Multi-species Sward Cards

These cards are a guide to grassland ley species, and complement the Multi-species Sward App.

Please note that the 'thumb symbols' only compare species of the same group (legumes/herbs/grasses).

The cards are coloured as follows:

Legumes
Herbs
Grasses

The cards and app are part of the Toolbox of Multi-species Swards project (www.multispeciessward.co.uk) funded by the Agri-tech Cornwall and the Isles of Scilly project, led by Duchy College Rural Business School and Rothamsted Research North Wyke. Email multispeciessward@cornwall.ac.uk for more information. We gratefully acknowledge the contributions of farmers, collaborating business partners and experts.

TOMS
Toolbox of Multi-species Swards

DUCHY COLLEGE
RURAL BUSINESS SCHOOL

ROTHAMSTED RESEARCH

AGRITECH CORNWALL

European Union
European Regional Development Fund

The Agri-tech Cornwall & the Isles of Scilly Project supports businesses research and develop innovations for agriculture (agri-tech) across Cornwall and the Isles of Scilly (www.agritechcornwall.co.uk). It is part-funded by the European Regional Development Fund, Cornwall Council and the Council for the Isles of Scilly.

[foam]

The cards and app were designed and made in Cornwall by FoAM Kernow. All photos taken by Bethan Stagg except where stated otherwise. Version 1.1.

Plant: Upright or sprawling habit.

Leaves: 3 leaflets, hairy, often crescent marks.
Flowers: Reddish-pink.

Seedling: Hairs on leaf already visible (2 weeks).

Protein	👍
Minerals	👍
Digestibility	👍
Persistence (grazed)	👎
Relative yield (cut)	👍
Relative yield (grazed)	👍
Intensive cut/graze tolerance	👎
Anthelmintic properties	?
Waterlogging tolerance	👎
Marginal soils tolerance	👎
Drought tolerance	👎
Frost tolerance	?
Bloat safe	👎

RED CLOVER
Trifolium pratense

Plant: Creeping, with stolons (rooting stems).

Leaves: 3 leaflets, hairless, crescents.
Flowers: Cream or pinkish white.

Seedling: White crescents visible at 2 weeks.

Protein	👍
Minerals	👍
Digestibility	👍
Persistence (grazed)	👍
Relative yield (cut)	👎
Relative yield (grazed)	👍
Intensive cut/graze tolerance	👍
Anthelmintic properties	👎
Waterlogging tolerance	👍
Marginal soils tolerance	👍
Drought tolerance	👎
Frost tolerance	?
Bloat safe	👎

WHITE CLOVER
Trifolium repens

Plant: Upright and no stolons (rooting stems).

Leaves: 3 leaflets, hairless, no crescent.
Flowers: Pale pink or white, spherical head.

Seedling: First true leaves visible at 2 weeks.

Protein	👎
Minerals	?
Digestibility	👎
Persistence (grazed)	?
Relative yield (cut)	👎
Relative yield (grazed)	?
Intensive cut/graze tolerance	?
Anthelmintic properties	?
Waterlogging tolerance	?
Marginal soils tolerance	👍
Drought tolerance	👎
Frost tolerance	👍
Bloat safe	👎

ALSIKE CLOVER
Trifolium hybridum

Plant: Upright and bushy.

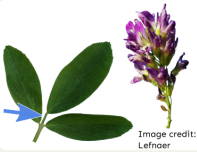


Image credit: Lefnaer

Leaves: 3 leaflets, joined with short stalk.
Flowers: White, purple, or yellow clusters.

Seedling: First true leaf is heart or kidney-shaped (2 weeks).

Protein	👎
Minerals	?
Digestibility	👎
Persistence (grazed)	👎
Relative yield (cut)	👍
Relative yield (grazed)	👎
Intensive cut/graze tolerance	👎
Anthelmintic properties	👎
Waterlogging tolerance	👎
Marginal soils tolerance	👎
Drought tolerance	👍
Frost tolerance	👎
Bloat safe	👎

LUCERNE
Medicago sativa

Plant: Upright and bushy.

Leaves: Rows of oval leaflets up the stem.
Flowers: Pink, purple veins, cone shaped.

Seedling: First true leaf at 2 weeks has 1-3 long, oval leaflets.

