**AS AS91293 v1 Agricultural and Horticultural Science 2.5A**

**Title:** **Demonstrate knowledge of livestock reproductive technologies.**

AH 2.5A Resource title: **Reproductive Choices**  **Credits:** 4

| **Achievement** | **Achievement with Merit** | **Achievement with Excellence** |
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| Demonstrate **understanding** of livestock reproductive technologies. | Demonstrate **detailed** understanding of livestock reproductive technologies. | Demonstrate **comprehensive** understanding of livestock reproductive technologies. |

**Student instructions sheet**

**Introduction**

New Zealand farmers have a range of reproductive technologies available to them to improve the reproductive performance of their farming operation.

You are to imagine that you are an agricultural science student being hosted by the local **Young Farmers Club**. You are interested in finding out about the range of reproductive technologies that New Zealand livestock farmers have available to them.

This assessment activity is made up of **two** parts.

1. First you will research **three** reproductive technologies that have been designed to improve reproductive performance on New Zealand farm.
Produce a fact sheet on each reproductive technology.

2) After you have gathered the appropriate information and developed your fact sheets you will use the fact sheets as background material for an article you are writing about the reproductive technologies used by farmers.

 This is an individual assessment activity.

 You have **eight** periods of in-class and homework time to complete it.

 **Farm Type**

 **As a basis for your presentation, choose one of the following farm types.**

 **Sheep, Beef, Dairy** or **Deer**

**Task 1) Research (4 periods) and reporting (4 - 6 periods).**

There are a number of reproductive technologies used by farmers to improve the reproductive performance of their farming operation, for example:

* artificial insemination (cervical and uterine).
* sire recording and selection.
* scanning/pregnancy testing.
* flushing.
* induction.
* embryo transfer.
* artificial hormone application (for example CIDT, synchronising drugs).

Choose **THREE** of the technologies listed above and **research / collect** information how a farmer would use each technology to improve the reproductive performance and hence the profitability of their farm.

Include the following in your answer:

• a **description** of the **steps** taken in the **order** in which they are performed
the **equipment/materials** used, and
the **reproductive structures** involved when performing the technique

* an **explanation** of how the **steps** described are important to the **overall success** of the technique (this will typically involve reference to both the **hormones** involved and
the **reproductive structures** involved).

Once you have collected the relevant information, use it to write **three fact sheets** on each technology. The fact sheets should include pictures and/or diagrams, as well as informative text.

Note: You will not be assessed on the layout and design of your fact sheets.

***TASK 2) Magazine article and Presentation ( 2 - 4 periods, TOTAL 8 periods overall).***

During your stay with the Young Farmers Club, you have decided to write an article for a local farming magazine. The subject of your article is the

**“Justification of the use of reproductive technologies by farmers”.**

Choose the **TWO** reproductive technologies that you consider to be the most significant in terms of the economics of production for a farmer.

Use the fact sheets and your research notes as background material to write your magazine article. You may also need to undertake additional research for your article.

**Written**

**Note**: All written material must be done by the student in their own words (prefer hand written).

 - so **cut and paste** word taken from the internet or other sources will not be accepted.

 This article should not be no longer than 4 pages.

 All **three fact sheets** and the **Article** must be handed in at the completion of the Oral presentation.

In your oral presentation to the rest of the class :-

1. **Describe** the **steps** taken when performing the reproductive technologies
 and **explain** how the **steps** taken influence the success of the technologies.
Include the livestock reproduction technologies, their functions, and the **hormonal** control used to complete each reproductive technology.

2. When justifying the two recommended reproductive technologies on the basis of their significance to the **economics of production** on the farm consider.

* the number of female stock getting pregnant each year
* the number of offspring produced per female animal
* the genetic potential of the offspring
* the effect on the timing of these animals giving birth
* and the effect that these factors have on financial returns.

**Notes and Time Line**

Farm type =

Technologies chosen =

 1.

 2.

 3.

**Plan**

| **Period** | **Aim for / Completed** | **Suggested.** |
| --- | --- | --- |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 6 |  | Task sheets finished |
| 7 |  |  |
| 8 |  | Oral presentation completed |

**Notes**:

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