**Stage 1 Agriculture Program – Semester 2**

*This program articulates with LAP 2*

This is a 10-credit course conducted over a full semester, with four 55 minute lessons per week. This program is best suited to Semester Two.

Aspects from both main topics will be taught in this semester.

**Principles of Agriculture**:

Anatomy and Physiology, Plant and Animal Health, Ag Production skills

**Enterprise Management**:

Plant and Animal Production, Marketing Methods, Business Planning, Environmental Management

Four themes will be covered:

* Reproduction: Will cover the basic anatomy and physiology of reproductive systems of pigs, sheep and cattle. Practical management of different breeding systems will be included and an exploration of methods of manipulating reproduction. A field trip to SABOR, Clare will provide insight into an industry leader in reproductive technologies.
* Intensive Livestock: The students will manage the school’s feedlot cattle as an example of an intensive industry, attending to feeding, cleaning and monitoring of weight gain to meet industry specifications.
* Livestock nutrition: This topic will cover the principles of monogastric and ruminant digestion with a particular focus on applying these concepts to the practical management of providing feed to intensive livestock.
* Pests and Diseases: This topic will cover benefits and issues associated with different methods that can be employed in integrated pest management programs. Strategies to prevent and control major pests and diseases in livestock and cropping systems will be explored.

| **WEEK** | **STAGE 1 AGRICULTURE** |
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| **Term 2**  **Week**  **9 and**  **10** | Start Semester Two  Feedlot cattle – intro to care and monitoring. Weigh cattle.  *Design cattle feedlot investigation*  Brainstorm list of required understanding for *Cattle Investigation.* Research e.g. cattle breeds, growth rates, feed rations, etc. - background information for investigation. |
| **Holidays** |  |
| **Term 3 Week 1** | Reproduction– anatomy and physiology main ag. animals.  Weigh cattle |
| **2** | Reproduction– manipulating reproduction – traditional and modern methods, breeding systems and applications. **SHE** Discuss how scientific advances in reproductive technologies have led to economic benefits for farmers. |
| **3** | SABOR – Field trip  *Reproductive Technologies task preparation* – research and write notes  Weigh cattle |
| **4** | *Reproductive Technologies* preparation  *Draft and notes* |
| **5** | **AT1: SHE task** *Write Reproductive Technologies reports* – 90 minute lesson  Weigh cattle |
| **6** | Pests and Diseases topic – intro main ag. pests and diseases |
| **7** | Pest and Diseases – discuss control and prevention methods (categorise: chemical, management, biological, quarantine, genetic), develop idea of integrated pest/disease management  **SHE** Examine the positive and negative effects on animals of scientific advances such antibiotic use. |
| **8** | *Prepare IPM Oral presentation* – in class drafting  Final weighing of cattle |
| **9** | **AT2:** *Present IPM Oral presentations* |
| **10** | Livestock Nutrition topic  Review monogastric and ruminant nutrition – anatomy and physiology.  **SHE** Explore how NIR spectroscopy is used to test silage quality or check for consistent protein content in feeds.  *Cattle Feedlot Practical reports draft* |
| **Holidays** |  |
| **1** | **AT1: Design practical** *Cattle Feedlot practical reports due*  Formulating feed rations, calculating ME, protein and fibre in feeds, assessing rations and managing acidosis risk. |
| **2** | **AT2: Applications task** *Feed Budget*  Feed budgeting using Lifetimewool feed budget tables.  Practical session: Collect weight and condition score data using school’s Merino ewes. Assess FOO from pasture. |
| **3** | *Feed budget drafts due*  *Mini-investigation (formative*) as preparation for Stage 2 Agriculture Investigations (Production focus or Experimental focus) |
| **4** | *Feed budget reports due*  Review– main concepts, terminology, practices needed for Stage 2 Agriculture |
| **5** | Revision  *Complete Mini-Investigation (formative)* |
| **6** | *Review Exam – formative.* |