Protein	👎
Minerals	?
Digestibility	👍
Persistence (grazed)	👎
Relative yield (cut)	👎
Relative yield (grazed)	?
Intensive cut/graze tolerance	👎
Anthelmintic properties	👍
Waterlogging tolerance	👎
Marginal soils tolerance	👎
Drought tolerance	👍
Frost tolerance	👍
Bloat safe	👍

SAINFOIN
Onobrychis viciifolia

Plant: Upright and sprawling habit.

Leaves: 5 leaflets (3 clover-shaped, 2 clasping stem).
Flowers: Yellow.

Seedling: First true leaf has 5 leaflets (3 weeks).

Protein	👎
Minerals	👍
Digestibility	👎
Persistence (grazed)	👎
Relative yield (cut)	👎
Relative yield (grazed)	👎
Intensive cut/graze tolerance	👎
Anthelmintic properties	👍
Waterlogging tolerance	👍
Marginal soils tolerance	👍
Drought tolerance	👍
Frost tolerance	?
Bloat safe	👍

BIRD'S-FOOT-TREFOIL
Lotus corniculatus

Plant: Rosette form, with leaves sprouting from the base.

Leaves: Narrow oval, often hairy, toothed, or pale green.
Flowers: Bright blue.

Seedling: Pale oval leaves (2 weeks).

Protein	👍
Minerals	👍
Digestibility	👍
Persistence (grazed)	👎
Relative yield (cut)	👊
Relative yield (grazed)	👍
Intensive cut/graze tolerance	👎
Anthelmintic properties	👍
Waterlogging tolerance	?
Marginal soils tolerance	?
Drought tolerance	👍
Frost tolerance	👍
Bloat safe	?

CHICORY
Cichorium intybus

Plant: Rosette form, with leaves sprouting from the base.

Leaves: Narrow, ribbed, oval.
Flowers: Brown, cylindrical shape.

Seedling: Grass-like leaves (2 weeks).

Protein	👍
Minerals	👍
Digestibility	👊
Persistence (grazed)	👎
Relative yield (cut)	👍
Relative yield (grazed)	👊
Intensive cut/graze tolerance	👎
Anthelmintic properties	👍
Waterlogging tolerance	👍
Marginal soils tolerance	👍
Drought tolerance	👍
Frost tolerance	?
Bloat safe	?

RIBWORT PLANTAIN
Plantago lanceolata

Plant: Rosette form, with leaves sprouting from the base.

Leaves: Feathery, dark green.
Flowers: Flat-topped, cream-white clusters.

Seedling: First true leaves are feathery (3 weeks).

Protein	?
Minerals	👍
Digestibility	?
Persistence (grazed)	?
Relative yield (cut)	?
Relative yield (grazed)	?
Intensive cut/graze tolerance	👎
Anthelmintic properties	👍
Waterlogging tolerance	👎
Marginal soils tolerance	?
Drought tolerance	?
Frost tolerance	?
Bloat safe	?

YARROW
Achillea millefolium

Plant: Rosette form, with leaves sprouting from the base.

Leaves: Toothed, in pairs up the stem.
Flowers: Knobbly green-red clusters.

Seedling: First true leaves are pale and toothed (2 weeks).

Protein	👎
Minerals	?
Digestibility	?
Persistence (grazed)	👎
Relative yield (cut)	👎
Relative yield (grazed)	?
Intensive cut/graze tolerance	👎
Anthelmintic properties	?
Waterlogging tolerance	?
Marginal soils tolerance	?
Drought tolerance	👍
Frost tolerance	?
Bloat safe	?

SHEEP'S BURNET
Sanguisorba minor

Plant: Rosette form, with leaves sprouting from the base.

Leaves: Feathery, garden parsley-like.
Flowers: Rare; tiny yellow clusters.

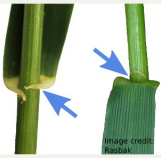
Seedling: Closely resembles the mature plant.

Protein	?
Minerals	?
Digestibility	?
Persistence (grazed)	?
Relative yield (cut)	?
Relative yield (grazed)	?
Intensive cut/graze tolerance	👎
Anthelmintic properties	?
Waterlogging tolerance	?
Marginal soils tolerance	?
Drought tolerance	?
Frost tolerance	?
Bloat safe	?

SHEEP'S PARSLEY
Petroselinum crispum

Plant: Up to 100cm, dark green and glossy, dense tufts.

