



Plastics, Packaging and Waste in Floriculture

A guide to build understanding
and action towards a sustainable
cut flower industry

This guide is intended to help florists, wholesalers and anyone who buys, sells or works with flowers become more aware of the issues surrounding plastics, packaging and waste (PPW) and make better choices. It brings together information on plastics and other packaging materials found in floristry, clarifies some of the terminology around plastics and their disposal, and suggests links to further resources if you want to dig deeper into the issues.

Some ideas to get you started are included in this guide, and there are more resources available online including an extended digital version of this guide which includes further weblinks and information to help you make better choices in packaging and mechanics.

What's the problem with packaging?

The cut flower industry, like just about every other industry, uses a lot of packaging. Between grower and the final delivery of a bouquet, flowers may be packaged and repackaged several times. Plastic sleeves, containers, gift wrapping, ribbons and floral foam are all widely used by florists, to protect and enhance their product and keep flowers hydrated.

Over the past few decades, "single-use" packaging has become commonplace, but has contributed to high volumes of waste, as well as being a poor use of precious natural resources.

Plastic waste has become a huge concern in the global environment. Accumulation of plastic in landfill and in the oceans is a significant problem as it can persist for hundreds of years. Wildlife may become tangled in larger pieces of plastic or it may eventually break down into microplastics and even into nanoplastics, be mistaken for food by land and marine life and can end up in water sources and the food chain.

Customers are increasingly aware of environmental issues and want to buy from businesses that are acting responsibly. [Research by the Flower Council of Holland](#) has shown that packaging is one of the top issues that concern members of the public who buy flowers.

However, there are eco-friendly techniques, alternative materials, and ways to reduce plastic use and waste, as well as improve efficiency, that can help make the industry more sustainable and reduce its environmental impact.

PPW Working group A group of florists, growers, wholesalers, retailers, along with national organisations the British Florist Association and Interflora, and international body the Floriculture Sustainability Initiative (FSI) have come together with researchers at Coventry University and University of Surrey to pool their knowledge and experience and consider what we can all do to collaborate and create change across the industry.



Let's talk about waste

Waste is something we don't talk about, but we should! Telling your customers about the steps you are taking to reduce waste is a positive message that can help build trust in your business, and attract new customers who are trying to do the same themselves.

You may be able to eliminate or significantly reduce sources of waste by changing how you work. Whilst it may not be possible for you to address all of these issues at once, this guide shows you how you can make a start. Even by taking small steps you will be making a difference and contributing to a significant movement for positive change. It could also save you money!

Although Plastics, Packaging and Waste (PPW) are huge topics, there are some themes which run throughout this guidance:

- **Refuse packaging** - talk to your suppliers about the amount or type of packaging you receive. You could even unwrap your flowers or sundries as they are delivered and give the unwanted packaging right back to your supplier to deal with.
- **Minimise** the amount of packaging you use - focus on flowers!
- **Avoid "single-use" packaging** - establish a reusable packaging return deposit system on vases and containers used for gift bouquets, or encourage them to bring their own. Offer discounts and loyalty points to participating customers.
- **Choose recycled** and recyclable packaging.
- **Design differently** - without floral foam.
- **Engage recipients** - include advice on flower and packaging waste disposal in flower care instructions.
- **Educate customers** - raise awareness of the environmental impact of single-use packaging and wastes, providing information about alternative options for packaging and waste disposal.



We will begin to explore these themes in this guidance. Our goal is to find ways to keep reusing materials for as long as possible before they become waste, and develop systems which capture our waste and turn it into new products. This is what is known as the **Circular Economy**. It is a huge challenge, and there is a gap between what businesses might want to do, and what is possible now due to cost or lack of services available. Innovation and collaboration are needed and it is hoped the PPW group will drive this forward.

If you have had successes or have other ideas for how to tackle any of these issues please get in touch with the team at the Sustainable Flowers Research Project; we want as many people as possible to share their experience and get involved (contact details on back page).

Take a good look at your waste

Separating your waste for a week provides a great starting point for tackling waste.

- What materials are going to waste?
- Do you know how much of your waste is recycled?
- Do you know the different plastic types and whether they are recyclable?
- Do you know how to dispose of different types of wastes?
- What could you change?

