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Herbage Development Fact Sheet 2 • By Eric Hall and Andrea Hurst

Hispanic cocksfoot, cv. Uplands♭

(*Dactylis glomerata* ssp. *hispanica* L.)

Origin
Recurrent phenotypic selection: 4 cycles of recurrent phenotypic selection for seedling vigour, summer activity and upright growth habit within CPI 134670, collected by Bob Reid (ex-TIA) as seed near Zamora, Zamora province, Spain (41° 32'N 05°47'W), 3 Jul 1993. Propagation: seed. Breeders: Eric Hall and Andrea Hurst, Tasmanian Institute of Agriculture (TIA), Mt Pleasant Laboratories, Launceston, Tasmania.

Description
Ploidy: tetraploid. Foliage: fineness fine. Plant: type Mediterranean or hispanica perennial forage grass, persistence persistent, growth habit upright to semi-upright, tillering density high, maturity medium, colour medium to dark green with greyish hue (RHS 133A). Stem: width narrow mean 1.01mm, number per plant mean 57, length (inc. inflorescence) mean 1058.3mm, length of upper internode mean 354.1mm. Flag leaf: length, mean 125.8mm, width mean 5.0mm. Inflorescence: length mean 123.0mm, emergence date mean 19 Oct, (109.75 days from day 0 = 1 July) flowering date mean 27 November (91.64 days from day 0 = 27 August), colour of anthers mostly pale yellow.

Major attributes
Uplands♭ is a fine leafed Mediterranean or hispanica cocksfoot (Figure 1) with a very high level of drought and cold tolerance. It is highly autumn/winter active producing up to 30% more herbage dry matter than Porto cocksfoot over the autumn/winter period (Table 1).

Seasonal production
Uplands♭ has some summer activity but will become dormant during dry periods. It grows rapidly in autumn to late spring producing a large bulk of high protein, high-energy forage with a high level of digestibility and nutritive value.

Drought tolerance
Its ability to become dormant through extended dry periods gives Uplands♭ a very high level of drought tolerance.

Cold tolerance
Very high. Tolerates frosts to –9° C with little or no frost damage.

Waterlogging tolerance
Will tolerate short periods of waterlogging.

Salt tolerance
Low.

Soil and climate requirements
Adapted for sowing into all well drained soil types of moderate to high fertility. It is best adapted to low rainfall temperate areas receiving between 300mm and 750mm average annual rainfall.

Maturity
Flowers late November. Seed matures mid January.

Seed size
Thousand seed weight 0.55gms (Porto 0.71gms).

Seed treatment
None required.

Recommended sowing methods
Drilled, direct drilled or broadcast onto a worked seed bed.

Sowing depth
Best sown at a depth of about 5mm. Seed which is sown deeper than 10mm is unlikely to emerge.

Sowing rate
2–5kg/ha.

Sowing time
Preferably late summer to autumn for sufficient seedling development coming into winter but can be sown in early spring.

Land preparation
Well-cultivated firm seedbed required for best results. For direct drilling or broadcasting there should be as little vegetation as possible and adequate soil moisture prior to sowing.

Compatibility with other species
Suitable for sowing with other forage grasses and legumes with low to moderate seedling vigour. May be out competed by more vigorous species.

Suggested mix
Hispanic cocksfoot, winter active tall fescue, phalaris, sub clover, stoloniferous red clover, Talish clover (when available) and Caucasian clover.

Seedling vigour
Uplands♭ can be slow to establish if sown in the cooler months and should not be sown with more vigorous plants eg. perennial ryegrass or perennial bromes.

Grazing management
Once established can tolerate persistent close grazing by sheep. It is less likely to become clumpy than Porto type cocksfoots. As protein levels may be high in autumn after the break it is recommended that animals are provided a supplement of fibre (hay or straw,) to balance the diet.

Dry matter yield
Up to 8 t DM/ha/year achieved under dryland conditions at Mt Pleasant, Launceston. This is 13% higher than Porto in the same trial.

