



## **Submission to ACARA for the inclusion of Primary Industries Education in the Australian Curriculum**

### **Introduction**

If Australia is to provide high quality agricultural produce to meet the needs of a growing world population, using sustainable practices, while at the same time addressing the issues of climate change and decreased available land, students need opportunities to participate in a comprehensive study of agriculture in the compulsory years of schooling. 'It also requires a greater understanding within the community about the broader role agriculture plays in our daily lives' (Peters, 2009: 3).

Foundations in agricultural understanding and skills need to begin in the early years by growing, preparing and cooking basic agricultural products, so that children acquire a life-long appreciation of the link between agriculture and basic human needs.

The study of agriculture offers authentic learning opportunities, practical *hands on* through to the very academic and theoretical. Students have the unique opportunity to develop high levels of responsibility in care of animals while learning to cope with change and uncertainty, reflecting on the past and moving into the future.

Agricultural Education includes an understanding and use of biological materials and systems and related technological equipment, the investigation and management of living organisms, land and water use, farm planning, crop and animal production, environmental monitoring, value adding, promotion and marketing of agricultural products and use of scientific methodology. All Australian students should have the opportunity to develop an increasingly sophisticated understanding of these areas as they move through years P-10. Interested students should have the opportunity to continue the study of Agricultural Science into years 11-12.

### **Primary Industries Education Foundation Position**

The primary industries education foundation strongly believes that:

- The title for the area of study is Primary Industries. For definition this includes agriculture, forestry and fisheries.
- The opportunity for primary industries to be a context for cross-curricula study from K-12 is strongly supported by ACARA. (Including descriptors of study and reference to primary industries resources on the curriculum web pages).
- All students have the opportunity to study Primary Industries as a specialised subject from year 7.

### **Rationale**

Agriculture provides people with food, fibre, fuel, shelter and the possibility of diverse careers and lifestyles. Agriculture is a composite of rural and urban industries that are structured to produce both raw and value-added materials from plants and animals to meet identified consumer needs.

Agriculture has a unique place in the history of human society. It underpins social structures and provides for basic human needs. It is fundamental to human progress.

Agricultural industries make a significant contribution to Australia's economy through investment, employment of skilled workers, consumption of products from other sectors of the economy and export.

Agricultural products contribute significantly to Australia's export income. The total chain, from the farm and the research laboratory to the processing plant, retail outlet and exporter, accounts for a major portion of the nation's Gross Domestic Product. ( Australian farms and their closely related sectors generate \$137 billion-a-year in production - underpinning 12% of GDP)<sup>1</sup>. To maintain and possibly enhance this contribution to the Australian economy, Australia's agricultural industries must undergo significant and continuous change. A well-educated workforce, as well as an informed and sympathetic wider community, is crucial to the on-going success of the agricultural sector. Agriculture's dynamic nature results from the increase in knowledge and the application of technology to the production, processing and marketing of products in complex national and international marketplaces. This complexity has political, social, ethical, economic and environmental implications for Australia.

'An understanding of the relationships between production, processing and consumption enables informed debate about the impact of agricultural practices on society and the environment' (NSWBOS, 2003: 8). The study of agriculture has close links with aspects of biological, chemical and earth science, geography, health and well-being, indigenous perspectives, engagement with Asia and business studies.

However, the majority of consumers (including children) are isolated from the production and processing of food and fibre, with only 3.5% of the population directly involved in agribusiness. The study of Agricultural Education would provides students with an understanding of the relationships between production, processing and consumption to enable them to participate in debate on the impact of each upon society and the environment.

For example, opportunities should be provided for students to develop an informed awareness of the economic, ethical and legal issues relating to animal welfare in the agricultural sector.

It is important that students realise that long-term benefits of agriculture can only accrue if systems can be sustained environmentally, economically and socially. Sustainability is critical if agriculture is to meet the food and fibre needs of a growing world population. An understanding of current land use must involve an historic perspective that extends to before the arrival of Europeans in 1788. Resolving issues of long-term profitability and sustainability is the challenge for Primary industries and unpins this submission.

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<sup>1</sup> Source:NFF-based on modelling by Econtech for the Australian Farm Institute, Australia's Farm Dependent Economy Report, 2005 and ABARE, Australian Commodity Statistics, 2008FF-

### What is the core learning in each stage?

Stage	At each stage of core learning for the <i>Agriculture</i> area students will develop and understanding and an awareness of;
<p style="text-align: center;"><b>1</b></p> <p style="text-align: center;">(K-Year 2)</p>	<ul style="list-style-type: none"> <li>• Range of food and fibre products and how they are used.</li> <li>• The relationship between the products that are consumed and the commodities that are produced, i.e. paddock to plate.</li> <li>• Simple processes that contribute to this relationship, e.g. planting, growing, breeding, harvesting, processing.</li> <li>• Conservation of the resources that are used in these processes.</li> <li>• Range of skills that are essential to this production and marketing, e.g. farmers. Scientists, truck drivers, shearers.</li> </ul>
<p style="text-align: center;"><b>2</b></p> <p style="text-align: center;">(Years 3-6)</p>	<ul style="list-style-type: none"> <li>• Production cycles for some commodities involving the physical, biological and social aspects, e.g. wheat grain from seed, germination, growth, maturity, harvest and the constraints and variables in this production.</li> <li>• Production depends on resources, their availability and management over the short and long term.</li> <li>• Programs for conservation of these resources, i.e. soil conservation, composting, recycling water, growing trees.</li> <li>• Importance of agriculture in Australia's history and folklore.</li> <li>• Use of technology in making agriculture more efficient and sustainable.</li> <li>• Life in rural Australia-socially, economically and environmentally.</li> </ul>
<p style="text-align: center;"><b>3</b></p> <p style="text-align: center;">(Years 7-10)</p>	<ul style="list-style-type: none"> <li>• Production of some commodities and the skills necessary for this production.</li> <li>• Range of plants and animals used in Australian agriculture and the products marketed.</li> <li>• Processing of some of the food and fibre commodities to produce goods that are safe for human consumption.</li> <li>• Changing environment in which production needs to continue. Changes are brought about by greater knowledge, technological advances, consumer demands, social issues and climate challenges.</li> <li>• Importance of agriculture in Australia's economy and culture</li> <li>• Diversity of people involved in agriculture and their needs, careers and lives.</li> </ul>
<p style="text-align: center;"><b>4</b></p> <p style="text-align: center;">(Years 11-12)</p>	<ul style="list-style-type: none"> <li>• Principles of agribusiness: On-farm management; product management; beyond the farm gate</li> <li>• Natural resource management: climate and agriculture; soils and Landcare;</li> <li>• Plant science: anatomy &amp; physiology; propagation; plant health &amp; pathology; genetics &amp; breeding</li> <li>• Animal science: anatomy &amp; physiology; food &amp; nutrition; genetics &amp; breeding; health &amp; pathology; animal behaviour</li> <li>• Sustainable production systems</li> </ul>