Below are some of the main sources and types of waste which occur throughout the cut flower supply chain, from growers, to wholesalers, florists and final customers. The choices you make can influence the amount and types of waste you have to dispose of, or pass on to others.

Transit packaging: plastic sleeves and cardboard boxes from wholesale deliveries can quickly build up and become a significant part of your waste. You might not think you can control how much packaging you receive, but how you source your flowers can make a big difference.



- Locally grown flowers are often sold unwrapped, by the bucket. Find out if they are available in your area via [Flowers from the Farm](#) or other local growers.
- Some growers and wholesalers now offer paper wrapping rather than plastic.
- Ask your local wholesaler about returning packaging such as plastic sleeves, or if they can use alternatives, or no packaging.

Green waste: this might include everything from trimmings from conditioning of flowers to post event flower waste. Waste services vary around the country, and it is worth finding out whether there are options to separate your green waste for recycling or composting in your area. If not, ask why! Flowers should be a completely compostable product and it's vital that this becomes an easier option across the UK. The [COM:POST](#) recycling service takes green floral waste and turns it into compost. Launched in London and the South East early in 2024 it is now being rolled out in several more areas.

Retail packaging: The way you package your flowers matters. Offering customers choices about packaging, and advising them on reusing and/or recycling at the end of life are great ways to show your customers your commitment to reducing waste.

Floral foam: Floral foam is still widely used for funerals, wedding and event floristry. It is a single-use plastic and its potential to degrade into microplastic particles has recently been raised as a concern. Whilst research studies are limited to the laboratory, it makes sense to regard foam as a product we need to reduce our reliance on. And when we do use it, we need to dispose of it responsibly, given the global concern about plastic waste.

Many florists offer more natural arranging styles which do not rely on floral foam. There are also new products coming to market as alternatives to floral foam, and a quick reference guide to some of them is included with this guidance.

The following pages offer further pointers on how to address PPW in different areas of your business.



FOCUS ON: Retail packaging

Gift bouquets are often highly packaged. Research by the Flower Council of Holland in 2023 showed that packaging is a concern to customers who buy flowers. They want to avoid plastic wrapping and prefer recycled and recyclable packaging.

Changing the way you package bouquets and arrangements sends a strong message to your customers, and can be a positive talking point demonstrating your environmental commitment. There is definitely a trend towards more natural styles of packaging across retail. Offering reduced or no packaging as an option on your website can make your offer just as distinctive as fancy wrapping.

Here are a few things to consider

- **Unpackaged** - offering “naked” bouquets with more foliage to protect the flowers and a compostable tie and wrap keeps the focus on the flowers, and can still be suitable for customers who want to avoid packaging altogether.
- **Less packaging** - does your customer need an aquapack? If only travelling a short distance it may not be necessary. Gels and wraps can help avoid large amounts of plastic film being used to make water bubbles. Covering them with a piece of hessian, for example, still gives an attractive finish.
- **Choose recycled** and easily recyclable packaging products rather than plastic film.
- **Returnable packaging** - encourage return and reuse of vases (glass or plastic) with a deposit/refund or discount on refill. This can also increase your footfall.
- **Include recycling and composting instructions with deliveries** - identifying home or industrially compostable materials for flowers and packaging.

FOCUS ON: Funerals

Funeral flowers are an essential part of many floristry businesses. Designs in brochures offered to families to remember loved ones are often based on floral foam, and may include a complex mix of plastics and flowers. If left behind at cemeteries and crematoria these can become a significant source of non-recyclable waste which may commonly be sent to an incineration plant or landfill.

Avoiding plastics and waste in funeral tributes may not be something that families are thinking about when choosing flowers to remember a loved one, but if compostable designs are offered as part of your brochure, they can become more aware of the possibilities.

Things to consider:

- **Highlight compostable designs** in your brochure for customers, to introduce the issue gently. Woodland burial sites generally require tributes to be made without wire or plastics and the [Sustainable Church Flowers](#) movement has more churches with policies encouraging compostability inside and in graveyards, so it is worth highlighting them in your portfolio.



