Louisiana Horticulture Practice Test (Sample)

Study Guide

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Questions

1. Which characteristic can influence a pesticide's penetration into plant tissues?

A. Color of the pesticide

B. Active ingredient concentration

C. Type of formulation

D. Brand of the pesticide

2. What is essential for trees and shrubs during dry weather, especially in the first few years?

A. Harvesting

B. Irrigation

C. Fertilization

D. Pruning

3. What is one negative effect of leaving guy wire support on a tree for too long?

A. It promotes growth

B. It can cause breakage

C. It enhances stability

D. It prevents disease

4. What type of bond protects the owner from default on a job according to the agreement by the landscape contractor?

A. Performance Bond

B. Payment Bond

C. Labor Bond

D. Bid Bond

5. The Black Spot fungus is usually present on which part of the leaf?

A. Lower surface

B. Middle of the leaf

C. Edges of the leaf

D. Upper surface

6. Which of the following is NOT considered a climatic factor that affects pesticide effectiveness?

A. Rain

B. Sunlight

C. Wind

D. Soil

7. What can be used to modify soil reaction?

A. Organic matter

B. Specific fertilizers

C. Water

D. Mulch

8. A one-gallon ground cover is planted at what spacing?

A. 3' o.c.

B. 1' o.c.

C. 2' o.c.

D. 4' o.c.

9. What are the two most common species of spider mites found on roses?

A. Black and Green

B. Red and Two-Spotted

C. Yellow and Brown

D. Web and Pacific

10. Bread mold is classified as what type of organism?

A. Bacteria

B. Fungus

C. Plant pathogen

D. Virus

Answers

1. C
2. B
3. B
4. A
5. D
6. D
7. B
8. B
9. B
10. B

Explanations

1. Which characteristic can influence a pesticide's penetration into plant tissues?

A. Color of the pesticide

B. Active ingredient concentration

C. Type of formulation

D. Brand of the pesticide

The penetration of a pesticide into plant tissues is significantly influenced by the type of formulation. Different formulations, such as emulsifiable concentrates, wettable powders, or granules, can affect how the active ingredients interact with plant surfaces and subsequently move into the tissues. For instance, emulsifiable concentrates, which are liquid formulations, may facilitate easier penetration due to their ability to spread oil-based ingredients over the plant surface. In contrast, wettable powders may require agitation or mixing with water to become effective, and their ability to penetrate can depend on how well they adhere to or are absorbed by the plant. The physical and chemical properties of the formulation, such as viscosity, surface tension, particle size, and the presence of surfactants, greatly impact how effectively the pesticide can enter the plant, making the formulation type a critical factor in determining efficacy. Other choices, while they may hold some relevance, do not directly influence penetration as much as the formulation type does.

2. What is essential for trees and shrubs during dry weather, especially in the first few years?

A. Harvesting

B. Irrigation

C. Fertilization

D. Pruning

Irrigation is essential for trees and shrubs during dry weather, particularly in their early years. Newly planted trees and shrubs have not yet established deep root systems, making them more susceptible to drought stress. Proper irrigation helps to keep the soil moisture sufficient, allowing these young plants to absorb the water they need to grow and develop healthily. This is critical not only for ensuring their survival but also for encouraging robust root development, which is vital for their long-term stability and growth. While harvesting, fertilization, and pruning have their own importance in maintaining plant health, they do not address the immediate need for moisture that young trees and shrubs require during dry spells. Without adequate irrigation, these plants can suffer stress, leading to poor growth or even mortality. Thus, consistent watering practices are vital in their formative years to ensure they can thrive and withstand challenging weather conditions in the future.

3. What is one negative effect of leaving guy wire support on a tree for too long?

A. It promotes growth

B. It can cause breakage

C. It enhances stability

D. It prevents disease

Leaving guy wire support on a tree for an extended period can lead to significant issues, primarily because the wire can create pressure points on the tree's surface where it is attached. As the tree grows and sways, the guy wire can embed itself into the bark, leading to eventual girdling of the trunk. This damage can restrict the flow of nutrients and water, weakening the tree over time. In severe cases, the stress caused by the wire can result in the breakage of branches or even the entire tree, leading to instability and potential safety hazards. Thus, managing guy wires is crucial to ensure that they are removed when they are no longer needed, allowing the tree to grow freely without risk of injury.

4. What type of bond protects the owner from default on a job according to the agreement by the landscape contractor?

A. Performance Bond

B. Payment Bond

C. Labor Bond

D. Bid Bond

A performance bond is a type of surety bond that guarantees that a contractor will complete a project according to the terms of the contract or agreement. In the context of landscape contracting, this bond ensures that if the contractor fails to fulfill their contractual obligations—such as completing the landscaping work on time and to the specified quality—the bond will provide financial compensation to the project owner. This means that the owner is protected from financial losses resulting from the contractor's default, ensuring that there is a safety net in place for the successful completion of the job. A payment bond, on the other hand, focuses on ensuring that subcontractors and suppliers get paid for their work and materials. A labor bond pertains to labor costs and guarantees payment for labor provided, while a bid bond secures the bidding process and guarantees that the contractor, if awarded the job, will sign the contract and provide the necessary performance and payment bonds. Each of these other types of bonds serves different functions in the construction and contracting realm, making the performance bond specifically relevant for protecting the owner against contractor default.

