

Pathway Assessment Blueprint

Agricultural Biotechnology



Specific Competencies and Skills Tested in this Assessment:

General Agriculture Technical Skills

- Apply knowledge of the basics of animal systems
- Apply knowledge of the basics of plant and insect systems
- Apply knowledge of the basics of soil, water, and air systems
- Use, maintain, and store tools and equipment appropriately
- Analyze current issues in the fields of Animal Science, Natural Resources, and Agricultural Biotechnology

Agricultural Biotechnology Technical Skills

- Describe the fundamentals of agricultural biotechnology
- Investigate the use of agricultural biotechnology in plant and animal sciences
- Investigate the use of agricultural biotechnology in medicine and the food industry

Academic Foundations

- Apply reading skills in an Animal Science, Natural Resources, and/or Agricultural Biotechnology environment
- Apply writing skills in an Animal Science, Natural Resources, and/or Agricultural Biotechnology environment
- Apply mathematical skills in an Animal Science, Natural Resources, and/or Agricultural Biotechnology environment
- Apply science skills in an Animal Science, Natural Resources, and/or Agricultural Biotechnology environment



Systems

Understand the major governing bodies and groups that impact how Animal Science, Natural Resources, and Agricultural Biotechnology organizations function (e.g., EPA)

- Demonstrate knowledge of economic principles as applied to Animal Science, Natural Resources, and/or Agricultural Biotechnology systems (e.g., supply and demand, profit)

Specific Competencies and Skills continued:

Ethic and Legal Responsibilities

- Understand the major laws and regulations that impact the Animal Science, Natural Resources, and/or Agricultural Biotechnology industry
- Identify and practice ethical behavior in the workplace

Communication

- Locate, organize, and reference written information from reliable sources to communicate with coworkers and clients
- Develop and deliver formal and informal presentations using appropriate media to engage and inform audiences
- Apply listening skills and interpret verbal and nonverbal behaviors to enhance communication with coworkers and clients
- Interpret and use tables, charts, and graphics to support written and oral communication

Information Technology Applications

- Use computers and software to increase general work efficiency
- Use information technology tools specific to Animal Science, Natural Resources, and/or Agricultural Biotechnology to access and manage information (e.g., GPS)



Problem Solving, Critical Thinking, and Decision Making

- Use problem solving and critical thinking skills to locate sources of information about problems and determine appropriate methods for investigating causes
- Use problem solving and critical thinking skills to determine root causes of problems and suggest solutions

Leadership and Teamwork

- Exhibit leadership practices to improve production and quality of work and the work environment
- Work effectively in a team environment to improve the quality of work and the work environment

Specific Competencies and Skills continued:

