

INDEPENDENCE 1

Agrostis stolonifera

 **DLF**
TRIFOLIUM
SEEDS & SCIENCE



INDEPENDENCE 1

Disease tolerant and suited for low input.

The main use of creeping bentgrass (*Agrostis stolonifera* L.) is on golf greens. This is due to its ability to withstand very close mowing and produce a very high quality putting surface.

Creeping bentgrass can also be used in high quality lawn mixtures for private gardens. The species is best at mowing heights of 10 mm or less.

- Medium dark green colour
- Excellent seedling vigor, fast establishment
- High shoot density
- Upright, aggressive growth habit
- Excellent resistance to *Poa annua* invasion
- Suitable for use in very close mown turf
- Good resistance to red thread
- Excellent overall performance
- Excellent for fairways, greens, and tees
- The new choice for today's turf manager to meet high expectations with current maintenance practices
- Low thatch production



Usage

INDEPENDENCE 1 was especially bred for the low mowing heights of golf course greens, but as it has very flexible mowing heights it can also be used for bowling greens, golf tees, fairways, croquet lawns and tennis courts.

TECH FACTS

Growth habit	Stolons
Establishment rate	Medium 14-21
3-4 mm cut tolerance	Excellent
Mowing frequency	Daily
Traffic tolerance	Good
Nitrogen required	Low/medium
Shade tolerance	Fair
Cold tolerance	Good
Disease resistance	Good

General appearance

INDEPENDENCE 1 creeping bentgrass is a completely new, cutting edge creeping bentgrass. It ranks with the new elite bentgrasses and delivers higher overall turf quality than the old standards.

INDEPENDENCE 1 is an upright, aggressive, dense variety that establishes quickly, is highly resistant to *Poa annua* invasion, and will recover quickly from ball marks and divots.


INDEPENDENCE 1 develops a dense, fine textured turf without developing excessive thatch.

INDEPENDENCE 1 was developed in the USA for use under close mowing situations.

INDEPENDENCE 1 will be the ultimate choice for new construction or reconstruction projects.






TRIAL RESULTS (STRI - BINGLEY, UK)

VARIETY	SHOOT DENSITY	VISUAL MERIT	MEAN	DISEASE RESISTANCE RED THREAD
 INDEPENDENCE 1	6.8	7.4	7.1	6.8
PENN G-6	6.5	6.5	6.5	6.7
PENN A-4	6.4	6.4	6.4	6.9
PENN G-2	6.3	6.4	6.3	6.3
PENN A-1	6.4	6.2	6.3	6.7
SR 1119	5.9	6.1	6.0	7.3
PROVIDENCE	5.8	5.7	5.8	6.4
BUENO	6.1	5.2	5.6	5.7
L 93	5.5	5.7	5.6	7.2
TAPETA	5.9	5.3	5.6	7.0
CRENSHAW	5.6	5.3	5.4	6.4




Turf grass Seed, recommended list 2009 (Greens, Close Mown Trials (Mown at 4 - 7 mm)

TRIAL RESULTS (NTEP, USA)

VARIETY	RATING-SAND	CLOSE MOWING (3 - 4 MM)	ANTHRACNOSE	MICRODOCHIUM
 INDEPENDENCE 1	6.2	6.1	7.3	8.7
 CY 2	6.4	6.3	5.7	7.3
 COBRA NOVA	6.1	6.4	4.0	9.0
007 (DSB)	6.3	6.3	5.7	8.7
TYEE (SRX 1GD)	6.3	6.1	2.3	9.0
DECLARATION	6.3	6.3	5.7	9.0
SHARK (23R)	6.3	6.2	5.7	9.0
AUTHORITY (235050)	6.2	6.2	6.3	8.3
PENN A-1	6.2	6.0	6.3	9.0
MEMORIAL (A03-EDI)	6.2	6.4	4.7	9.0
LS-44	6.2	6.2	6.3	8.7
BENCHMARK DSR	6.0	6.1	5.0	6.7
13-M	5.9	6.2	5.0	9.0
KINGPIN (9200)	5.9	6.2	5.0	9.0
PENNLINKS II	5.5	5.7	5.7	8.3
PENNCROSS	5.0	5.2	5.7	8.3

Mean turfgrass quality ratings of creeping bentgrass cultivars grown on a sand green (eleven locations) and a soil green (thirteen locations), and under close mowing to 3-4 mm (thirteen locations) in the USA and Canada, 2004-2007 final data. (Turfgrass quality ratings 1-9, 9 = ideal turf)

TRIAL RESULTS (SCANDINAVIA)

VARIETY	VISUAL MERIT (1 - 9) OVERALL MEAN	TILLER DENSITY (1 - 9)	IN SEASON DISEASES (1 - 9)
 INDEPENDENCE 1	3.8	4.3	7
 CY 2	3.8	4.1	4
 RUNNER	3.7	4.2	9
NORDLYS	4.0	4.3	4
DECLARATION	3.7	4.2	6
SANDHILL	3.7	4.1	6
MACKENZIE	3.7	4.1	7
L93	3.6	4.0	6

Varieties of creeping bentgrass - mean of four sites, sown in 2007, first green year results of 2008.
(Source: Bioforsk Rapport Vol. 3 Nr. 170 2008)

Maintenance of creeping bentgrass (*Agrostis stolonifera*)

Seeding rates (sown as straight on golf green):

New plantings: 100 kg/ha

Overseeding: 50 kg/ha.

Seeding date: Spring or autumn

Fertilisation (pre-sowing and sowing)

Normal seed: pre-plant incorporated: 70 kg N/ha

pre-plant topdressed: 35 kg N/ha

iSeed®: if iSeed® is used no starter fertilization is necessary



Fertilisation (season)

Nitrogen (N): 100-200 kg/ha/yr

Phosphorus (P): 50-75 kg/ha/yr

Potassium (K): 250-400 kg/ha/yr

Micronutrients: depending on soil analysis or plant tissue tests during the year.

Mowing

First mowing at plant heights of 4 - 5 cm

Get to the desired mowing height within seven weeks

Excellent appearance at mowing heights of 3 - 12 mm

Irrigation

Irrigate only when necessary

Keep intervals between irrigation cycles as long as possible

Topdressing and verticutting

Frequent verticutting according to seasonal growth, followed by topdressing

DLF-TRIFOLIUM focuses closely on the demands of customers as well as on the market trends of clover and grass seed. Offering one of the world's largest research and breeding programmes for both turf and forage, DLF-TRIFOLIUM is working continually to improve the quality and reliability of all varieties. To meet market expectations, these varieties are tested through a worldwide trialling network for adaptation to different climatic and environmental conditions.

DLF-TRIFOLIUM is the world's largest producer and distributor of grass seed. With subsidiaries in Denmark, Sweden, Holland, Belgium, UK, France, Germany, Czech Republic, Russia, China, New Zealand, South America and United States, an extended distributor and customer network serves the markets worldwide.

