



TURFGRASS SEED 1983

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This leaflet supersedes the green pages in "Turfgrass 1982", but should be read in conjunction with the prescriptions for mixtures and the pattern specifications and tenders in "Turfgrass 1982", which can be obtained from the STRI at the now reduced price of 40p including postage.

September 1982

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EXPLANATORY NOTES

The merit ratings in the tables are as follows:-

A = best
 B = average
 C = worst

} for the quality defined at the top of each column. (Compare ratings only within columns, not between columns or between tables.)

- = insufficient data for rating.

() = rating provisional (scanty or conflicting data) or under review.

Cultivars are listed in approximate order of merit for intensive turf use, except where stated to be in alphabetical order. For any particular purpose, decide on the required qualities; then obtain one of the cultivars with the best ratings (or combination of ratings) for those qualities.

Seed of all cultivars named should be available in the UK in 1983, but LA = limited availability. Tables give abbreviated names of maintainers (responsible for basic seed) and UK agents: the full names and addresses of UK agents are on p. 12.

BENTS

Table 1 compares the four types (species) of bents: note that 'Highland' browntop bent (the traditional "Oregon browntop") is so different from other browntop bents that a distinct species name, Agrostis castellana, is used. Table 2 compares cultivars.

TABLE 1. Comparison of bent species

Botanical name	Browntop bent		Creeping bent <u>Agrostis stolonifera</u>	Velvet bent <u>A. canina ssp. canina</u>
	'Highland' <u>Agrostis castellana</u>	Others <u>Agrostis tenuis</u>		
Vegetative spread	Vigorously, by rhizomes	Moderately, by stolons or rhizomes	Vigorously by stolons	Moderately, by stolons
Sward density and Fineness of leaf	Medium density, med. leaf size	Dense, fine leaf	Dense, fine leaf	Very dense, very fine leaf
Summer colour watered in drought	Good-fair Fair	Good Poor	Good Poor	Very good Good
Winter colour	Very good	Good	Good-fair	Good-fair
Fusarium patch (<u>F. nivale</u>)	More susceptible	Less susceptible	More susceptible	Less susceptible

TABLE 2. Cultivars of bent available in 1963 (alphabetically within species)

Species and cultivar	Compactness (sward density)	Fineness of leaf	Freedom from red thread (Corticium fuciforme)	Summer greenness	Winter greenness	Short growth	Maintainer and UK Agent
<u>BROWNTOP BENT (Agrostis tenuis and A. castellana)</u>							
<u>A. castellana</u>							
Highland							
A. tenuis	C	C	B	B/C	A	C	Oregon State Univ.
Allure (1A)	B	B	-	(B)	(B)	(B)	Joordens (Sinclair)
Bardot	A	B	A	B	B	A	Barenbrug (Goldsmith)
Ekko	C	C	A	(C)	(A)	(B)	Swedish Seed (Bond)
Gerico (1A)	(B)	-	(B)	(B)	(B)	(B)	Barish PB
Holfior (1A)	B	B	A	B	B	B	van der Have (Johnson)
Saboval	B	B	A	B	A	B	WPRS/NSDO (Huret)
Tendenz (1A)	(B)	(B)	-	-	(C)	(B)	Steinmach (Br. Seed Ho.)
Tracenta	B	B	A	B	B	B	Mommersteeg
<u>CREEPING BENT (A. stolonifera)</u>							
Carmen	A	B	A	(B)	(H)	(B)	Mommersteeg
Emerald (1A)	B	B	A	B	C	B	Weibull (Hurst)
Kromi (1A)	(B)	-	-	(H)	-	B	Daehnfelddt (Sinclair)
Pennocross	B	B	A	B	B	B	Pennocross Bentgrass Assn.
Prominent	B	B	A	B	C	B	Zwaan (Picard)
<u>VELVET BENT (A. canina ssp. caxina)</u>							
Kingstown (1A)	A	A	B	A	C	B	Univ. of Rhode Isl. (Goldsmith)

Note: To improve the compactness and summer appearance of 'Highland', replace some of it with a more compact browntop, or indeed 'Kingstown' velvet bent, to the extent of about 50-40% (or perhaps 50%) of the bentgrass fraction of a mixture. The replacement seeds (especially those of velvet bent) are likely to be smaller than those of 'Highland', and much more expensive: hence the lower proportion.

