

# Vegetative Grass Identification

## Webinar 2 – Developing your ID skills



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An Roinn Cultúir,  
Oidhreacht agus Gaeltachta  
Department of Culture,  
Heritage and the Gaeltacht



National Parks & Wildlife Service



**CEDaR**  
Centre for Environmental  
Data and Recording

# Plan for this Webinar

**TODAY:**

**Quick reminder of grass features to be familiar with and what you need**

**Brief overview of vegetative grass ID keys**

**Group species based on their features**

**Know how to confidently identify a selected number of grass species vegetatively**

### 3 main aspects to vegetative ID:

1. Recognising and examining a selection of vegetative (non-flowering) features
2. Measuring widths and lengths
3. Being familiar with ID key(s) and how they work

### What you will need:

#### 1. Hand lens:

x 10 magnification

(handy to get one with X10 and x20 lenses)

To use a handlens correctly – check out Youtube video

<https://www.youtube.com/watch?v=IFz004Wl28E>



#### 2. Transparent 6 inch ruler

Many keys will have rulers along page margins or at the back but handy to use a little ruler



#### 3. Key/ID guide: Follows recommended resources.....

# Botanical Keys:

## Hubbard C. E. 1992 Grasses: A Guide to Their Structure, Identification, Uses and Distribution. Penguin

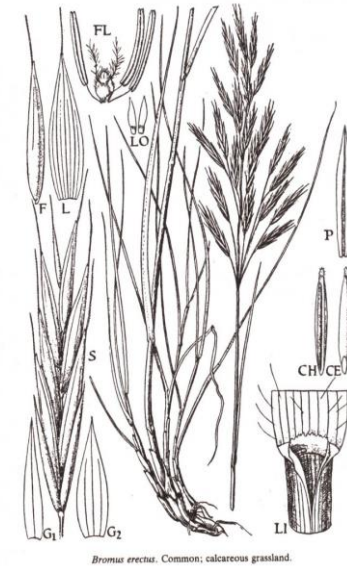
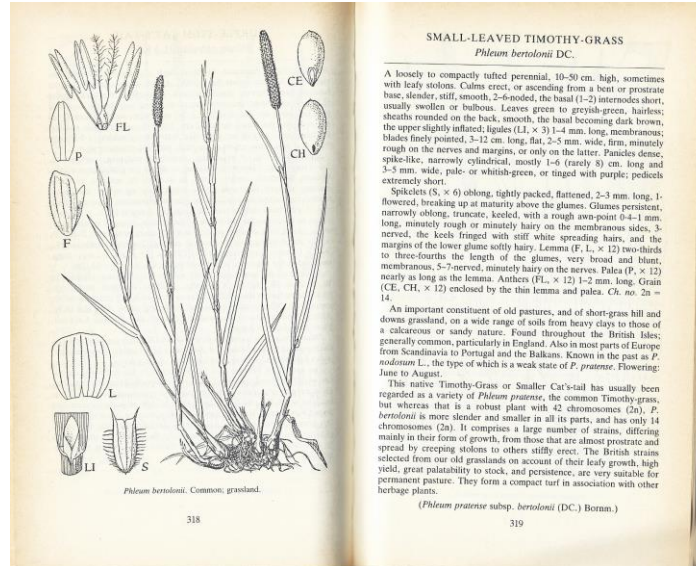
### GRASSES

A guide to their Structure, Identification, Uses and Distribution in the British Isles



C. E. HUBBARD

Revised by J. C. E. Hubbard  
New Edition



Floristic and vegetative keys

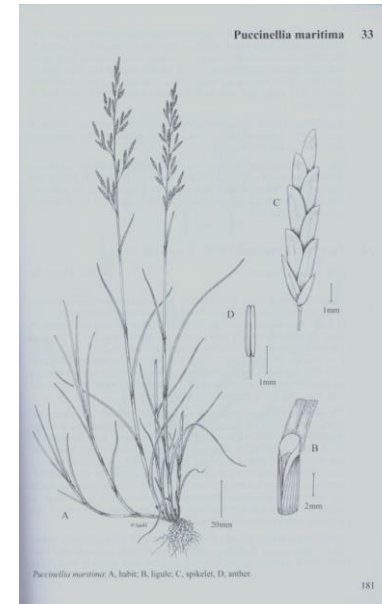
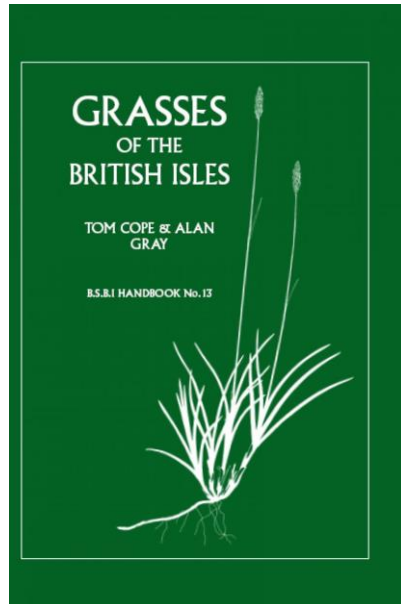
A bit out of date - Some botanical names changed since

