Agricultural Production in Australia

Tom Loynachan
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Agriculture in Australia
Overview of production

• Climate
• Soils
• Crops
• Livestock
• Summary
Agriculture in Australia

• wide variety of crops, horticulture, viticulture, dairy, fiber, fisheries, and livestock
Agriculture in Australia

• slightly smaller than the US contiguous 48 states

• 76% of value of all agricultural production is exported (wheat, beef, wine, wool, dairy, sugar, barley, and lamb)

• Australia remains the world's leading producer of wool, regularly supplying nearly one-third of the global total
## Top Products by Value (2010 est.)

<table>
<thead>
<tr>
<th>Product</th>
<th>Value (Billions of Australian $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle and calves</td>
<td>7.5</td>
</tr>
<tr>
<td>Wheat</td>
<td>6.0</td>
</tr>
<tr>
<td>Whole Milk</td>
<td>4.0</td>
</tr>
<tr>
<td>Vegetables</td>
<td>3.2</td>
</tr>
<tr>
<td>Fruit and nuts</td>
<td>2.8</td>
</tr>
<tr>
<td>Sheep and lambs</td>
<td>2.2</td>
</tr>
<tr>
<td>Barley</td>
<td>2.0</td>
</tr>
<tr>
<td>Poultry</td>
<td>1.8</td>
</tr>
<tr>
<td>Wool</td>
<td>1.8</td>
</tr>
<tr>
<td>Hay/pasture</td>
<td>1.7</td>
</tr>
</tbody>
</table>
## Australian Farms

<table>
<thead>
<tr>
<th>State</th>
<th>No. of farms</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>New South Wales (NSW)</td>
<td>38,051</td>
<td>31.5</td>
</tr>
<tr>
<td>Victoria</td>
<td>29,666</td>
<td>24.5</td>
</tr>
<tr>
<td>Queensland</td>
<td>25,136</td>
<td>20.8</td>
</tr>
<tr>
<td>South Australia</td>
<td>12,868</td>
<td>10.6</td>
</tr>
<tr>
<td>Western Australia</td>
<td>11,124</td>
<td>9.2</td>
</tr>
<tr>
<td>Tasmania</td>
<td>3,547</td>
<td>2.9</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>474</td>
<td>0.4</td>
</tr>
<tr>
<td>Australian Capital Territory (ACT)</td>
<td>76</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Australian Bureau of Statistics, 2008/09
Sidney:
33° 51’ S
(Dallas, TX)

Melbourne:
37° 47’ S
(Springfield, MO)
Precipitation

• Compared to other continents Australia is dry
• 80% of continent receiving 600 millimeters (24 in) of rain or less each year
• Lack of inland bodies of water and mountains contribute to lack of rainfall
Average rainfall
Annual

32 in. = 800 mm
Soil Temperature Regimes
Our Weather Outlook

- March is the first month of fall in Australia
- Should expect temperatures in the 60’s and 70’s (but bring a jacket and sunscreen)
Australian Climate Regions

Six main climate regions

Equatorial
Tropical
Subtropical
Desert
Grassland
Temperate
Irrigation in Australia is a widespread and required in many areas for production of crops for domestic and export use.
Common crops produced using irrigation include rice, cotton, canola, sugar, various fruits and other tree crops; and pasture, hay, and grain for use in beef and dairy production.

Water rights are important!!!
Soils

- Important natural resource developed on a wide range of rock types and under climatic conditions varying from the alpine zones of south-eastern Australia and Tasmania, through the Mediterranean zones of southern and south-western Australia and the wet and dry tropics of Queensland, to the very low rainfall areas of the center.
# Australian Soil Orders and Equivalent Soil Taxonomy Orders

<table>
<thead>
<tr>
<th>Australian Soil Classification Soil Order</th>
<th>Approximate Soil Taxonomy Equivalent Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organosol</td>
<td>Histosol</td>
</tr>
<tr>
<td>Rudosol</td>
<td>Entisol</td>
</tr>
<tr>
<td>Tenosol</td>
<td>Inceptisol</td>
</tr>
<tr>
<td>Podosol</td>
<td>Spodosol</td>
</tr>
<tr>
<td>Vertosol</td>
<td>Vertisol</td>
</tr>
<tr>
<td>Hydrosol</td>
<td>(No simple close matches)</td>
</tr>
<tr>
<td>Sodosol</td>
<td>Alfisol, Aridisol</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Australian Soil Classification Soil Order</th>
<th>Approximate Soil Taxonomy Equivalent Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromosol</td>
<td>Alfisol</td>
</tr>
<tr>
<td>Kurosol</td>
<td>Ultisol, Alfisol</td>
</tr>
<tr>
<td>Calcarosol</td>
<td>Aridisol</td>
</tr>
<tr>
<td>Ferrosol</td>
<td>Oxisol</td>
</tr>
<tr>
<td>Dermosol</td>
<td>Mollisol</td>
</tr>
<tr>
<td>Kandosol</td>
<td>(No simple close matches)</td>
</tr>
<tr>
<td>Anthroposol</td>
<td>(No provision for this type of soil)</td>
</tr>
</tbody>
</table>
Soil pH of Victoria
Wheat

