Stage 5 Agriculture Technology course plan

Rationale

This course plan has been developed to meet the requirements of students at Richmond High School. The units of work have been chosen to utilise the resources of the school farm, the skills of the teaching staff and the resources in the community. Factors such as the economic importance of an enterprise were also considered, and some enterprises that are not important on the Cumberland Plains, but vital in the Australian economy were included.

The enterprises therefore show a mixture of those produced in this region (nursery, dairy, fruit, vegetables and poultry) and those which are important to the Australian economy (beef, wool and winter cereals) and also those which provide staple foods to these students (winter cereals, beef, dairy, fruit and vegetables).

Agriculture in most farming contexts is integrated in nature and each enterprise should be viewed holistically, therefore the syllabus outcomes will generally be addressed across a range of enterprises. This approach will reinforce concepts, build on prior learning and emphasise the similarities and differences between different production systems.

The seasonal nature of activities in the production systems was the main consideration in the sequencing of enterprises across each of the two years. This is at best a compromise as each production enterprise has demands for activities throughout the year. The sequence is therefore based on the time of the year when the majority of the activities or the key activities for that enterprise occur.

Course plan

Each unit of work will last one term. At Richmond High School this is 30 periods, each of 50 minutes duration. Unit D: *Trees* is made up of two half topics each focussing on a different enterprise.

Year 9

A: Vegetable production

Syllabus requirements	Key concepts	Outcomes
Intensive plant enterprise	• Production in soil • Hydroponics • Mushrooms • Machinery and tool use and safety • Tractor • Mulching • Plant Nutrition • pH • Pests and diseases • Vegetable marketing • Seasonality and vegetable types • Plant spacing, sowing depth	5.1.1 5.1.2 5.3.1 5.3.3 5.4.2 5.5.1 5.5.2 5.6.1 5.6.2

Year 9 Course plan continued.

B: Egg production

Syllabus requirements	Key concepts	Outcomes
Intensive animal enterprise	• Animal husbandry skills • Breeds • Cross breeding • Ethics and welfare • Diets • Monogastric digestive system • Reproduction and reproductive system • Pests and diseases • Chicken development including embryology	5.1.1 5.3.1 5.3.4 5.4.2 5.4.3

C: Sheep meat

Syllabus requirements	Key concepts	Outcomes
Extensive animal enterprise	• Breeds • Routine husbandry activities • Calendar of operations • Pastures and their use • Grasses, legumes • Native and introduced pastures • Pasture grazing strategies • Seasonality of pasture growth • Wool types and classing • Yards and sheep handling	5.1.1 5.1.2 5.2.1 5.3.2 5.3.4 5.4.1 5.4.3 5.6.1 5.6.2

D: (i) Trees for fruit

Syllabus requirements	Key concepts	Outcomes
Intensive plant enterprise	• Varieties of fruit • Management of citrus, pome and stone fruit • Pests and diseases • Aboriginal food trees • Pruning methods • Orchard layout	5.1.1 5.1.2 5.3.1 5.3.3 5.5.2 5.6.2

(ii) Trees for wood

Syllabus requirements	Key concepts	Outcomes
Extensive plant enterprise	• Forestry • Agro-forestry • Erosion control and stabilisation • Identification of species • Native versus introduced • Growth rates • Climatic requirements	5.3.3 5.4.1 5.4.2 5.5.2 5.6.1 5.6.2

Year 10

A: Beef cattle

Syllabus requirements	Key concepts	Outcomes
Intensive/extensive animal enterprise	• Breeds (also Indicus versus Taurus) • Feeding and nutrition • Ruminant digestive system • Routine husbandry activities • Carcase characteristics and scoring • Meat quality • Meat markets and marketing • Extensive (pastoral) and intensive (feedlot) • Cross breeding • Reproduction • Diseases, especially digestive disorders	5.1.1 5.1.2 5.2.1 5.3.1 5.3.2 5.3.4 5.4.2 5.4.3 5.5.2 5.6.2

B: Winter grains

Syllabus requirements	Key concepts	Outcomes
Extensive plant enterprise	• Cereals • Legumes • Oilseeds • Tillage • Soil structure • Soil moisture • Crop rotations • Sustainability • Irrigation • Soil salinity • Minimum tillage • Direct drilling • Importance to the economy • Use of grain crops • Stubble retention	5.2.1 5.3.1 5.3.3 5.4.1 5.4.2 5.5.1 5.5.2

C: Plant nursery production

Syllabus requirements	Key concepts	Outcomes
Intensive plant enterprise	• Potting mixes • Sexual and asexual reproduction • Seedling propagation • Misting • Bottom heating • Basic greenhouse design • Propagation techniques: – Leaf cuttings – Softwood cuttings – Hardwood cuttings – Layering – Budding – Grafting – Plant tissue culture • Basic plant classification	5.3.1 5.3.3 5.5.1 5.5.2 5.6.1 5.6.2

D: Dairy cattle

Syllabus requirements	Key concepts	Outcomes
Intensive animal enterprise	• Breeds • Lactation • Nutrition for milk quality • Milk curves • Seasonal and all year production • Milk products and processing • Diseases • Heat detection • Artificial insemination	5.1.1 5.1.2 5.3.2 5.3.4 5.4.2 5.4.3 5.5.2