Very good for diagrams

Keys when more experienced

# Botanical keys:

## Cope, T., Gray A. 2009 Grasses of the British Isles. BSBI Handbook No. 13



Floristic and vegetative keys

More up to date than Hubbard and more complex classification

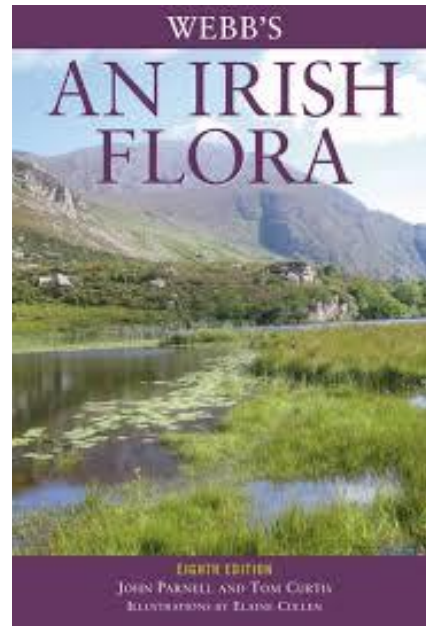
Very good for diagrams

Keys when more experienced



## Botanical keys:

Parnell, J., Curtis, T. 2012 Webb's An Irish Flora. Cork University Press



Floristic keys for all vascular plants including grasses – few diagrams

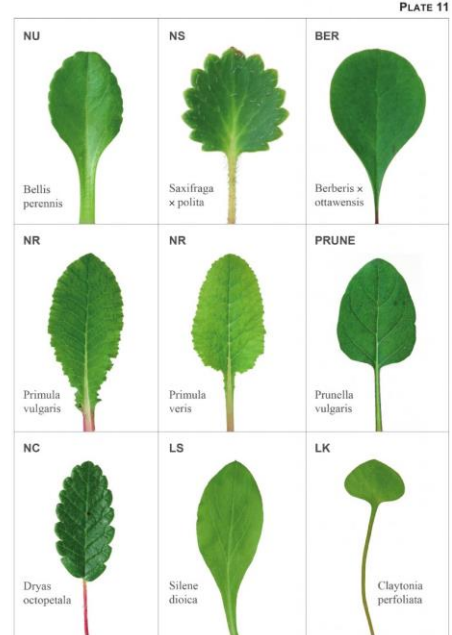
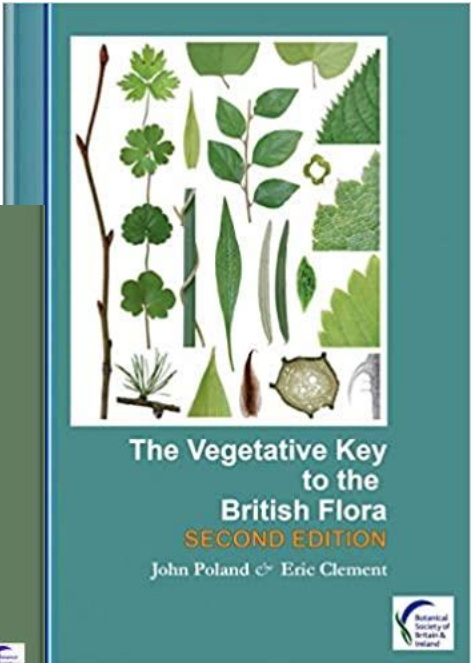
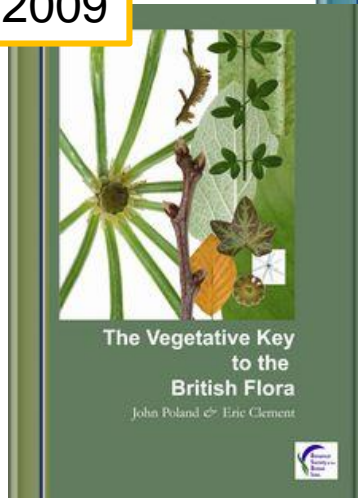
No grass vegetative key

Keys when more experienced

# Botanical keys:

## Poland, J. & Clement, E. J. 2019. The Vegetative Key to the British Flora. BSBI

2009



**G** 62

**Key to Groups in Division G**  
(Cyperaceae. Ligule present, ± adnate to fl)

Lvs basal or on stem, 3-ranked, with margins scabrid at least nr apex, parallel-veined, with the number of veins equal to the number of stomatal bands (and number of hollows in TS). Ligule adnate to fl, exc for a narrow free margin, usu (minutely) reflex at apex (more visible on v obtuse ligules). Sheaths closed (exc Schoenus), usu obscurely parallel-veined (but pinnate-veined in ladder-fibrillose spp). Stems often trigonous, without nodes (exc where stated), ± without sap (exc Blymus). Hairs, when present, unicellular, smooth (but papillate in Carex hirta). All yr (unless otherwise stated). Plates 1-8 illustrate (in alphabetical order) the TS of Carex lvs, together with examples of Eleocharis and Eriophorum.

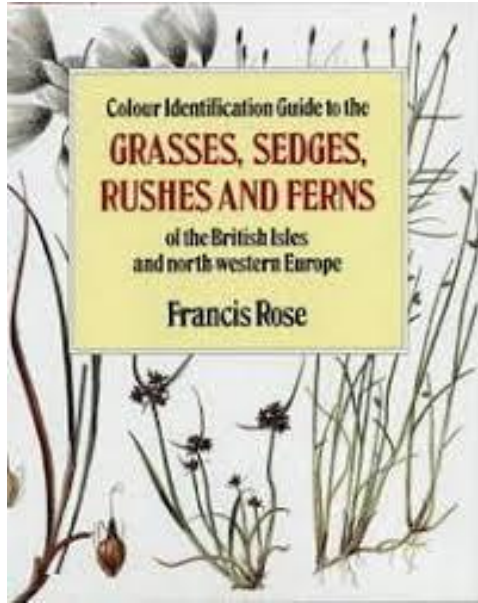
False stems consist of tightly rolled lvs and sheaths forming a stem-like structure in vegetative shoots, often with 1-3 short lvs (cataphylls) nr base. In species with false stems, they are present on all vegetative shoots, with no lvs at ground level. They may atypically occur in other spp when in long vegetation, or occ forming on a few vegetative shoots but with lvs at ground level. To check for trigonous tip, run finger and thumb along fl to feel for bump nr apex (usu where midrib channelled ends). To measure ligule, measure vertical distance along edge of fl from start of ligule where it joins fl margin to its apex.

- Lvs ≤1mm wide..... GA
- Lvs >1mm wide..... GB
- Lvs sparsely to densely hairy at least nr ligule when young (look carefully!)..... GB
- Lvs hairless..... GC
- Lvs with stomata above (often dull above)..... GC
- Lvs with stomata below only (rarely sparsely scattered above)..... GC
- Lvs dull or glaucous below..... GD
- Lvs shiny green below..... GD
- Basal sheaths reddish/purple (occ pink) or reddish-veined (occ ladder-fibrillose) AND/OR ligule minutely fimbriate. Lvs <9mm wide..... GE
- Basal sheaths not reddish (may be dark brown or dark-veined). Ligule entire..... GE
- Ligule ≥4mm and/or lvs >8mm wide..... GF
- Ligule <4mm. Lvs <8mm wide..... GG
- Sheath convex at apex..... GG
- Sheath concave (to straight) at apex..... GH
- False stem (or true vegetative stem) present. Lvs usu U-V-shaped..... GH
- False stem absent. Lvs usu V-M-shaped to flat..... GI

Vegetative keys for all vascular plants including grasses some coloured and black and white diagrams  
Keys when more experienced

## ID guides:

Rose, F. T. 1989. **Colour Identification Guide to the Grasses, Sedges, Rushes and Ferns of the British Isles and North Western Europe.** Penguin.



Floristic key based on vegetative and floristic features and vegetative keys based initially on habitats

Easier keys to start with

Coloured diagrams

Due to 4 taxon groups covered, not as much detail on each grass

Good for beginner/intermediate



## To answer question from Vegetative grass ID Webinar 1 - Additional information:

### List of grasses per Habitat:

Vegetative key in Frances Rose (Grass, sedge, rush, fern book) is initially based on habitats:

Woodland

Calcareous grassland

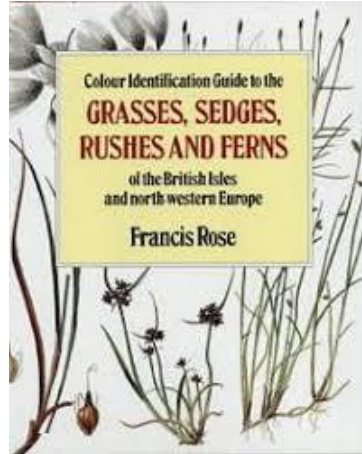
Healthland

Fen and marsh

Non-calcareous grassland

Salt marsh

Coastal



By checking what species are within each group, you have a species list per habitat

Grasses as indicators of environmental conditions – check out PLANTATT (inc all plant species as well as grasses, based on ellenberg values)

### Download free at:

<https://www.brc.ac.uk/biblio/plantatt-attributes-british-and-irish-plants-spreadsheet>

# ID guides:

## Fitzpatrick, Ú., Weekes, L., Wright, M. 2014. Identification guide to Ireland's grasses. National Biodiversity Data Centre, Ireland



Floristic based on flower head types, vegetative keys based on features and habitats split in to accessible groups

Easier keys to start with

Combination of coloured photos and diagrams

Small compact, water resistant pages, easy to bring in to field

Good for beginner/intermediate

ID in this webinar based on this guide

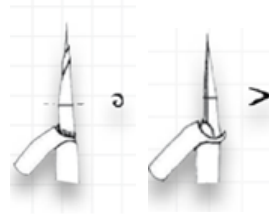
## Reminder of features important for ID:

### 1. Leaves

Width, length, hairs, ribs, colour

### 2. Youngest leaf in bud

Is it rolled like a scroll, is it folded?



