

Agronomy Seaman FFA 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 the percent emergence of the planted seeds if a farmer plants 140,000 seeds per acre and achieves an average of 95 seedlings?**
 - A. 55%**
 - B. 65%**
 - C. 59%**
 - D. 72%**

- 2. How is phosphorus most likely lost from crop fields, contributing to environmental harm?**
 - A. Runoff into surface water**
 - B. Leaching into groundwater**
 - C. Volatilization into the atmosphere**
 - D. All of the above**

- 3. Soybean varieties commonly adapted to Kansas are usually in which maturity groups?**
 - A. 00, 0, I**
 - B. I, II, III**
 - C. III, IV, V**
 - D. V, VI, VII**

- 4. A truckload of wheat weighs 12.6 tons and sells for \$5.00 per bushel, how much will the farmer receive for her wheat if it tests 12.5% moisture?**
 - A. \$2,100.00**
 - B. \$2,500.00**
 - C. \$1,800.00**
 - D. \$2,300.00**

- 5. Which condition is least likely when using a no-till system that maintains crop residue?**
 - A. More water infiltration**
 - B. Less evaporation**
 - C. Warmer soil temperature**
 - D. Less wind erosion**

- 6. Which of the following is a major environmental concern related to pesticide use?**
- A. Runoff of pesticides**
 - B. Leaching into groundwater**
 - C. Point-source pollution**
 - D. All of the above**
- 7. Which of the following is a disadvantage of sprinkler irrigation systems compared to furrow irrigation systems?**
- A. More uniform application of water with sprinkler**
 - B. Less energy required to pump and distribute water with sprinkler**
 - C. Lower labor costs with sprinkler**
 - D. Less leaching losses with sprinkler**
- 8. In terms of winter wheat production, Kansas ranks:**
- A. First**
 - B. Second**
 - C. Third**
 - D. Fourth**
- 9. Which practice is crucial for maintaining soil health?**
- A. Reduction of crop diversity**
 - B. Utilizing cover crops**
 - C. Frequent tillage**
 - D. Excessive irrigation**
- 10. Which fertilizer nutrient is most likely to leach through sandy soils and contaminate groundwater?**
- A. nitrogen**
 - B. phosphorus**
 - C. potassium**
 - D. sulfur**

Answers

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

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Explanations

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1. What is the percent emergence of the planted seeds if a farmer plants 140,000 seeds per acre and achieves an average of 95 seedlings?

- A. 55%
- B. 65%
- C. 59%**
- D. 72%

To determine the percent emergence of the planted seeds, you can use the formula: $\text{Percent Emergence} = (\text{Number of Seedlings} / \text{Number of Seeds Planted}) \times 100$. In this scenario, the farmer plants 140,000 seeds and achieves 95 seedlings. Plugging those numbers into the formula: $\text{Percent Emergence} = (95 / 140,000) \times 100$. Calculating this gives: $\text{Percent Emergence} = (0.00067857) \times 100 = 0.067857\%$. This result indicates that the percent emergence is approximately 0.068%, which does not align with the provided answer options, suggesting a potential misunderstanding of the context or figures. However, if different or adjusted numbers are provided for seedlings or seeds planted, typically, the emergence rate reflects the efficiency and effectiveness of seed germination and establishment in the field. The resulting percentage is crucial for farmers as it directly impacts their yield forecasts and therefore helps in making informed decisions about planting density and practices. To fully grasp this concept, it is important to revisit the numbers or context around seed emergence to clarify the accurate results or refine how different conditions could be impacting emergence rates.

2. How is phosphorus most likely lost from crop fields, contributing to environmental harm?

- A. Runoff into surface water**
- B. Leaching into groundwater
- C. Volatilization into the atmosphere
- D. All of the above

Phosphorus is most likely lost from crop fields through runoff into surface water. This process occurs when excess phosphorus, often from fertilizers or organic matter, is carried away during rainfall or irrigation events. When it rains, water can wash over the soil surface and transport phosphorus particles into nearby streams, rivers, and lakes. This runoff can lead to nutrient pollution, which stimulates the excessive growth of algae in water bodies, resulting in eutrophication. Eutrophication depletes oxygen in the water and can harm aquatic ecosystems, leading to fish kills and loss of biodiversity. While other processes such as leaching into groundwater or volatilization into the atmosphere do occur, they are not the primary pathways through which phosphorus is lost and contributes to environmental harm. Leaching typically involves soluble nutrients moving downward through the soil profile, which is less common for phosphorus due to its tendency to bind tightly to soil particles. Volatilization primarily affects nitrogen rather than phosphorus. Thus, runoff into surface water is the most significant mechanism in the context of phosphorus loss from agricultural fields.

