



# September

## zoom in on grass

### Background information

Grasses have hollow stems that produce wind-pollinated flowers. There are c.9000 species in the world. They make up about 20% of the earth's vegetation and are hugely significant plants in the world's economy.

### Uses

- ✦ Cereal grasses such as wheat, oats, barley, millet, maize, sorghum and rice provide us with most of our food. They are rich in vitamins, minerals, carbohydrates, fats, oils and proteins.
- ✦ Feeding livestock in the form of pasture, silage and hay.
- ✦ Important ingredient in most of our alcoholic drinks.
- ✦ 70% of world's sugar comes from sugar cane.
- ✦ Bamboo, the tallest grass in the world, is used for construction, paper-making and tools.
- ✦ Making lawns and sporting amenities.
- ✦ Preventing erosion by stabilising soil and sand dunes (marram grass).
- ✦ Sorghum, maize, sugar cane and miscanthus could be the fuels of the future.

### Active learning

- ✦ Sow wheat in a cultivation bed in September/October. This is called "winter wheat". See useful books below. Harvest the following Sept. /Oct. by getting the children to pull up the stems and thresh them on the ground to extract the grain. Get them to collect the grain and then winnow it by blowing on handfuls of the grain. Make querns from flat and rounded stones and role-play the first farmers grinding corn. Dry the rest of the grain in a sunny place. Use a food processor to make wholemeal flour. Make scones from this!
- ✦ Make grass heads. See [www.outdoorclassroom.ie](http://www.outdoorclassroom.ie)
- ✦ Create a wildflower meadow in the school grounds in September or April. See 'Paddy's School Garden' on [www.blackrockec.ie](http://www.blackrockec.ie)
- ✦ Stick the following common specimens on yellow A4 sheets using sticky envelope labels: Cocksfoot, False Oat-Grass, Yorkshire Fog, Timothy, Annual Meadow-Grass, Meadow Foxtail, Crested Dog's Tail. Press and mount. Safety note: Some children may be susceptible to their pollen!

Rotary Quern  
– Ferrycarraig



Giant bamboo



Field of wheat



Grinding corn



Cornfield meadow

Ryegrass – main constituent of modern meadows



Cock's foot  
– important caterpillar food-plant



Crested dog's tail



Ear of wheat



Meadow foxtail



Yellow rattle



**Classification**

They belong to the family of plants called Gramineae:

**Parts of a grass**

**Sheath:** Lower part of leaf

**Blade:** Upper part of leaf

**Rhizome:** Stem creeping underground

**Node:** Joint that joins stem segments together

**Florets:** Grass flowers pollinated by wind

**Literacy/Litearthacht**

**Ear/Dias:** Part of cereal plant which contains the grains. *Cuid de phlanda arbhair ina mbíonn na gráinní.*

**Husk/Crotal:** Dry, outer covering surrounding the grains. When these are removed they are called chaff. *Seach-chlúdach tirim mórthimpeall ar na gráinní. Nuair a bhaintear crotal den arbhar, tugtar 'cáithleach' air.*

**Kernel/Eithne:** The whole seed of a cereal. *Síol iomlán arbhair.*

**Winnowing/Cáitheadh:** Removing the chaff from the grain by using wind. *Ag baint cáithlí de ghráinne trí úsáid a bhaint as gaoth.*

**Threshing/Buaileadh:** Removing the grain from the stem or straw by beating it. *Ag baint an ghráinne den ghas nó den tuí trí é a bhualadh.*

**Cereal/Arbhar:** Any plant of the grass family which

produces an edible grain such as wheat, rye, oats, rice or maize. *Aon phlanda ó chlann na bhféar a tháirgeann gráinne inite mar chruithneacht, sheagal, choirce, rís nó mar ghrán buí.*

**Gramnivores/Heirbeabhóir** (nó féariteoir): Animals which eat grass such as cattle, sheep, horses and rabbits. *Ainmhithe a itheann féar, mar shampla: eallach, caoirigh, capaill agus coiníní.*

**Quern/Bró:** Two stones for grinding corn into flour or oatmeal. *Dhá chloch chun arbhar a mheilt go plúr nó go min choirce.*

*Buíochas do Marie Whelton (MIE) don aistriúchán.*

**Relevance to history curriculum**

The first cereal grasses were cultivated in the Tigris/Euphrates river valleys c. 12,000 years ago. Soon farming skills had spread across the **Fertile Crescent**. These people who domesticated the wild wheat (emmer) and barley were the first farmers. Many of the earliest civilisations developed here. Before this man was a nomadic creature, constantly on the move hunting and gathering. Ease of cultivation contributed to food surpluses which resulted in settled communities, hierarchical societies, growth of urban areas and the development of pottery-

making, reading, writing and art.

Farming began in Ireland c.4000 BC. The first farmers left us Neolithic tombs at Newgrange, Carrowmore, Loughcrew and settlement areas in the Burren, Lough Gur, Ballyglass, Ballynagilly and the Céide Fields. They also left us with a distinctive pottery style and flint artefacts.

**Did you know?**

**Giant Bamboo** (*Gigantochloa venticiliata*) is the tallest grass in the world. It can grow up to 25metres tall.

Seven Irish butterfly species rely on meadow grasses as food plants for their caterpillars: **Speckled Wood, Wall Brown, Ringlet, Gatekeeper, Meadow Brown, Small Heath, Grayling**. Of these, the Wall Brown is "endangered" and the Gatekeeper, Grayling and Small Heath are "near threatened".

**Yellow Rattle** is a semi-parasite plant which absorbs nutrients from the roots of grasses. It controls same and allows wild flowers to flourish.



*Ringlet*  
– Eamon O Murchú



*Corn growing in St Thomas's Senior School, Jobstown*

**Videos**

- Binding and Threshing Corn - YouTube
- Mill stone rotary quern - YouTube
- Watermill at Newtown, Nenagh, Co. Tipperary - YouTube

**Useful books**

- *Go Wild at School* (3rd Ed. 2011) by Paddy Madden Chapters on wildflower meadows and growing cereals.
- *Complete Irish Wildlife* (2004, Collins) by Paul Sterry

**Useful websites**

- [www.blackrockec.ie](http://www.blackrockec.ie)
- [www.archaeologyintheclassroom.ie](http://www.archaeologyintheclassroom.ie)
- [www.irishtimes.com/shop](http://www.irishtimes.com/shop) for meadow seed
- [www.askaboutireland.ie](http://www.askaboutireland.ie)

**Strand Units covered this month**

**Environmental awareness, Caring for the environment, Plant and animal life, The local natural environment, Early peoples and ancient societies, Human environments.**



**PADDY MADDEN** lectures on SESE in the Marino Institute of Education. He is a Heritage in School specialist – see [www.into.ie](http://www.into.ie).

His latest book, the 3rd reprint of 'Go Wild at School' is available for €15 plus €3 p&p from [paddy.madden@mie.ie](mailto:paddy.madden@mie.ie). He is also the author of 'The School Garden-What to do and when to do it'. This is available for €10 plus €2 p&p. Both cost €28 (includes p&p). Email author for organic wheat seed.