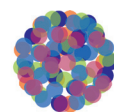


F9 FERTILISERS

THE FUTURE



**CHEMICAL
INDUSTRIES**
RESOURCE PACK

Fertiliser research

Fertiliser research is currently focusing on reducing the harmful environmental impacts of fertiliser use and finding new, less expensive sources of fertilisers. Some of the things that are being investigated to make fertilisers more environmentally friendly are improved methods of application, supplying fertiliser in a form which is less susceptible to runoff, and making more concentrated mixtures.

New sources of fertilisers are also being investigated. It has been found that sewage sludge contains many of the nutrients that are needed for a good fertiliser. Unfortunately, it also contains certain substances such as lead, cadmium, and mercury in concentrations which would be harmful to plants.

Efforts are underway to remove the unwanted elements, making this material a viable fertiliser. Another source that is being developed is manures. The first fertilisers were manures, however, they are not utilised on a large scale because their handling has proved too expensive. When technology improves and costs are reduced, this material will be a viable fertiliser once again.

Organic fertilisers

In organic fertilisers, the word 'organic' refers to the fact that the nutrients contained in the product are derived solely from the remains or a by-product of an organism. Some examples of organic fertilisers are chicken manure, blood & bone, guano, mineral fertilisers, lime, fish emulsions, fish hydrolytes, kelp products, humic products, sulfate of potassium, plus many different blends using compost as their base.

In comparison to synthetic ('inorganic') fertiliser, organic fertilisers contain lower levels of nutrients, but they perform important functions which the synthetic fertilisers do not. They increase the organic content and consequently the water-holding capacity of the soil. They improve the physical structure of the soil which allows more air to get to plant roots. If you apply organic fertilisers, the bacterial and fungal activity increases in the soil. Mycorrhizal fungi which make other nutrients more available to plants thrive in soil where the organic matter content is high. Organically derived plant nutrients are slow to leach from the soil making them less likely to contribute to water pollution than synthetic fertilisers.

This material was obtained from the website www.organicfarmingsolutions.com. Learners - if you use any part of it you need to write it in your own words and include the following in your reference list: Organic farming solutions.com. 2010. Organic Fertiliser. [Online]. Available: <http://www.organicfarmingsolutions.com/organicfertiliser.php> [1 July 2010].

Cow dung cakes and heap set out for drying



Source: Wikimedia Commons



DID YOU KNOW?

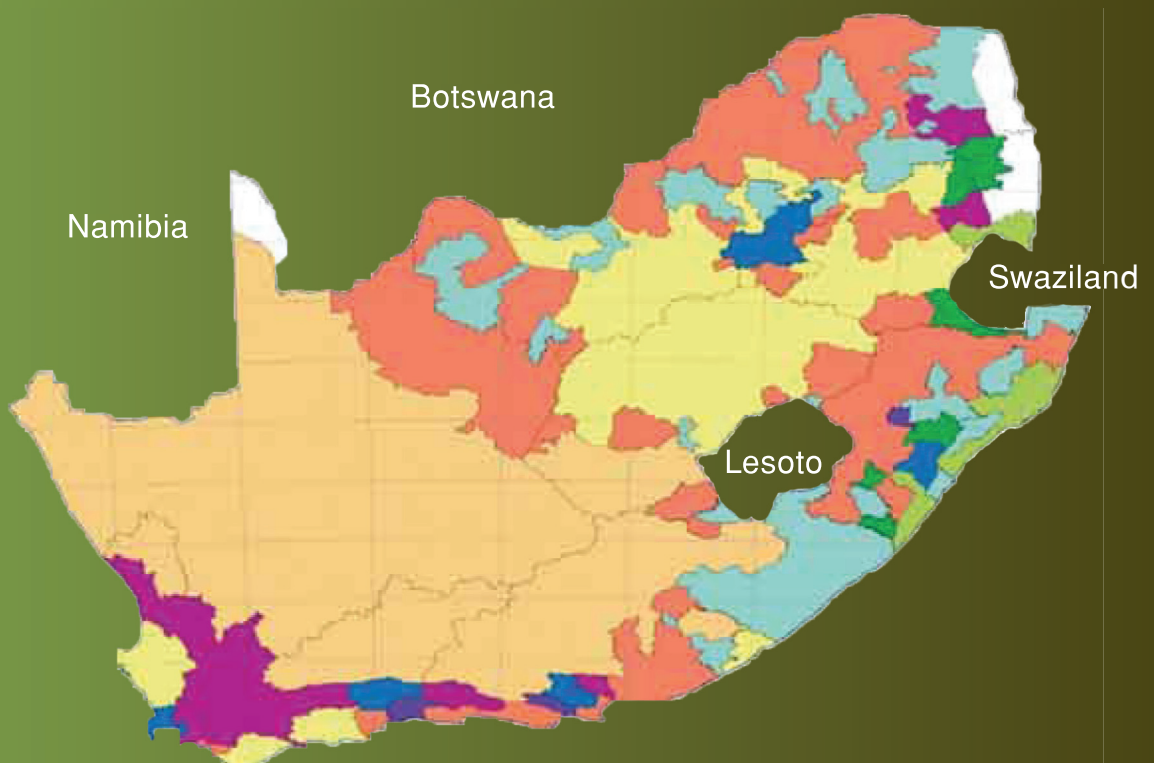
Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The decisions our grandparents made about how to farm the land continue to affect agricultural practice today; and the economic policies we endorse today will have an impact on urban poverty when our children are adults.

Source: International Institute for Sustainable Development (IISD)

Fertiliser use by crop in South Africa

LEGEND

- Grains
- Sugar
- Forestry
- Vegetables
- Fruit
- Cattle
- Sheep
- Diverse
- Subsistence



This map was obtained from the Food and Agricultural Organization of the United Nations. Learners - if you use any part of it you need to write it in your own words and include the following in your reference list: FAO. 2005. Fertilizer use by crop in South Africa. [Online]. Available: <ftp://ftp.fao.org/agl/agll/docs/fertusesouthafrica.pdf> [1 July 2010.]