

PLANT SECONDARY METABOLITES

THREE

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What are the 3 secondary metabolites? Further, secondary plant metabolites are usually divided into three major groups: terpenes (volatiles, glycosides, carotenoids, and sterols), phenolics (such as phenolic acids, flavonoids, and tannins), and nitrogen-containing compounds (alkaloids and glucosinolates) (Agostini-Costa et al., 2012).

How many secondary metabolites are there in plants? Plant secondary metabolism and metabolic gene clusters More than 200 000 primary and secondary metabolites have been identified in plants, with the majority categorized as secondary (or specialized) metabolites [1–4].

What are the three types of metabolites? ... metabolites are classified into three main groups (Figure 2) [1]: terpenoids, phenolic compounds, and non-protein nitrogen compounds such as alkaloids [4].

What are plant secondary compounds? Secondary compounds are adaptations of plants to their environmental challenges. The same process of natural selection applies to all organisms: more ecologically successful individuals in the population leave more offspring that inherit the genetic basis of their parents' success.

What are secondary metabolites in plant tissue culture? Chemical substances known as secondary metabolites are those that do not take part in plant metabolism. However, these substances play a role in pollination, stress resistance, and disease resistance (from fungi, bacteria, viruses, and pests). The stressors [drought, cold, temperature, etc.] could be biotic or abiotic.

Which is an example of a secondary metabolite? Toxins, gibberellins, alkaloids, antibiotics, and biopolymers are examples of secondary metabolites. A comparison of the different features between primary and secondary metabolites is represented in Table 2.1.

What are the secondary metabolites in medicinal plants? Secondary metabolites are small organic molecules originated from primary metabolites during the embolism of plant; they essentially have molecular masses of less than 3000 da. The chemical nature and composition of metabolites in plants varies among species.

Which of the following are secondary metabolites in plants? Metabolites that are not involved in the growth and development directly are called secondary metabolites. Example: alkaloids, tannins, resins, gums, latex, etc.

What are the primary and secondary metabolites of plants? Metabolites are intermediate end products of metabolism. Primary metabolites are essential for the proper growth of microorganisms. Secondary metabolites are formed near the stationary phase of growth and are not involved in growth, reproduction and development.

What are the classification of plant secondary metabolites? Plant secondary metabolites can be classified into four major classes: terpenoids, phenolic compounds, alkaloids and sulphur-containing compounds.

Why are secondary metabolites important to plants? They induce flowering, fruit set and abscission, maintain perennial growth or signal deciduous behaviour. They act as antimicrobials and perform the role of attractants or, conversely, as repellents. Over 50,000 secondary metabolites have been discovered in the plant kingdom.

What are the 4 primary metabolites? Few examples of primary metabolites are carbohydrates, proteins, fats, vitamins, and nucleic acid components (MeRy-B) [34].

What are many plant secondary metabolites? 2021). Early attempts to identify the medicinal components of plants led to the discovery and characterization of many secondary metabolites, including alkaloids, glucosides, anthocyanins, carotenoids, and terpenes (Burrell 1937).

What are the secondary metabolite pathways in plants? Biosynthetic pathways of secondary metabolites are conducted through four types of metabolic pathways: Shikimic- acid pathway, Malonic-acid pathway, Mevalonic- acid pathway, and MEP (methylerythritol-phosphate) pathway.

What are secondary elements in plants? Calcium, magnesium, and sulfur are essential plant nutrients. They are called “secondary” nutrients because plants require them in smaller quantities than nitrogen, phosphorus, and potassium. On the other hand, plants require these nutrients in larger quantities than the “micronutrients” such as boron and molybdenum.

How to increase secondary metabolites in plants? Increasing light intensity under long photoperiods enhanced growth, development, and alkaloid biosynthesis [14]. In addition to environmental manipulations, the use of plant hormones, elicitors, and stress-inducing agents has emerged as an effective approach to stimulate SM production [15].

How are metabolites produced in plants? One of the hallmarks of specialized plant metabolites is that they are produced using precursors from central metabolism. Therefore, in addition to identifying and characterizing the pathway genes and enzymes involved in synthesizing a specialized compound, it is critical to study its metabolic origins.

Is cellulose a secondary metabolite? Cellulose is a polymeric secondary metabolite. Collagen is present in the ground substance of connective tissue and is considered as most abundant protein in the animal world. Immunoglobulins/Antibodies fight against infectious agents.

