

Pennsylvania State Extension Cool-Season Turfgrass Pest Management Practice Test (Sample)

Study Guide



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Questions

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- 1. What is the definition of biological control?**
 - A. Using synthetic chemicals to kill pests.**
 - B. Utilizing living organisms to manage pest populations.**
 - C. Employing machinery to remove pests from the turf.**
 - D. Implementing landscape changes to deter pests.**
- 2. What should be done if herbicide is over-applied to turfgrass?**
 - A. Ignite the area**
 - B. Water with one inch of water**
 - C. Delay further applications**
 - D. Remove the turfgrass**
- 3. What should be done when a pest is identified in the turf?**
 - A. Immediately apply treatment**
 - B. Remove all vegetation**
 - C. Assess density of the pest population**
 - D. Ignore it if damage is minimal**
- 4. How does the pitfall trap help in insect identification?**
 - A. By collecting soil nutrients**
 - B. By capturing insects as they move**
 - C. By growing plants**
 - D. By identifying soil pH levels**
- 5. What type of flower does the dandelion produce in spring?**
 - A. White clusters**
 - B. Bright yellow flowers**
 - C. Red blossoms**
 - D. Blue spikes**
- 6. What is one method for starting right with newly seeded turfgrass?**
 - A. Use selective herbicides**
 - B. Apply fertilizer immediately**
 - C. Fumigate the soil**
 - D. Water regularly before planting**

- 7. Which environmental factors favor the development of Gray Snow Mold?**
- A. High temperatures and lack of moisture**
 - B. Tall turfgrass and heavy snow accumulation**
 - C. Increased sunlight and dry conditions**
 - D. Reduced soil nutrients and compacted soil**
- 8. What are the first visible signs of Necrotic Ring Spot?**
- A. Circular patches of dead grass**
 - B. Small brown spots on leaf blades**
 - C. Pinkish-red threads on leaves**
 - D. White cobwebs in the morning dew**
- 9. What is a characteristic feature of Armyworm and Cutworm larvae?**
- A. Brightly colored with stripes**
 - B. They are voracious feeders and curl into a "C" when disturbed**
 - C. They are transparent and delicate**
 - D. They possess wings during the larval stage**
- 10. How does Summer Patch primarily present itself on affected turfgrass?**
- A. As dark brown, irregular patches**
 - B. As yellow to tan patches**
 - C. As small white spots**
 - D. As dead roots beneath the surface**

Answers

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

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Explanations

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1. What is the definition of biological control?

- A. Using synthetic chemicals to kill pests.
- B. Utilizing living organisms to manage pest populations.**
- C. Employing machinery to remove pests from the turf.
- D. Implementing landscape changes to deter pests.

Biological control refers to the practice of utilizing living organisms to manage pest populations. This method focuses on harnessing natural enemies of pests, such as predators, parasitoids, or pathogens, to reduce pest numbers and minimize their impact on crops or turf. The idea is to create a balanced ecosystem where these beneficial organisms can thrive, effectively controlling pest populations without the need for synthetic chemicals. This approach contrasts with other pest management strategies, such as chemical pest control, where synthetic substances are applied to eliminate pests directly. Biological control often promotes sustainability, environmental health, and the maintenance of biodiversity by relying on natural processes rather than synthetic interventions. It is an integral part of integrated pest management (IPM) strategies, which aim to combine various techniques for more effective and environmentally responsible pest management.

2. What should be done if herbicide is over-applied to turfgrass?

- A. Ignite the area
- B. Water with one inch of water**
- C. Delay further applications
- D. Remove the turfgrass

If herbicide is over-applied to turfgrass, watering the area with one inch of water assists in diluting the concentration of the herbicide present in the soil and on the grass blades. This practice can help mitigate potential damage to the turfgrass, as it encourages leaching and reduces the herbicide's contact time with the plant tissue, which is critical in limiting phytotoxicity. Proper irrigation after herbicide application is often recommended, especially in cases of over-application, to effectively manage the potential negative impacts on grass health. In the context of the other options, while igniting the area is not a valid or safe method of addressing herbicide issues, merely delaying further applications does not directly address the immediate concerns of over-application. Removing the turfgrass entirely can be a drastic and unnecessary measure, especially when effective remediation can be achieved through proper watering techniques. Thus, applying water is the most practical and immediate solution to reduce the harmful effects of the herbicide on the turf.

