



Australian Government

AHCLSK507 Plan, monitor and evaluate strategies to improve livestock through genetics

Release: 1

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Modification History

Release Number	TP Version	Comments
1	AHCv1.0	Initial release

Application

This unit of competency covers the planning required to determine the genetic selection of a pure breed or cross breeding program to suit the farm environment. The plan will aim to increase production and financial return by using genetic improvement of the livestock for meat production, dairy production and fibre production and the evaluation of the current breeding program. Data is collected and analysed in order to select sires and dams to improve the livestock to meet the product specifications chosen for the enterprise. Evaluation of the breeding program is carried out on completion.

All work must be carried out to comply with workplace procedures, work health and safety, animal welfare and biosecurity legislation and codes of practice and sustainability practices.

This unit is applicable to a person who has a role in managing a breeding enterprise. This unit is likely to require consultation with breed societies, importers and distributors of genetic material, local livestock agents, processors and marketers of the product.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil.

Unit Sector

Livestock (LSK)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Determine breeding	1.1 Determine the breeding goals for the short term and the strategy

Element	Performance criteria
goals for the enterprise in relation to market specifications	to meet market specifications in the long term 1.2 Analyse the traits affecting profit in a livestock breeding enterprise to optimise production through an improved genetic breeding program 1.3 Assess the environment where the breeding enterprise is based and select a breed and breeding program to match that environment 1.4 Select a product specification suited to the breeding enterprise
2. Assess current performance of the breeding enterprise	2.1 Collect and analyse data on the traits currently used in the breeding enterprise 2.2 Collect and analyse data on current market performance, using feedback from processors and customers
3. Assess and select livestock for genetic improvement	3.1 Assess the current breeding herd for the genetic traits required for production and marketing 3.2 Analyse genetic information to select herd replacements from the breeding herd and before purchasing stock 3.3 Evaluate the costs and benefits of natural mating, Artificial Insemination (AI) and Embryo Transfer (ET) to achieve genetic improvement
4. Carry out a breeding program	4.1 Assess and improve the facilities on the property for drafting, inseminating and pregnancy testing 4.2 Develop and monitor procedures to be followed for work health and safety while implementing the animal-breeding program 4.3 Apply legal, veterinarian and welfare requirements 4.4 Apply practices to improve submission rates and conception rates of a breeding program 4.5 Assist genetic selection by the use of equipment to aid in data collection and analysis 4.6 Use new technology to collect feedback to improve production and market performance
5. Evaluate the breeding program against the breeding goals	5.1 Assess the compliance of the livestock to the market specifications by using electronic information including feedback sheets and test results 5.2 Assess the phenotype of the livestock produced against the breeding goals

Foundation Skills

Foundation Skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Unit Mapping Information

New unit - equivalent to VBP152 Plan, monitor and evaluate strategies to improve livestock through genetics.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCLSK507 Plan, monitor and evaluate strategies to improve livestock through genetics

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Performance Evidence

The candidate must be assessed on their ability to integrate and apply the performance requirements of this unit in a workplace setting. Performance must be demonstrated consistently over time and in a suitable range of contexts.

The candidate must provide evidence that they can:

- analyse profit for the breeding enterprise
- select suitable market specifications for the enterprise
- develop selection criteria for a breeding program
- select livestock for a breeding program on phenotype and genotype
- assess farm facilities to carry out a breeding program
- use Breed Object index
- arrange Artificial Insemination (AI) and Embryo Transfer (ET) programs
- implement the breeding program
- feed livestock to ensure success of a breeding program
- organise drugs, animal identification and all equipment in clean working order in preparation for the program
- keep breeding and production records
- submit records and information for statistical analysis and registration of livestock
- handle livestock safely and humanely
- interpret feedback information

Knowledge Evidence

The candidate must demonstrate knowledge of:

- theory of cell division and the structure of DNA
- heritability estimates for the selected characteristics
- recording and understanding breed pedigrees
- dominant genetic traits and marker genes
- accuracy of the genetic potential of the selected breeding trait for the program
- genetic defects

- value of heterosis in a breeding program
- ethics and codes of practice for the welfare of livestock on the breeding program
- phenotype selection criteria
- market specifications targeted by the breeding program
- long term breeding aims
- pregnancy testing procedure
- veterinary and non-veterinary standard operating procedures
- sources for genetic information, up to date program design and implementation procedures

Assessment Conditions

Competency is to be assessed in the workplace or simulated environment that accurately reflects performance in a real workplace setting.

Assessors must satisfy current standards for RTOs.

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