PINPOINT
Rivers Trusts and Farmers tackling water pollution

Best Practice Information Sheet

A clear solution for farmers
CATCHMENT SENSITIVE FARMING

A joint project between the Environment Agency and Natural England, funded by Defra and the Rural Development Programme for England, working in priority catchments within England.

Organic by-products

Sheet 9.0a

Crop and produce waste

Produce production waste can be used to save money

Why change?

Crop and produce losses can be 2% to 25% of your marketable product. There is often considerable scope for reducing waste and improved management of arisings. By taking action to reduce losses you can:

- save on production costs
- improve quality
- extend potential markets
- reduce the risk of disease
- reduce waste disposal costs
- reduce the risk of water pollution.

Steps to success

1. **Review your current situation** by identifying the nature and scale of losses during harvest, grading, processing and storage. Additionally consider the requirements of potential markets, including their potential to enhance value by charging premium prices, any niches for outgrades, and the value in recycling waste arisings.

2. **Identify potential opportunities** such as:

   - reducing losses and damage during harvest
   - reducing quantities of outgrades that are not up to standard
   - minimising damage during processing, e.g. washing vegetables
   - improving storage facilities to reduce energy costs, damage and reduced quality
   - reviewing potential outlets including premium direct sales and as feedstuff for animals
   - savings from recycling dirty water, composting organic materials and energy recovery (straw).

3. **Calculate the cost-benefit of these opportunities** by comparing the benefits of reduced losses and improved quality with any additional cost of energy and labour equipment, and calculate the payback period.

4. **Develop an action plan to:**

   - identify the exact causes of losses and damage during harvest, grading, processing and storage, and evaluate cost-effective steps to reduce losses
   - take action where appropriate, e.g. by ensuring careful machine settings to reduce harvest losses of crushed grain or sliced roots which can range between 2-10%
   - consider the benefits of field crop processing systems
   - check whether improvements in storage design or conditions such as humidity could be cost-effective and initiate action
   - identify where higher prices can be achieved, the associated quality standards and what would be needed to attain them
   - keep records of crops to show their origin, yield and management regime
   - keep up to date with technical and market developments
   - review the potential to reduce the costs of inputs, e.g. washing water and recycling organic materials to the land by composting.

5. **Monitor** the nature of losses such as trimmings, outgrades, surpluses and related costings for trends.

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Crop and produce waste - **Practical examples**

Improved controls for grain drying

In this example, a review of grain drying in an on-floor system revealed that control was poor. This resulted in a penalty being paid on 40% of the crop, which was either over- or under-dried.

Improved control of ventilated air humidity was identified as the key action needed.

An investment of £1,000 in improved controls corrected the problem by providing more accurate moisture levels, and also resulted in a shorter running time.

This produced estimated savings, principally from energy sources, of approximately £3,000/year.

Improved potato and vegetable harvesting

Crop value was being lost because soil erosion was causing high levels of green outgrades. In addition, stones, clods and mechanical harvesting and processing caused damage and further losses.

Improved soil and production management in addition to investment in machinery (£5,000) reduced damage and greening.

Change to a mobile field pack-house system enabled all washing, trimming and waste disposal to be carried out on site.

This produced an annual saving of £4,000 in reduced damage, handling, transport and storage costs, and allowed a payback of just over a year. It also reduced the risk of disease transfer, odour and pollution.

Reduced soil erosion and improved harvesting reduces losses and improves profits

Remember

- Evaluating the nature and scale of losses during harvest, grading, processing and storage can identify ways to reduce losses.
- Changing management can save on costs of production, improve quality, extend potential markets, reduce the risk of disease spread, minimise waste disposal costs and reduce the risk of water pollution.

For further information: Defra (www.defra.gov.uk), CSF (www.gov.uk/catchment-sensitive-farming), Natural England (www.naturalengland.org.uk/csf), Environment Agency (www.environment-agency.gov.uk), Cross Compliance Helpline 0845 345 1302 (www.crosscompliance.org.uk) and The Rivers Trust (www.theriverstrust.org)

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This information sheet is part of a series providing farmers with advice on land management practices to protect water bodies, produced by The Rivers Trust with support from Catchment Sensitive Farming. The advice will also enable farmers to use farm resources more efficiently and help meet Nitrate Vulnerable Zone and Soil Protection Review requirements under Cross Compliance and environmental regulation.

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