What are secondary compounds in plants? Secondary metabolites, also called specialised metabolites, toxins, secondary products, or natural products, are organic compounds produced by any lifeform, e.g. bacteria, fungi, animals, or plants, which are not directly involved in the normal growth, development, or reproduction of the organism.

What are plant secondary metabolites for human health? Abstract. Plant secondary metabolites (PSMs) are vital for human health and constitute the skeletal

framework of many pharmaceutical drugs. Indeed, more than 25% of the existing drugs belong to PSMs.

Which compounds are plant secondary metabolites quizlet?

What are the 4 primary metabolites? Few examples of primary metabolites are carbohydrates, proteins, fats, vitamins, and nucleic acid components (MeRy-B) [34].

What are examples of secondary metabolites in humans? Belying this belief, humans make secondary metabolites, such as steroids, prostaglandins, lipids, melanins, neurotransmitters, G protein-coupled receptor ligands, and related compounds, the biosyntheses of which are now textbook knowledge.

What are the largest secondary metabolites? Phenolic compounds Phenolics are the most abundant secondary metabolites of plants ranging from simple molecules such as phenolic acid to highly polymerized substances such as tannins. Classes of phenolics have been characterized on the basis of their basic skeleton.

What are primary secondary and tertiary metabolites? Primary Metabolites are a type of metabolite that is closely engaged in the growth, development, and reproduction of an organism. Secondary Metabolites are compounds that are not directly engaged in normal growth and development but do have some ecological functions within the body.

What is the message of The Elves and the Shoemaker? The moral of “The Elves And The Shoemaker” is to 'be thankful and grateful in life. ' This short story also teaches us to work hard to make things better and must be thankful for all the help we receive from others. The story also highlights the message of helping those in need.

What are the learning objectives of The Elves and the Shoemaker? Objective: students demonstrate concentration, listening, and imitation skills. Building on the previous lessons in the Kindergarten series, students begin working with listening and imitation skills (part of the kindergarten objectives).

What is the purpose of The Elves and the Shoemaker? The Elves and the Shoemaker is a set of fairy tales collected by the Brothers Grimm about a shoemaker who was very poor and was helped by the Elves. The story is popular

among kids. By reading this short story your kid will learn about the importance and result of working hard.

What is the problem in the story The Elves and the Shoemaker? Ask students, "What was the shoemaker's problem in the story The Elves and the Shoemaker?" (He didn't have enough money to buy material to make the shoes.)

What is the theme of the shoemaker? Overall, "The Shoemaker" explores themes of poverty, generosity, and the transformative power of compassion, highlighting the resilience of the human spirit in the face of adversity.

What is the summary of the shoemaker? The Shoemaker by Charles Dickens illustrates the story of an imprisoned shoemaker who had lost his battle with time and the manner by which he is reunited with his daughter. Having been imprisoned for a very long time, Mr Manette had lost almost all of his memory.

What is The Elves and the Shoemaker simplified? Summary: A shoemaker and his wife went from broke to rich by selling shoes that two little elves were secretly making in the middle of the night. The couple figured out it was the elves and decided to make them brand new clothes and shoes to replace the old turn up ones the elves were wearing.

What is the lesson learned in the story of the shoe maker? Expert-Verified Answer. yes, the moral to this story is that Hard work is the secret to making dreams and wishes come true. This story shows that good things come from working hard. The shoemaker and his wife worked hard, and they were rewarded by the elves coming to help them out in their shop.

What did the shoemakers wife do for the elves? "We have to thank them," said the shoemaker's wife. So they waited for the elves to leave and then quickly got to work making a beautiful pair of shoes for each elf. That night, the shoemaker and his wife hid, and when the elves appeared, they jumped out and said, "Thank You!" The elves loved their new shoes!

What is the summary of the story "The elves and the Shoemaker"? The Elves and The Shoemaker" (German: Die Wichtelmänner) is a set of fairy tales collected by the Brothers Grimm (KHM 39) about a poor shoemaker who receives much-

needed help from three young helpful elves. ... The third tale is of AT 504 type ('The Changeling'), also categorized as a migratory legend (AT 5085).

What is the message of the old shoemaker? In Leo Tolstoy's classic story, an old shoemaker is taught that when he serves those around him, he is serving the Savior. This Christmas season, let's seek for ways to show love to the Savior by serving those who need us.

Who is the villain in the Elves and the Shoemaker? The Elves and the Shoemaker. The Elves and the Shoemaker was a fantasy play based on the children's story of the same name. The plot: a poor shoemaker and his wife are good people who are assisted by elves that make shoes by cover of night to help the shoemaker out before they are evicted by their evil landlady!

