

THE BIOLOGY OF GRASSES

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What is the evolutionary history of grasses? Grasses are evolutionary newcomers to the world stage, only becoming an important addition to the world flora with the demise of the dinosaurs about 66 million years ago. With its windborne pollen, grasses are distinctive and easy to find in ancient soil deposits if you know where to look.

What is grass called in biology? Poaceae (/poʊˈeɪ. iʃ, -ˈaʃ/), also called Gramineae (/ˈɡræˌmɪ. iʃ, -ˈaʃ/), is a large and nearly ubiquitous family of monocotyledonous flowering plants commonly known as grasses. It includes the cereal grasses, bamboos, the grasses of natural grassland and species cultivated in lawns and pasture.

What is a blade of grass biology? All living things—you and grass included—are made of cells. Cells are like little building blocks with different jobs. Every blade of grass is made of millions of them. Plant cells contain a smaller part called a chloroplast.

What is the definition of grass in biology? grass. / grʌs / Any of a large family (Gramineae or Poaceae) of monocotyledonous plants having narrow leaves, hollow stems, and clusters of very small, usually wind-pollinated flowers. Grasses include many varieties of plants grown for food, fodder, and ground cover. Wheat, maize, sugar cane, and bamboo are grasses.

Is grass the oldest plant? A sprawling meadow of seagrass in the shallows of the Mediterranean may be the oldest living organisms on Earth. Scientists calculated the age of the plants from DNA tests on clumps gathered from the seafloor between Spain and Cyprus.

What is the oldest piece of grass in the world? The oldest known grass macrofossils come from Late Cretaceous Burmese amber and are estimated to be about 110 to 94 million years old.

What is the biology of the grass? Grass shoots are composed of nodes and internodes with leaves arising from the tops of the nodes. Grass leaves are composed of a sheath surrounding a culm, and a blade that diverges from the sheath at a juncture called a collar.

Did grass exist during dinosaurs? Answer and Explanation: Yes, there was grass when dinosaurs lived.

What is the scientific study of grass? Agrostology is defined as the study of grasses. The word comes from the Greek root, agrostis. This branch within botany is focused on classifying the species of grasses and learning their adaptations.

What is the root of grass called? Answer and Explanation: Grass has fibrous roots. Fibrous roots have many small branching roots that extend in different directions. They do not grow far down into the ground making grass relatively easy to pull up. Fibrous roots grow down and out from the stem of the plant which creates a mass of fine roots.

What's inside of grass? Elijah Gold is correct: cellulose is most of what grass is made of. Like all living things, grass is composed of cells. Each of these cells is surrounded by a membrane, and the membrane is surrounded by a cell wall—that's the part made of cellulose.

Is grass a leaf or stem? Plants in the grass family have narrow leaves with parallel veins. Grass leaves are called blades and they attach at the nodes. The leaves wrap around the culm before they start to stick out. The part that wraps around the culm is called the sheath and the part that sticks out is called the blade.

What is the science behind grass? The main function of a grass plant is to use sunshine to make food or carbohydrates. When the leaves produce more carbohydrates than are needed for growth and reproduction, excess carbohydrates are stored in the plant for later use. Turf grass plants store carbohydrates in the crown, roots, rhizomes and stolons.

What is grass actually called? Poaceae or Gramineae is a large and nearly ubiquitous family of monocotyledonous flowering plants known as grasses, commonly referred to collectively as grass. Poaceae includes the cereal grasses, bamboos and the grasses of natural grassland and cultivated lawns and pasture.

What is a long fact about grass?

What is the lifespan of a grass? Life Expectancy of Grass All grass differs in terms of how long it will last. However, with the right care, your grass can last you years. Typically, the lifespan of your grass is about 7-10 years.

What is the 12000 year old plant? Mojave yucca is the second oldest clonal stand, estimated at 12,000 years. An individual plant reaches maturity after a century and it can reproduce sexually by pollination and seed germination. But yucca also produce side shoots that are clones of the parent and become the next generation.

Which came first trees or grass? Only in the past 80 million years—long after the appearance of mosses, trees, and flowers—did the first shoots of grass emerge. We know this in part because a dinosaur ate some, and its fossilized poop forever memorialized the plant's arrival.

What is the rarest grass? *Pleuropogon oregonus* is a grass has been considered rare as long as it has been known. In the 1970s no populations were known to be extant and the grass was feared extinct. Today there is one population each in Union County and Lake County. It is a wetland plant that grows in swampy meadows and by streams.

