

**Senate Select Committee  
on Agriculture and Related Industries  
Inquiry into chemical and fertiliser pricing and  
supply arrangements**

**Submission**

**The Department of Agriculture, Fisheries and  
Forestry**

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## Table of Contents

Overview.....	1
Role and functions of the Department of Agriculture, Fisheries and Forestry .....	1
Role in relation to chemicals and fertilisers .....	1
Operating environment for Australian farmers .....	3
Fertilisers and chemicals – Australian agriculture .....	3
Recent trends in global fertiliser prices .....	4
Implications for Australia as a net importer of fertiliser .....	5

## **Overview**

The Australian Government Department of Agriculture, Fisheries and Forestry (the department) welcomes the opportunity to provide a submission to the Senate Select Committee on Agriculture and Related Industries Inquiry into chemical and fertiliser pricing and supply arrangements.

This submission provides an overview of the department's role in relation to fertiliser and chemicals and provides a factual overview of the Australian and global fertiliser markets based on analysis by the Australian Bureau of Agricultural and Resource Economics (ABARE).

The department does not actively monitor pricing and supply arrangements in the global and Australian chemical markets and collects limited agricultural and veterinary chemicals (agvet) data. The department understands that the Australian Pesticides and Veterinary Medicines Authority (APVMA), which is the Australian Government authority responsible for regulating the supply of agvet chemicals to the Australian marketplace, will be making a separate submission to the inquiry.

An analysis of fertiliser prices, particularly the reasons for recent increases in price, is also being undertaken by the Australian Competition and Consumer Commission (ACCC) at the Government's request.

## **Role and functions of the Department of Agriculture, Fisheries and Forestry**

The department's role is to develop and implement policies and programs that ensure Australia's agricultural, fisheries, food and forestry industries remain competitive, profitable and sustainable.

Our policies and programs:

- encourage and support sustainable natural resource use and management
- protect the health and safety of plant and animal industries
- enable industries to adapt to compete in a fast-changing international and economic environment.
- help improve market access and market performance for the agricultural and food sector
- encourage and assist industries to adopt new technology and practices, and
- assist primary producers and the food industry to develop business and marketing skills, and to be financially self-reliant.

The Department includes businesses units that provide specialist services to portfolio industries such as the Australian Quarantine and Inspection Service (AQIS), ABARE, and the Bureau of Rural Sciences. There are a number of regulatory authorities, statutory marketing authorities, research and development corporations and advisory bodies within the portfolio. Biosecurity Australia is a prescribed agency within the Department.

## **Role in relation to chemicals and fertilisers**

The department has a national leadership role in the development and implementation of agvet chemicals and fertiliser policy. It provides the chair and secretariat to the Product

Safety and Integrity Committee, which provides policy advice to the Primary Industries Ministerial Council on agvet chemicals and fertiliser policy issues.

The department is also responsible for administering the legislation under which the APVMA operates. The APVMA administers the National Registration Scheme for Agricultural and Veterinary Chemicals, which is the national system for the evaluation and registration of agricultural and veterinary chemicals (agvet chemicals) and regulates them to the point of retail sale. Each Australian state and territory government then regulates the use of agvet chemicals in its respective jurisdiction.

The APVMA's regulatory operations are funded on a cost-recovery basis. The main fees the APVMA charges are for product registration applications, an annual fee and a levy based on product sales. The cost recovery framework is based on the APVMA recovering 40 per cent of the cost of the application from the applicant and the remainder through the levy.

There have been a number of recent and ongoing review processes examining the issue of the regulatory burden on business that have included consideration of chemical regulation. These include the Banks Report (Rethinking Regulation - Report of the taskforce on Reducing Regulatory Burdens on Business) and subsequent Productivity Commission reviews (Annual Review of Regulatory Burdens on Business - Primary Sector; and the ongoing Chemicals and Plastics Regulation study). The Department understands that the APVMA will reference relevant issues considered by these review processes in its submission to the inquiry.