- **Keep things simple** - a hand-tied sheaf of flowers is the simplest approach to a foam-free tribute. A number of smaller posies or bouquets can be used to create a larger tribute which can be shared or distributed after the funeral and avoid leaving waste behind at the crematorium or cemetery.
- **Try out new sustainable products** - there are also now a number of new products available which enable flowers to be arranged on a biodegradable or compostable base rather than floral foam.
- **Make your own sustainable mechanics** for funeral tributes. Many florists are now devising DIY plastic-free mechanics to make bases, many of which are compostable.
- **Take back and dismantle** - if customers still prefer a traditional style tribute, consider whether you could offer a take back service so that green waste and plastics are recycled and frames or bases reused where possible.

Find out more about designing differently for funerals:

[Eco-friendly funeral design | Sustainable Floristry Network](#)
[Online funeral flowers course for foam free natural designs](#)
[Farewell Flowers Directory](#)



FOCUS ON: Weddings, events and church flowers

Couples today often want their wedding to reflect their values, and many want the whole event to be as environmentally friendly as possible. Right from the initial consultation, florists can guide couples towards designs which use less packaging and plastics, and ensure that waste from the event is minimised. It is something that can be presented positively as part of the consultation process and offers couples another reason to choose you as their wedding florist.

Venues which have commitments to sustainability should also be more aware of issues associated with flowers at events and should work with florists to ensure that they support moves towards addressing them. If they don't seem to know, start the conversation!

Sustainable Church Flowers is an initiative which advocates locally grown, seasonal flowers and no floral foam in churches and churchyards. Find out if your local churches are involved and you can offer your expertise as an Ambassador to support them.

Things to consider (for florists, wedding planners/stylists and venues)

- **Designing differently** is often easier than attempting to recreate foam based arrangements - revise your portfolio and guide your client towards styles that work without foam. For example, flowers arranged in clustered glass vessels or "meadow box"

arrangements along the floor rather than a typical "long and low" top table arrangement offer a more relaxed style and avoid the use of floral foam.

- **Sustainable mechanics** - there are books, online tutorials and communities about sustainable floral mechanics which can help you work out what techniques and materials work best for you when designing without foam.
- **On-site set up** - many florists construct their designs off-site, and transport them to the venue. They may need more time on-site to construct arches and other arrangements without floral foam, and a larger on-site team of florists to construct designs quickly.
- **After the event** - donating flowers to charities so that they can be enjoyed for longer, composting flower waste and making petal confetti from waste flowers can all be part of your wedding services and ensure that flowers stay in use for longer and are recycled rather than going direct to landfill.

Find out more about foam free arranging and installations:

[Products – A Guide to Floral Mechanics](#)

[Eco-friendly wedding flowers - Sustainable Floristry Network](#)

[Sustainable Church Flowers](#)

Making better choices in floral packaging and mechanics

New sustainable products are coming to market to replace plastic packaging and mechanics in floristry. Many are marketed as “Bio”, “Eco” or “Natural” which sounds great, but these terms can be misleading. It is important to understand how these products are made and how they should be disposed of. Few wholesalers currently carry a clearly identified range of plastic-free or recycled packaging products, but if florists ask for them, more will do so.

There are also many DIY techniques for supporting flowers which pre-date the invention of floral foam and are coming back into wider use.

We have compiled a list of products and techniques, along with an assessment of their potential for reuse, recycling and compostability which may be helpful in making better choices for florists and flower arrangers. This list is by no means exhaustive, but indicates the range of products currently on the market in the UK (September 2024). In general, those which are reusable and recyclable are likely to be better choices. However, a durable plastic container which is reused many times may ultimately

be a better use of resources than any single-use product which is quickly sent to landfill or incineration plants.

Terminology used to describe packaging and disposal methods can be confusing, so we have also included some useful links at the end of this Guide.

The list below includes manufactured products which are being marketed as more sustainable options for floristry and also some of the options for constructing your own sustainable floral mechanics. They have been ranked according to whether they are reusable, plastic-free and/or compostable to assist better choices, with reusable and plastic-free being considered the most sustainable options.

Branded products are listed in italics. Inclusion in the list does not constitute a recommendation.