TABLE 3. Cultivars of red fescue available in 1983
 For compactness and short growth, rating scales are extended to D and E (worst)

Cultivar	Compactness	Persistence when mown at 5 mm	Freedom from red thread* (and dollar spot** in small type)	Winter colour	Summer colour	Short growth	Maintainer and UK agent	
CHEWINGS FESCUE (No rhizomes; 42 chromosomes)								
Frida	A	A	A	(A)	A	A	Zelder (Br. Seed Ho.)	
Barfalla	A	A	A	B	A	B	Barenbrug (Goldsmith)	
Waldorf	A	A	A	C	A	B	van der Have (Johnson)	
Scarlet	A	A	A	B	(A)	C	van der Have (Mommersteeg)	
Agram	A	(A)	A	(B)	(A)	B	Zelder (Dalgety Spillers)	
Tamara	A	(A)	(A)	(B)	(A)	B	Danish PB	
Mennet	A	A	B	(B)	(A)	C	Joorden (Sinclair)	
Atlanta	A	A	E	C	A	B	van der Have (Sharpe)	
Lustre	A	(A)	E	(A)	(B)	C	Zwaan (Picard)	
Bolero (LA)	(A)	-	(A)	(A)	(A)	-	Joorden (Sinclair)	
Checker	B	A	A	A	A	C	Oregon State Univ. (Br. Seed Ho.)	
Wintergreen	B	A	A	A	B	C	Northrup King (Donath)	
Highlight	B	B	A	A	B	B	van Engelen (Pope)	
Uncota	B	B	A	A	B	B	van Engelen (Hurst)	
Koket	B	B	A	B	B	C	Mommersteeg	
Ivalo	B	(B)	(A)	(A)	(B)	B	Danish PB	
Banner	B	(B)	(A)	(B)	(B)	B	Purlingham (Johnson)	
Tatjana	(B)	(B)	(B)	(A)	(B)	C	Danish PB	
Jamestown (LA)	B	B	B	C	A	B	Lofts/Barenbrug (Goldsmith)	
Cascade	C	C	E	C	C	D	Oregon State Univ.	
Eboli (LA)	Insufficient information							Danish PB

Continued

TABLE 3. (continuation)

Cultivar	Compactness	Persistence when mown at 5 mm	Freedom from red thread* (and dollar spot** in small type)	Winter colour	Summer colour	Short growth	Maintainer and UK agent
SLENDER CREEPING RED FESCUE (Slender or few rhizomes: 42 chromosomes)							
Dawson	A	A	C	A	A	C	van der Have (Johnson)
Cri flame (LA)	(A)	(A)	(B)	(A)	(A)	C	Sergeant
Sonnet	B	(A)	(a)	(B)	(A)	D	Joorden (Sinclair)
Folar (LA)	B	B	b	A	A	C	Weibull (Hurst)
Merlin (LA)	B	B	(a)	(B)	(A)	B	NSDO (Johnson)
Nanoir (LA)	(B)	(B)	b	(B)	(A)	A	Clause (Mommersteeg)
Epulette (LA)	(B)	(B)	-	(B)	(B)	A	Sergeant
Fess (LA)	(C)	(B)	-	(C)	(B)	A	Sergeant
Casis (LA)	C	C	c	B	B	C	van Engelen (Pope)
Aber. S.59	C	C	a	A	B	D	WFBS/NSDO
STRONG CREEPING RED FESCUE (Many strong rhizomes: 56 chromosomes)							
Ensyiva	C		(E)	A	(B)	E	van Engelen (Pope)
Gracia (LA)	C		B	B	B	D	Zwaan (Picard)
Pernille	C		(E)	(B)	(B)	D	Danish PB
Boreal	C		C	B	B	D	Canada Dept. of Agriculture
Durlawn	D		(B)	B	B	D	National MK Seeds, Canada
Bargena	D		B	B	C	E	Barenbrug (Goldsmith)
Ruby	D		C	B	C	D	van der Have (Johnson)
Moncorde	D		C	C	C	D	Mommersteeg
Agio (LA)	D		C	B	C	E	van Engelen (Pope)
Novorubra	D		C	B	C	E	Mommersteeg
Dasas	D		C	B	C	E	Danish PB
Enyira	D		(C)	(B)	C	E	van Engelen (Hurst)
Other taller and less compact cultivars - Echo (Jaehnefeldt; Picard), Engina and Enzet (van Engelen; Pope), Rapid (Zwaan; Picard), Reptans (Weibull; Hurst), Rubin (Ohlssens; Bond) and Rubina Roekilde (Danish PB)							
Insufficient information for grouping - Bergond (LA) and Tridano (both Danish PB)							