### 3. Sheaths

Colour, hairy, hairless, open or closed?

### 4. Ligules

Length, membranous or comb of hairs, shape

### 5. Auricles

Present, absent, shape

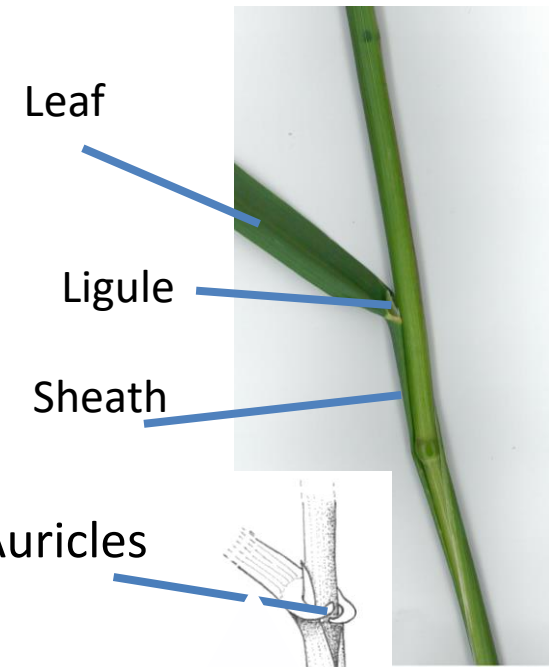
### 6. Stems (culms)

Flattened in cross section or rounded, colour at base, bulbous or not at base

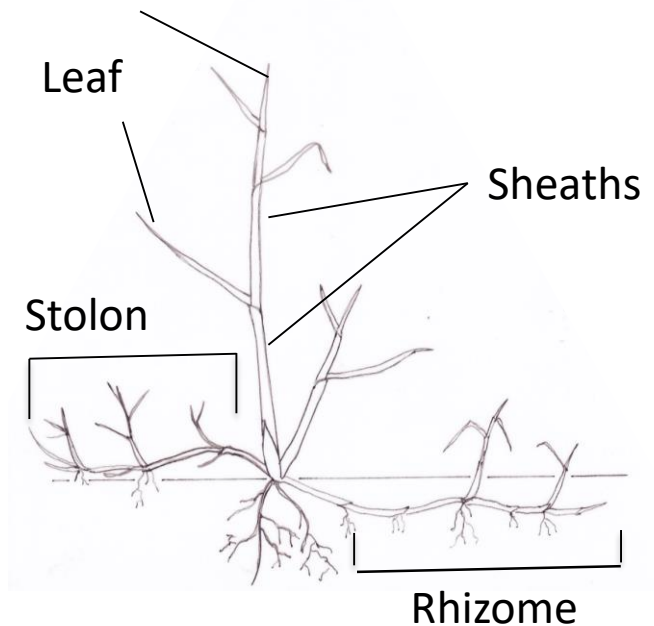
### 7. Annual or perennial?

### 8. Rhizomes & stolons

Present absent, one or other or both?



Youngest leaf



*Agrostis canina* (Velvet Bent)  
*Agrostis vinealis* (Brown Bent)  
*Aira caryophylla* (Silver-hair grass)  
*Aira praecox* (Early hair-grass)  
*Ammophila arenaria* (Marram)  
*Deschampsia flexuosa* (Wavy Hair-grass)  
*Festuca filiformis* (Fine-leaved Sheep's Fescue)  
*Festuca ovina* agg. (Sheep's Fescue agg.)  
*Festuca rubra* agg. (Red Fescue agg.)  
*Festuca vivipara* (Viviparous Sheep's Fescue)  
*Koeleria macrantha* (Crested Hair-grass)  
*Nardus stricta* (Mat-grass)  
*Puccinellia maritima* (Saltmarsh grass)  
*Vulpia species* (Fescue)  
*Danthonia decumbens* (Heath-grass)  
*Molinia caerulea* (Purple moor-grass)  
*Phragmites australis* (Common Reed)  
*Spartina anglica* (Common Cord-grass)  
*Avenula pubescens* (Downy Oat-grass)  
*Catabrosa aquatica* (Whorl-grass)  
*Cynosurus cristatus* (Crested Dog's-tail)  
*Dactylis glomerata* (Cock's-foot)  
*Deschampsia caespitosa* (Tufted Hair-grass)  
*Glyceria declinata* (Small Sweet-grass)  
*Glyceria fluitans* (Floating Sweet-grass)  
*Glyceria maxima* (Reed Sweet-grass)  
*Glyceria notata* (Plicate Sweet-grass)  
*Koeleria macrantha* (Crested Hair-grass)  
*Lolium perenne* (Perennial Rye-grass)  
*Poa annua* (Annual Meadow-grass)  
*Poa compressa* (Flattened Meadow-grass)  
*Poa humilis* (Spreading Meadow-grass)  
*Poa nemoralis* (Wood Meadow-grass)  
*Poa pratensis* (Smooth Meadow-grass)  
*Poa trivialis* (Rough Meadow-grass)  
*Puccinellia maritima* (Saltmarsh grass)  
*Sesleria caerulea* (Blue Moor-grass)  
*X Schedolium loliaceum* (Hybrid Fescue)

*Bromopsis ramosa* (Hairy Brome)  
*Elytrigia atherica* (Sea Couch)  
*Elytrigia repens* (Common Couch)  
*Hordeum distichon* (Two-rowed Barley)  
*Hordeum murinum* (Wall Barley)  
*Leymus arenarius* (Lyme-grass)  
*Lolium multiflorum* (Italian Rye-grass)  
*Schedonorus arundinaceus* (Tall Fescue)  
*Schedonorus giganteus* (Giant Fescue)  
*Schedonorus pratensis* (Meadow Fescue)  
*Ammophila arenaria* (Marram)  
*Anisantha sterilis* (Barren Brome)  
*Anthoxanthum odoratum* (Sweet vernal-grass)  
*Arrhenatherum elatius* (False Oat-grass)  
*Avena species* (Oats)  
*Brachypodium sylvaticum* (False-brome)  
*Bromus hordeaceus* (Soft Brome)  
*Bromus lepidus* (Slender Soft Brome)  
*Bromus racemosus* (Smooth Brome)  
*Cynosurus cristatus* (Crested Dog's tail)  
*Elymus caninus* (Bearded Couch)  
*Elytrigia juncea* (Sand Couch)  
*Holcus lanatus* (Yorkshire-fog)  
*Holcus mollis* (Creeping Soft-grass)  
*Koeleria macrantha* (Crested Hair-grass)  
*Melica uniflora* (Wood Melick)  
*Trisetum flavescens* (Yellow Oat-grass)