Flower: Simple 'florets' in alternating pattern; no awns (bristle-like hairs).



Stem sheath: Long auricles clasping the stem. Short ligule (1-2mm, hard to see).

Protein	👎
Minerals	?
Digestibility	👎
Persistence (grazed)	?
Relative yield (cut)	👎
Relative yield (grazed)	?
Intensive cut/graze tolerance	👎
Anthelmintic properties	👎
Waterlogging tolerance	👍
Marginal soils tolerance	?
Drought tolerance	👎
Frost tolerance	?
Bloat safe	?

PERENNIAL RYE-GRASS
Lolium perenne

Plant: Up to 150cm, dark bluish-green, dense tufts.

Flower: One-sided, clumped flower head.

Stem sheath: No auricles, ligule often long (2-12mm), ligule has jagged edges.

Protein	👍
Minerals	👍
Digestibility	👍
Persistence (grazed)	👍
Relative yield (cut)	👎
Relative yield (grazed)	👍
Intensive cut/graze tolerance	👎
Anthelmintic properties	👎
Waterlogging tolerance	👎
Marginal soils tolerance	👎
Drought tolerance	👍
Frost tolerance	?
Bloat safe	?

COCK'S-FOOT
Dactylis glomerata

Plant: Up to 150cm, light grey-green, upright tufts.

Flower: Tassel-like, cylindrical, up to 15cm long, green to grey-purple, no silver hairs.

Stem sheath: No auricles. Ligule up to 6mm long, notched edges and pointed tip.

Protein	👎
Minerals	?
Digestibility	👎
Persistence (grazed)	👎
Relative yield (cut)	👎
Relative yield (grazed)	👎
Intensive cut/graze tolerance	👎
Anthelmintic properties	👎
Waterlogging tolerance	👍
Marginal soils tolerance	👍
Drought tolerance	👍
Frost tolerance	👍
Bloat safe	?

TIMOTHY

Phleum pratense

Image credit: Cotswold Seeds

Plant: Up to 200cm, loose tufts, dark green.

Image credit: Harry Rose

Flower: Open, multi-branched flower head. Looks more like a spike before flowering.

Image credit: Lavin

Stem sheath: Short ligule (2mm, hard to see). Narrow auricles with fine, wispy hairs.

Protein	👎
Minerals	?
Digestibility	👎
Persistence (grazed)	👍
Relative yield (cut)	👍
Relative yield (grazed)	👍
Intensive cut/graze tolerance	👍
Anthelmintic properties	👎
Waterlogging tolerance	👍
Marginal soils tolerance	?
Drought tolerance	👍
Frost tolerance	👍
Bloat safe	?

TALL FESCUE

Schedonorus arundinaceus

Image credit: Cotswold Seeds

Plant: Up to 80cm, loose tufts, sometimes forms clumps, variable green colour.

Image credit: T. Voekler

Flower: Tinged reddish/brown.

Image credit: Matt Lavin

Stem sheath: Short, stubby ligule – barely visible (1mm). Small auricles with no hairs.

Protein	👎
Minerals	?
Digestibility	👎
Persistence (grazed)	👎
Relative yield (cut)	👎
Relative yield (grazed)	👎
Intensive cut/graze tolerance	👎
Anthelmintic properties	👎
Waterlogging tolerance	?
Marginal soils tolerance	?
Drought tolerance	👎
Frost tolerance	👍
Bloat safe	?

MEADOW FESCUE
Schedonorus pratensis

Image credit: Cotswold Seeds

Plant: Up to 120cm, whitish-green, erect tufts.

Image credit: Fir

Flower: Tassel-like, cylindrical, up to 13cm long, yellow-green, covered in silver hairs.

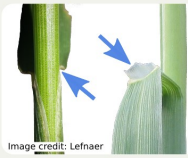


Image credit: Lefnaer

Stem sheath: No auricles, ligule typically short (1-4mm) and tatty.

Protein	👎
Minerals	?
Digestibility	👎
Persistence (grazed)	?
Relative yield (cut)	👎
Relative yield (grazed)	?
Intensive cut/graze tolerance	👎
Anthelmintic properties	👎
Waterlogging tolerance	👍
Marginal soils tolerance	?
Drought tolerance	👎
Frost tolerance	?
Bloat safe	?

MEADOW FOXTAIL
Alopecurus pratensis