* Corticium fuciforme** Sclerotinia homoeocarpa

RED FESCUES (CHEWINGS AND CREEPING RED FESCUES)

Table 3 shows all the main features except wear tolerance, for which information is scarce. No fescues are good under heavy football wear but some are much better than others under various types of wear on fine turf. In general, the most compact cultivars, with most shoots per unit area, are the most wear-tolerant, i.e. good Chewings and slender creeping red fescues.

In drought very fine-leaved and compact cultivars may show stress. Some slender creeping red fescues, particularly those of coastal origin, are specially good in maintaining colour in drought, notably 'Dawson', 'Merlin', 'Oasis' and 'Manoir'.

When fertility is low (especially when nitrogen is scarce) red thread disease is most likely to disfigure turf. Chewings fescues are least affected: all creeping red fescues can be severely attacked. Some cultivars of slender creeping red fescue are also seriously susceptible to dollar spot.

1. Fine turf mown at 5 - 10 mm

Choose compact (dense, fine-leaved) cultivars, of proved persistence under close mowing, taking account of seasonal colour if appropriate. Use one or more Chewings fescue cultivars, either alone or supplemented by good slender creeping red fescue.

2. Medium-fine sports turf, mown at 10 - 20 mm

Compactness is the main requirement, to confer wear tolerance. Differences in seasonal colour will be of relatively slight importance.

3. Heavy-duty sports turf mown at 20 mm or more

For such turf the value of fescue is debatable, but at least half of any fescue should be Chewings fescue rated A or B for compactness. Use some rhizomatous, i.e. creeping, red fescue also, either slender creeping red fescue or the most compact cultivars of strong creeping red fescue.

4. Low maintenance amenity turf

For most purposes, choose relatively short cultivars of Chewings fescue with good freedom from red thread and acceptable colour throughout the year. Diseases make slender creeping red fescue generally inadvisable (except where tolerance of salt or heavy metals is specially wanted). Strong creeping red fescue is probably too tall for areas where the prime aim is to reduce mowing frequency, but its relatively open sward may sometimes be desirable, e.g. to encourage non-grass species. (For this, it may even be worth using some of the very open cultivars mentioned in the footnote of Table 3.)

TABLE 4. Cultivars of miscellaneous fescues available in 1983
(alphabetically within groups)

Species, type and turf use	Cultivar	Maintainer and UK agent
HARD FESCUE: good cultivars, free of red thread (<u>Corticium fuciforme</u>), like Chewings fescue in tolerance of close mowing and abrasive wear; usable in fine turf in v. dry or infertile conditions	Biljart	Mommersteeg
	Scaldis	van der Have (Johnson)
	Tournament (LA) Valda	Zelder (Br. Seed Ho.) Cebeco (Hurst)
HARD FESCUE: coarser cultivars, less persistent under frequent mowing	Triana	Danish PB
FINE-LEAVED SHEEP'S FESCUE: unsuitable in texture for fine turf, v. susceptible to red thread: appropriate for low-maintenance natural grassland	Barok (LA)	Barenbrug (Goldsmith)
	Novina (LA)	Mommersteeg

TABLE 5. Cultivars of timothy available in 1983
(alphabetically within groups)