*Agrostis canina* (Velvet Bent)  
*Agrostis capillaris* (Common Bent)  
*Agrostis gigantea* (Black Bent)  
*Agrostis stolonifera* (Creeping Bent)  
*Agrostis vinealis* (Brown Bent)  
*Alopecurus geniculatus* (Marsh Foxtail)  
*Alopecurus pratensis* (Meadow Foxtail)  
*Anthoxanthum odoratum* (Sweet vernal-grass)  
*Arrhenatherum elatius* (False Oat-grass)  
*Briza media* (Quaking-grass)  
*Catapodium marinum* (Sea Fern-grass)  
*Catapodium rigidum* (Fern-grass)  
*Cynosurus cristatus* (Crested Dog's tail)  
*Deschampsia caespitosa* (Tufted Hair-grass)  
*Elymus caninus* (Bearded Couch)  
*Festuca altissima* (Wood Fescue)  
*Holcus mollis* (Creeping Soft-grass)  
*Milium effusum* (Wood Millet)  
*Parapholis strigosa* (Hard-grass)  
*Phalaris arundinacea* (Reed Canary-grass)  
*Phleum arenarium* (Sand Cat's-tail)  
*Phleum bertolonii* (Smaller Cat's-tail)  
*Phleum pratense* (Timothy)  
*Trisetum flavescens* (Yellow Oat-grass)

**80 Native Irish species – 75 are relatively easy to identify vegetatively (excluding very rare ones)**

**How do you identify these grasses?**

**Lets group them according to their features**



*Agrostis canina* (Velvet Bent)  
*Agrostis vinealis* (Brown Bent)  
*Aira caryophylla* (Silver-hair grass)  
*Aira praecox* (Early hair-grass)  
*Ammophila arenaria* (Marram)  
*Deschampsia flexuosa* (Wavy Hair-grass)  
*Festuca filiformis* (Fine-leaved Sheep's Fescue)  
*Festuca ovina* agg. (Sheep's Fescue agg.)  
*Festuca rubra* agg. (Red Fescue agg.)  
*Festuca vivipara* (Viviparous Sheep's Fescue)  
*Koeleria macrantha* (Crested Hair-grass)  
*Nardus stricta* (Mat-grass)  
*Puccinellia maritima* (Saltmarsh grass)  
*Vulpia species* (Fescue)

*Danthonia decumbens* (Heath-grass)  
*Molinia caerulea* (Purple moor-grass)  
*Phragmites australis* (Common Reed)  
*Spartina anglica* (Common Cord-grass)  
*Avenula pubescens* (Downy Oat-grass)  
*Catabrosa aquatica* (Whorl-grass)  
*Cynosurus cristatus* (Crested Dog's-tail)  
*Dactylis glomerata* (Cock's-foot)  
*Deschampsia caespitosa* (Tufted Hair-grass)  
*Glyceria declinata* (Small Sweet-grass)  
*Glyceria fluitans* (Floating Sweet-grass)  
*Glyceria maxima* (Reed Sweet-grass)  
*Glyceria notata* (Plicate Sweet-grass)  
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*Poa nemoralis* (Wood Meadow-grass)  
*Poa pratensis* (Smooth Meadow-grass)  
*Poa trivialis* (Rough Meadow-grass)  
*Puccinellia maritima* (Saltmarsh grass)  
*Sesleria caerulea* (Blue Moor-grass)  
*X Schedolium loliaceum* (Hybrid Fescue)

## 1. Leaves Bristle-like (14 species)



*Holcus lanatus* (Yorkshire-fog)  
*Holcus mollis* (Creeping Soft-grass)  
*Koeleria macrantha* (Crested Hair-grass)  
*Melica uniflora* (Wood Melick)  
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*Alopecurus geniculatus* (Marsh Foxtail)  
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*Arrhenatherum elatius* (False Oat-grass)  
*Briza media* (Quaking-grass)  
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*Catapodium rigidum* (Fern-grass)  
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*Phalaris arundinacea* (Reed Canary-grass)  
*Phleum arenarium* (Sand Cat's-tail)  
*Phleum bertolonii* (Smaller Cat's-tail)  
*Phleum pratense* (Timothy)  
*Trisetum flavescens* (Yellow Oat-grass)



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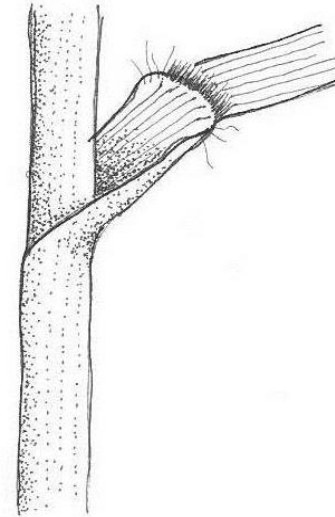
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*Bromopsis ramosa* (Hairy Brome)  
*Elytrigia atherica* (Sea Couch)  
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*Cynosurus cristatus* (Crested Dog's tail)  
*Deschampsia caespitosa* (Tufted Hair-grass)

## 2. Leaves flat

### Ligule ring of hairs (4 species)



(Bearded Couch)  
*a* (Wood Fescue)  
 creeping Soft-grass)  
 (Wood Millet)  
*osa* (Hard-grass)  
*nacea* (Reed Canary-grass)  
*um* (Sand Cat's-tail)  
*nii* (Smaller Cat's-tail)  
*e* (Timothy)  
*cens* (Yellow Oat-grass)

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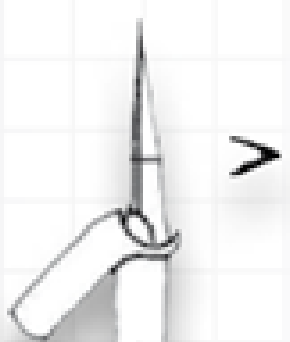
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*Lolium multiflorum* (Italian Rye-grass)  
*Schedonorus arundinaceus* (Tall Fescue)  
*Schedonorus giganteus* (Giant Fescue)  
*Schedonorus pratensis* (Meadow Fescue)  
*Ammophila arenaria* (Marram)  
*Anisantha sterilis* (Barren Brome)  
*Anthoxanthum odoratum* (Sweet vernal-grass)  
*Arrhenatherum elatius* (False Oat-grass)  
*Avena species* (Oats)  
*Brachypodium sylvaticum* (False-brome)  
*Bromus hordeaceus* (Soft Brome)  
*Bromus lepidus* (Slender Soft Brome)

*Agrostis canina* (Velvet Bent)  
*Agrostis capillaris* (Common Bent)  
*Agrostis gigantea* (Black Bent)  
*Agrostis stolonifera* (Creeping Bent)  
*Agrostis vinealis* (Brown Bent)  
*Alopecurus geniculatus* (Marsh Foxtail)  
*Alopecurus pratensis* (Meadow Foxtail)  
*Anthoxanthum odoratum* (Sweet vernal-grass)  
*Arrhenatherum elatius* (False Oat-grass)  
*Briza media* (Quaking-grass)  
*Catapodium marinum* (Sea Fern-grass)  
*Catapodium rigidum* (Fern-grass)  
*Cynosurus cristatus* (Crested Dog's tail)  
*Deschampsia caespitosa* (Tufted Hair-grass)  
*Elymus caninus* (Bearded Couch)  
*Festuca altissima* (Wood Fescue)  
*Holcus mollis* (Creeping Soft-grass)  
*Milium effusum* (Wood Millet)

*Poa species* (Hard-grass)  
*Phalaris canadensis* (Reed Canary-grass)  
*Phalaris intermedia* (Sand Cat's-tail)  
*Phalaris minor* (Smaller Cat's-tail)  
*Phalaris teretifolia* (Timothy)  
*Poa annua* (Yellow Oat-grass)

### 3. Leaves flat Ligule membranous Leaf folded in shoot (20 species)



*Agrostis canina* (Velvet Bent)

*Agrostis vinealis* (Brown Bent)

*Aira caryophylla* (Silver-hair grass)

*Aira praecox* (Early hair-grass)

***Ammophila arenaria* (Marram)**

*Deschampsia flexuosa* (Wavy Hair-grass)

*Festuca filiformis* (Fine-leaved Sheep's Fescue)

*Festuca ovina* agg. (Sheep's Fescue agg.)