5. The Black Spot fungus is usually present on which part of the leaf?

A. Lower surface

B. Middle of the leaf

C. Edges of the leaf

D. Upper surface

The Black Spot fungus, which is responsible for a common plant disease in roses and other plants, primarily manifests on the upper surface of leaves. This is crucial because the upper leaf surface is where the majority of sunlight exposure occurs, making it an ideal environment for the spores of the fungus to germinate and thrive. The presence of moisture, combined with specific temperatures, further promotes the growth of this fungus on the upper leaf area, leading to the characteristic black spots that can severely damage the plant's photosynthetic ability. In contrast, the lower surface of the leaf is often more shaded and may not provide the same conducive environment for the fungus. While the middle and edges of the leaf can experience fungal infections, the upper surface is where the initial infection is most likely to occur and where it is most notably visible. This differentiation is important for effective disease management in horticulture.

6. Which of the following is NOT considered a climatic factor that affects pesticide effectiveness?

A. Rain

B. Sunlight

C. Wind

D. Soil

Soil is not classified as a climatic factor affecting pesticide effectiveness. Climatic factors are those environmental conditions that can change with weather patterns and influence how pesticides perform when applied. Rain can affect the application timing and residue on plants; sunlight can break down certain chemicals in pesticides through photodegradation; and wind can cause drift, leading to reduced efficacy or unintended pesticide movement to non-target areas. In contrast, soil is more a physical factor related to the environment where plants grow and pesticides are applied, rather than a climate-related condition. While the characteristics of the soil, like texture and organic matter content, can influence how well pesticides bind or move in the soil profile, they do not change based on weather in the same way that rain, sunlight, and wind do. This is why soil is the correct answer as it does not fall under the category of climatic factors influencing pesticide effectiveness.

7. What can be used to modify soil reaction?

A. Organic matter

B. Specific fertilizers

C. Water

D. Mulch

Specific fertilizers are designed to modify soil reaction, or pH levels, which can significantly impact plant health and nutrient availability. Certain fertilizers contain not only the primary nutrients (nitrogen, phosphorus, potassium) but also elements like sulfur or lime that alter the acidity or alkalinity of the soil. For instance, ammonium-based fertilizers can help lower soil pH, making it more acidic, while lime is commonly used to increase pH and reduce acidity. Modifying soil reaction is crucial because different plants have specific pH requirements for optimal growth. Therefore, using the right fertilizers can help in creating a conducive environment for particular crops by adjusting the soil's pH to meet their needs. In contrast, organic matter can improve soil structure and moisture retention, but it does not specifically change pH levels directly. Water is essential for plant growth and can influence soil chemistry over time, but it does not inherently modify soil reaction. Mulch is beneficial for maintaining soil temperature and moisture and preventing weed growth but does not alter the soil's pH.

8. A one-gallon ground cover is planted at what spacing?

A. 3' o.c.

B. 1' o.c.

C. 2' o.c.

D. 4' o.c.

When planting one-gallon ground covers, a spacing of one foot on center (o.c.) is recommended for optimal growth and coverage. This spacing allows sufficient room for the plants to establish their root systems and spread their foliage without overcrowding. By maintaining this distance, the ground covers will be able to grow evenly and fill in gaps more quickly, creating a lush, uniform appearance in the landscape. Ground covers are typically planted closely together to form a dense mat that suppresses weeds and reduces soil erosion, so one foot o.c. strikes a balance between providing adequate space for growth and achieving the desired aesthetic and functional benefits of ground cover planting.

9. What are the two most common species of spider mites found on roses?

A. Black and Green

B. Red and Two-Spotted

C. Yellow and Brown

D. Web and Pacific

The two most common species of spider mites found on roses are the Red Spider Mite and the Two-Spotted Spider Mite. These species are notorious for infesting rose plants and can cause significant damage. The Red Spider Mite, often called the Tetranychus urticae, is well-recognized by its reddish coloration and is known for producing fine webbing on the undersides of leaves, which can lead to leaf drop and plant stress. The Two-Spotted Spider Mite, named for its distinctive two dark spots on its body, is equally problematic, affecting a wide range of ornamental plants, including roses. Both of these mites thrive in warm, dry conditions, making them particularly prevalent in summer months. Their feeding damages plant tissues, which can lead to stippling on the leaves, overall poor health of the plant, and susceptibility to diseases. Since they reproduce quickly, a small infestation can escalate rapidly if not controlled, making identification and management crucial for maintaining healthy roses. The other species listed do not commonly affect roses or are not recognized as significant pests in this context.

10. Bread mold is classified as what type of organism?

A. Bacteria

B. Fungus

C. Plant pathogen

D. Virus

Bread mold is classified as a fungus, which is the correct answer. Fungi are distinct organisms that differ from bacteria, plants, and viruses in various ways. They possess cell walls made of chitin, reproduce via spores, and typically grow as multicellular filaments called hyphae. Bread mold, particularly the common variety known as Rhizopus stolonifer, thrives in damp environments and is characterized by its fuzzy appearance, which results from the growth of these hyphae. Bacteria and viruses are entirely different types of microorganisms. Bacteria are single-celled organisms that can be beneficial or pathogenic, while viruses are much smaller entities that require a host cell to replicate and can cause infections. Plant pathogens can be caused by various types of organisms, including fungi, bacteria, viruses, and nematodes, but since bread mold specifically is a type of fungus, it does not fit under the other classifications mentioned.