Type and turf use	Chromosome no.	Cultivar	Maintainer and UK agent
Fine-leaved compact cultivars, tolerant of mowing at 10-12 mm, appropriate to add wear tolerance to fine fescue/bent turf	Diploid (14)	Aber. S.50	WPBS/NSDO
		Parant Piccolo	Ohlsens (Bond) Joorden (Sinclair)
	Teno (LA)	Danish PB	
	Tetraploid (28)	Deploy	Dunns
		Barvanti (LA)	Barenbrug (Goldsmith)
	Ramona	Mommersteeg	
Coarser-leaved less compact cultivars, with good wear tolerance but not suited for mowing below about 15 mm	Hexaploid (42)	Aber. S.48	WPBS/NSDO
		Farol	Cebeco (Nickerson)
		Goliath	Mommersteeg
		Grasslands Kahu	DSIR, New Zealand
		Heidemij	van der Have (Johnson/Sharpe)
		Intenso (LA)	Zwaan (Picard)
		Mirage	van Engelen (Pope)
		Motim	Mommersteeg
Pecora	UCOPAC, France (Donath)		

TABLE 6. Cultivars of rough-stalked and wood meadow-grass available in 1983 (alphabetical order)

Cultivar	Maintainer and UK agent
ROUGH-STALKED MEADOW-GRASS	
Dasas	Danish PB
Omega Øtofte	Danish PB
Sabre	New Jersey AES (Br. Seed Ho.)
WOOD MEADOW-GRASS	
Barnemo (IA)	Barenbrug (Goldsmith)
Enhary	van Engelen (Pope)
Novombra	Mommersteeg
Pallas	Cebeco (Hurst)

SMOOTH-STALKED MEADOW-GRASS

Table 7 shows all cultivars likely to be considered for normal turf use, omitting those intended for agriculture. Criteria for selection should be :-

Football pitches: good wear tolerance with good or satisfactory compactness, winter greenness and freedom from leaf spot.

Close-mown sports turf: good compactness and/or tolerance of 20 mm mowing, and good or satisfactory fineness of leaf and freedom from leaf spot.

Low-maintenance amenity areas without wear: satisfactory freedom from leaf spot and satisfactory compactness, short growth and winter greenness.

These criteria may not include the special requirements for particular areas, e.g. fine leaf for mixtures with fescue and bent, or an open sward with poor compactness (with a consequent tendency to form less thatch) to encourage wild flora.

Some cultivars in Table 7 are known to be more susceptible than average to diseases not shown in the Table. (Brackets denote cultivars included provisionally.)

Mildew (Erysiphe graminis):- 'Parade', ('Glade'), ('Kimono'), ('Mosa').

Orange stripe rust (Puccinia poarum):- 'Nugget'.

Brown fleck rust (P. poae-nemoralis):- 'Enprima', ('Geronimo'), ('Mosa').

TABLE 7. Cultivars of smooth-stalked meadow-grass available in 1983

Cultivar	Wear tolerance	Compactness	Tolerance of mowing at 20 mm	Freedom from leaf spot*	Winter greenness	Fineness of leaf	Short growth	Maintainer and UK agent	
Fylking	A	A	A	A	B	A	B	Swedish Seed (Bond)	
Entopper	A	A	(A)	A	C	(C)	(B)	van Engelen (Pope)	
Parade	A	A	A	B	A	B	B	van der Have (Johnson)	
Baron	A	A	A	B	C	C	A	Barenbrug (Goldsmith)	
Kimono (LA)	A	A	-	A	B	A	(A)	Mommersteeg	
Bensun (LA)	A	A	A	C	B	(B)	B	Warren (Hurst)	
Ermundi	A	B	A	A	(C)	C	A	van Engelen (Pope)	
Nugget (LA)	(B)	A	A	A	C	A	A	Otto Pick (Pope)	
Mosa	A	(A)	-	(B)	(C)	(C)	(B)	Mommersteeg	
Monopoly	A	B	B	B	A	C	C	Mommersteeg	
Charlotte	-	(A)	-	(A)	(B)	(A)	(B)	Danish FB	
Glade	-	(B)	A	(B)	(A)	(B)	A	Jacklin (Fr. Seed Ho.)	
Golf	-	(A)	(B)	B	(B)	C	B	Swedish Seed (Bond)	
Swing	-	(B)	-	(A)	(C)	(B)	(A)	Swedish Seed (Bond)	
Geronimo	(B)	B	B	B	B	C	B	Mommersteeg	
Sobra	-	(B)	B	(B)	(B)	(B)	(C)	Ohlsens (Bond)	
Shrima	(B)	B	B	(B)	(C)	(B)	A	van Engelen (Pope)	
Welcome (LA)	(B)	B	-	C	(C)	B	(B)	Zwaan (Picard)	
Harmony	(B)	(B)	-	(C)	(B)	C	(B)	Zwaan (Picard)	
Aquila	C	B	(B)	B	B	(B)	B	van der Have (Johnson/Sharpe)	
Primo	C	B	(B)	C	C	C	B	Weibull (Hurst)	
Berones (LA)	C	C	(C)	B	B	A	A	Barenbrug (Goldsmith)	
Aspen (LA)			Insufficient information						Northrup King (Jonath)