*Festuca rubra* agg. (Red Fescue agg.)

*Festuca vivipara* (Viviparous Sheep's Fescue)

***Koeleria macrantha* (Crested Hair-grass)**

*Nardus stricta* (Mat-grass)

***Puccinellia maritima* (Saltmarsh grass)**

*Vulpia species* (Fescue)

*Danthonia decumbens* (Heath-grass)

*Molinia caerulea* (Purple moor-grass)

*Phragmites australis* (Common Reed)

*Spartina anglica* (Common Cord-grass)

*Avenula pubescens* (Downy Oat-grass)

*Catabrosa aquatica* (Whorl-grass)

***Cynosurus cristatus* (Crested Dog's-tail)**

*Dactylis glomerata* (Cock's-foot)

***Deschampsia caespitosa* (Tufted Hair-grass)**

*Glyceria declinata* (Small Sweet-grass)

*Glyceria fluitans* (Floating Sweet-grass)

*Glyceria maxima* (Reed Sweet-grass)

*Glyceria notata* (Plicate Sweet-grass)

***Koeleria macrantha* (Crested Hair-grass)**

*Lolium perenne* (Perennial Rye-grass)

*Poa annua* (Annual Meadow-grass)

*Poa compressa* (Flattened Meadow-grass)

*Poa humilis* (Spreading Meadow-grass)

*Poa nemoralis* (Wood Meadow-grass)

*Poa pratensis* (Smooth Meadow-grass)

*Poa trivialis* (Rough Meadow-grass)

***Puccinellia maritima* (Saltmarsh grass)**

*Sesleria caerulea* (Blue Moor-grass)

X *Schedolium loliaceum* (Hybrid Fescue)

*Bromopsis ramosa* (Hairy Brome)

*Elytrigia atherica* (Sea Couch)

*Elytrigia repens* (Common Couch)

*Hordeum distichon* (Two-rowed Barley)

*Hordeum murinum* (Wall Barley)

*Leymus arenarius* (Lyme-grass)

*Lolium multiflorum* (Italian Rye-grass)

*Schedonorus arundinaceus* (Tall Fescue)

*Schedonorus giganteus* (Giant Fescue)

*Schedonorus pratensis* (Meadow Fescue)

*Ammophila arenaria* (Marram)

*Anisantha sterilis* (Barren Brome)

*Anthoxanthum odoratum* (Sweet vernal-grass)

*Arrhenatherum elatius* (False Oat-grass)

*Avena species* (Oats)

*Brachypodium sylvaticum* (False-brome)

*Bromus hordeaceus* (Soft Brome)

*Bromus lepidus* (Slender Soft Brome)

*Bromus racemosus* (Smooth Brome)

*Cynosurus cristatus* (Crested Dog's tail)

*Elymus caninus* (Bearded Couch)

*Elytrigia juncea* (Sand Couch)

*Holcus lanatus* (Yorkshire-fog)

*Holcus mollis* (Creeping Soft-grass)

*Koeleria macrantha* (Crested Hair-grass)

*Melica uniflora* (Wood Melick)

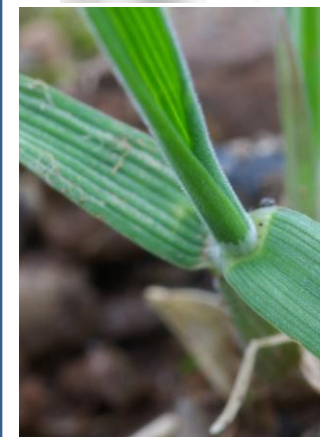
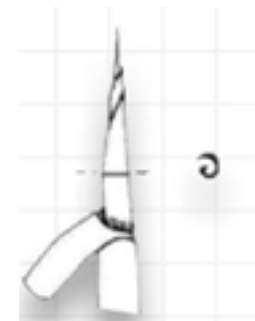
*Trisetum flavescens* (Yellow Oat-grass)

## 4. Leaves flat

**Ligule membranous**

**Leaf rolled in shoot**

**Auricle present (10 species)**





*Agrostis canina* (Velvet Bent)

*Agrostis vinealis* (Brown Bent)

*Aira caryophylla* (Silver-hair grass)

*Aira praecox* (Early hair-grass)

***Ammophila arenaria* (Marram)**

*Deschampsia flexuosa* (Wavy Hair-grass)

*Festuca filiformis* (Fine-leaved Sheep's Fescue)

*Festuca ovina* agg. (Sheep's Fescue agg.)

*Festuca rubra* agg. (Red Fescue agg.)

*Festuca vivipara* (Viviparous Sheep's Fescue)

***Koeleria macrantha* (Crested Hair-grass)**

*Nardus stricta* (Mat-grass)

***Puccinellia maritima* (Saltmarsh grass)**

*Vulpia species* (Fescue)

*Danthonia decumbens* (Heath-grass)

*Molinia caerulea* (Purple moor-grass)

*Phragmites australis* (Common Reed)

*Spartina anglica* (Common Cord-grass)

*Avenula pubescens* (Downy Oat-grass)

*Catabrosa aquatica* (Whorl-grass)

***Cynosurus cristatus* (Crested Dog's-tail)**

*Dactylis glomerata* (Cock's-foot)

***Deschampsia caespitosa* (Tufted Hair-grass)**

*Glyceria declinata* (Small Sweet-grass)

*Glyceria fluitans* (Floating Sweet-grass)

*Glyceria maxima* (Reed Sweet-grass)

*Glyceria notata* (Plicate Sweet-grass)

***Koeleria macrantha* (Crested Hair-grass)**

*Lolium perenne* (Perennial Rye-grass)

*Poa annua* (Annual Meadow-grass)

*Poa compressa* (Flattened Meadow-grass)

*Poa humilis* (Spreading Meadow-grass)

*Poa nemoralis* (Wood Meadow-grass)

*Poa pratensis* (Smooth Meadow-grass)

*Poa trivialis* (Rough Meadow-grass)

***Puccinellia maritima* (Saltmarsh grass)**

*Sesleria caerulea* (Blue Moor-grass)

*X Schedolium loliaceum* (Hybrid Fescue)

*Bromopsis ramosa* (Hairy Brome)

*Elytrigia atherica* (Sea Couch)

*Elytrigia repens* (Common Couch)

*Hordeum distichon* (Two-rowed Barley)

*Hordeum murinum* (Wall Barley)

