

Land & Water fact sheet

On-farm eco-efficiency measures

What is it?

Eco-efficiency refers to the concept of 'doing more with less'. As a recently adopted term in horticulture, eco-efficiency has the potential to help you look at ways to reduce your inputs and look at ways of improving operations, cleaning and packaging your product. Its aim is to improve your bottom line and environmental performance through a combination of economic and ecological efficiency measures.

A better definition may be that being 'eco-efficient' means you aim to produce more output, with the use of less energy and fewer natural and other resource inputs. It incorporates efficiency by aiming to get more out of the products we put in and encourages the reuse of materials for other uses around the farm. This approach looks at ways to get more value out of the raw material we use and produce less waste and less pollution in the process.

To improve the efficiency of your farm:

- avoid
- reduce
- reuse
- recover
- recycle
- treat and dispose
- value-add.

Costs and inputs

Farming costs could be reduced if we did not have to put in any additional resources into production. Unfortunately, there are no productive farms that can rely solely on the sun, rain and nutrients from the soil for their production. A thorough understanding of the conditions

on your farm such as rainfall, soil types, water courses and average temperatures, means that you can begin to look at where to make eco-efficient improvements around your farm.

Farmers who need to irrigate to top up their water needs can improve the performance of their irrigation system to save fuel, pumping and maintenance costs while using the water supply more effectively.

If your major production costs are related to the cost of inputs to improve quality of your soil, you could look at other supplementary soil improvement techniques that may have long term benefits for your soil and may allow you to reduce the amount of fertiliser you need.

Eco-efficient indicators

Eco-efficient indicators can be broken down into three major sections:

- waste
- water
- energy inputs

Targeted reductions in these three areas can mean greater profit margins by reducing the costs of inputs.

Non-product output

Climate change has become a pertinent issue around the world. Looking at more efficient machinery and cleaner technology can save you money in running costs and maintenance bills, helping to reduce your contribution to global warming and climate change.



On-farm eco-efficiency measures continued

Resource reuse

This is a measurement of the quantity of material which can be reused in production whether sourced on-farm or externally.

How does it help me?

The main reason for looking at eco-efficiency is to improve your profit margin while at the same time improving the environment on your farm.

Programs such as EcoBiz set up by the Environmental Protection Agency are designed to improve the eco-efficiency of your business. EcoBiz aims to show you how to produce more with fewer inputs. Costs are reduced through reduced energy and water consumption and making more productive use of recycled materials thereby creating less waste.

Adopting eco-efficient strategies on your farm is a way to tighten up production inputs and gain environmental and financial benefits at the same time.

The fewer purchased inputs and the greater reuse of suitable materials around the farm to produce your crop, the greater your profit margins will be at the end of the day.

Through careful monitoring you may be able to reduce your use of fertilisers and pesticides to save money and improve your profit margins. Some measures such as new machinery may take a longer initial investment. However, with timely record keeping, you can start to see the impact of improvements you have made in the health of the soil and water on your farm through improved productivity hopefully improved profit margins on paper will follow too.

A further way to increase your profit margins is to consider value-adding before your product leaves the farm. This might be as simple as some basic processing such as slicing a large pumpkin into several portions to make it more appealing. By adding this extra value at the farm-gate, you can increase your profit margins and obtain more for every unit of water, capital, labour, energy and waste produced per unit of crop production.

How can I start?

Identify if there are any improvements which could be made around the farm, identify ways to make these improvements and then start implementing change. The best way to approach eco-efficiency is by making small improvements.

This might start with the installation of energy saving bulbs around the packing shed or reducing the need for fertilisers by soil analysis.

To help reduce wind erosion, you could consider planting trees around perimeters of your fields or plant short cropping green cover crops between plantings such as soybeans which also fix nitrogen in the soil which may cut the need to add more fertiliser. These sorts of measures can reduce water usage by increasing organic matter and the ability of the soil to bind together.

To find out more about Farm Management Systems contact Growcom on 07 3620 3863 or visit www.growcom.com.au/knowledgeplant

References:

<http://www.environment.sa.gov.au/epa/ecefficiency.html>

<http://www.deh.gov.au/settlements/industry/corporate/eecp/index.html>

http://www.sd.qld.gov.au/dsdweb/v3/guis/templates/content/gui_cue_cntnhtml.cfm?id=2237

Eco-efficiency Self Assessment Guide



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