AQIS is responsible for managing quarantine controls at the border to minimise the risk of exotic pests and diseases entering Australia through the importation of chemical and fertiliser products. AQIS also provides import and export inspection and certification to help retain Australia's highly favourable animal, plant and human health status and access to overseas export markets. To support this role, AQIS established the Fertiliser National Coordination Centre (FNCC) in early 2004. The FNCC acts as a specialist source of information for all national fertiliser related issues, manages complex consignment assessment processes and manages the uptake of import protocols.

ABARE monitors and publishes annual statistics on Australian fertiliser prices, sales and trade in raw nutrient materials and manufactured fertilisers, as well world fertiliser prices. Fertiliser data collected by ABARE are published each December in *Australian Commodity Statistics* (tables 97-106 in the 2007 edition).

ABARE monitors the major fertiliser products by nutrient type used in Australian agriculture. These include phosphate fertilisers: triple superphosphate, diammonium phosphate and monammonium phosphate; ammonium fertilisers: ammonium sulphate and ammonium nitrate; and potassic fertilisers and urea.

The fertiliser statistics monitored by ABARE are collected annually on a state basis by fiscal year from multiple sources. The primary data sources include the Australian Bureau of Statistics, private fertiliser companies, rural merchandise companies, the Fertiliser Industry Federation of Australia, domestic rural newspapers and international market reports.

Publicly available fertiliser data in Australia on prices, sales and consumption volumes by state and industry, is limited. The depth and scope of the fertiliser price statistics

collected by ABARE is limited by the public availability of data and the voluntary cooperation of private companies with commercial interests.

ABARE also conducts surveys of selected Australian agricultural industries annually. Through the farm surveys information on farm expenditure on inputs, including chemicals and fertilisers, is collected.

In relation to chemical products, ABARE's role is restricted to the collection of information on farm expenditure.

### **Operating environment for Australian farmers**

The Australian agriculture sector operates in a dynamic and complex environment and faces a number of pressures, including the drought, declining terms of trade, appreciation in the value of the Australian dollar, and higher input costs.

Since 2002–03, severe and prolonged drought conditions across Australia have had a significant impact on rural and regional Australia. On farm, the drought has significantly reduced yields and farm incomes, with farm incomes in 2006–07 at their lowest level in over thirty years. In historical terms, farm financial performance in 2006–07 is projected to be one of the poorest on record. However, continued strong prices for major commodities, particularly grains and beef, and some improvement in seasonal conditions, are positive factors that will support farm income recovery from 2007–08.

The significant appreciation of the Australian dollar both against the US dollar and on a trade weighted basis over the last 12 months is another challenge facing the agricultural sector. Given Australia's reliance on export markets, the appreciation of the Australia dollar has made exports relatively more expensive on world markets, reducing Australia's competitiveness against similar products produced by other countries. While a stronger Australian currency is able to reduce the cost of imported inputs such as fuel, fertiliser, chemicals and capital, it also offsets to some extent the value to Australian producers of higher global commodity prices that are mostly denominated in US dollars.

### **Fertilisers and chemicals – Australian agriculture**

Fertilisers and chemicals are critical inputs for many Australian farming operations. The predominant fertiliser products used in Australian agriculture are phosphate fertilisers (triple superphosphate, diammonium phosphate and monammonium phosphate) and ammonium fertilisers (ammonium sulphate and ammonium nitrate), potassic fertilisers and urea. Australian cropping enterprises mainly use ammonium phosphates and urea, whereas pasture enterprises use superphosphate. The sugar and horticulture industries use a combination of different nitrogen, phosphate and potassium blends.

ABARE farm surveys data show that total cash costs on broadacre farms are estimated to have increased in real terms by more than 25 per cent between 2000-01 and 2005-06. Average expenditure per farm on fertiliser and chemicals has increased in real terms over the same period. However, there was little change in the proportion of total cash costs being spent on fertilisers and chemicals. For example, fertiliser costs are estimated to have remained around 10 per cent of total cash costs on broadacre farms between 2000-01 and 2005-06. Chemical costs are estimated to have remained around 6 per cent

of total cash costs. It is important to note that this data does not reflect the increases in input prices that have occurred since 2005–06.

Different farming operations have different chemical and fertiliser needs resulting in some variability in the effect of price movements on different industries. Fertiliser and chemicals costs account for a larger proportion of total cash costs on grain specialist farms (14 and 13 per cent respectively in 2005-06).