Did ancient humans eat grass? Archaeological evidence from South Africa as early as 100,000 years ago indicates *Homo sapiens* used crushed wild grass seeds.

What grass has the longest lifespan? A huge colony of the sea grass *Posidonia oceanica* in the Mediterranean Sea near Ibiza, Spain, is estimated to be between 12,000 and 200,000 years old.

What is seagrass evolutionary history? Evolution. Around 140 million years ago, seagrasses evolved from early monocots which succeeded in conquering the marine environment. Monocots are grass and grass-like flowering plants (angiosperms), the

seeds of which typically contain only one embryonic leaf or cotyledon.

When did grasses first emerge from an evolutionary perspective? This may have set the scene for the appearance of the flowering plants in the Triassic (~200 million years ago), and their later diversification in the Cretaceous and Paleogene. The latest major group of plants to evolve were the grasses, which became important in the mid-Paleogene, from around 40 million years ago.

What is the evolutionary history of plants? The earliest plants are thought to have evolved in the ocean from a green alga ancestor. Plants were among the earliest organisms to leave the water and colonize land. The evolution of vascular tissues allowed plants to grow larger and thrive on land.

When did the first grasses appear on Earth? Current research suggests that the first grasses arose around 70 million years ago, toward the end of the Cretaceous period. That was a bit before the dinosaurs died out, and grass remains have been found in fossilized dinosaur dung!

Who is the strongest character in Malazan Book of the Fallen? That being said, the most powerful individual character in the named series appears to be T'iam, the mother of the Eleint. She is the one entity whose power is universally feared, and it was generally expected that her manifestation would result in world - wide destruction.

What is the Reaper's Gale about? Rhulad Sengar, the Emperor of a Thousand Deaths, spirals into madness, surrounded by sycophants and agents of his Machiavellian chancellor. Meanwhile, the Letherii secret police conduct a campaign of terror against their own people. The Errant, once a farseeing god, is suddenly blind to the future.

How many pages is Reaper's Gale?

Is the Malazan series finished? Malazan Book of the Fallen /m??læz?n/ is a series of epic fantasy novels written by the Canadian author Steven Erikson. The series, published by Bantam Books in the U.K. and Tor Books in the U.S., consists of ten volumes, beginning with Gardens of the Moon (1999) and concluding with The Crippled God (2011).

Who killed Anomander Rake? Anomander Rake was killed during a duel with Traveller in Darujhistan. As Rake blocked Traveller's sword, he let Dragnipur split his own skull. Once inside Dragnipur, he sacrificed himself to bring Mother Dark and the Gate of Darkness back to the Tiste Andii in Black Coral.

Does Malazan have female characters? By many readers and literary critics, this decalogy is perceived as a feminist work. This view is caused by a frequent presence of powerful, deep, complex and distinct female characters, ranging from common human women through members of different races to worshiped female deities.

Why was Redmask killed? The Awl war There is a large clash and Redmask's two K'chain Che'Malle guardians, deciding that Redmask is not suitable for the K'chain Che'Malle, execute him mid-battle. The Letherii win and the Awl are slaughtered.

What is the Reaper's weakness? The Reaper has no weaknesses but also no resistances. You can use literally anything, so pick the most powerful attack for every unit you're controlling.

What is Reaper's goal? The Reapers allow organic life to develop, with the Citadel serving its purpose as a hub for the intergalactic species of the Milky Way galaxy, until they are ready to harvest it.

How tall is Gale in the books? He Is Over Six Feet Tall The Australian actor is 6'3" in height, and that is accurate to Gale's description in the books. Gale is known to be over six feet tall. Katniss describes him as towering over her when they stand next to each other. Supposedly, he was nearing 6 feet when he was only fourteen years old.

How many pages is Leviathan wakes?

How many pages is Zweihander? ZWEIHANDER is a tabletop RPG you'll be proud to display on your gaming shelves, coming in at 688 pages in a 8.75 x 11.25 format.

Which Malazan book is longest? Toll the Hounds is the eighth and longest Malazan Book of the Fallen novel, reaching 389,000 words. Maia, by the late Richard Adams, is 379,130 words. Magician, by Raymond E. Feist, is a relatively breezy 313,410 words (about 330,000 words in the 1992 extended edition).

Why did Mother Dark turn away Malazan? It was revealed that Mother Dark had turned away and forsaken her people after Anomander Rake took the blood of T'iam to become a Soletaken to end the civil war in Kharkanas.