*Leymus arenarius* (Lyme-grass)

*Lolium multiflorum* (Italian Rye-grass)

*Schedonorus arundinaceus* (Tall Fescue)

*Schedonorus giganteus* (Giant Fescue)

*Schedonorus pratensis* (Meadow Fescue)

*Ammophila arenaria* (Marram)

*Anisantha sterilis* (Barren Brome)

*Anthoxanthum odoratum* (Sweet vernal-grass)

*Arrhenatherum elatius* (False Oat-grass)

*Avena* species (Oats)

*Brachypodium sylvaticum* (False-brome)

*Bromus hordeaceus* (Soft Brome)

*Bromus lepidus* (Slender Soft Brome)

*Bromus racemosus* (Smooth Brome)

*Cynosurus cristatus* (Crested Dog's tail)

*Elymus caninus* (Bearded Couch)

*Elytrigia juncea* (Sand Couch)

*Holcus lanatus* (Yorkshire-fog)

*Holcus mollis* (Creeping Soft-grass)

*Koeleria macrantha* (Crested Hair-grass)

*Melica uniflora* (Wood Melick)

*Trisetum flavescens* (Yellow Oat-grass)

*Agrostis canina* (Velvet Bent)

*Agrostis capillaris* (Common Bent)

*Agrostis gigantea* (Black Bent)

*Agrostis stolonifera* (Creeping Bent)

*Agrostis vinealis* (Brown Bent)

*Alopecurus geniculatus* (Marsh Foxtail)

*Alopecurus pratensis* (Meadow Foxtail)

*Anthoxanthum odoratum* (Sweet vernal-grass)

*Arrhenatherum elatius* (False Oat-grass)

*Briza media* (Quaking-grass)

## 5. Leaves flat

**Ligule membranous**

**Leaf rolled in shoot**

**No auricles (17 species)**

**Leaves hairy**



*Agrostis canina* (Velvet Bent)

*Agrostis vinealis* (Brown Bent)

*Aira caryophylla* (Silver-hair grass)

*Aira praecox* (Early hair-grass)

***Ammophila arenaria* (Marram)**

*Deschampsia flexuosa* (Wavy Hair-grass)

*Festuca filiformis* (Fine-leaved Sheep's Fescue)

*Festuca ovina* agg. (Sheep's Fescue agg.)

*Festuca rubra* agg. (Red Fescue agg.)

*Festuca vivipara* (Viviparous Sheep's Fescue)

***Koeleria macrantha* (Crested Hair-grass)**

*Nardus stricta* (Mat-grass)

***Puccinellia maritima* (Saltmarsh grass)**

*Vulpia species* (Fescue)

*Danthonia decumbens* (Heath-grass)

*Molinia caerulea* (Purple moor-grass)

*Phragmites australis* (Common Reed)

*Spartina anglica* (Common Cord-grass)

*Avenula pubescens* (Downy Oat-grass)

*Catabrosa aquatica* (Whorl-grass)

***Cynosurus cristatus* (Crested Dog's-tail)**

*Dactylis glomerata* (Cock's-foot)

***Deschampsia caespitosa* (Tufted Hair-grass)**

*Glyceria declinata* (Small Sweet-grass)

*Glyceria fluitans* (Floating Sweet-grass)

*Glyceria maxima* (Reed Sweet-grass)

*Glyceria notata* (Plicate Sweet-grass)

***Koeleria macrantha* (Crested Hair-grass)**

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*Poa compressa* (Flattened Meadow-grass)

*Poa humilis* (Spreading Meadow-grass)

*Poa nemoralis* (Wood Meadow-grass)

*Poa pratensis* (Smooth Meadow-grass)

*Poa trivialis* (Rough Meadow-grass)

***Puccinellia maritima* (Saltmarsh grass)**

*Sesleria caerulea* (Blue Moor-grass)

X *Schedolium loliaceum* (Hybrid Fescue)

*Bromopsis ramosa* (Hairy Brome)

*Elytrigia atherica* (Sea Couch)

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*Schedonorus giganteus* (Giant Fescue)

*Schedonorus pratensis* (Meadow Fescue)

***Ammophila arenaria* (Marram)**

*Anisantha sterilis* (Barren Brome)

***Anthoxanthum odoratum* (Sweet vernal-grass)**

***Arrhenatherum elatius* (False Oat-grass)**

*Avena species* (Oats)

## 6. Leaves flat

**Ligule membranous**

**Leaf rolled in shoot**

**No auricles**

**Leaves hairless (24 species)**



*Agrostis canina* (Velvet Bent)

*Agrostis capillaris* (Common Bent)

*Agrostis gigantea* (Black Bent)

*Agrostis stolonifera* (Creeping Bent)

*Agrostis vinealis* (Brown Bent)

*Alopecurus geniculatus* (Marsh Foxtail)

*Alopecurus pratensis* (Meadow Foxtail)

*Anthoxanthum odoratum* (Sweet vernal-grass)

*Arrhenatherum elatius* (False Oat-grass)

*Briza media* (Quaking-grass)

*Catapodium marinum* (Sea Fern-grass)

*Catapodium rigidum* (Fern-grass)

*Cynosurus cristatus* (Crested Dog's tail)

*Deschampsia caespitosa* (Tufted Hair-grass)

*Elymus caninus* (Bearded Couch)

*Festuca altissima* (Wood Fescue)

*Holcus mollis* (Creeping Soft-grass)

*Milium effusum* (Wood Millet)

*Parapholis strigosa* (Hard-grass)

*Phalaris arundinacea* (Reed Canary-grass)

*Phleum arenarium* (Sand Cat's-tail)

*Phleum bertolonii* (Smaller Cat's-tail)

*Phleum pratense* (Timothy)

*Trisetum flavescens* (Yellow Oat-grass)

## Note:

All these species add up to 89

That's because some species are variable and might fit in to two or more groups



# Example grasses you can readily identify from each group.....

## Order of features to check on your grass specimen:

1. Leaves **bristle** or **flat**
2. If flat - Ligule **hairy** or **membranous**
3. If membranous – leaf **folded** in shoot

OR

If membranous – leaf **rolled in shoot:**

4. If rolled in shoot – **auricles present**
5. If rolled in shoot – **auricles absent leaves hairy**
6. If rolled in shoot – **auricles absent leaves hairless**

Based on NBDC Grass ID guide

<https://www.biodiversityireland.ie/product/grass-identification-guide/>

Features today mostly photographed with  
Plugable USB microscope



# 1. Bristle-like leaves:

## Mat grass

*Nardus stricta*

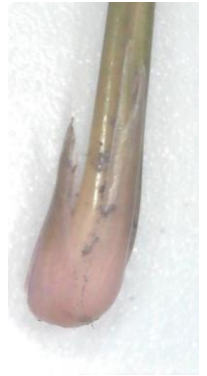


**Check leaves** – bristle-like

Noticeably stiff and spiky compared to other bristle-like grasses

If you place your hand gently on top of grass leaves – it feels stiffish and almost prickly

**Check basal sheaths** – pinkish



**Check habit** – densely tufted, leaves

often angled outwards



You may notice dead tufts pulled out by sheep – don't like it, prickles their noses

Heathlands and upland acidic grasslands

# 1. Bristle-like leaves:

## Sheep's fescue

*Festuca ovina*



**Check leaves** – bristle-like

If you place your hand gently on top of grass leaves – it feels softish

Leaves usually <10cm long (other fescues longer)

