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Environmental management systems give environmental assurance

Jill Wilson

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Environmental Management Systems give Environmental Assurance

There is growing consumer concern not only for the quality and safety of food and fibre, but also for the state of the environment in which it is produced. Just as you can already buy produce that has a ‘Quality Assured’ label to reassure consumers of the safety and quality of the goods, labelling will soon be available to identify produce that has been grown and handled using environmentally responsible procedures.

Work is already underway on the development of an Environmental Management System (EMS) to guide the ‘environmental’ quality assurance process. Jill Wilson reports on the substantial benefits to be gained from the introduction of an EMS, and what an EMS will mean for individual farmers.

Most farmers are responsible land managers, but there is increasing pressure to demonstrate their environmental commitment to the wider community. In recognising this concern, the Sustainable Rural Development program embarked on the development of a system that could reassure customers of the environmental compliance of farm businesses, and that would feature prominently in the future marketing of farm produce.

A project team was set up to investigate the development of Environmental Management Systems (EMS). An EMS will guide the production, auditing and accreditation processes required to make a farm business ‘environmentally’ assured, and will allow produce from that farm to be labelled accordingly.

It is likely that within a few years, most farms, like factories and processing plants, will have an EMS.

What is an Environmental Management System?

An EMS will apply at the farm level, and will provide an effective means of documenting and verifying best ‘environmental’ management practices, and ensuring that growers continue to operate with environmental responsibility.
The exact components and processes involved in the EMS will vary from industry to industry and from region to region, but the system is likely to contain the following steps:

- Self-assessment to gauge the effect of current farm practices on the environment.
- Assessment of the extent to which ‘best management practices’ are followed.
- Analysis of the main environmental hazards on the property, and ways of avoiding them.
- Development of indicators and monitoring procedures to measure improved performance.
- A third-party audit to independently verify continued improved performance.

As with most industries, the environmental impacts associated with agriculture are numerous. Farming systems have the potential to affect the quality of our soil, air, and water resources. In addition, agricultural production may also impact on the biodiversity and landscape amenity of a region.

The types of environmental impacts that a farmer may commonly need to deal with in an EMS are presented in Table 1.

<table>
<thead>
<tr>
<th>Area of Impact</th>
<th>Cause of Impact</th>
<th>Specific Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil</td>
<td>Cultivation</td>
<td>Soil compaction, Loss of organic matter, Loss of micro-biota, Erosion</td>
</tr>
<tr>
<td></td>
<td>Grazing</td>
<td>Soil compaction, Erosion</td>
</tr>
<tr>
<td></td>
<td>Crop management (nutrients)</td>
<td>Non-wetting soils, Soil acidification</td>
</tr>
<tr>
<td></td>
<td>Chemical use, storage and handling</td>
<td>Soil contamination</td>
</tr>
<tr>
<td></td>
<td>Fertiliser use, storage and handling</td>
<td>Excessive soil acidity</td>
</tr>
<tr>
<td></td>
<td>Vegetation clearing</td>
<td>Rising water tables, Waterlogging, Salinity, Wind erosion</td>
</tr>
<tr>
<td>Water</td>
<td>Chemical and fertiliser use, storage and handling</td>
<td>Decreased water quality in groundwater and waterways, Eutrophication</td>
</tr>
<tr>
<td></td>
<td>Irrigation</td>
<td>Salinity, Water erosion</td>
</tr>
<tr>
<td></td>
<td>Effluent disposal</td>
<td>Decreased water quality</td>
</tr>
<tr>
<td></td>
<td>Vegetation Clearing</td>
<td>Stream-bank erosion</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>Vegetation Clearing</td>
<td>Loss of native flora and fauna</td>
</tr>
<tr>
<td></td>
<td>Chemical use, storage and handling</td>
<td>Loss of native flora and fauna</td>
</tr>
<tr>
<td>Air</td>
<td>Operation of machinery</td>
<td>Greenhouse gas emission, Dust, Noise</td>
</tr>
<tr>
<td></td>
<td>Burning</td>
<td>Greenhouse gas emission, Dust, Odour</td>
</tr>
<tr>
<td>Landscape amenity</td>
<td>Vegetation removal</td>
<td>Loss of aesthetic value</td>
</tr>
</tbody>
</table>

Table 1 – Examples of environmental impacts that may be covered in an EMS.
Due to the extensive range of environmental impacts associated with agriculture, an important component of an on-farm EMS will be an assessment of which environmental hazards are a priority for management. It is envisaged that through the use of hazard analysis methodologies, a farmer will be able to identify which impacts, such as those presented in Table 1, are most pressing on their farm.

Impacts that are identified as being a priority for action will then be addressed through the development of achievable management objectives and a gradual adoption of best management practices.

As a farmer becomes adept at managing environmental impacts, a process of monitoring and review will uncover further areas for action. In this way an EMS will make it possible to continually improve the environmental management of a farming enterprise.

Cost factors

The EMS project team has also worked hard to develop a cost-effective system that will be embraced by farmers. In developing an EMS, the project team has given consideration to the marginal nature of some agricultural activities, and to concerns that environmental management practices will impose additional costs or compromise yields.

The development of a cost-effective system has been a priority. In fact, a number of environmentally-sound management practices have already been demonstrated to reduce inputs and losses to agricultural systems, while at the same time maintaining or improving yields.
Furthermore, an EMS does not necessarily require a radical departure from traditional methods. For example, best practice pesticide management in an agricultural EMS does not call for the adoption of onerous methods, but pays attention to issues such as reducing herbicide drift, efficient use, and correct storage of chemicals.

In the event that farmers are already carrying out best practice, an EMS provides the added benefit of allowing the farmer’s environmental responsibility to be formally recognised through accreditation.

Benefits to industry

An EMS also has the potential to provide a number of benefits to industry. In addition to allowing farmers to demonstrate their responsible attitude to the environment, the following factors will make an EMS attractive to landowners:

• **Access to new markets, or maintaining current markets.** There is growing consumer concern not only for the quality and safety of food and fibre, but also for the state of the environment in which it is produced. It is likely that future access to markets (particularly overseas) will depend on evidence of environmentally-responsible production.

• **Improved sustainability.** Following concern about the environmental degradation of our natural resources, caused by factors such as salinisation, water-resource contamination, soil-structure decline and nutrient loss, the 'off-site' impacts of some traditional agricultural practices are being reassessed. It is hoped that the development of an EMS will help maintain and improve the sustainable productivity of land.

• **Land valuation.** Investigations are underway to see if landowners who are responsible environmental stewards can be rewarded with an enhanced land valuation, and/or with some sort of rate-relief mechanism.

• **Reduced liability.** From a legal perspective, there is increasing evidence that in order to provide a means of defence against environmental prosecution, producers need to demonstrate they have assessed a potential risk to the environment and have taken reasonable and practical measures to minimise that risk.

Project status

Agriculture Western Australia currently has a number of staff working on the development of an Environmental Management System that will be relevant to agriculture.

Led by Jill Wilson, Program Manager for Sustainable Rural Development in Geraldton, the project team is in the process of developing best management practice guidelines for both broadacre and intensive systems, and ‘first stage’ self-assessment guidelines.