtal	3.9	3.6	2.7	4.6	5.1	1.5
Goliath	3.8	3.7	2.8	4.3	4.5	1.5
Timfor	4.0	3.6	2.8	4.5	4.8	2.0
Toro	4.2	3.9	3.0	4.8	5.0	2.0
Late Maturity						
Heidemij	3.7	3.8	2.9	4.1	3.6	1.3
Hokusen	3.6	3.5	2.7	4.0	4.4	1.8
LSD 0.05	0.6	0.3	0.3	0.6	0.4	0.4

Table 1B. Dry matter yields, in tons per acre, of timothy varieties seeded at Morris (1993-1996), and the mean for yields at three locations (Grand Rapids, Morris and Rosemount). [1]

Note Key:

[1] Trials established in 1992 at Morris.

[2] Mean excludes Rosemount, 1995 data.

Variety	1993	Morris			Mean [2]
		1994	1995	1996	
Early - Intermediate Maturity					
Climax	5.5	4.0	4.0	2.5	4.3
Comtal	—	—	—	—	4.0
Goliath	—	—	—	—	3.8
Timfor	—	—	—	—	4.0
Toro	—	—	—	—	4.2
Late Maturity					
Heidemij	4.1	3.9	3.7	2.2	3.5
Hokusen	4.7	3.7	3.6	2.2	3.6
LSD 0.05	0.5	NS	NS	NS	

Table 2. Timothy seed sources for 1997 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>Climax</i>
Discount Farm Center PO Box 84, West Hwy 212 ... Watertown, SD 57201 ... 605-886-5888	<i>Climax</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>Climax</i>
La Crosse Seed Corp. PO Box 187 ... La Crosse, WI 54601 ... 608-781-4848	<i>Climax</i>
Northrup King Co. PO Box 959 ... Minneapolis, MN 55440 ... 612-593-7261	<i>Climax</i>
Olds/Payco Seed Co. Box 7790 ... Madison, WI 53707 ... 800-356-7333	<i>Climax, Comtal</i>
Peterson Seed Co., Inc. Box 346 ... Savage, MN 55436 ... 612-445-2606	<i>Climax</i>
Premium Seed Co., Inc. 7800 E State Hwy 101 ... Shakopee, MN 55379 ... 612-496-1783	<i>Climax</i>
R.J. Hunt Seed Co. RR 1, Box 112 ... Wadena, MN 56482 ... 218-631-4190	<i>Climax</i>
Seed Mart, Inc. PO Box 126, 925 Dexter St. ... Prescott, WI 54021 ... 715-262-4430	<i>Climax</i>
Top Farm Hybrids 17177 60th St. SW ... Cokato, MN 55321 ... 320-286-5516	<i>Climax</i>
Werner Farm Seeds 3104 Millersburg Blvd. ... Dundas, MN 55019 ... 507-645-7995	<i>Climax</i>

Timothy 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
In Mixtures	45	1,234,000	3	85/square foot	Early spring or summer