3. Soybean varieties commonly adapted to Kansas are usually in which maturity groups?

- A. 00, 0, I
- B. I, II, III
- C. III, IV, V**
- D. V, VI, VII

Soybean varieties that are commonly adapted to Kansas are usually found in maturity groups III, IV, and V. These groups are particularly suited for the growing conditions in Kansas, including local climate, growing season length, and soil types. Maturity group III represents the earliest soybeans that can be planted for successful harvest in the state's growing conditions, while groups IV and V are suited for the mid to later planting periods. This combination provides farmers in Kansas with a range of options that align with their planting schedules and regional climate variations, optimizing yield potential. The selection of these specific maturity groups is essential for maximizing the vegetative growth period and ensuring that soybeans can mature before the first frost, which is critical in the region's agricultural practices. The adaptability of these groups to the environmental conditions of Kansas contributes to their prevalence among soybean varieties cultivated there.

4. A truckload of wheat weighs 12.6 tons and sells for \$5.00 per bushel, how much will the farmer receive for her wheat if it tests 12.5% moisture?

- A. \$2,100.00**
- B. \$2,500.00
- C. \$1,800.00
- D. \$2,300.00

To determine how much the farmer will receive for her wheat, it's essential to first convert the weight of the wheat from tons to bushels, while also accounting for the moisture content. Wheat is typically priced at a basis of 12% moisture. The wheat's moisture content is 12.5%, which means it is above the optimal moisture content for selling. The common industry practice is to adjust the weight based on the moisture percentage to ensure fair pricing. First, we convert the weight of the wheat from tons to pounds since it's easier to then convert to bushels. One ton equals 2,000 pounds, so: $12.6 \text{ tons} \times 2,000 \text{ pounds/ton} = 25,200 \text{ pounds}$. Next, since wheat is typically measured in bushels, we need to know how many pounds are in a bushel of wheat. There are approximately 60 pounds per bushel for wheat. Thus, the initial conversion to bushels would be: $25,200 \text{ pounds} \div 60 \text{ pounds/bushel} = 420 \text{ bushels}$. Now we have to account for moisture. Since the wheat has a moisture content of 12.5%, which is more than the standard 12%, we need

5. Which condition is least likely when using a no-till system that maintains crop residue?

- A. More water infiltration**
- B. Less evaporation**
- C. Warmer soil temperature**
- D. Less wind erosion**

In a no-till system that maintains crop residue, the condition that is least likely is warmer soil temperature. This is because the presence of crop residue on the soil surface acts as an insulating layer that can trap cooler air and moisture beneath it. As a result, it can actually delay soil warming in the spring compared to bare soil, which can absorb sunlight more readily. In contrast, more water infiltration and less wind erosion are enhanced by maintaining crop residue. The residue helps to break the impact of raindrops on the soil, promoting better water infiltration and reducing surface runoff. Additionally, it acts as a protective barrier against wind erosion, keeping the soil more stable and reducing the loss of topsoil. Less evaporation is also a benefit of this system, as the residue helps to keep soil moisture levels higher by creating shade and reducing the direct impact of wind and sunlight on the soil surface. Together, these benefits emphasize the importance of maintaining crop residue in no-till systems for soil health and moisture retention.

6. Which of the following is a major environmental concern related to pesticide use?

- A. Runoff of pesticides**
- B. Leaching into groundwater**
- C. Point-source pollution**
- D. All of the above**

A major environmental concern related to pesticide use encompasses the various ways these chemicals can adversely affect ecosystems and water quality. When considering the implications of pesticide application, it's crucial to recognize that runoff of pesticides can occur when rain or irrigation leads to surface water contamination. This runoff can carry harmful chemicals into nearby streams, rivers, and lakes, impacting aquatic life and drinking water supplies. Additionally, leaching into groundwater is a significant issue, where pesticides can seep through the soil and contaminate underground water resources. This poses risks not only to agricultural areas but also to communities that depend on groundwater for drinking and irrigation. Point-source pollution, while a more specific type of contamination originating from a single identifiable source, can also be relevant in the context of pesticide use, especially when pesticides are applied near water bodies. Recognizing the connection between these environmental issues emphasizes the comprehensive impact of pesticide use and the necessity for careful management practices to mitigate these risks. Thus, identifying all these factors as significant environmental concerns highlights the complexity and urgency of addressing pesticide-related pollution.

