

# NOCTI 6157 Pennsylvania Applied Horticulture Practice Test (Sample)

## Study Guide



**Everything you need from our exam experts!**

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# Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

**Remember:** successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

# How to Use This Guide

**This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:**

## **1. Start with a Diagnostic Review**

**Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.**

## **2. Study in Short, Focused Sessions**

**Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations.**

## **3. Learn from the Explanations**

**After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.**

## **4. Track Your Progress**

**Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.**

## **5. Simulate the Real Exam**

**Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.**

## **6. Repeat and Review**

**Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.**

**There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!**

## Questions

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- 1. What is fertilizer?**
  - A. A pesticide used to kill insects**
  - B. A device for applying water**
  - C. A fungus**
  - D. A chemical or natural substance added to soil to increase its fertility**
  
- 2. A xeriscape is a landscape that conserves water by including what kind of plants?**
  - A. limited use of mulch**
  - B. circular turf areas**
  - C. drought-tolerant plants**
  - D. automatic irrigation systems**
  
- 3. Which statement describes the Safety Data Sheet (SDS) requirement?**
  - A. Safety Data Sheet**
  - B. Abbreviated SDS; required by law for all products sold, including safety information**
  - C. Standard Data Sheet**
  - D. Soil Data Sheet**
  
- 4. What causes plants to be leggy and weak-stemmed?**
  - A. Over watering**
  - B. Under watering**
  - C. Cool temperatures**
  - D. Crowding**
  
- 5. Injury produced from a single toxic exposure is called \_\_\_\_\_ toxicity.**
  - A. Chronic**
  - B. Acute**
  - C. LD50**
  - D. Lethal**

- 6. Which term describes the structure that becomes fruit after fertilization?**
- A. Pistil**
  - B. Stamen**
  - C. Petal**
  - D. Flower ovary**
- 7. What type of information is typically found in a Safety Data Sheet (SDS)?**
- A. Hazardous ingredients and first-aid measures**
  - B. Manufacturer's marketing strategy**
  - C. Shelf-life of consumer product**
  - D. Recycling guidelines**
- 8. Black Spot on roses is caused by which pathogen?**
- A. Pseudomonas syringae**
  - B. Botrytis cinerea**
  - C. Phytophthora infestans**
  - D. Diplocarpon rosae**
- 9. An insect pest that damages a plant by sucking plant juices is a**
- A. Cabbage moth**
  - B. Black ant**
  - C. Lady bug**
  - D. Scale insect**
- 10. The soil pH is determined by the concentration of which ions?**
- A. hydrogen and nitrogen**
  - B. phosphorus and gypsum**
  - C. calcium and phosphates**
  - D. hydroxyl and hydrogen**

## Answers

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

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## **Explanations**

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### 1. What is fertilizer?

- A. A pesticide used to kill insects
- B. A device for applying water
- C. A fungus
- D. A chemical or natural substance added to soil to increase its fertility**

Fertilizer supplies essential nutrients to plants, improving soil fertility. It can be chemical (synthetic) or natural (organic such as manure or compost) and is used to correct nutrient deficiencies and boost growth and yields. Fertilizers are applied in various forms—granular or liquid—and labeled with the amounts of key nutrients (like nitrogen, phosphorus, and potassium) they provide, sometimes with added micronutrients. Proper use increases nutrient availability to plants and helps them grow robustly, while overuse or improper application can waste product and harm the environment. The other options describe a pesticide for pests, an irrigation device, and a fungus, none of which enhance soil fertility.

### 2. A xeriscape is a landscape that conserves water by including what kind of plants?

- A. limited use of mulch
- B. circular turf areas
- C. drought-tolerant plants**
- D. automatic irrigation systems

A xeriscape conserves water by using drought-tolerant plants. These plants thrive with minimal irrigation once established, which lowers overall watering needs and helps the landscape stay healthy during dry periods. While mulch and efficient irrigation can further reduce water use, the defining feature of a xeriscape is selecting species that require little water. High-water-demand plants or extensive turf would increase irrigation needs, whereas drought-tolerant varieties keep maintenance and water use low.

### 3. Which statement describes the Safety Data Sheet (SDS) requirement?

- A. Safety Data Sheet
- B. Abbreviated SDS; required by law for all products sold, including safety information**
- C. Standard Data Sheet
- D. Soil Data Sheet

Understanding safety requirements for chemical products means recognizing that every product with hazardous chemicals requires an SDS. An SDS is the Safety Data Sheet, the official document that communicates hazards, safe handling, storage, and emergency information. The key point is that providing an SDS is required by law for all chemical products sold; this includes the safety information the sheet contains so workers can protect themselves and respond correctly in spills or exposures. Typical content covers product identification, hazard statements, first aid, firefighting, accidental release measures, handling and storage, exposure controls and PPE, and regulatory information. The other options either describe something different (like a generic form or a soil data sheet) or just name what the document is without addressing the legal requirement and purpose of the sheet.

**4. What causes plants to be leggy and weak-stemmed?**

- A. Over watering**
- B. Under watering**
- C. Cool temperatures**
- D. Crowding**

Leggy, weak-stemmed growth happens when light is insufficient, so the plant stretches toward the light to photosynthesize. In crowded settings, plants shade one another, reducing the light each plant receives. That shading triggers etiolation—stems elongate and become thin and fragile as the plant tries to reach for light. So crowding directly leads to leggy growth because it limits light availability per plant. Overwatering stresses roots and can cause yellowing and wilting; underwatering dries out the plant and causes droopy foliage; cool temperatures slow growth and can cause overall stunting. But the specific long, wispy stems of leggy plants are best explained by reduced light from crowding.

