

Bentgrass Variety Field Day.

Cromer Golf Club



18th May 2010

Trial Site Locations



Bentgrass varieties being assessed

*007

*Authority

*CY 2

*Cobra 2

*Declaration

Dominant *X-treme*

*Mackenzie

*Penn A1

Penn G2

*Shark

SR1150

SRP1GMC

SRP1RH93

*T-1

*Tyee

AGCSA vegetative

Mariner^

RAGC blend^

**Evaluated in 2003 NTEP trials*

www.ntep.org

NTEP Ratings

TABLE 8B.

GENETIC COLOR RATINGS OF CREEPING BENTGRASS CULTIVARS
GROWN ON A GREEN 1/
2004-07 DATA

GENETIC COLOR RATINGS 1-9; 9=DARK GREEN 2/

NAME	AR1	A21	IA1	IL1	IN1	KY1	ME1	MI1	MN1	NC1	NE1	NJ1	NM1	OK1	PA1	QE1	SD1	TX1	UT1	VA1	WI1	MEAN
T-1	7.8	7.4	7.0	7.9	8.7	8.3	6.2	6.8	7.9	7.0	8.0	6.0	6.2	7.5	8.6	7.7	7.0	7.3	7.1	7.7	8.6	7.5
LS-44	7.3	6.6	7.3	6.6	8.7	8.0	6.0	5.9	6.7	7.0	7.6	5.3	6.2	6.7	7.3	7.5	6.6	6.8	6.8	7.3	7.8	6.9
COBRA 2 (IS-AP 9)	7.1	6.4	7.3	6.8	8.3	7.8	6.0	5.9	7.0	7.4	7.1	5.6	5.5	6.8	6.8	7.7	6.9	6.4	7.1	7.5	7.2	6.9
BENCHMARK DSR	6.9	6.2	6.9	6.3	8.2	7.2	6.3	6.2	7.2	6.8	7.2	4.8	5.8	6.3	7.3	7.8	6.8	7.3	6.8	6.9	8.4	6.9
KINGPIN (9200)	7.1	6.7	6.8	6.4	7.6	6.3	6.3	6.3	7.5	6.7	8.1	4.8	5.3	6.7	6.9	7.8	6.8	6.8	6.4	6.8	8.5	6.8
TYEE (SRX 1GD)	6.9	6.9	7.3	6.3	7.4	7.3	6.0	5.8	6.2	6.9	7.1	6.8	4.7	6.5	6.2	7.5	6.2	6.8	6.6	6.8	7.5	6.7
INDEPENDENCE	7.0	6.9	7.2	6.2	7.8	7.0	6.3	6.1	6.1	6.8	7.8	5.4	5.3	6.3	6.3	7.7	6.4	6.8	6.2	6.9	7.8	6.7
ALPHA	6.8	6.5	7.0	6.8	7.8	7.2	6.0	5.4	6.3	6.8	7.4	4.7	5.5	5.7	6.8	7.7	6.6	6.8	6.5	7.2	8.3	6.7
PENN A-1	7.4	6.3	6.9	6.3	8.6	7.0	6.0	6.1	5.9	7.0	7.4	5.6	5.3	6.8	6.1	7.3	5.9	6.8	6.7	6.9	7.3	6.7
007 (DSB)	7.3	6.8	7.3	6.1	7.8	7.7	6.2	6.4	6.4	6.7	7.7	5.5	4.5	6.3	5.9	7.5	6.3	6.6	6.6	6.5	7.1	6.7
BENGAL	6.9	6.7	6.8	6.1	7.8	7.2	6.2	5.8	5.8	7.2	7.1	4.7	5.8	6.5	6.1	7.6	6.1	6.3	6.3	6.9	7.7	6.5
AUTHORITY (235050)	6.9	6.2	7.1	6.0	8.2	7.8	6.0	5.7	5.7	7.3	7.0	5.3	5.5	6.5	6.2	7.3	5.9	6.6	6.7	6.8	7.0	6.5
DECLARATION	7.0	6.3	7.3	6.0	7.9	7.8	6.2	5.9	5.6	6.9	7.0	5.3	5.2	6.0	5.5	7.3	5.8	6.8	6.4	6.4	7.2	6.4
PENNLINKS II	6.3	6.2	6.8	6.0	8.1	6.0	6.0	5.4	7.1	6.6	7.4	4.4	5.2	5.8	6.3	7.5	6.6	6.3	5.8	6.8	7.8	6.4
SHARK (23R)	6.9	6.0	7.7	6.1	7.9	7.2	6.0	6.0	5.4	6.9	5.9	4.9	4.3	6.7	5.8	7.5	6.0	6.3	6.2	6.5	6.6	6.3
13-M	6.7	6.3	6.8	6.0	7.1	6.8	6.0	6.0	5.2	6.7	7.2	4.8	5.3	5.7	5.7	7.4	6.1	6.7	5.9	6.8	7.3	6.3
MEMORIAL (A03-EDE)	6.0	6.3	6.7	6.2	7.7	6.7	6.0	6.4	5.6	7.0	6.8	4.0	5.3	6.5	5.8	7.1	6.1	6.8	6.5	6.4	7.4	6.3
MACKENZIE (SRX 1GPD)	6.9	6.2	7.0	5.7	7.4	7.0	6.0	6.0	5.0	6.8	6.9	5.8	4.8	5.0	5.7	7.6	6.0	6.3	5.6	6.5	6.8	6.3
CY-2	6.8	5.8	7.2	5.7	7.4	6.8	6.0	5.0	5.5	6.8	7.3	5.6	5.0	5.2	5.5	7.3	6.3	6.6	6.0	6.1	6.9	6.3
PENNCROSS	5.7	6.1	6.8	5.8	7.9	5.0	6.3	5.1	6.3	6.1	7.1	2.8	5.7	5.2	5.8	7.3	6.0	6.2	5.3	6.9	7.0	6.0
LSV VALUE	1.3	0.9	1.1	0.9	1.0	1.2	0.5	1.4	1.3	1.0	1.1	1.8	1.6	0.9	0.9	0.6	0.9	1.0	1.1	0.7	0.9	0.3
C.V. (%)	11.6	8.7	9.4	8.8	9.7	10.5	5.0	15.6	13.6	9.1	9.6	23.0	19.7	10.0	9.6	5.3	8.9	9.4	10.9	6.9	7.7	10.8