* Drechslera poae

PERENNIAL RYEGRASS

Table 8 includes 'Aberystwyth S.23' for comparison but omits several mainly agricultural cultivars broadly similar to it. Selection criteria for various uses are given below.

Intensively used and generously managed sports turf

This category implies heavy wear and also sufficient fertilizer, especially nitrogen (N), to ensure satisfactory establishment and regrowth of the grass. ("High N" in col. 1 implies c. 250 kg/ha per annum, on normal soils, not sands.) Use col. 1 for winter games pitches mown at 20 mm or more.

Col. 4 shows there is little information on cultivar differences under mowing at 10 mm. Cultivars with fine leaves and high shoot density would generally do best.

Cricket tables, mown at about 5 mm when wickets are prepared, are a special case. Plant survival depends on the duration of the very close mowing and the amount of more normal growth at other times of the year. Even quite unexpected cultivars can give satisfactory short-term results under the right management, but on the whole cultivars in the upper part of Table 8 would be most likely to be successful.

"Low maintenance" sports turf

Col. 2 gives ratings for wear tolerance under "low N" (e.g. a seed bed dressing followed by about 75 kg/ha in the spring prior to the autumn start of wear) but the vigour and wear tolerance of perennial ryegrass depend enormously on fertility, and even the A's will not perform very well under low N. In the trials that provided the data, the differences in cover due to N (high N at least twice as much cover as low N) far exceeded the differences between cultivars. In addition to wear tolerance, take account of susceptibility to red thread, which can seriously damage regularly-mown turf that receives insufficient N.

Low-wear ornamental turf

For turf receiving little or no wear, but required to keep a good appearance, look for fineness of leaf, cleanness of cut (i.e. no frayed leaf fibres protruding from cut leaf ends) and freedom from red thread.

Minimal maintenance amenity areas

Where mowing is to be kept to the minimum, and little or no fertilizer given, short growth and freedom from red thread are important. Note also that early-heading cultivars produce many more seed heads than late-heading cultivars (though any cultivar will produce unsightly heads in its due season, especially if mowing is infrequent, ill-timed or ineffective).

TABLE 8. "Turf-type" and other similar cultivars of perennial ryegrass available in 1983. Ratings in cols. 1-4 apply only within columns, not between columns. In col. 11, E = early, I = intermediate, L = late, VL = very late

Cultivar (Maintainers and UK agents at foot of table)	Col. 1 Wear tolerance under -- high N*	Col. 2 low N*	Col. 3 Persistence when mown at -- 20 mm	Col. 4 Col. 10 mm	Col. 5 Freedom from red thrust**	Col. 6 Shoot density	Col. 7 Fine- ness of leaf	Col. 8 Clean- ness of cut	Col. 9 Short growth	Col. 10 Winter hardi- ness	Col. 11 Heading group
Sprinter	A	(A)	A	-	(B)	(B)	(B)	B	B	A	VL
Loretta	A	(A)	A	A	C	(B)	(B)	A	A	(A)	L
Majestic	A	(A)	A	B	(B)	B	B	A	B	(A)	I
Arno	A	(A)	(A)	-	(B)	B	B	(A)	A	(A)	I
Barry	A	(B)	(A)	-	(B)	(B)	B	(A)	A	(B)	I
Manhattan	A	(A)	A	B	C	B	B	A	B	A	I
Elka	(A)	(A)	A	A	(B)	A	A	A	-	-	L
Score	(A)	(B)	(A)	-	B	(A)	A	(C)	B	(B)	L
Bellatrix	A	(B)	(A)	-	(B)	(B)	(B)	(A)	(B)	(H)	VL
Derby	A	(A)	(A)	-	(B)	(B)	(B)	(A)	(B)	(H)	E
Hunter	(B)	(A)	(A)	B	(B)	(B)	B	(A)	A	(B)	L
Wendy	B	(A)	(A)	-	(A)	-	(C)	(E)	B	(B)	L
Pennfine	B	(C)	A	C	B	-	(A)	(A)	B	(A)	E
Ensporta	(B)	(B)	A	A	C	A	(A)	C	B	(B)	I
Grandstand	B	-	A	A	B	-	-	A	B	(B)	VL
Player	(B)	(A)	(A)	-	(B)	(C)	(R)	(B)	(B)	(B)	L
Royal	(C)	(A)	(A)	-	(A)	(B)	(B)	(B)	B	(C)	E
Pippin	(B)	(B)	(B)	-	B	(B)	(B)	(A)	B	-	L
Aberystwyth S.23	B	(B)	E	B	A	C	C	C	C	C	L