Is Malazan a tragedy? Midnight Tides is a really great entry into the Malazan series. As I've said earlier, despite its ties to the rest of the books and the importance of events here going forward, I'd seriously consider rereading Midnight Tides as a standalone. Midnight Tides, like many of the entries into Malazan series, is a tragedy.

Who is the strongest in the lands between? Malenia, Blade of Miquella, has become notorious as Elden Ring's hardest boss, becoming a legendary challenge for players. Her lore more than matches this reputation, as it is stated that she is one of the finest warriors in the Lands Between, as well as the match of the legendary General Radahn.

Who is the strongest character in gosuverse? According to Gang Ryong, at some point in time, Goo Hwi was recognized as the strongest warrior by all of the murim. During the days of the old murim, Goo Hwi was an extremely powerful combatant, being blessed with the perfect body for martial arts, and having mastered the legendary Seven Step Black Wind Fist.

Who is the strongest Tower of God?

Who is the god of assassins Malazan? Cotillion, also called The Rope, was the companion of Shadowthrone and the Patron God of Assassins. Ammanas sometimes called him 'old friend'. Cotillion was tall (taller than Ammanas) with dark hair, at times worn straight and loose, also described as almost ragged.

Top-Notch English Tests with Answers

English language proficiency is essential for academic, professional, and personal success in today's globalized world. To assess your English skills accurately, it's crucial to take reliable and well-designed tests. Here are some of the most reputable English tests available, along with sample questions and answers:

1. Test of English as a Foreign Language (TOEFL)

- **Question:** The passage suggests that a lack of sleep can lead to which of the following?
- **Answer:** Decreased cognitive function

2. International English Language Testing System (IELTS)

- **Question:** Describe a time when you had to overcome a challenge.
- **Answer:** In my final year of university, I faced the daunting task of writing my dissertation. Despite initial setbacks and sleepless nights, I persevered through the challenges and eventually submitted a well-researched and insightful thesis.

3. Cambridge English: First (FCE)

- **Question:** Complete the sentence: "The manager was so confident that he would succeed that he..."
- **Answer:** ...had no room for doubt

4. TOEIC Listening and Reading (TOEIC LR)

- **Question:** Listen to the following conversation and answer the question: What is the main reason the woman is calling the customer service center?
- **Answer:** To inquire about a delayed package

5. Pearson Test of English Academic (PTE Academic)

- **Question:** Read the following passage and answer the question: According to the text, what is a key factor that contributes to employee satisfaction?
- **Answer:** A positive work environment and supportive colleagues

These top-notch English tests provide accurate and reliable assessments of your skills in listening, reading, writing, and speaking. By taking these tests and reviewing the answers, you can identify areas for improvement and enhance your English proficiency.

SEAOC Structural Seismic Design Manual 2009 IBC Vol. 2: Building Design Examples for Light Frame, Tilt-Up, and Masonry

The Structural Engineers Association of California (SEAOC) has published a comprehensive design manual that provides guidance on the structural seismic design of buildings in accordance with the 2009 International Building Code (IBC). Volume 2 of the manual focuses specifically on building design examples for light frame, tilt-up, and masonry structures.

Q: What is the scope of Volume 2 of the SEAOC Structural Seismic Design Manual?

A: Volume 2 provides detailed design examples for typical light frame, tilt-up, and masonry buildings, including single-story and multi-story structures. These examples cover a range of seismic design levels and illustrate the application of the IBC provisions for these building types.

Q: What specific topics are covered in the design examples?

A: The design examples address topics such as:

- Lateral force-resisting systems
- Seismic detailing of structural elements
- Foundation design
- Diaphragm design
- Energy dissipation systems

Q: How can engineers benefit from using the SEAOC Structural Seismic Design Manual?

A: Engineers can utilize the design examples to:

- Gain a clear understanding of the IBC requirements for seismic design
- Learn from practical examples of how to apply the code provisions
- Develop cost-effective and safe structural designs for light frame, tilt-up, and masonry buildings

Q: What is the level of detail included in the design examples?

A: The design examples provide detailed calculations, drawings, and specifications, including:

- Wind and seismic loads
- Member and connection design
- Foundation design
- Reinforcement details

Q: Is the SEAOC Structural Seismic Design Manual available to purchase?

A: Yes, the manual can be purchased from the SEAOC website or through online bookstores.

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