

# Minimising Plastic Waste on Farm – Reduce, Reuse & Recycle

This technical note seeks to provide advice to farmers and crofters to help minimise the production of waste plastic on farm.

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## Summary

- **The ban on burning waste plastic on farm came into effect on 1st January 2019, which is forcing farmers and crofters to seek other ways to dispose of their waste plastics.**
- **Farmers and Crofters are encouraged to follow a mantra of Reduce, Reuse & Recycle to minimise the waste plastic use on farm.**
- **Practical suggestions to reduce plastics are provided for both arable and livestock farms, with emphasis on collaboration with neighbours to enable bulk purchasing or reduce costs of disposal of plastics.**
- **Separating waste plastics is recommended to enable easier recycling of different plastics.**
- **Alternative markets for utilising waste plastics are in early development, such as energy from waste facilities and oil from plastic, but may offer different outlets from traditional waste handling companies to farmers and crofters.**
- **Minimising the contamination of farm plastic is essential, cleaner plastic is much easier and cheaper to recycle.**

## Introduction

From 1st January 2019 a total ban on the burning of plastics came into effect for Scottish farmers & crofters.

This ban was implemented following the removal of the waste management exemption that had been available to farmers & crofters, as the EU Industrial Emissions directive required the Scottish Government to amend the Pollution Prevention Control (Scotland) Regulations 2012, which required an amendment to the Waste Management Licencing (Scotland) Regulations 2011 regarding Paragraph 29 exemptions in Schedule 1.

This now means farmers and crofters need to seek other ways to dispose of their waste plastics, as well as seek ways to reduce their production of waste plastic, and potentially investigate non plastic alternatives.

This also helps to implement the UK Plastic's Pact for 2025 which seeks to:

- Eliminate single use plastic through elimination, redesign or innovation
- Make 100% of plastic packaging recyclable, reusable or compostable
- Ensure 70% plastic packaging is recycled or composted
- Have a minimum 30% recycled content in all plastic packaging

As with other industries farmers and crofters should therefore be encouraged to follow a common mantra in minimising waste of:

- Reduce
- Reuse
- Recycle





What can farms do to reduce plastic on farm?

## Reduce & Reuse

There are many and varied ways that farmers can help to reduce their use of plastic on farm. A few suggestions are listed here to help inspire your own innovations.

### Baled Silage

#### - Use a Chopper Baler

By utilising a chopper baler when making silage this can help to compact more grass into a bale making fewer but denser bales.

**- Rapid Wilting of Silage** - to concentrate the sugars and improve the Dry Matter (DM) content

Using a conditioner on a mower splits the grass creating a greater surface area and can increase wilting speed by up to 20%

Spreading the grass quickly (within 2 hours) will also allow the greatest water loss from the crop, helping to improve the dry matter content of the silage (assuming good weather conditions exist).

Increasing the DM, will thereby reduce the quantity of bales that need to be made.

#### - Consider Reducing layers of plastic

Depending on how stemmy the silage is, where it is to be stored, how quickly it is to be used and how well protected the bales will be from bird damage will all affect this decision. Four layers (or 16 turns for 750mm wrap & 24 turns for 500mm wrap) is considered a minimum level of coverage for effective ensiling.

### Pit Silage

The pro's and con's of baled and pit silage need to be reviewed for each business due to the flexibility the baled silage can provide in terms of cutting surplus grazing grass and feeding cattle in the winter at various locations, but cost of production can plastic usage is significantly less in pits.

If building or reinstating a silage pit it must meet the requirements as stipulated in The Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) (Scotland) Regulations 2003. These rules are also explained in the Prevention of Environmental Pollution for Agricultural Activities (PEPFAA) code of good practice, and the key points are:

- Notify SEPA at least 28 days before bringing into use any new, substantially enlarged or substantially reconstructed silo or effluent storage facility.
- Ensure the base of this site, effluent tank and drains are impermeable. In addition they and any silo walls should be resistant for attack for silage effluent.
- Properly maintain all parts of the silo system such that it will meet a 20 year design life.
- Ensure minimum effluent tank capacity requirements are provided (requirements listed in PEPFAA Code, but advisable to consult SEPA on specific size of tank for each situation).