Participating Companies



Initial Establishment



15/4/2009



11/5/2009



22/4/2009



8/7/2009

Germination (0 - 5)

Variety	6 DAS	9 DAS
Authority	1.9	3.3
Penn G2	2.3	3.0
Penn A1	1.5	2.8
SRP1GMC	2.1	2.4
Cobra 2	2.0	2.3
Declaration	1.5	2.1
Tyee	1.2	2.0
SRP1RH93	1.3	2.0
CY2	1.4	2.0
T1	1.5	1.9
Mackenzie	1.6	1.8
SR1150	1.3	1.8
Dominant Xtreme	1.2	1.6
Shark	0.9	1.5
007	0.8	1.3
LSD (P<0.05)	ns	0.9

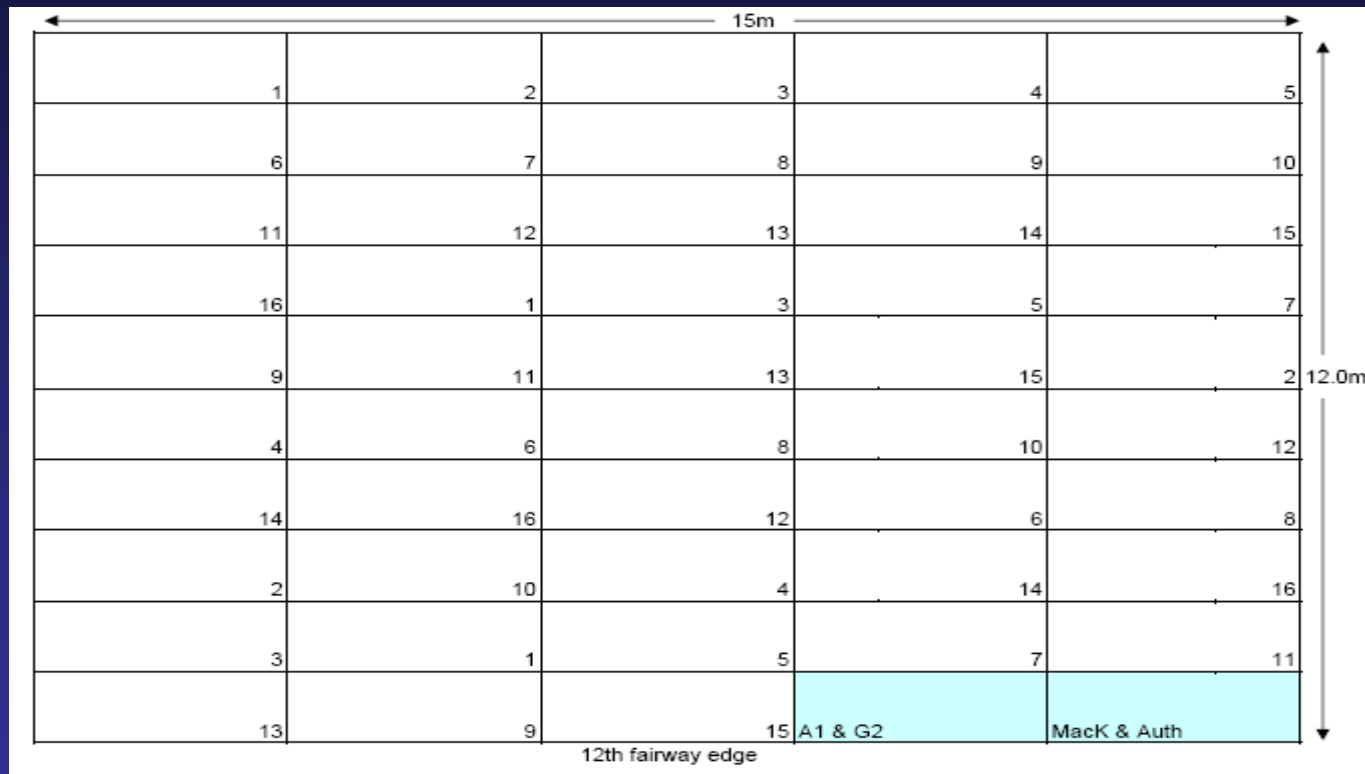
Vigour (0 – 5)