7. Which of the following is a disadvantage of sprinkler irrigation systems compared to furrow irrigation systems?

- A. More uniform application of water with sprinkler**
- B. Less energy required to pump and distribute water with sprinkler**
- C. Lower labor costs with sprinkler**
- D. Less leaching losses with sprinkler**

The statement highlighting less energy required to pump and distribute water with sprinkler systems is an important aspect to consider when evaluating irrigation methods. However, this does not accurately reflect the disadvantages of sprinkler systems compared to furrow irrigation systems. Sprinkler irrigation often requires more energy due to the need to pressurize water and distribute it through a network of pipes and sprinkler heads. This can lead to higher operational costs, particularly in situations where electricity or fuel is needed to power pumps. In contrast, furrow irrigation typically relies on gravity to move water down the rows of crops, which minimizes energy requirements and can be more cost-effective in terms of energy use. When analyzing the overall efficiency and costs associated with both irrigation methods, factors such as energy use, equipment maintenance, and labor should be studied in conjunction with crop needs and soil characteristics. Thus, the choice that considers energy requirements presents a more accurate portrayal of the comparative disadvantages between these irrigation systems.

8. In terms of winter wheat production, Kansas ranks:

- A. First**
- B. Second**
- C. Third**
- D. Fourth**

Kansas ranks first in winter wheat production in the United States due to its ideal climatic and soil conditions, along with its vast agricultural area dedicated to this crop. The state's environment, which includes the right amounts of precipitation and temperature fluctuations during the winter months, contributes to optimal growth and development of winter wheat. Farmers in Kansas have also developed extensive expertise and practices that enhance yields, leading to higher overall production levels. This prominent position is a reflection of Kansas's long-standing agricultural history and its significant investments in research and technology related to wheat farming. Other states may be significant producers of winter wheat, but none have surpassed Kansas's output.

9. Which practice is crucial for maintaining soil health?

- A. Reduction of crop diversity**
- B. Utilizing cover crops**
- C. Frequent tillage**
- D. Excessive irrigation**

Utilizing cover crops is crucial for maintaining soil health because these plants are specifically grown to cover the soil rather than for the purpose of being harvested. They provide numerous benefits that enhance soil quality. Cover crops improve soil structure, promote nutrient cycling, reduce erosion, and enhance moisture retention. By establishing a living root system, they also help to prevent soil compaction and improve soil biodiversity by providing habitat for beneficial microorganisms and organisms. Additionally, the use of cover crops can lead to improved organic matter content as they decompose, which contributes to better soil fertility and overall soil health. They also help to manage weeds naturally and can reduce the need for chemical inputs, which further supports sustainable farming practices. In contrast, practices such as reduction of crop diversity, frequent tillage, and excessive irrigation can lead to soil degradation, compaction, and decreased nutrient availability, which negatively impacts soil health.

10. Which fertilizer nutrient is most likely to leach through sandy soils and contaminate groundwater?

- A. nitrogen**
- B. phosphorus**
- C. potassium**
- D. sulfur**

Nitrogen is the nutrient most likely to leach through sandy soils and contaminate groundwater due to its chemical properties and mobility in the soil. Sandy soils have large particles and low water-holding capacity, which allows water to move through them quickly. When nitrogen fertilizers are applied to plants, particularly in forms such as nitrate, they can easily be transported with water as it infiltrates the soil. As rainfall occurs or irrigation is applied, the water can carry dissolved nitrates beyond the root zone of plants, where they can enter groundwater systems. The potential for groundwater contamination is significant, particularly in areas with sandy soils, because the rapid movement of water effectively decreases the time that nitrogen is held within the soil, making it more likely to leach away. In contrast, phosphorus, potassium, and sulfur have different behaviors in sandy soils. Phosphorus tends to adsorb to soil particles and does not leach as readily, while potassium and sulfur, although they can leach, do so to a lesser extent compared to nitrogen. Thus, the properties of nitrogen make it the most susceptible to leaching in sandy soil conditions.

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.

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

<https://argonomyseamanffa.examzify.com>

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

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