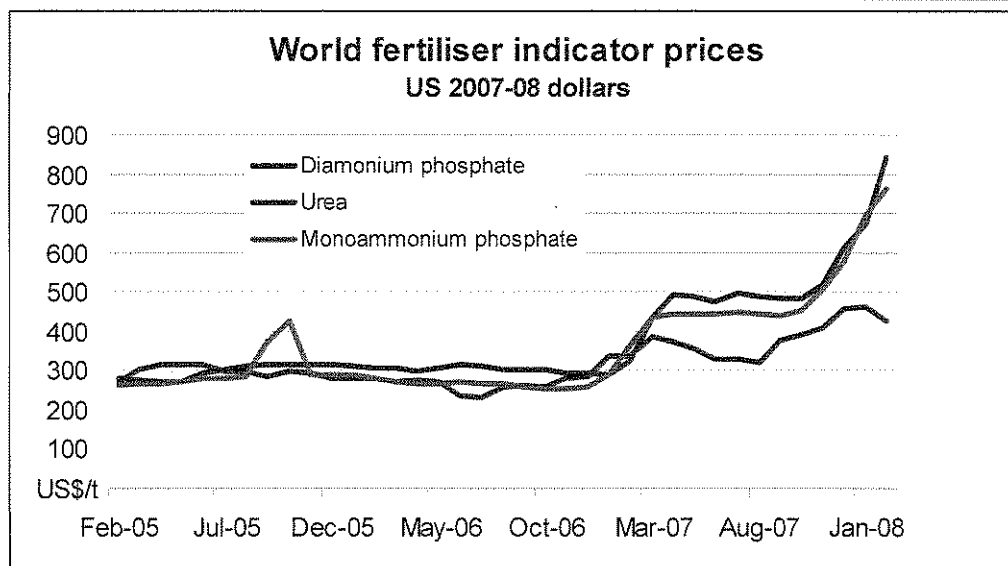
As Australia is a net importer of fertiliser and chemical products, movements in Australian prices generally track developments in world markets. Because of limited substitution possibilities between these and other farm inputs, Australian farmers have little choice but to absorb increases in fertiliser and chemical costs.

### Recent trends in global fertiliser prices

Current world indicator prices for fertiliser are high as a result of increased world demand for fertiliser, particularly in the United States, combined with a decrease in the United States' production capacity. Fertiliser production costs have also increased.

World fertiliser indicator prices have increased significantly over the past several months, with year on year rises of 159 per cent, 293 per cent and 109 per cent recorded for diammonium phosphate, monoammonium phosphate and urea respectively in February 2008 (Figure A). The price of phosphate rock, which is used in manufacturing super phosphate, has risen from around US\$47 a tonnes to US\$190 a tonnes in the space of 2 years.

**Figure A: World fertiliser indicator prices a**



a reported in constant 2007-08 US dollar terms.

### *Strong demand for fertiliser*

Increased world demand for fertiliser over recent years has placed upward pressure on fertiliser prices. According to the Fertiliser Institute, world consumption of fertiliser increased by 13 per cent—an estimated 20 million tonnes—between 2000 and 2005. World demand has increased as a result of increased crop production in North America, South America and Asia.

Global fertiliser demand is expected to remain strong in 2008. According to the International Fertiliser Industry Association, global fertiliser consumption is estimated to reach 160 million tonnes in 2006–07, a 4.5 per cent increase from the previous year.

Partly reflecting increased demand from the biofuels sector, grain and oilseed prices have also increased significantly in 2007–08. Higher grain and oilseed prices are expected to lead to an increase in the area sown to these crops in major producing countries in the 2008–09 season, resulting in higher demand for fertiliser.

The three major fertiliser-utilising crops are corn, wheat and soybeans. In 2007–08, the United States—the largest corn producer in the world—expanded its corn acreage by 19 per cent. This increased planting led to a rise in fertiliser consumption of around one million tonnes, which has placed additional upward pressure on world fertiliser prices. In 2008–09 total cropping area globally and in the United States is expected to remain high. Although, the mix between cropping enterprises may change a little in 2008–09, United States fertiliser consumption is expected to remain high.