3. What should be done when a pest is identified in the turf?

- A. Immediately apply treatment
- B. Remove all vegetation
- C. Assess density of the pest population**
- D. Ignore it if damage is minimal

When a pest is identified in the turf, assessing the density of the pest population is a crucial first step. This assessment allows for a better understanding of the severity of the problem and informs the management decision-making process. By evaluating how many pests are present, you gain insights into whether the pest population is above an economic threshold that would justify intervention. This systematic approach ensures that treatments are only applied when necessary, ultimately conserving resources and minimizing unnecessary chemical applications. In contrast, immediately applying treatment without assessing the population could lead to over-treatment and unnecessary costs. Removing all vegetation is an extreme measure that typically would not be advisable, as it could cause more harm than good to the ecosystem. Ignoring the pest if damage appears minimal does not consider the potential for pest populations to grow, leading to significant issues in the future. Therefore, assessing the density of the pest population enables effective and sustainable pest management.

4. How does the pitfall trap help in insect identification?

- A. By collecting soil nutrients
- B. By capturing insects as they move**
- C. By growing plants
- D. By identifying soil pH levels

The pitfall trap is specifically designed to capture insects as they move through their natural habitat. This method involves placing a container, usually buried in the ground at soil level, which allows insects to fall into it while they are foraging or moving through the area. This allows researchers or pest managers to collect and identify the insects that inhabit a specific location. By capturing a diverse range of insects, the traps provide valuable insights into the types and populations of insects present in a particular environment. The information gathered can be crucial for pest management, as it helps in identifying potential pest species, understanding their abundance, and implementing appropriate control measures based on their presence. Thus, the use of a pitfall trap is a practical approach to enhance understanding of insect biodiversity and dynamics within turfgrass ecosystems. The other options do not relate to insect identification. Collecting soil nutrients pertains to soil health and fertility, growing plants revolves around horticulture processes, and identifying soil pH levels focuses on soil chemistry, none of which contribute directly to identifying insects.

5. What type of flower does the dandelion produce in spring?

- A. White clusters
- B. Bright yellow flowers**
- C. Red blossoms
- D. Blue spikes

Dandelions are well known for their bright yellow flowers that bloom in the spring. These flowers are characterized by their showy, sun-like appearance, which stands out in lawns and fields. The yellow flowers eventually turn into spherical clusters of seeds, which can disperse over long distances with the help of wind. This characteristic flowering behavior is significant in the life cycle of the dandelion, as it aids in reproduction and spreading. The bright yellow color attracts various pollinators, making it an important plant in many ecosystems. This distinctive attribute is what sets them apart, confirming that the correct answer is indeed the one indicating bright yellow flowers.

6. What is one method for starting right with newly seeded turfgrass?

- A. Use selective herbicides
- B. Apply fertilizer immediately
- C. Fumigate the soil**
- D. Water regularly before planting

Starting newly seeded turfgrass successfully involves understanding the conditions that promote healthy growth. Fumigating the soil is a method that addresses soil-borne pests and diseases. It can help create a conducive environment for seed germination by eliminating pathogens that might hinder seed establishment. This is particularly important when dealing with soils that have a history of pest problems or diseases that could affect young plants. While applying fertilizer immediately might seem beneficial, it's essential to consider that newly seeded areas may not require it right away and can be sensitive to nutrient overload. Selective herbicides are typically used for established turf and could harm new seedlings, while watering regularly before planting is crucial for soil moisture but doesn't directly contribute to the establishment of the seeded turfgrass itself in the same manner that soil fumigation would. Fumigation can be seen as a preparatory step that directly enhances the likelihood of successful germination and establishment by creating a healthier soil environment.