**Check sheaths** – open

(some other fescues closed)



**Check ligules** – so small

hardly seen



Mostly found in **heathlands, peaty uplands**



## A note on Fescues.....

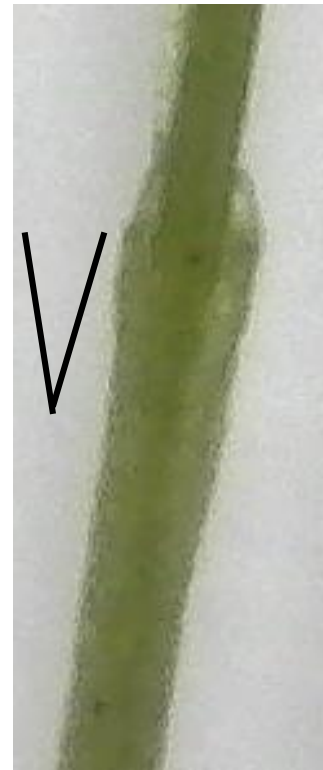
**Fescues without auricles – *Festuca* spp.**

**Fescues with auricles – *Schedonorus* spp.** (usually the larger grasses)

Another common fescue very similar to Sheep's fescue – **Red Fescue (*Festuca rubra*)**

- Sheath closed – V-necked jumper

- Both bristle like and flat leaves (Flat leaves higher up on plant)



## 2. Leaves flat - Ligule comb of hairs

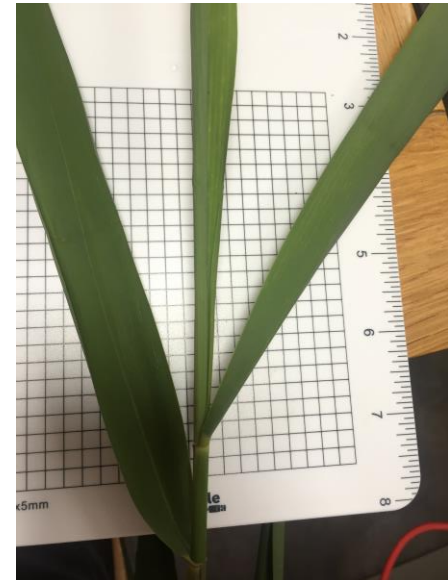
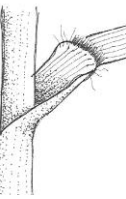
**Common reed**

*Phragmites australis*

**Check ligule** – it is a comb of hairs

**Check leaves** - Leaves wide (10-45mm)

**Check habit** - Very tall reed-like grass when flowering 1-3m



Found in **coastal brackish waters** and **inland freshwaters** (e.g. canals)

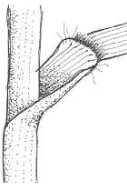
Note: Lookalike when not flowering – check *Phalaris* (later)



## 2. Leaves flat - Ligule comb of hairs

**Purple moorgrass**

*Molinia caerulea*



**Check ligule** – it is a comb of hairs (tiny)

**Check leaves** - width <12mm

**Check habit** – If older – large & tussocky  
Hard to walk through if dominant in an area

In **winter** lots of **dead curled up leaves covering ground** where dominant

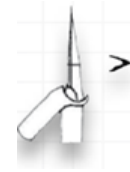


Heathlands and peatland

### 3. Leaves flat - Ligule membranous and Leaf folded in shoot

**Perennial Rye-grass**

*Lolium perenne*



**Check ligule** – membranous

**Check youngest leaf** - folded in shoot

**Check for auricles** - present

**Check stem** – rounded

**Check Leaves** – Glossy underside

**Check sheaths** - Wine coloured hairless



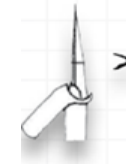
**Lush green grass in agricultural fields**

Planted for pasture





### 3. Leaves flat - Ligule membranous and Leaf folded in shoot



#### Annual Meadow-grass

*Poa annua*



Check **ligule** – membranous

Check **youngest leaf** - folded in shoot

Check **Stem** - Quite flattened

Check for **auricles** - **absent**

Check **Leaves** – Boat shaped tips (the tips like the bow of a boat)



Look for **transverse wrinkles** – then you are sure you have this species (Not always there – might be just one leaf)



Small compact grass **on waste ground**

Annual

**Flowers any time of year** (including winter)

### 3. Leaves flat - Ligule membranous and leaf folded in shoot



#### Cocksfoot

*Dactylus glomerata*



**Check ligule** – membranous

**Check youngest leaf** - folded in shoot

**Check for auricles** - absent

**Check stem** – noticeably flattened and robust

**Check sheaths:** Peel back at the very base of stem  
and they are **white**

Tussocky/tufted grass

Usually bigger than surrounding  
grasses

Roadsides, wasteground, meadows





### 3. Leaves flat - Ligule membranous and leaf folded in shoot

#### Tufted hairgrass

*Deschampsia cespitosa*



Woodland, damp shady places and wetlands

**Check ligule** – membranous

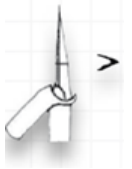
**Check youngest leaf** - folded in shoot

**Check for auricles** – absent

**Check leaves** – prominently ribbed on upper side  
upper side

**Check habit-**

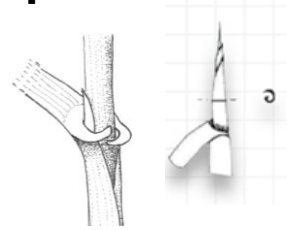
Tufted/tussock



#### 4. Leaves flat - Ligule membranous and leaf rolled in shoot, auricles present

##### Common Couch grass (Scutch grass)

*Elytrigia repens*



**Check ligule – membranous**

**Check youngest leaf - rolled in shoot**

**Check for auricles – present, small needle-like**

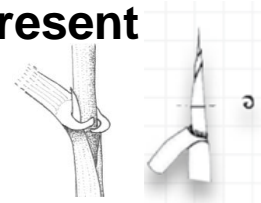
**Check for rhizomes – whitish brown, extensive**



Grasslands, wastelands, hedgerows



## 4. Leaves flat - Ligule membranous and leaf rolled in shoot, auricles present

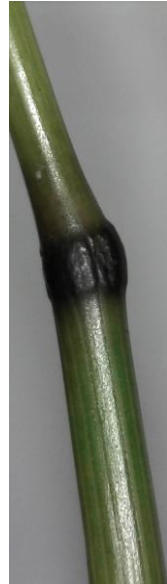


### Tall fescue

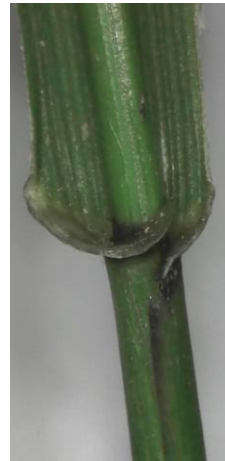
*Schedonorus arundinaceus*



Damp shady places



Purple nodes if present



**Check ligule** – membranous

**Check youngest leaf** - rolled in shoot

**Check for auricles** – present, broad lobes and often purple

**Check sheaths** – hairless



**Check leaves** – broad (6-18mm), glossy on underside

## 5. Leaves flat - Ligule membranous and leaf rolled in shoot, auricles absent, leaves hairy

Yorkshire Fog

*Holcus lanatus*



**Check ligule** – membranous

**Check youngest leaf** - rolled in shoot

**Check for auricles** – Absent

**Check sheaths** – Covered in soft velvety hairs and with pink stripes especially near base



Found in most grasslands - widespread



**5. Leaves flat - Ligule membranous and leaf rolled in shoot, auricles absent, leaves hairy**



**Sweet vernal grass**

*Anthoxanthum odoratum*



**Check ligule – membranous**

**Check youngest leaf - rolled in shoot**

**Check for auricles – Absent**

**Check for whiskery hairs at side of ligule**



Found in most grasslands – widespread

Got a lovely smell when crushed (coumarin)