Feed value
Uplands♭ has excellent nutritive value with protein levels in excess of 20% and high levels of digestibility.

Typical feed test figures

Crude protein (%DM)	21.6
Digestibility (%digestible DM)	76.8
Metabolizable energy (MJ/kg DM)	11.3

Anti quality factors
None known.

Seed harvest methods
Direct heading, cutter rowing. Holds seed very well, can be difficult to thresh from heads.

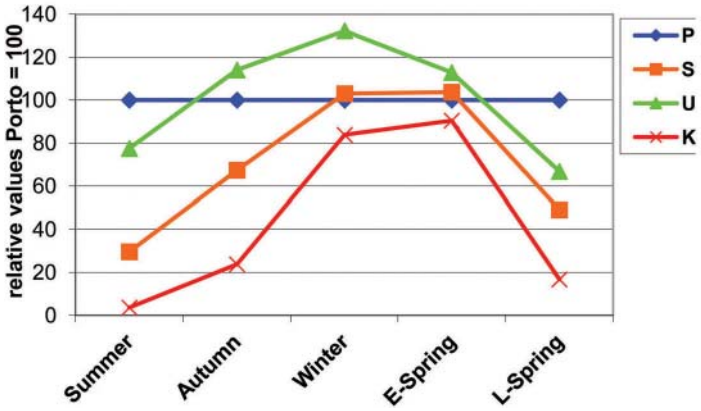
Seed yields
Yields around 500 kg/ha are achievable.

Diseases
May suffer from rust and ergot in seed in years or areas where summers are wet.

Pests
Resistant to pasture grub attack, susceptible to heavy corbie infestations.

Production data

Table 1. Seasonal herbage production of Hispanic cocksfoots, Sendace, Uplands(Þ and Kasbah relative to Porto cocksfoot, (Mean of 3 years data, Launceston, Tas).



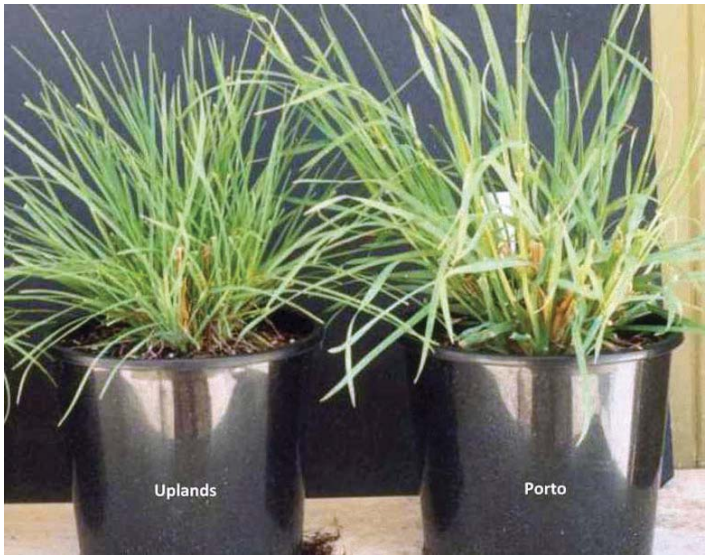


Figure 1: Comparison in plant morphology between Uplands(Þ Hispanic cocksfoot and Porto cocksfoot.

Table 2. Average lamb live weight gains (kg) (28 day grazing cycles) grazing pure swards of a range of grass species.

Treatment	*October*	*December*
Banquet (perennial ryegrass)	10.75	3.29
Exceltas (coloured brome)	10.68	3.10
Flecha (winter active fescue)	8.99	0.73
Megatas (cocksfoot)	10.16	3.44
Porto (cocksfoot)	10.44	1.92
Uplands(Þ (Hispanic cocksfoot)	10.80	2.40
Victoca (perennial ryegrass)	10.57	1.26

Data extracted from the TIA Burlington Road Annual Report May 2011

Cocksfoot

(Þ Variety is protected by Plant Breeders Rights

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