• Australian wheat is a major competitor of US wheat exports (USA>Canada>Australia=Argentina)
• Production concentrated in a narrow crescent known as the wheat belt
• Grown as a ‘winter’ crop (autumn-winter-spring), often in rotation with some form of pasture
• Planted late April, May, and June; harvested October to January
• Virtually all rain fed
• Wheat crop normally averaged 25 m tonnes (USA ca. 30 m tonnes)
• 2010-11 forecast 22.6 m tonnes

1 metric tonne:
= 1000 kg
= a megagram (Mg)
= 2205 lbs
Barley

• Produced same areas as wheat
• 60% feed barley, 40% malting barley
• >80% of malting barley exported (30% of world trade)
• Grows 18% of world barley

Barley has 3 major end uses:
Feed grain - it is a preferred grain for many feedlots and stockfeed manufacturers.
Malt barley - for the production of beer and other foodstuffs.
Forage - for grazing, hay or silage.
Cotton

- 3% of world production but 5-10% of world exports (98% exported mainly to China, Indonesia, Thailand, Korea, and Japan)
- 95% is transgenic
- Inland river systems of southern Queensland and New South Wales
Sugar

- Principal exporter in 2008/09 were Brazil, European Union, Thailand, and Australia
- 95% produced in Queensland (area of floods)
Australia cultivates an abundance of nuts, vegetables, and many tropical fruits, including:

- Bananas
- Apples
- Potatoes
- Carrots
- Pineapple
- Orange
- Mango
- Chestnuts
- Tomatoes
Grapes

- 2,000 wine companies; 31,000 people
- 2005/06 430 million liters wine consumed
- Sixth in world wine production
- Fourth largest exporter in world (38% to China)
## Major Commodities ca. 2010

<table>
<thead>
<tr>
<th>Item</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheep</td>
<td>72,740,000 head</td>
</tr>
<tr>
<td>Beef</td>
<td>28,000,000 head</td>
</tr>
<tr>
<td>Pigs</td>
<td>5,000,000 head</td>
</tr>
<tr>
<td>Goats</td>
<td>3,100,000 head</td>
</tr>
<tr>
<td>Dairy</td>
<td>1,600,000 head</td>
</tr>
<tr>
<td>Wheat</td>
<td>13,500,000 ha</td>
</tr>
<tr>
<td>Barley</td>
<td>5,000,000 ha</td>
</tr>
<tr>
<td>Oats</td>
<td>870,000 ha</td>
</tr>
<tr>
<td>Grain sorghum</td>
<td>770,000 ha</td>
</tr>
<tr>
<td>Sugar cane</td>
<td>391,000 ha</td>
</tr>
<tr>
<td>Triticale</td>
<td>355,000 ha</td>
</tr>
<tr>
<td>Grapes</td>
<td>169,000 ha</td>
</tr>
<tr>
<td>Corn</td>
<td>70,000 ha</td>
</tr>
<tr>
<td>Rice</td>
<td>19,000 ha</td>
</tr>
</tbody>
</table>
Beef Industry

• Biggest agricultural enterprise
• >60% exported mainly to:
  – Japan (38%)
  – United States (27%)
  – Korea (12%)
• Benefits because does not have mad cow disease
• 2nd largest exporter behind Brazil
Tropical breeds in north; temperate breeds in south

In north, large cattle stations, grazing on native pastures at low stocking

In south, more intensive grazing on smaller farms with introduced pastures and fodder crops

Pasture fed dominates but feedlots rapidly developing
Estimated to have one crocodile for each person
Dairy

- Fourth most valuable agricultural export (45% of production)
- Asia and Middle East are prime markets
- Most produced in NSW and Vic
- Holstein most important breed
Goats

• World’s largest exporter of goat meat and live goats
• China, India, and Pakistan are the largest consumers of goat meat
Pork

- Produce about 5 million pigs annually (Iowa = 30 million)
- 0.4% of world production
- Important for local employment and consumption
Where are the pigs?
Wool

- Major markets are China, Italy, and India
- Dominant exporter, accounting for 67% of world wool exports

Australian Merino

Sheep are raised in all parts of Australia
Fisheries

- Main seafood exports include rock lobsters, prawns, tuna, and shellfish
- SFM is the largest market in the Southern Hemisphere and the world's second largest seafood market in terms of variety outside of Japan
- About 1/3 of value from aquaculture (farming of aquatic organisms), which has been steadily rising
Export Product-Abalone

- Abalone-are a group of shellfish
- Tasmania accounts for 25% of the abalone world harvest
- Besides the abalone meat the shells are also sometimes sold as jewelry
Government Programs

• Government support for Australian farms represents just 4% of farming income (USA = 9%).
Summary

- Climate, growing conditions, and soils where we will be visiting are similar to SW Kansas
- Australia has a large and diverse agriculture including crops, livestock, fruits and vegetables
- Major exporter of beef, wheat, dairy products, nuts/fruits, and wool
Electricity in Australia

• 240 volts, alternating at 50 cycles per second. Will need a voltage converter if your device does not accept 240 volts at 50 Hertz

• **Adapter**: outlets generally accept V-shaped flat prongs often controlled by adjacent switch
Questions