Variety	15 DAS
Authority	3.8
Penn G2	3.5
Penn A1	3.3
Tyee	2.6
SRP1GMC	2.4
Cobra 2	2.4
Mackenzie	2.3
CY2	2.3
SR1150	2.2
SRP1RH93	2.2
Declaration	2.2
T1	1.9
Dominant Xtreme	1.8
Shark	1.7
007	1.5
LSD (P<0.05)	0.7

% Cover

Variety	21 DAS	36 DAS	53 DAS	70 DAS	84 DAS
Authority	73	75	78	81	82
AGCSA 1	72	78	83	77	84
Penn A1	56	75	80	81	83
Penn G2	40	67	73	74	75
Cobra 2	38	63	71	73	71
CY2	35	63	72	73	76
Tyee	34	65	73	73	79
Mackenzie	33	62	73	75	78
GMC	33	66	75	80	79
Shark	28	58	72	72	77
Dominant Xtreme	28	53	63	67	68
RH93	27	59	71	73	76
SR1150	25	58	67	72	72
T1	24	53	63	68	68
007	24	58	68	74	74
Declaration	22	57	68	73	77
LSD (P<0.05)	17	ns	ns	ns	ns

Inspection of Trial Area



- Conduct an assessment on each plot for overall turfgrass density and turfgrass quality (0-9) and anything else that appears worth noting
- Plot names will be displayed once assessments have been made

Results to Date

- Since October results for;
 - turfgrass colour,
 - turfgrass density
 - and overall turfgrass qualityhave been recorded every two months
- Measurements of thatch accumulation, ball roll and surface hardness have also been taken

Oh, what a summer



20th October 2009



27th February 2010

Oh, what a summer



26th December 2009



16th February 2010

Royal Adelaide Golf Club

30th March 2010



Turfgrass Colour (0 - 9)

Variety	20/8/09	27/10/09	15/12/09	15/3/10
AGCSA 1	7.2	8.0	7.3	7.0
T-1	7.0	7.5	7.0	7.5
Penn A1	6.8	7.0	6.7	6.8
Declaration	6.7	7.0	6.7	6.5
Tyee	6.7	6.8	6.5	6.7
SRP1RH93	6.2	7.2	6.5	7.3
SRP1GMC	6.5	7.0	6.5	6.8
Shark	6.7	7.0	6.5	7.0
Penn G2	6.7	6.8	6.5	7.0
Mackenzie	7.0	6.7	6.5	7.2
Dominant Xtreme	6.7	6.8	6.5	7.3
CY 2	6.3	6.2	6.5	7.0
Cobra 2	7.3	6.5	6.5	7.0
Authority	6.5	6.5	6.5	7.0
007	6.7	6.8	6.5	7.0
SR1150	6.5	6.3	6.0	6.7
LSD (P<0.05)	0.4	0.4	0.3	ns

Turfgrass Density (0 - 9)

Variety	27/10/09	15/12/09	15/3/10
AGCSA 1	8.0	8.3	7.2
Shark	8.0	7.5	6.8
Tyee	7.3	7.3	6.7
SRP1RH93	7.2	7.3	7.3
SR1150	6.8	7.3	6.3
SRP1GMC	7.7	7.2	6.8
Declaration	7.5	7.2	6.3
Penn G2	6.8	7.0	6.2
Mackenzie	7.0	7.0	6.3
CY 2	6.7	7.0	6.7
Cobra 2	6.8	7.0	6.3
Authority	7.3	7.0	6.3
007	7.2	7.0	6.5
T-1	6.8	6.8	6.7
Penn A1	7.3	6.8	6.8
<i>Dominant Xtreme</i>	6.2	6.5	6.3
LSD (P<0.05)	0.6	0.4	0.6

