Curriculum Connections (Years 7-10)

Content Connections - Years 7/8

Design and Technologies: Knowledge and Understanding

KEY CONTENT: Food and Fibre Production

Analyse how food and fibre are produced in managed environments and how these can become sustainable (AC9TDE8K04)

Key Interdisciplinary Connections

Learning Area	Year	Content Descriptors
Science	**7**	Use models, including food webs, to represent matter and energy flow in ecosystems and predict the impact of changing abiotic and biotic factors on populations (AC9S7U02)
	8	Analyse the relationship between structure and function of cells, tissues and organs in a plant and an animal organ system and explain how these systems enable survival of the individual (AC9S8U02)
Geography	**7**	Classification of environmental resources and the way that water connects and changes places as it moves through environments (AC9HG7K01)

Content Connections - Years 9/10

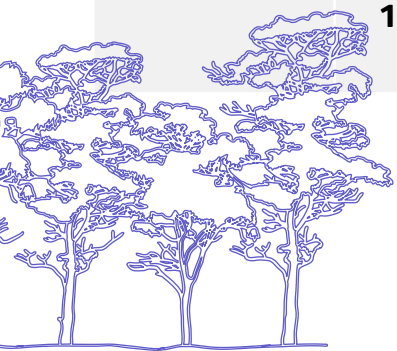
Design and Technologies: Knowledge and Understanding

KEY CONTENT: Food and Fibre Production

Analyse and make judgements on the ethical, secure and sustainable production and marketing of food and fibre enterprises (AC9TDE10K04)

Key Interdisciplinary Connections

Learning Area	Year	Content Descriptors
Science	**9**	Describe the form and function of reproductive cells and organs in animals and plants, and analyse how the processes of sexual and asexual reproduction enable survival of the species (AC9S9U02)
		Represent the carbon cycle and examine how key processes including combustion, photosynthesis and respiration rely on interactions between Earth's spheres (the geosphere, biosphere, hydrosphere and atmosphere)(AC9S9U03)
	10	Use models of energy flow between the geosphere, biosphere, hydrosphere and atmosphere to explain patterns of global climate change (AC9S10U04)
Geography	**9**	The effects on environments of human alteration of biomes to produce food, industrial materials and fibres (AC9HG9K02) The environmental, economic and technological factors that impact agricultural productivity, in Australia and a country in Asia (AC9HG9K03)
	10	The human-induced changes that challenge the sustainability of places and environments (AC9HG10K01) Causes and effects of a change in an identified environment at a local, national or global scale, and strategies to manage sustainability (AC9HG10K04)



Forest Education Foundation

Curriculum Connections (Years 11-12)

Agricultural Systems - Level 3

Unit	Content Descriptors
2: Ecosystems	**Soil, nutrients and water** • the role of nutrient cycles in Australian agricultural systems including the nitrogen cycle and the carbon cycle **Factors contributing to the degradation of soil and water** • the historical development of Australian land and water use practices, from Aboriginal practices to the present day • farming practices that have contributed to soil degradation such as salination, acidification, soil structure decline, loss of soil organic matter and erosion and the effects of these on soil and water • practices that have contributed to changes in water quality and availability • government policies and resource management. **Sustainable resource management** • sustainable techniques to maintain and/or improve farming environments • the role of individual farmers, the broader community and government in reducing the harmful environmental effects of agriculture and in conserving water, protecting waterways and managing water quality **Australia's variable climate** • managing resources • management techniques available to the farmer to minimise risk and maximise opportunities from climate variability • flexibility in land management • appropriateness of climate for certain plant and animal breeds
3: Plant Production Systems	**Plant production systems** • process of growth and development in plants • processes of respiration, photosynthesis, net assimilation rate, water and nutrient uptake on the effects of plant growth • beneficial relationships between microbes and plants including the fixing of atmospheric nitrogen in legumes • the role of plant hormones on plant growth and development **Constraints on plant production** • constraints imposed by environmental factors • competition in plant communities • complex interaction involving problem organisms (pathogenic microbe or invertebrate), the host and the environment in plant disease. **Managing plant production** • managing the constraints on plant growth and development to maximise production • the interaction of genotype, environment and management • responsible and strategic use of chemicals • Integrated Pest Management (IPM).

Curriculum Connections (Years 11-12)

Agricultural Enterprise - Level 2

Unit	Content Descriptors
1: Managed and Natural Systems	**Natural Systems** • ecosystems: alteration of natural ecosystems for the production of food and fibre • climate: measurement of weather conditions and its importance to food and fibre production • natural resources: management of soil and/or water associated with food and fibre production • main agricultural regions in Tasmania and their predominant agricultural enterprises **Basic Anatomy and Morphology** • basic plant morphology and function of leaves, stems, roots, flowers, seeds and fruits • basic nutrient requirements for plants and animals **Data Analysis** • measuring outputs such as crops, animals, feed produced, food and fibre production • production rates • calculation of ratios and percentages, measurement of weight, volume, growth, data collection representation and interpretation
2: Plant Production	**Management and Genetics in Plant Production** • overview of propagation techniques • the use of different varieties within a production system • consumer and market requirements for commercial plant products. **Plants, climate and resource interaction** Management for sustainable production including: • effects of soil texture, structure, pH and fertility on plant production • macro and micro nutrients important for plant growth • inorganic and organic fertilisers • cultivation and grazing practices • effective rainfall and the concept of the growing season • water management. • Microbes, invertebrates and pests • The nature and impact on plant production systems of microbes, invertebrates and pests • methods of control and prevention of plant pests and diseases.