NOCTI

Job Ready Pilot Blueprint

Pilot Assessment

Content is Subject To Change Prior to Full Implementation



Production Agriculture Pilot

Code: 3263/ Version: 01

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JOB READY ASSESSMENT BLUEPRINT

PRODUCTION AGRICULTURE - PILOT

Test Code: 3263
Version: 01

Specific Competencies and Skills Tested in this Assessment:

Safety

Demonstrate an understanding of Personal Protective Equipment (PPE) and its applications
Read and interpret (M)SDS sheets, safety labels, and signage
Demonstrate knowledge of personal and occupational safety
Respond to biohazards appropriately

Agriculture Technology

Identify best practices for using tools and equipment safely
Identify strategies to maintain and troubleshoot tools and equipment
Demonstrate a basic knowledge/application of GIS/GPS technology
Identify the purpose of animal reproduction technology

Crop Production and Plant Science

Demonstrate an understanding of crop post-harvest procedures
Demonstrate an understanding of GMO, organic, and non-GMO crops
Identify and explain the different growing regions
Identify and explain the different cropping systems
Identify best practices when formulating, mixing, and handling agricultural chemicals
Demonstrate an understanding of weed and pest control, treatment, and prevention
Identify and explain plant anatomy and physiology
Identify plant nutrient requirements and symptoms of deficiencies

Livestock Production and Animal Science

Demonstrate an understanding of specific beef production operations, including breeds and types
Demonstrate an understanding of specific dairy operations, including breeds and types
Demonstrate an understanding of specific poultry operations, including breeds and types
Demonstrate an understanding of specific swine operations, including breeds and types
Demonstrate an understanding of specific sheep/goat operations, including breeds and types
Recognize key factors relating to animal reproduction, breeding, and genetics
Identify best practices to maintain animal health and wellness

Environmental Science

Recognize the effects of pH on soil and water
Demonstrate an understanding of sustainability and conservation practices in water, land, wildlife, and soil
Demonstrate knowledge of soil structure, qualities, and amendments
Recognize the impact production agriculture can have on natural resources and wildlife
Recognize and explain the importance of pollinators

Agribusiness

Demonstrate an understanding of product distribution
Identify principles of agribusiness economics, including supply and demand
Demonstrate accurate record keeping skills, including identifying assets, liabilities, and net worth
Identify agricultural-based sales and marketing skills

Biosecurity

Identify and explain the current biosecurity measures for livestock
Identify and explain the current biosecurity measures for crop production
Identify vectors relating to the spread of disease in animals and crops
Identify best practices when sanitizing tools and equipment

Written Assessment:

Administration Time: 2 hours and 30 minutes
Number of Questions: 137

Areas Covered:

9% Safety
10% Agriculture Technology
25% Crop Production and Plant Science
24% Livestock Production and Animal Science
11% Environmental Science
12% Agribusiness
9% Biosecurity

Sample Questions:

What kind of milk will best protect a newborn calf from disease?

A. soy
B. powdered
C. colostrum
D. concentrated

Hydrogen sulfide is a dangerous gas that is emitted from what?

A. freshly applied commercial fertilizer stored in sealed containers
B. dry agricultural feed products kept in enclosed storage areas
C. accumulated decomposing animal waste
D. irrigation water standing in open drainage channels

Embryo transfer should be utilized during what scenario?

A. A producer wants to improve herd genetics by purchasing semen from multiple bulls and breeding cows naturally over several seasons.
B. A producer wants to synchronize the breeding schedule of an entire herd so that all calves are born within the same month.
C. A producer wants to increase milk production by selecting replacement heifers from the highest-performing cows in the herd.
D. A producer wants to produce multiple offspring from a female in a single breeding season while using other cows to carry the pregnancies.

If a sprayer has an application rate of 20 gallons per acre, how many pints of active ingredient must be added to a solution when preparing 200 gallons of spray that will provide 2 pints of active ingredient per acre?

A. 10
B. 20
C. 30
D. 40

The label on the 50 percent wettable powder container recommends 4 pounds per acre for corn. How many pounds of this material would be needed for spraying 1-1/2 acres of corn?

A. 5 pounds
B. 5.5 pounds
C. 6 pounds
D. 6.5 pounds

What are Jersey cattle known for?

A. producing large amounts of milk, growing rapidly, and adapting well to cold climates
B. being smaller in size and producing milk with a high butterfat content
C. producing lean beef carcasses, having exceptional muscle development, and exhibiting rapid weight gain
D. being naturally polled and valued primarily for superior marbling and carcass traits

What is mastitis?

A. a nutritional disorder caused by calcium deficiency
B. an infectious disease of the udder
C. a digestive condition
D. a respiratory illness that affects the lungs

Maintaining a biological filter and monitoring the water chemistry is a great way to prevent _____ in an aquaculture system.

A. excessive dissolved oxygen fluctuations and elevated salinity conditions
B. harmful ammonia and nitrite levels
C. algae accumulation and excessive water turbidity
D. elevated phosphate concentrations and trace mineral deficiencies

What are examples of fixed costs?

A. hourly wages paid to seasonal workers
B. rent and equipment payments
C. packaging materials and fuel costs
D. seed purchases and fertilizer expenses

When determining when and where contact with diseased animals occurred, what data would be most helpful?

A. daily feed management logs that record ration changes and inventory levels for the herd
B. digital health records that track the location, treatments, and health of the herd
C. financial management software that records livestock purchases and revenue trends
D. production records that summarize growth rates and market readiness of animals

Performance Assessment:

Administration Time: 2 hours and 40 minutes
Number of Jobs: 5

Areas Covered:

21% **Vehicle Maintenance**

Participant will complete the Vehicle Maintenance Worksheet by performing a vehicle inspection and recording their findings while wearing appropriate PPE.

20% **Hand and Power Tool Usage**

Participant will construct a wood frame project by safely measuring, cutting, drilling, welding, fastening, and installing wood, metal, and PEX components according to specifications, then present the completed assembly for evaluation.

11% **Financial Analysis Balance Sheet**

Participant will review a provided scenario and data sheet before completing a balance sheet for evaluation.

24% **Vaccine Administration**

Participant will evaluate livestock health scenarios by selecting the appropriate medication, calculating and preparing accurate dosages, administering injections using proper animal health techniques, and safely disposing of medical materials.

24% **Plant Health Management**

Participant will identify common plant species and diagnose insect or disease problems, then select, mix, and safely apply the appropriate fertilizer to correct a crop nutrient deficiency using proper agricultural practices and PPE.

Sample Job: Plant Health Management

Maximum Job Time: 30 minutes

Participant Activity: Participant will inspect the provided plants (or photographs of plants) before completing a chart where they will identify the plant and diagnose the insect or disease with each specimen. After reviewing a scenario, the participant will put on PPE, select the appropriate fertilizer for the scenario, and mix and apply the fertilizer.