AGRICULTURAL EXTENSION SERVICE
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AGRONOMY FACT SHEET
No. 38
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Performance of Timothy Varieties

Ninety-six timothy varieties were grown in replicated trials near Roseau, Minnesota, 1968 through 1981. The purpose was to evaluate experimental and released strains for commercial seed production in northern Minnesota. Seed was voluntarily submitted by seed company representatives, or others interested in the seed production potential of the varieties.

The seeding rate was generally one pound per acre seeded in 18-inch rows, or in two row plots, 1 meter wide. Trials seeded in 1968 and 1969 were four row plots with the center two rows being samples, and the other trials were seeded as two-row plots, 1 meter wide and 4 meters long.

Five-hundred pounds of 20+10+10 fertilizer was applied each October. This rate may have been less or more than optimum for some varieties, but appears to be satisfactory for screening trials. Samples were harvested, dried, and transported to St. Paul for threshing and processing. The residue was normally mowed and burned in place after the plots were harvested.

We are reporting data for plant height, lodging, harvest date, and seed yields. These four are the most important characteristics for evaluating the production of a new strain.

Plant height - Plant height is recorded in inches and is the average of several measurements at harvest in each trial. This measurement is consistent over tests and years.

Lodging - Lodging was scored 1 to 5, 1 being no lodging and 5 severe lodging. Higher than optimum fertilizer rate for some varieties may have caused excessive lodging, and those with less than optimum fertilizer may have shown less than normal lodging.

Harvest date - Harvest date is the calendar date the variety was harvested. We have arbitrarily divided the varieties into three classes; early, intermediate, and late maturity. The varieties harvested August 3 or before are considered early; those harvested August 3 through 11, intemediate and those harvested on August 12, or later are classed as late.

Seed yields - Seed yields are reported as percentage of each test average of 517 lb/A. The least significant differences are large, but the year to year performance of a given variety is quite consistent. The ratings give a good indication of whether the varietal performance would be adequate for production in Minnesota. For example, Comet, King, and S-50 have been grown on a commercial basis in the area and were consistently low seed yielders. Our data suggest they should not have been grown without a substantial price premium to compensate for the low yields. To the contrary, Goliath was grown as an experimental strain in several trials and showed good production potential. This variety is now producing very satisfactorily in commercial fields. Many experimental strains have been and are being evaluated for possible future production.

Care must be used in interpreting varietal data. In the 1976 and 1980 trials Heidemij yields are higher than average. In both cases, the yields were harvested in years when there was a moisture shortage during the early spring months and subsequent rainfall appears to have favored the late maturing varieties. Trials seeded in 1969, 1972, and 1977 seem to be more representative of the true varietal performance.

Plant height, lodging, harvest date, and seed yield for 96 timothy varieties grown between 1968 and 1981 at Roseau, Minnesota

Varieties	Plant height in inches	Lodging*	Harvest date	Year test seeded 1968 (2)+	1969 (4)	1972 (2)+	1973 (2)	1976 (2)	1977 (2)	1979 (1)	1980 (1)	Average for all tests	Data years
Early-maturing varieties				Yields in percent of test average									
S-352	42	2.2	8-1		90	105						98	8
Alphage	40	++	8-2							117	117	117	3
Barmidi	42	-	7-30								83	83	1
Barmoti	42	1.9	8-2	133	139	107					125	10	
Bartimi	42	-	7-31								99	99	1
Basho	47	-	7-26							97	101	98	3
Bottnia II	43	4.0	7-31			126					129	127	5
Canada 009	40	-	7-24							59	65	61	3
Champ	42	2.5	7-26			104						104	4
Clair	44	2.1	7-30		93	97						95	8
Climax	47	1.5	8-2	94	96	106	119	148	114	144	104	113	21
Dural	43	2.1	7-31			116						116	4
Engmo	40	3.5	8-1		132	152						143	8
Erecta R.V.P.	42	2.5	8-2	113	103	105						106	10
Eskimo	44	2.5	7-31			130					107	125	5
Georgikon	40	2.5	8-2			142						142	4
Hokuo	41	2.7	7-31				116			115	109	114	5
Itasca	46	2.0	8-1	88	99	96			107	121	84	101	17
Kampe	48	2.0	8-1			146						146	4
Kampe II	40	3.0	8-1			150				136	130	143	7
Landsberger	42	2.2	7-31								108	108	1
Lischower	40	2.4	7-30				127				100	118	3
Lorain	47	2.0	8-1	102	99	123						109	10
Mahndorfer	41	2.5	8-1			150						150	4
Melusine	42	2.3	8-1			101						101	4
Milton	42	2.2	8-2			153	141					149	6
Mohawk	43	-	7-25								114	114	1
Motterwitze	40	1.5	7-31			136						136	4
Murra	39	1.5	7-27			88						88	4
Neuga	41	2.5	8-1			119						119	4