**5. Injury produced from a single toxic exposure is called \_\_\_\_\_ toxicity.**

- A. Chronic**
- B. Acute**
- C. LD50**
- D. Lethal**

Acute toxicity is the injury that results from a single, short-term exposure to a toxin. When harm happens after one dose or brief contact, it's classified as acute. Chronic toxicity, by contrast, comes from repeated or long-term exposure and accumulates over time. LD50 isn't a type of toxicity; it's a statistical measure of potency—the dose that would kill 50% of a test population—used to compare how toxic a substance is. Lethal describes death-causing potential, not the exposure pattern itself. So the correct concept for an injury from a single exposure is acute toxicity.

**6. Which term describes the structure that becomes fruit after fertilization?**

- A. Pistil**
- B. Stamen**
- C. Petal**
- D. Flower ovary**

The structure that becomes fruit after fertilization is the flower ovary. The ovary is the part of the pistil that houses the ovules; once fertilization occurs, the ovules develop into seeds and the ovary tissue thickens and enlarges to form the fruit that surrounds and protects those seeds. The pistil is the whole female reproductive organ (stigma, style, and ovary), the stamen is the male reproductive part, and petals are floral organs that attract pollinators but do not become fruit.

**7. What type of information is typically found in a Safety Data Sheet (SDS)?**

- A. Hazardous ingredients and first-aid measures**
- B. Manufacturer's marketing strategy**
- C. Shelf-life of consumer product**
- D. Recycling guidelines**

Safety Data Sheets deliver the safety-critical details about chemical products. The key information they provide centers on what hazardous ingredients are present and what to do in an emergency, which includes first-aid measures. This helps workers handle the product safely, know potential hazards, and respond properly to exposures or spills. In horticulture, SDSs guide you on protective equipment, storage, and disposal to prevent injuries and environmental harm. The other topics aren't typically found in an SDS. Marketing strategies relate to sales, while shelf-life and recycling guidelines appear in product labeling or recycling/disposal guidance, not in the safety-focused SDS.

**8. Black Spot on roses is caused by which pathogen?**

- A. Pseudomonas syringae**
- B. Botrytis cinerea**
- C. Phytophthora infestans**
- D. Diplocarpon rosae**

Black spot on roses is caused by a fungal pathogen named *Diplocarpon rosae*. This disease shows up as small, round to irregular black spots on the upper leaf surface, often with a yellow halo, and these spots can merge as the leaf yellows and eventually drops. The fungus survives in infected fallen leaves and plant debris, so keeping the area clean and removing fallen leaves helps reduce the source of new infections. It spreads helped by wet, humid conditions and leaf wetness, so air movement and avoiding overhead watering are important practices. Management focuses on sanitation and cultural controls—remove and destroy affected leaves, prune to improve air circulation, water at soil level rather than over the foliage, and apply fungicides if necessary. Other organisms listed are responsible for different diseases: *Botrytis cinerea* causes gray mold, *Phytophthora infestans* causes late blight, and *Pseudomonas syringae* is a bacterial pathogen that leads to other types of leaf spots or blights.

**9. An insect pest that damages a plant by sucking plant juices is a**

- A. Cabbage moth**
- B. Black ant**
- C. Lady bug**
- D. Scale insect**

Damage from sucking plant juices comes from sap-sucking insects, and scale insects are a classic example. They attach to leaves or stems and use piercing-sucking mouthparts to withdraw sap from the plant's tissues. This removal of nutrients can lead to yellowing, stunted growth, and overall decline, and their excretion of honeydew often encourages sooty mold that further reduces photosynthesis. Scale insects are usually immobile and encased in a protective covering, which makes them hard to remove and challenging to control. Cabbage moths chew on leaves rather than suck sap, so their damage profile is different. Black ants aren't sap-suckers themselves; they're often associated with sap-feeders like aphids. Lady bugs are beneficial predators, not pests that suck plant juices. So the insect that damages a plant by sucking plant juices is the scale insect.

**10. The soil pH is determined by the concentration of which ions?**

- A. hydrogen and nitrogen**
- B. phosphorus and gypsum**
- C. calcium and phosphates**
- D. hydroxyl and hydrogen**

Soil pH is determined by the hydrogen ion activity in the soil solution. In water, hydrogen ions and hydroxyl ions are linked by the autoionization of water, with the product  $[H^+][OH^-] = K_w$ . This means the balance between hydrogen ions (which lower pH and increase acidity) and hydroxyl ions (which raise pH and increase basicity) sets the soil's overall pH. In other words, the acidity or alkalinity you measure comes from how many hydrogen ions are present, with hydroxyl ions reflecting the opposite end of the same equation. Other nutrients or compounds, like nitrogen, phosphorus, calcium, or gypsum, influence soil chemistry and nutrient availability, but the pH itself hinges on hydrogen and hydroxyl ion concentrations.

# Next Steps

**Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.**

**As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.**

**If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at [hello@examzify.com](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://nocti6157paappliedhorticulture.examzify.com>**

**We wish you the very best on your exam journey. You've got this!**

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