* See text

** Corticium fucoforme

Maintainers and UK agents (cultivars listed alphabetically)

Arno	van der Have (Johnson)	Manhattan	van Engelen (Pope)
Barry	Barenbrug (Goldsmith)	Majestic	Monnersteeg
Bellatrix	Cebeco (Hurst)	Pennfine	Penn. State Univ. (Johnson/Pope)
Derby	Int. Seeds (Br. Seed Ho.)	Pippin	Danish FB
Elka	Cebeco (Hurst)	Player	Cebeco (Hurst)
Ensporta	van Engelen (Pope)	Royal	Monnersteeg
Grandstand	Monnersteeg	Score	Zwaan (Picard)
Hunter	Cebeco (Hurst)	Sprinter	Zwaan (Picard)
Loretta	Steinmach (Br. Seed Ho.)	Wendy	van der Have (Johnson/Sharpe)

Above-average performance
in limited SNRI trials -
Bunting, Cockade and
Crescent (all Sargeant:
LA)

Insufficient information
to classify - Fiesta
(Picked West: Br. Seed
Ho.)

NAMES AND ADDRESSES OF UK AGENTS

Bond	R.A. Bond, Farmacre Seeds Ltd., Tilston Close, Tilston, Malpas, Cheshire, SY14 7HQ.
Br. Seed Ho.	British Seed Houses Ltd., Bewsey Industrial Estate, Pitt St., Warrington, WA5 5LE.
Dalgety Spillers	Dalgety Spillers Ltd., Mill Lane, Langford, Biggleswade, Bedfordshire, SG18 9QB.
Donath	L. Donath & Co. Ltd., Avonmouth Way, Avonmouth, Bristol, BS11 9LU.
Danish PB	Danish Plant Breeding, Didbrook Fields, Toddington, Nr. Cheltenham, Glos., GL54 5PE.
Dunns	Dunns Seed & Grain Ltd., Netherhampton Rd., Harnham, Salisbury, Wiltshire, SP2 8PT.
Goldsmith	Goldsmith Bros. Ltd., 43 Garland St., Bury St. Edmunds, Suffolk.
Hurst	Hurst Gunson Cooper Taber Ltd., Witham, Essex, CM8 2DX.
Johnson	W.W. Johnson & Son Ltd., Boston, Lincs., PE21 8AD.
Mommersteeg	Mommersteeg International Ltd., Station Rd., Finedon, Wellingborough, Northants., NN9 5NT.
Nickerson	Nickersons Seed Specialists Ltd., Field House, Pelham Rd., Crimsby, South Humberside, DN34 4SX.
Picard	J. Picard & Co. (Seed Merchants) Ltd., 3rd Floor, Central House, 32-66 High St., London, E15 2PD.
Pope	Pope & Chapman Ltd., 13-19 Hockerill St., Bishop's Stortford, Herts., CM23 2DE.
Sergeant	Farm Feed Holdings Ltd., Sergeant Seeds Division, Darlington Rd., Northallerton, N.Yorks., DL6 2NW.
Sharpe	Charles Sharpe & Co. Ltd., Sleaford, Lincs., NG34 7HA.
Sinclair	Sinclair, McGill (North) Ltd., Timperley, Altrincham, Cheshire, WA14 5QL.

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