Varieties	Plant height in inches	Lodging*	Harvest date	Year test seeded 1968 (2)+	1969 (4)	1972 (2)+	1973 (2)	1976 (2)	1977 (2)	1979 (1)	1980 (1)	Average for all tests	Data years
Early-maturing varieties				Yields in percent of test average									
Nosappu	40	-	7-30							129	131	130	3
Odenwalden	38	3.7	8-3				123					123	2
Omnia	40	2.8	8-2			137	158				124	141	7
Pergo	39	2.3	7-31			101						101	4
Richmond	41	-	7-24								(8	98	1
Sata	42	3.6	8-1	116	112							113	6
Saxo	41	-	8-1								90	90	1
Scotia	39	2.3	8-3			113						113	4
Senpoku	40	3.3	8-1				113			119	130	119	5
Swallow	39	2.3	8-1			128						128	4
Tammisto	40	3.3	8-2	109								109	2
Tarmo	41	3.3	8-2	124	126							130	6
Tiiti	41	-	8-3							130	151	137	3
Timfor	48	1.2	8-1			125		149	122		132	128	11
Topas Tofte	39	2.8	8-1			118					95	113	5
Toro	42	2.8	7-26			142			108		97	122	9
Valstad	42	-	7-28								128	128	1
Vanadis	42	3.2	7-29			125						125	4
Verdant	44	2.2	8-1		85	85					101	87	9
Wisconsin T-10	49	1.7	8-2		105							105	4
Intermediate-maturing varieties													
Arabella	38		8-7								43	43	1
Champlain	46		8-4								83	83	1
Drummond	43	1.3	8-7			80	110					90	6
Essex	44	2.0	8-8		78	79						79	8
Glasnevingem	40	1.8	8-9			65						65	4
Goliath	40	2.0	8-4				146	172	122	108	106	131	11
Herma	42	2.3	8-8				132					132	2
Kahu (Grassland)	42	1.7	8-4								108	108	1
Liam	22	-	8-6							22	41	28	3
Ludor	39	-	8-7							86	46	73	3
Marcia	42	1.5	8-9					107				107	2
Maris polka	45	1.3	8-7						101			101	4
Melora	41	-	8-7							78	79	78	3
Mirage	40	3.0	8-10				75					75	2
Motim	42	2.7	8-11	90	96			153	13	119	127	117	15
Palermo	24	1.7	8-5				44	42	61			52	8
Rali	29	1.0	8-8					48				48	2
Ramona	23	2.0	8-5				51	54	68			60	8
Teith	42	1.5	8-7					156		154		155	4
Teno	27	-	8-11							28	42	33	3
Vallo	40	-	8-4				171					171	2
Late-maturing varieties													
S-48	37	2.8	8-19		88	82			84	75	109	85	15
S-50	26	1.8	8-19			18		46				27	6
S-51	45	2.8	8-13		83							83	4
Barlton	39	2.7	8-16	80	88	53					115	76	11
Barvonti	33	-	8-22								86	86	1
Comet	34	2.0	8-17			47						47	4
Dolema	35	1.8	8-17			46						46	4
Farol	39	2.1	8-13			72	80					75	6
Gusto	38	4.0	8-22					127				127	2
Heidemij	40	1.9	8-16	91	101	90		150	82	94	130	100	19
Hokushu	40	-	8-12							82	141	102	3
Intenso	40	-	8-17	73		58					88	67	7
King	37	3.0	8-17			58						58	4
Liga	36	-	8-23							83	126	97	3
Mortel	28	2.0	8-18				33	21				27	4
Nodora	28	2.0	8-18					28				28	2
Oakmere	38	2.1	8-19			63	59					62	6
Olympia	36	2.8	8-16		84	69						77	8
Pastremo	35	4.3	8-20				65					65	2
Paviour	22	1.7	8-13								15	15	1
Pecora	39	2.5	8-12			75						75	4
Sport	27	2.0	8-16			22						22	4
Tiran	37	3.4	8-16			98						98	4
Tusso	37	-	8-21								87	87	1
Winda	34	3.7	8-20				39					39	2
L.S.D. at 5% level				38	32	44	31	42	21	28	48		
Average seed yields in lb/A				517	397	330	360	298	397	278	327		

*1 = No lodging, 5 = Severe lodging

**Month and day material harvested

+Number of years harvested

++Lodging score not available