## Hay Production

- Eliminating the need for plastic by switching to hay production could reduce plastic usage but it is very dependent on weather conditions. If weather conditions were favourable and under cover storage is available, it is perhaps worthwhile considering reducing the quantity of silage made and making some hay, assuming grass is at a suitable stage.

## Livestock Feeds

- Buy concentrate feed in bulk to minimise the use of feed bags/ tote bags.
- Collaborate with neighbours to enable larger bulk quantities to be bought without the need for bags.
- Invest in your own feed bins and utilise blowers in feed lorries to refill bins as and when required.
- Buy feed blocks instead of feed buckets when possible, and reuse buckets to put feed blocks into

Making the best quality silage and hay possible, will also reduce the quantity of bought in concentrates that are required for your livestock enterprises.

## Arable

- Consider home saving seed and reusing seed bags.
- Using liquid fertiliser eliminates the need for fertiliser bags.
- Bulk buying fertiliser (if storage facilities were available) could also eliminate need for fertiliser bags.
- Seek out larger containers or reusable containers for agrochemicals that are used regularly on farm. Various different methods are beginning to emerge, so it is worthwhile consulting your agri-chemical supplier to ask what options are available.



## Recycle

If plastic products cannot be reused or recycled on farm and no longer have any use, farmers and crofters are advised to contact a waste handling company that deals with agricultural waste plastics. Some of these companies are listed on the Zero Waste Scotland website: ([www.zerowastescotland.org.uk/resource-management/farm-plastic-recycling](http://www.zerowastescotland.org.uk/resource-management/farm-plastic-recycling)). Other firms do exist.

Machinery rings have also built up links with various companies throughout Scotland.

Depending on where you are located in Scotland, some local authorities may also provide a commercial waste collection service, or accept agricultural plastic waste at their recycling centres.

5 things to remember when recycling plastics:

1. Find appropriate recycling company for your plastic waste as there is no single solution for everyone, therefore farmers and crofters need to shop around for best service and price that fits their needs.

2. Be aware of different ways companies charge for their services e.g. cost per bag, cost per kg, cost per pick up.
3. Plastics have different values depending on type of plastic, therefore it is important to keep them separate to reduce costs and make recycling easier.
4. Keep plastic waste clean to ensure contamination is as minimal as possible and is within acceptable levels. If collection cost is by weight, it will also be important to keep plastic dry to keep costs low.
5. Compact/bale your waste plastic as it is haulage that often makes up a large proportion of any disposal costs.

## Transporting Waste Plastics

Farmers and crofters can transport their own plastic waste to disposal or recycling centres but need to register **free of charge** with SEPA as a collector or transporter of waste, as collection centres may not accept the waste without it.

If transporting waste for other farmers and crofters, an application is required for a Registered Waste Carrier (RWC) licence. The fee is currently £210 and registrations are valid for three years.

Application forms or application online can be found at: [www.sepa.org.uk/regulations/waste/waste-carriers-and-brokers/](http://www.sepa.org.uk/regulations/waste/waste-carriers-and-brokers/)

## Storage of Waste Plastics on Farm

Plastics that are going for recycling can be stored on farm for up to three years, but material that is not going to be recycled (such as bale net wrapping) can be stored for one year. If you are storing material on site prior to collection by a waste handling company, you do not need to inform SEPA, or register with them.