7. Which environmental factors favor the development of Gray Snow Mold?

- A. High temperatures and lack of moisture**
- B. Tall turfgrass and heavy snow accumulation**
- C. Increased sunlight and dry conditions**
- D. Reduced soil nutrients and compacted soil**

The development of Gray Snow Mold is significantly favored by specific environmental conditions, particularly heavy snow accumulation combined with tall turfgrass. Gray Snow Mold is caused by the pathogens of the fungus that thrive in cold, wet conditions, commonly occurring under snow cover. When turfgrass is taller, it can create a more conducive environment for the disease to develop under the snow. Tall grass may trap moisture and create the ideal conditions for the fungi to proliferate. Additionally, heavy snowfall provides insulation and moisture that supports the growth of the mold, leading to greater potential for disease outbreaks. This understanding of the conditions is critical for turfgrass management, especially in regions where snow is common during the winter months, allowing turf managers to take necessary precautions to mitigate the risk of Gray Snow Mold.

8. What are the first visible signs of Necrotic Ring Spot?

- A. Circular patches of dead grass**
- B. Small brown spots on leaf blades**
- C. Pinkish-red threads on leaves**
- D. White cobwebs in the morning dew**

The first visible signs of Necrotic Ring Spot are indeed circular patches of dead grass. This disease primarily affects cool-season grasses and is characterized by these distinct circular areas where the turf looks brown or dead. Typically, these patches can range from a few inches to several feet in diameter, forming a ring of healthy grass around the dead area. This visual pattern is critical for accurate identification and management, as it differs from other turf diseases, which may present symptoms in various forms, such as spots or discolorations without a defined ring structure. Recognizing these circular patterns allows turf managers to swiftly assess the problem and implement appropriate management strategies to restore the health of the turf.

9. What is a characteristic feature of Armyworm and Cutworm larvae?

- A. Brightly colored with stripes**
B. They are voracious feeders and curl into a "C" when disturbed
C. They are transparent and delicate
D. They possess wings during the larval stage

The characteristic feature of Armyworm and Cutworm larvae is that they are voracious feeders and curl into a "C" shape when disturbed. This behavior is a defense mechanism; by curling up, the larvae can make themselves less conspicuous to predators. Additionally, their voracious feeding habits make them significant pests in turfgrass and other crops, as they can quickly damage plant material. Recognizing this unique curling behavior is essential for identifying these larvae and managing them effectively in a pest management program. The other options represent traits that are not applicable to Armyworm and Cutworm larvae; for example, brightly colored with stripes might refer to other types of caterpillars, and being transparent and delicate does not accurately describe the robust and well-camouflaged nature of these larvae. Wings are also not present in the larval stage since this stage is primarily focused on feeding and growth before the insects undergo metamorphosis into their adult forms.

10. How does Summer Patch primarily present itself on affected turfgrass?

- A. As dark brown, irregular patches**
B. As yellow to tan patches
C. As small white spots
D. As dead roots beneath the surface

Summer Patch primarily presents itself on affected turfgrass as yellow to tan patches. This distinctive color change occurs due to the pathogen causing the disease, which affects the grass during warmer temperatures, particularly when conditions are humid and the soil is warm. The yellowing indicates that the grass is under stress, often as a result of the root system being compromised, leading to a decline in overall plant health. As the disease progresses, these patches can become more pronounced and expand in size, sometimes coalescing into larger areas of affected turf. The early signs are crucial for identification and management, as addressing the issue promptly can help mitigate further damage to the lawn. In contrast, other symptoms or appearances, such as dark brown patches or small white spots, are indicative of different turfgrass issues or diseases and not characteristic of Summer Patch. Dead roots beneath the surface might be a consequence of various pathogens but are not a direct visual symptom of Summer Patch itself.