**Principles of Agriculture: Animal Health**

**How have agricultural research scientists developed sustainable solutions for goat farmers?**

Australia is internationally recognised as a major exporter of goat meat on the world market. The rangeland goat is the major source of goats for the goat meat processing industry in Australia, accounting for approximately 90% of total goat meat production. The farming of goats in a feed lot situation is also becoming established in Australia.

Scientific research has played a large part in maintaining the integrity of the Australian goat industry. Australian goats are acknowledged as being free of all major livestock diseases and the industry has had a long term commitment to food safety, product integrity and traceability. The Goat Industry Council of Australia (GICA) works with several organisations on research and development projects and programs.

**Purpose of task**

This task has a focus on the following aspect of Science as a Human Endeavour:

Scientific knowledge, understanding, and inquiry can enable scientists to develop solutions, make discoveries, design action for sustainability, evaluate economic, social, and environmental impacts, offer valid explanations, and make reliable predictions.

You may wish to address other SHE aspects also.

Use a variety of sources to compare goat production systems, biosecurity and animal health programs in Australia and in one other country. Find out how developments from scientific research are helping farmers to establish sustainable solutions to deliver safe, high quality meat.

You should focus your investigation on one main aspect relating to the production of goat meat. For example, you may wish to focus on goat nutrition, biosecurity or goat health. You could investigate a very specific issue, for example, how research has improved our understanding of the on-farm risk factors for drench resistance.

**Assessment Conditions**

Students have some class time for research and feedback from the teacher. The task is completed over two weeks.

This information may be presented in a format of your choice for presentation to the class and should be a maximum of 1000 words if written or a maximum of 6 minutes for an oral presentation, or the equivalent in multimodal form. Your sources of information should be appropriately acknowledged.

**Performance Standards for Stage 1 Agriculture**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | **A** | **B** | **C** | **D** | **E** |
| **Investigation, Analysis and Evaluation** | **1**  **2**  **3**  **4** | Designs a logical, coherent, and detailed agricultural investigation.  Obtains records, and represents data, using appropriate conventions and formats accurately and highly effectively.  Systematically analyses and interprets data and evidence to formulate logical conclusions with detailed justification.  Critically and logically evaluates procedures and their effects on data. | Designs a well-considered and clear agricultural investigation.  Obtains, records, and represents data, using appropriate conventions and formats mostly accurately and effectively.  Logically analyses and interprets data and evidence to formulate suitable conclusions with reasonable justification.  Logically evaluates procedures and their effects on data. | Designs a considered and generally clear agricultural investigation.  Obtains, records, and represents data, using generally appropriate conventions and formats with some errors but generally accurately and effectively.  Undertakes some analysis and interpretation of data and evidence to formulate generally appropriate conclusions with some justification.  Evaluates procedures and some of their effects on data. | Prepares the outline of an agricultural investigation.  Obtains, records, and represents data, using conventions and formats inconsistently, with occasional accuracy and effectiveness.  Describes data and undertakes some basic interpretation to formulate a basic conclusion.  Attempts to evaluate procedures or suggest an effect on data. | Identifies a simple procedure for an agricultural investigation.  Attempts to record and represent some data, with limited accuracy or effectiveness.  Attempts to describe results and/or interpret data to formulate a basic conclusion.  Acknowledges that procedures affect data. |
| **Knowledge and Application** | **1**  **2**  **3**  **4** | Demonstrates deep and broad knowledge and understanding of a range of agricultural concepts and practices.  Develops and applies agricultural concepts, skills, and practices highly effectively in new and familiar contexts.  Critically explores and understands in depth the interaction between agricultural science and society.  Communicates knowledge and understanding of agriculture coherently with highly effective use of appropriate terms, conventions and representations. | Demonstrates some depth and breadth of knowledge and understanding of a range of agricultural concepts and practices.  Develops and applies agricultural concepts, skills, and practices mostly effectively in new and familiar contexts.  Logically explores and understands in some depth the interaction between agricultural science and society.  Communicates knowledge and understanding of agriculture mostly coherently with effective use of appropriate terms, conventions, and representations. | Demonstrates knowledge and understanding of a general range of agricultural concepts and practices.  Develops and applies agricultural concepts, skills, and practices generally effectively in new or familiar contexts.  Explores and understands aspects of the interaction between agricultural science and society.  Communicates knowledge and understanding of agriculture generally effectively using some appropriate terms, conventions, and representations. | Demonstrates some basic knowledge and partial understanding of agricultural concepts and practices.  Develops and applies basic agricultural concepts, skills, and practices in familiar contexts.  Partially explores and recognises aspects of the interaction between agricultural science and society  Communicates basic information about agriculture, using some appropriate terms, conventions, and/or representations. | Demonstrates some limited recognition and awareness of agricultural concepts and practices.  Attempts to develop and apply one or more basic agricultural concepts, skills, and/or practices in familiar contexts.  Attempts to explore and identify an aspect of the interaction between agricultural science and society.  Attempts to communicate information about agriculture. |