If however you want to become a collection centre to allow other farmers and crofters to bring their farm waste plastic to your holding, you need to register a free Paragraph 17 exemption with SEPA. An online application or paper form can be obtained from the following website:

<https://www.sepa.org.uk/regulations/waste/activities-exempt-from-waste-management-licensing/>

## Alternative Outlets for Waste Plastics

Energy from Waste (EFW) facilities

With a ban on biodegradable materials from municipal waste going to landfill starting on 1st Jan 2021, more of these EFW facilities are being built in Scotland. They also intend to take residual waste, ie materials that can no longer be reused, recycled or recovered, and

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## Useful Websites/Links

Zero Waste Scotland – [www.zerowastescotland.org.uk/resource-management/farm-plastic-recycling](http://www.zerowastescotland.org.uk/resource-management/farm-plastic-recycling)

WRAP (Waste Resources Action Programme) – [www.wrap.org.uk](http://www.wrap.org.uk)

SEPA – [www.sepa.org.uk/regulations/waste/agricultural-waste/burning-on-farm-waste/](http://www.sepa.org.uk/regulations/waste/agricultural-waste/burning-on-farm-waste/)

Farming & Water Scotland – [www.farmingandwaterscotland.org](http://www.farmingandwaterscotland.org)

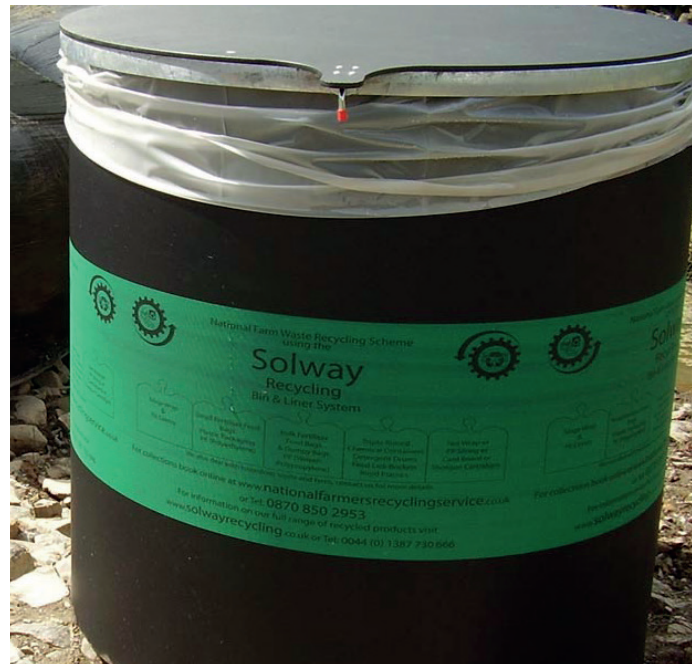
Farm Advisory Service – [www.fas.scot/](http://www.fas.scot/)

QMS Scotland Better Soil & Grassland Management – [www.qmscotland.co.uk/better-soil-and-grassland-management](http://www.qmscotland.co.uk/better-soil-and-grassland-management)

Recycle for Scotland – [www.recycleforscotland.com](http://www.recycleforscotland.com)

British Plastic Federation – [www.bpf.co.uk](http://www.bpf.co.uk)

Recoup (Recycling of Used Plastics Ltd) – [www.recoup.org](http://www.recoup.org)



contribute to Scotland's renewable heat targets, as Energy from waste could contribute up to 31% of Scotland's renewable heat target and 4.3% of its renewable electricity target under the Climate Change (Scotland) Act 2009.

Oil from Plastic (In the Future)

Conversion of waste plastics into oil based fuels can be achieved, using a variety of methods such as using pyrolysis, catalytic depolymerisation or gasification with biological conversion to ethanol, as shown by projects in the USA, Canada, Germany, Poland, Hungary and China. Currently however none appear to be functioning fully commercially at present.

The quality of the fuel produced would also be subject to the quality of mixed plastics used as feedstock, and costs associated with further refining into high quality fuels, such as petrol or diesel.

Future development of this process however could improve as technologies develop, and fiscal or regulatory incentives such as Renewable Transport Fuel Obligations (RTFO), Feed in Tariffs (FiT's), Renewable Heat Incentives (RHI's) were introduced for fuel from plastic technologies.