There are many product reviews and guides for making your own sustainable mechanics available online. [The Sustainable Floristry Network](#) offers independent, research-based guidance on foam and other substrates and packaging options.

REUSABLE NON-PLASTIC

Aside from minimising packaging, keeping materials in use for longer is the best choice

- **Wire mesh** - widely available in a variety of mesh sizes, reusable, and recyclable provided it is not plastic coated. May be used with moss, sand, gravel or pinholders (frogs) to create a stable base for arrangements in water or foam free arches and installations.
- **Pinholders/cages** - metal pinholders are available in several sizes and are reusable many times. Giant pinholder and cage structures can also be made to support larger pedestal arrangements and meadow box designs.
- **Glassware** - is durable, reusable and widely recycled. However, it is energy intensive to produce new glass due to high temperatures required. Look out for recycled glass containers, purchase second hand or ask for donations.
- **Tins** - may also be upcycled to use and reuse, alone or inside larger containers.

RECYCLED/RECYCLABLE/COMPOSTABLE

This is a better option than new plastic, BUT as not all recycled materials may be recycled again, minimising single-use packaging in general should be a priority.

- **Willow, twigs and moss** - moss pads were used for bouquets, wreaths and arrangements for decades before floral foam was invented, and enable fully compostable designs. Moss can also be rewetted and reused. However, moss grows in sensitive ecological environments, contributes to biodiversity and should not be collected from wild places. It should be harvested only with landowners' permission and understanding of species, or purchased from sustainably farmed sources. Alternatively twigs and leaves can be tied onto a metal, cardboard or bamboo plate with jute twine to form a sturdy base for funeral designs. Combined with the above, willow wreath rings, crosses and other structures can be purchased or made and enable a range of plastic-free designs.
- **Coir products** (e.g. *Terrabrick™* by OASIS® / *Oshun Pouch®*) - these products utilise processed coconut fibre encased in a biodegradable bag or recyclable cardboard tray as a substrate for arranging flowers. Coir is widely used in horticulture as an alternative to peat and both these products are certified as home compostable.
- **Paper and cardboard** - unbleached kraft paper rolls, sleeves, gift boxes, shallow trays and containers (e.g. OASIS® *Biolit*), are widely available, easily recyclable and can also be home composted. Look for certified paper products carrying logos such as Forest Stewardship Council (FSC) which ensure the paper is sustainably sourced and ideally also recycled. Check whether printed products are recyclable, and prioritise those using vegetable inks and dyes. Paper adhesive tape is also available and heavy duty cardboard trays can support moss pads, rockwool or coir based products.
- **Bamboo/ hemp/ palm leaf products** - a variety of trays and containers based on fast growing plant materials, such as bamboo or palm leaves, have been developed to replace plastics in the takeaway food industry. They are also suitable for supporting pads of moss or shredded leaves and twigs for fully compostable arrangement and tributes. Bamboo or wooden picks are also available to hold message cards rather than plastic cardettes.
- **Gels and wraps** (e.g. *Chrysal Arrive Alive® Eco Flower wrap*) - various options are available as an alternative to plastic film wrapped water bubbles, and can reduce the amount of packaging needed for bouquet transportation. Check whether wraps are compostable and that any covering bands and bags are also plastic free.
- **Ribbon** - hessian, jute, silk, and cotton ribbons are biodegradable alternatives to plastic derived ribbons. Compostable ribbon made from sustainably harvested trees is also available. 100% recycled ribbons made from waste plastic bottles are also now available and are virtually indistinguishable from standard polyester ribbon. However, they are not recyclable.

NON-RECYCLABLE

Single-use, non-recyclable packaging should generally be minimised even if it reduces or avoids plastic. A number of products are available which are labelled as “industrially compostable”, but must be disposed of as general waste (which in the UK will currently likely mean a route to landfill or incineration). It is important that they do not contaminate green waste being separated for composting.