Why did the shoemaker become poor? Answer. Explanation: He made excellent shoes and worked quite diligently, but even so he could not earn enough to support himself and his family. He became so poor that he he could not even afford to buy the leather he needed to make shoes; finally he had only enough to make one last pair.

Who are the main characters of The Elves and the Shoemaker?

Why were the shoemaker and his wife surprised when they saw the elves? 1 How are the elves different from people? They are very small and they always wear green clothes. 2 Why were the shoemaker and his wife surprised when they saw the elves? They were surprised to see the elves making the shoes.

What is the moral lesson of the elves and the shoemaker? "The Elves and the Shoemaker" imparts a moral lesson on gratitude, diligence, and generosity. The story emphasizes being thankful for unexpected help, symbolized by the shoemaker leaving clothes for the elves. Through hard work and dedication, the narrative promotes the idea that perseverance leads to prosperity.

What is the author's message in those shoes? Those Shoes by Maribeth Boelts is a sweet and touching story that addresses issues of social justice, empathy, generosity, and selflessness through the eyes of a young boy named Jeremy and his pursuit of a new pair of shoes.

How did the shoemaker change in the story in the Elves and the Shoemaker?

The shoemaker went from being very poor to being a rich, well-to-do man.

What is the conflict in the shoemaker and the elves? The conflicts in the story include the shoemaker's financial struggles and the elves' need for clothing. Children can learn about the importance of helping others and the value of showing gratitude.

Why did the elves help the shoemaker? The elves made shoes for the shoemaker because the shoemaker was a kind and good man. He was honest and hard-working, but he never made any money.

What is the theme of the chapter the shoemaker? The Shoemaker by Charles Dickens illustrates the story of an imprisoned shoemaker who had lost his battle with time and the manner by which he is reunited with his daughter. Having been imprisoned for a very long time, Mr Manette had lost almost all of his memory.

What is the summary of The Elves and the Shoemaker? Elves and the Shoemaker is about an old shoe maker that is very poor. His business becomes successful with the help of two elves that would finish his work in the night. To repay the elves the Shoemaker and his wife made them new clothes and shoes.

What is the summary of the chapter the shoemaker? The Shoemaker In this chapter, Jarvis Lorrie and Lucie Manette encounter Lucie's father Dr. Manette, who has just been freed after 18 years in the Bastille prison. With no memory of his family or former life as a doctor, Dr. Manette calls himself a shoemaker, because that is what he was taught to do in Bastille Prison.

What is the ending of The Elves and the Shoemaker? The two of them did not stop until they had finished the work, then hid themselves again. The following night, the couple saw the little men delighted as they tried the beautiful little clothes and shoes; they danced out of the house and never returned, but the shoemaker prospered in his business.

What does one learn from the story? A theme is the message, or lesson, that the reader learns by reading the story. Sometimes a story has a particular kind of message, known as a moral. A moral is a type of message that teaches a reader a life lesson, such as what is right or wrong, how to make decisions, or how to treat

other people.

What is the main idea of Those Shoes? In "Those Shoes", author Maribeth Boelts explores the themes of generosity, friendship and the difference between needs and wants.

What did the shoemaker and his wife decide to do before Christmas? The shoemaker and his wife worked all evening to make the tiny elves a new set of clothes. By the time night fell, each elf had a tiny pair of pants, a shirt, a hat, and an overcoat. The shoemaker had even created a fine pair of leather shoes, just the right size for each of their elfin feet.

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What is the message behind Elf? Elf is about promoting kindness, staying upbeat, valuing others and knowing that it's never too late to get removed from the naughty list (Santa says Walter "lost sight of what's important in life ... but that doesn't mean [people] can't find their way again").

What is the moral of the movie Elf? Yes, Elf is a fictional story, but the lessons are very real. They are lessons that remind us to not take people for granted, spread a little more love, and above all, be yourself.

What is the lesson learned in the story of the shoe maker? Expert-Verified Answer. yes, the moral to this story is that Hard work is the secret to making dreams and wishes come true. This story shows that good things come from working hard. The shoemaker and his wife worked hard, and they were rewarded by the elves coming to help them out in their shop.

What is the central message of those shoes? In "Those Shoes", author Maribeth Boelts explores the themes of generosity, friendship and the difference between needs and wants.

How did the shoemaker and his wife show their gratitude to the elves? "We have to thank them," said the shoemaker's wife. So they waited for the elves to leave and then quickly got to work making a beautiful pair of shoes for each elf. That night, the shoemaker and his wife hid, and when the elves appeared, they jumped out and said, "Thank You!" The elves loved their new shoes!