Makes lovely flavoured vodka

**Note – can have hairless leaves but whiskery hairs a give-away**

**5. Leaves flat - Ligule membranous and leaf rolled in shoot, auricles absent, leaves hairy**

**False brome**

*Brachypodium sylvaticum*



**Check ligule** – membranous

**Check youngest leaf** - rolled in shoot

**Check for auricles** – Absent

**Check leaves** – hairy and > 4mm wide

**Check sheath** – densely hairy, spreading hairs

**Perennial**



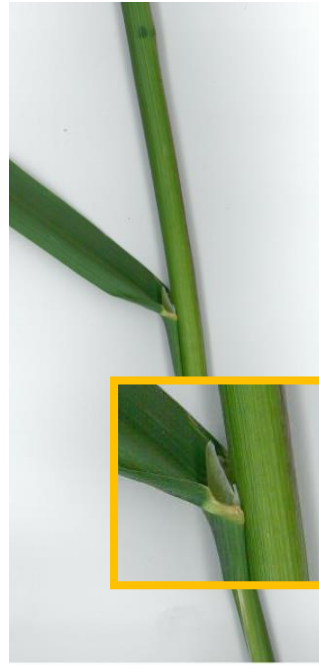
Found in shaded areas – Deciduous woodlands

## 6. Leaves flat - Ligule membranous and leaf rolled in shoot, auricles absent, leaves hairless



**Reed canary grass**

*Phalaris arundinacea*



**Check ligule – membranous**

**Check youngest leaf - rolled in shoot**

**Check for auricles – Absent**

**Check leaves – hairless, 6-18mm wide**

**Large reed**

**like grass**



Found in wet areas – riversides, wet ditches

**Note:** Lookalike when not flowering – check *Phragmites*



## 6. Leaves flat - Ligule membranous and leaf rolled in shoot, auricles absent, leaves hairless



**Common bent**  
*Agrostis capillaris*



**Check ligule** – membranous, 0.5-2mm long, flat topped, like a mans cap

**Check youngest leaf** - rolled in shoot

**Check for auricles** – Absent

**Check leaves** – Hairless, 2-2.5mm wide

**Check habit** - Has rhizomes and may have stolons so distribution in area looks smooth and carpet, no tufts or tussocks



Found in grasslands, often marginal grasslands and uplands



# More help with Bent grasses, a request from previous webinar....

***Agrostis canina* sens. lat. (Velvet Bent):** 6-8; 15-75cm; bogs, fens, heaths, mountain grasslands; widespread & abundant. Panicle ovate in shape. Lemma with an awn. Leaves narrow. Ligule pointed, 2-4mm long. Spreads by stolons.

***Agrostis vinealis* (Brown Bent):** 6-8; 10-60cm; heaths, mountain grassland; occasional. Panicles ovate in shape. Lemma with fine bent awn or awnless. Leaves narrow, sometimes bristle-like. Ligule pointed, 1-5mm long & ragged at tip. Spreads by rhizomes.

***Agrostis capillaris* (Common Bent):** 6-8; 10-70cm; across habitats; widespread & abundant. Panicle diffuse and pyramidal in shape. Lemma with no awns. Leaves flat. Ligule very short (up to 1mm), rounded. Spreads by rhizomes, sometimes stolons.

***Agrostis stolonifera* (Creeping Bent):** 7-8; 8-40cm; across habitats; widespread & abundant. Panicles dense and linear in shape. Lemma with no awns or very short. Leaves flat. Ligule 1-6mm long, often ragged. Spreads by stolons.

***Agrostis gigantea* (Black Bent):** 6-8; 40-120cm; waste ground; occasional. Panicles large, loose and spreading; remains open and feathery after flowering. Lemma with no awns. Tall grass. Ligules 1.5-6mm long & toothed on top. Spreads by rhizomes.

## Page Abstract from:

Identification guide to  
Ireland's Grasses



National  
Biodiversity  
Data Centre  
Documenting Ireland's Wildlife

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*A. capillaris*



*A. stolonifera*



*A. gigantea*

## 6. Leaves flat - Ligule membranous and leaf rolled in shoot, auricles absent, leaves hairless



### False oatgrass or Onion couch

*Arrhenathrum elatius* var. *bulbosum*



**Check ligule** – membranous,

**Check youngest leaf** - rolled in shoot

**Check for auricles** – Absent

**Check leaves** – Hairless (sometimes hairy)

A variable grass

Broad – 4-10mm wide

**Check base of grass** - Base of stem is rusty-orange in colour

Check partially under soil is it bulbous?

Yes

Then it is var. **bulbosum**



Found in roadsides, wasteground and hedgerows

## Grasses on Irish Red list, request from previous webinar...

Included in National Parks and Wildlife Service's Irish Vascular plant red list  
Michael Wyse Jackson, Úna FitzPatrick, Edwina Cole, Matthew Jebb, Damian McFerran,  
Micheline Sheehy Skeffington & Mark Wright 2016. Ireland Red List No.10: Vascular  
Plants

Download for free at

<https://www.npws.ie/publications/red-lists>

### **Critically endangered**

*Hordelymus europaeus*

### **Endangered:**

*Calamagrostis stricta*

*Lolium temulentum*

*Parapholis incurve*

*Poa alpina*

### **Vulnerable:**

*Calamagrostis epigejos*

*Hordeum secalinum*

### **Near threatened:**

*Alopecurus aequalis*

*Bromopsis erecta*

*Bromus commutatus*

*Bromus racemosus*

### **Vascular plant taxa listed on the Flora (Protection) Order, 2015**

*Alopecurus aequalis*

*Calamagrostis epigejos*

*Deschampsia setacea*

*Hordeum secalinum*

*Puccinellia fasciculata*

## To finish:

DO try to look for these grasses and identify them

If you come across a grass that doesn't fit, it's not listed here and a different species

Do invest in a beginners guide with a simple key to start

Do get yourself a hand-lens

DO practice

Do record your species when you are confident you have identified species correctly (Species name, Location, grid reference, date, your name, habitat and any other useful information) and submit to data collection – BSBI and NBDC

DO get help and support – join BSBI, great and fun way of learning from experts

Don't give up, it's like a language, you need to keep using your new-found skills

BSBI - <https://bsbi.org/>

NBDC - <https://www.biodiversityireland.ie/>



An Roinn Cultúir,  
Oidhreacht agus Gaeltachta  
Department of Culture,  
Heritage and the Gaeltacht



National Parks & Wildlife Service



**CEDaR**  
Centre for Environmental  
Data and Recording