- **Rockwool** (e.g. Sideau Agrawool[®] / Oasis[®] Fibre Floral[™]) - this foam alternative is manufactured from a volcanic rock, basalt, which is heated to very high temperatures and spun into fine glass fibres before being compressed into blocks. It is a single-use product for cut flowers, and has a high carbon footprint due to the energy use in manufacture, although it can be reused to grow seedlings. It does not, however, cause any problems when it breaks down and can be safely added to soil.
- **Cellophane** - clear film sold as eco-cellophane, bio-cellophane or biodegradable film will biodegrade in anaerobic conditions such as landfill or industrial composting facilities, but must be disposed of in general waste as it cannot be recycled with plastics. Confusingly, plastic film is also marketed as “cellophane”, so care needs to be taken in both purchasing and disposal, especially when passed on to customers.

- **Biodegradable floral foam** (Oasis[®] Bio floral foam) - the above considerations and disposal instructions apply to biodegradable floral foam, so florists and final customers need to understand that it cannot be composted or recycled, should be separated from green waste, and disposed of as general waste to go to landfill.
- **Mixed plastic products** - materials such as wreath rings or cages containing biodegradable foam or rockwool fixed into a plastic base are partially recyclable but require dismantling and correct disposal of component parts. Please check manufacturer’s instructions and pass these on to final customers or take back items for dismantling and disposal yourself.

Minimising use of both plastic and biodegradable wrap or foam, and ensuring they do not contaminate recycling streams, is recommended.

Further resources and information

If you want to find out more about Plastics, Packaging and Waste and why this is such an important topic to address for a sustainable future for our planet, there are some links to organisations and information below.

Plastics in the environment - the bigger picture

[Marine Litter](#)

[Plastics in a Circular Economy | Ellen MacArthur Foundation](#)

[The UK Plastics Pact | WRAP](#)

Understanding plastic types and terminology

It's important to understand different types of plastics and whether they can be recycled.

A general guide can be found here:

[What Plastics Can I Recycle?](#)

A bespoke guide to plastics in UK floriculture is a priority for the next stage of work. If you want

to find out more about plastics and sustainability, these websites may be helpful:

[Plastics explained](#)

[Understanding Plastic Packaging](#)

[UK Parliament research briefing - Plastic Waste](#)

[Plastipedia](#)

Sustainable Floristry Network

The Sustainable Floristry Network has produced resources for the industry on a wide range of topics relevant including several relevant to PPW issues:

- Floral Foam facts
- Materials and Product Guide
- Floral foam alternatives
- Biodegradable and Compostable

[Industry | Categories | Sustainable Floristry Network](#)

What's next for PPW in the cut flower industry?

As this Working Group demonstrates, by collaborating it is possible for us to drive positive changes but the challenge is to spread knowledge and expertise more widely. Changes in the wider landscape are going to make action even more important. Increasing pressure on and from governments to meet demanding net zero targets, means all businesses will be increasingly required to monitor and reduce their own footprints.

Regulations, such as new EU Directives, are raising expectations regarding packaging, climate footprint and accountability for human and labour rights along flower sourcing supply chains. For example, [the EU Corporate Sustainability Due Diligence Directive \(2024\)](#) sets new requirements for the green transition towards being carbon-neutral and demands human rights issues in any part of a supply chain are addressed. Although this directive focuses on larger businesses (1000+ employees), the changing regulatory landscape will impact all businesses in their supply chains and lead to a raising of expectations throughout the industry.

We know that regulation is needed because of the very real threats to planetary ecosystems. Our personal experiences and those of friends and colleagues around the world demonstrate how the climate crisis is already impacting us. We all have a responsibility to try to mitigate these changes and helping our customers to make positive, sustainable choices is a vital role we can take.

Future research topics and policy actions

for this group will be designed to address these needs, but we want to open conversations and have your input on what these might be. The challenge of entrenched practices, lack of waste processing options, the need to embed sustainability in floristry training, to contribute to consumer awareness, and to lead research on alternatives sustainable materials, could be some areas we could seek to influence. Please sign up on our website to engaging with this project and be part of the drive for change.

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The images used in this guide were provided by David Bek, Katherine Birtles, Angela Coulton, Shane Connolly and Jill Timms.

If you would like to know more about the **Plastics, Packaging and Waste Working Group** or the **Sustainable Flowers Research Project** then please get in touch with David and Jill.

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