Turfgrass Quality (0 - 9)

Variety	27/10/09	15/12/09	15/3/10
AGCSA 1	7.7	8.0	7.2
Shark	8.0	7.5	6.8
SRP1RH93	7.0	7.3	7.2
SRP1GMC	7.5	7.2	6.8
Tyee	7.3	7.0	6.7
SR1150	6.7	7.0	6.3
Penn A1	7.2	6.8	6.5
Mackenzie	6.7	6.8	6.3
Authority	7.3	6.8	6.3
Penn G2	7.0	6.7	6.2
Cobra 2	6.7	6.7	6.3
007	6.8	6.7	6.5
T-1	6.8	6.5	6.7
Declaration	7.2	6.5	6.3
CY 2	6.8	6.2	6.5
<i>Dominant Xtreme</i>	6.0	5.7	6.3
LSD (P<0.05)	0.5	0.5	0.5

Thatch Accumulation (mm)

Variety	27/10/09	15/3/10
AGCSA 1	14	15
Shark	12	13
SRP1GMC	12	13
007	12	12
Tyee	10	13
CY 2	10	13
Authority	10	13
SRP1RH93	10	14
T-1	9	13
Penn G2	9	13
Penn A1	9	14
Cobra 2	9	11
SR1150	9	12
Declaration	9	12
Mackenzie	7	13
Dominant Xtreme	7	11
LSD (P<0.05)	3	ns

Ball Roll (cm)

Variety	15/12/09
007	135
Penn A1	138
Authority	145
CY 2	135
Cobra 2	132
Declaration	139
Dominant <i>Xtreme</i>	129
Penn G2	138
Mackenzie	135
AGCSA 1	135
Shark	140
SR1150	138
SRP1GMC	139
SRP1RH93	131
T-1	132
Tyee	133
LSD (P<0.05)	ns

Surface Hardness (g)

Variety	15/12/09
007	85
Penn A1	90
Authority	90
CY 2	98
Cobra 2	95
Declaration	95
Dominant <i>Xtreme</i>	95
Penn G2	92
Mackenzie	92
AGCSA 1	93
Shark	92
SR1150	98
SRP1GMC	90
SRP1RH93	97
T-1	95
Tyee	92
LSD (P<0.05)	ns

Summary of Results at Other Locations

Keysborough

- Colour – the darkest green are generally T-1 and the vegetative variety (AGCSA1).
- Density – the densest varieties have been Shark, SRP1GMC, Declaration, Authority and the vegetative variety (AGCSA1).
- Quality – very little variation although T-1 and AGCSA1 are two of the poorer varieties to date.

Summary of Results at Other Locations

Keysborough

- Thatch Accumulation – no significant difference between any variety.
- Ball roll – the vegetative variety (AGCSA1) had the least amount of ball roll, significantly less than all but Dominant *X-treme*.
- Surface Hardness – no significant difference between any variety.

Summary of Results at Other Locations

Royal Adelaide

- Colour – the darkest green are generally T-1 and the vegetative variety (AGCSA1).
- Density – the densest varieties have been Shark, CY2, 007, Penn A1, Mackenzie and the vegetative variety (AGCSA1).
- Quality – no significant difference between any varieties, although at the field day AGCSA1 was rated poorly against the seeded varieties.

Surface Quality Assessment

Variety	22/04/10	Field Day Attendees
007	6.8	6.4
Penn A1	6.7	6.4
Authority	6.8	6.2
CY 2	7.0	6.4
Cobra 2	6.8	6.4
Declaration	6.5	5.8
Dominant Xtreme	6.3	6.2
Penn G2	6.7	6.2
RAGC blend	6.5	5.8
MacKenzie	6.8	5.8
Mariner	6.5	6.1
AGCSA 1	6.3	4.5
Shark	6.5	6.0
SR1150	6.5	5.1
SRP1GMC	6.5	5.6
SRP1RH93	7.0	6.0
T-1	6.7	5.4
Tyee	7.0	5.9
LSD (P<0.05)	ns	ns

Results to the right are a comparison of my assessment of surface quality compared to the average of the other field day attendees as at 22nd April 2010.



Summary of Results at Other Locations

Royal Adelaide

- Thatch Accumulation – the vegetative variety (AGCSA1) has produced more thatch, but not significantly more at this stage.
- Ball roll – AGCSA1 significantly less than all but two varieties on the 11/3/10.
- Surface Hardness – no significant difference between any variety.

Acknowledgements

- Horticulture Australia for their financial assistance with the project
- Mr. Mark Couchman, course superintendent at Cromer Golf Club
- Dr. Jim Hull for his assistance in sowing the trial