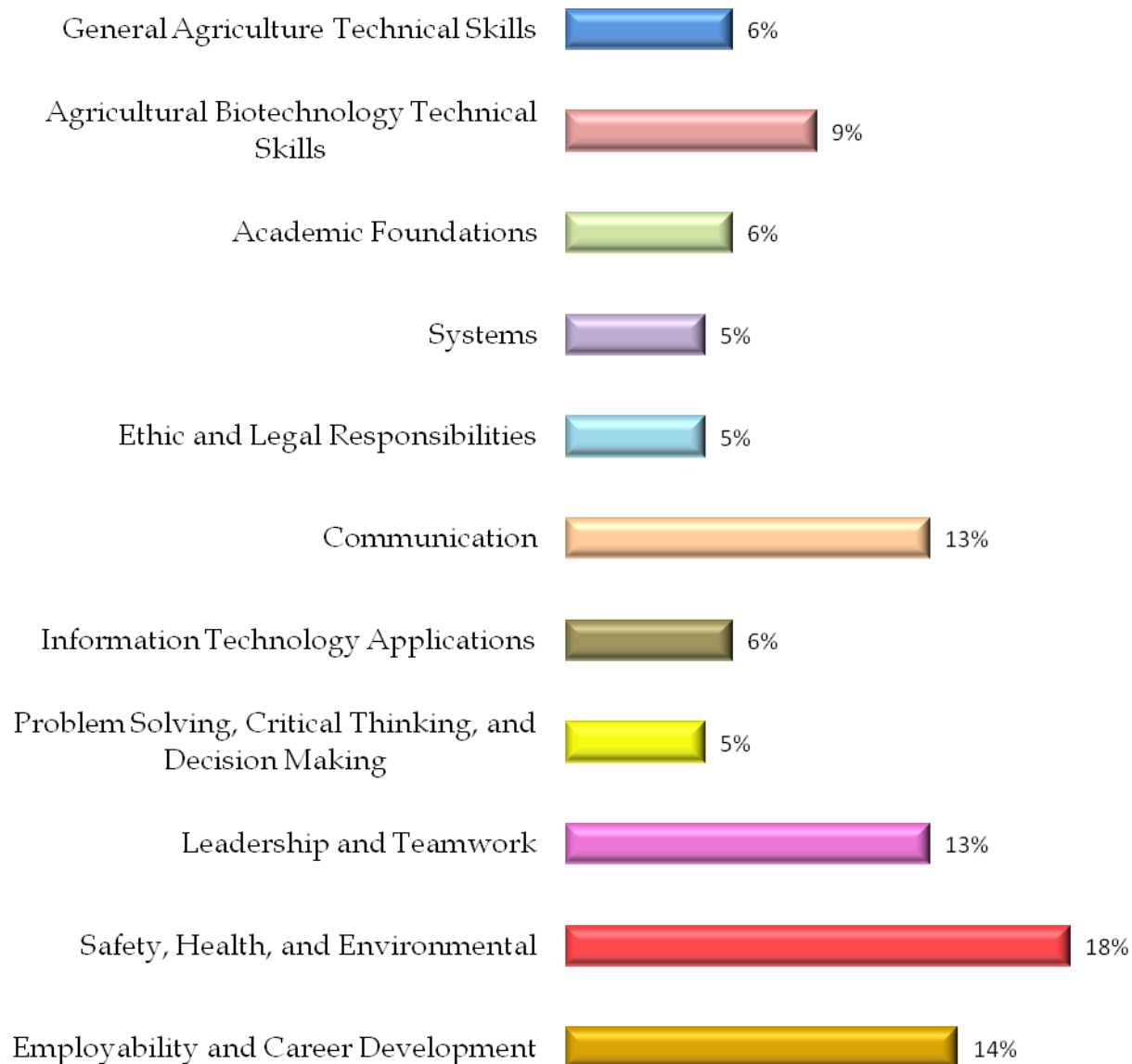
Safety, Health, and Environmental

- Identify and practice appropriate environmental, health, and safety procedures for Animal Science, Natural Resources, and/or Agricultural Biotechnology occupations
- Demonstrate appropriate first aid knowledge and procedures for Animal Science, Natural Resources, and/or Agricultural Biotechnology occupations

Employability and Career Development

- Demonstrate employability skills related to a career in Animal Science, Natural Resources, and/or Agricultural Biotechnology
- Pursue career development skills to advance in Animal Science, Natural Resources, and/or Agricultural Biotechnology



Written Assessment:**Administration Time:** 2 hours**Number of Questions:** 112**Areas Covered:**

Sample Questions:

Individual state Departments of Conservation and Natural Resources in conjunction with the U.S. Department of Agriculture manage

- A. pesticides
- B. food safety
- C. timber
- D. pet stores

The technique used to practice water conservation in creative landscapes is called

- A. hardscaping
- B. xeriscaping
- C. landscaping
- D. greenscaping

An agronomist is primarily concerned with what use of soil?

- A. construction
- B. acting as a filter for the hydraulic cycle
- C. supporting crop growth
- D. natural beauty

The thread-like structures that exist in pairs and carry genes are called

- A. gametes
- B. mitosis
- C. meiosis
- D. chromosomes

An example of the use of bacteria in a fermented food is

- A. applesauce
- B. bologna
- C. cheese
- D. toffee

The purpose of a summary in a report is to emphasize

- A. an introduction
- B. references and sources
- C. key points
- D. an autobiographical sketch

Sample Questions (continued)

Select the sentence below that is correctly written.

- A. The stock was to expensive for me to buy.
- B. I think she said she worked their.
- C. Jim's patients was wearing thin by the end of the day.
- D. I left the correspondence on the manager's desk.

Meat inspection is the governmental responsibility of the

- A. U.S. Department of Agriculture (USDA)
- B. Department of Homeland Security (DHS)
- C. Occupational Safety and Health Administration (OSHA)
- D. Cooperative Extension Services (CES)

To be an effective communicator, the individual must use

- A. lots of photos and charts
- B. research and fact-gathering techniques
- C. biased opinions and information
- D. the individual's own opinion of the topic

Corn and cotton, genetically modified to contain the Bt toxin gene,

- A. are resistant to Round-Up® herbicide
- B. decrease crop yields
- C. reduce the use of pesticides
- D. are generally less expensive than non-Bt crops