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What lesson does elf teach? To recap, "The Code of the Elves" has three rules: Treat Every Day Like Christmas. There's Room for Everyone on the Nice List. The Best Way to Spread Christmas Cheer Is Singing Loud for All to Hear.

What is the main idea of elf? Summaries. Raised as an oversized elf, Buddy travels from the North Pole to New York City to meet his biological father, Walter Hobbs, who doesn't know he exists and is in desperate need of some Christmas spirit.

Why is elf called elf? The word elf is found throughout the Germanic languages and seems originally to have meant 'white being'. However, reconstructing the early

concept of an elf depends largely on texts written by Christians, in Old and Middle English, medieval German, and Old Norse.

What are the 3 rules in Elf?

Is elf good or evil? Norse mythology has light and dark elves. Light elves are not evil. Dark elves can be evil and live underground.

What does the elf represent? Elves have a long-standing role in mythology, representing various cultural significances across different societies. In Norse mythology, elves were seen as divine beings with supernatural powers and immortality. They were associated with nature, magic, and wisdom.

The Influence of Instagram on Exercise and Eating Behavior

Social media platforms, particularly Instagram, have infiltrated our lives and have the potential to impact our health behaviors. One area where Instagram has been shown to have an influence is in the realm of exercise and eating.

Q: How does Instagram promote exercise?

A: Instagram serves as a platform for fitness influencers and enthusiasts to share workout routines, motivational quotes, and before-and-after transformation pictures. These posts can inspire users to start or continue an exercise regimen, as they showcase the benefits of exercise and provide a sense of community.

Q: Can Instagram lead to body dissatisfaction?

A: While Instagram can promote body positivity and self-acceptance, it can also contribute to body dissatisfaction. Users may compare themselves to the idealized bodies portrayed in photos and videos, which can lead to negative feelings about their own bodies.

Q: How does Instagram influence eating habits?

A: Instagram has become a foodie's paradise, with countless accounts dedicated to food photography and recipes. This can inspire users to try new foods and expand their culinary repertoire. However, it can also lead to unhealthy eating habits, such as overeating or focusing on aesthetics rather than nutritional value.

Q: What are the risks of following fitness and food influencers?

A: While many influencers provide valuable information and motivation, it's important to be critical of their content. Some may promote unrealistic body standards or diets that are not sustainable or healthy. It's crucial to seek advice from qualified professionals when making changes to your exercise or eating habits.

Q: How can you use Instagram for a healthier lifestyle?

A: To leverage Instagram for your health, follow accounts that promote body positivity, healthy eating, and sustainable exercise. Use the platform to connect with like-minded individuals, share your progress, and find inspiration that supports your health goals. Remember to approach Instagram content with a critical eye and prioritize your physical and mental well-being above all else.

Who Would Jesus Kill? War, Peace, and the Christian Tradition

The question of whether Jesus would endorse violence has haunted Christianity for centuries. In modern times, it has taken on new urgency as Christians grapple with issues such as terrorism, genocide, and the use of military force.

Would Jesus Sanction Killing?

The answer to this question lies in the Gospels themselves. Jesus taught that love is the greatest commandment (Matthew 22:34-40) and that we should love our enemies (Matthew 5:44). He also said that he came to bring peace, not the sword (Matthew 10:34).

These teachings seem to suggest that Jesus would not endorse violence. However, it is important to note that Jesus also said that he came to bring judgment (John 9:39). He also said that he would return to earth with a sword (Revelation 19:15).

Reconciling Violence and Pacifism

How can we reconcile these seemingly contradictory teachings? Some Christians believe that Jesus would endorse violence in self-defense or in defense of others. Others believe that Jesus would always advocate for pacifism.

The Just War Tradition

The Just War Tradition is a Christian doctrine that attempts to justify the use of military force under certain conditions. These conditions include:

- The war must have a just cause (such as defending against aggression).
- The war must be waged by a legitimate authority.
- The war must be conducted in a just manner (with the goal of minimizing suffering).

Alternative Perspectives

Not all Christians agree with the Just War Tradition. Some Christian pacifists believe that violence is never justified, even in self-defense. Others believe that the use of military force can sometimes be justified, but that it should always be a last resort.

Conclusion

The question of whether Jesus would endorse violence is not an easy one to answer. The Gospels provide evidence to support both pacifism and the Just War Tradition. Ultimately, each Christian must decide for themselves how they interpret Jesus' teachings on this issue.

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