The United States' fertiliser industry, which typically produces 85 per cent of its domestic needs, now relies on imports for nearly 50 per cent of its nitrogen fertiliser supplies.

#### *Fertiliser production costs have increased*

One factor that has affected the production costs of fertiliser globally is higher natural gas prices, especially in the United States and Western Europe. As global energy prices have increased, so have fertiliser production costs.

The cost of natural gas accounts for 70 to 90 per cent of the cost of producing ammonia, which is either applied directly to crops or used as an input to other nitrogenous fertilisers such as urea, ammonium nitrate, ammonium sulphate and water-based liquid nitrogenous fertilisers.

Higher energy prices have also put upward pressure on potash prices. After years of relative stability, North American potash prices have increased significantly since mid 2003. North American potash inventories fell to their lowest level in 30 years in August 2004 and remain relatively low. The flooding of a major potash mine in Russia in October 2006 has also contributed to tighter global supplies.

Close to six million tonnes of new urea production capacity was commissioned globally in 2006. However, the world urea market is expected to remain tight in the first half of 2007, with new capacity not expected to emerge until the second half of 2007.

#### **Implications for Australia as a net importer of fertiliser**

Australia manufactures a relatively small amount of fertiliser in the form of single superphosphate and ammonium phosphate. While Australia exports an average of 160 000 tonnes of nitrogen fertiliser a year, imports have far out-weighted this amount, making Australia a significant net importer of fertiliser products.

Over the five years to 2005–06, Australia imported an average 1.1 million tonnes of urea, around 700 000 tonnes of monoammonium phosphate, and around 200 000 tonnes each of triple superphosphate and diammonium phosphate. However since 2006–07, there has been a decline in fertiliser imports. Imports of urea fell by 25 per cent in

2006–07, monoammonium phosphate declined by 16 per cent, while of triple superphosphate and diammonium phosphate declined by 47 and 60 per cent respectively. This is likely to be due to a number of reasons, including increased demand from other countries, particularly the United States, for fertiliser imports and a drought induced decrease in Australian cropping.

By element, imports account for around 54 per cent of Australian phosphate consumption, 69 per cent of nitrogen consumption and 100 per cent of potash consumption.

**Table 1: Australian imports of manufactured fertiliser**

	Triple superphosphate kt	Diammonium phosphate kt	Monoammonium phosphate kt	Urea kt	Potassic fertiliser kt
2000-01	224.1	447.4	647.4	1139.5	346.0
2001-02	280.2	271.0	659.2	1295.8	416.9
2002-03	188.1	237.2	691.3	1072.8	432.6
2003-04	163.5	211.6	740.5	1156.6	447.0
2004-05	231.8	286.7	926.3	1288.6	496.7
2005-06	310.3	202.5	528.2	1056.1	403.7
2006-07	165.6	83.0	443.3	794.2	309.1

Source: *Australian Commodity Statistics 2007*

Following increases in the global price of fertiliser, the Australian import prices also increased and the appreciation of the Australian dollar (by around 13 per cent in 2007), has not been sufficient to offset the increase. For example, diammonium phosphate increased by around 65 per cent in 2007 to average A\$541 a tonne in December 2007 and monoammonium phosphate's average import price increased by around 50 per cent over 2007 to be \$506 a tonne in December 2007. Table 2 provides a snapshot of prices currently being quoted in Victoria. It is important to note that the prices paid by farmers will be higher as they include the cost of transport from manufacturing 'works' plus sellers margins.

**Table 2: Bulk fertiliser prices, Average list price Ex GST, ex Geelong**

	June 2006 (\$/tonne)	February 2008 \$/tonne	% change
Single Super	228	320	40.4
Diammonium phosphate	750	1045	39.3
Monoammonium phosphate	750	1045	39.3
Anhydrous Ammonia	1046	1067	2.0
Urea	595	619	4.0

Current global shipping freight rates have also increased significantly compared to the same period a year earlier, increasing the import prices for fertiliser. The world freight rate indicator—the Baltic Dry Index—has risen from around 4462 in January 2007 to 7170 in January 2008.

Peak demand periods for fertiliser in Australia are March/April and June/July. It is therefore likely that fertiliser prices will remain relatively high in the next few months.