FACT SHEET

NSW Cut Flower Industry

Plastic Sleeves in the Cut Flower Industry

Background

Plastic is widely used in the cut flower industry, particularly for the transportation, storage and sale of flowers. One of the most visible and commonly used items is the single-use plastic sleeve, which protects flowers during packing and distribution.

While these sleeves serve a practical purpose, they contribute significantly to plastic waste across the supply chain. The Sustainable Floristry Network estimates that at least **500 tonnes of plastic waste from flower sleeves are sent to landfill in Australia each year**.

With growing attention on environmental sustainability, single-use packaging is under increasing scrutiny. Adopting more sustainable packaging solutions is a vital step toward building a circular economy, reducing landfill waste, minimising pollution and protecting ecosystems. This is especially important during extreme weather events, such as floods, which can spread plastic debris into waterways.

Packaging considerations

Many wholesalers require certain flowers to be sleeved to minimise damage during handling and transport. Liability for breakages rests with whoever possesses the flowers at any point in the supply chain, meaning that they must carry the loss.

Growers who sell directly to florists may have more flexibility to supply flowers without sleeves; however, not all growers deal directly with florists, with many going through third parties or wholesalers. Sleeves play an important role in protecting flowers and minimising breakage, particularly when flowers are handled multiple times before reaching the consumer.

Key considerations for growers include:

- The type, size, and characteristics of the flowers, as not all packaging alternatives are suitable for every variety
- Balancing protection, sustainability and customer or supply chain expectations when selecting packaging solutions
- Clear communication with florists and wholesalers to ensure handling and transport requirements are met.

Key Messages

- **A PRESSING WASTE CHALLENGE**
  Plastic sleeves help protect and display cut flowers but remain a major source of single-use plastic waste
- **PLASTIC SLEEVES PLAY A FUNCTIONAL ROLE**
  Polypropylene plastic sleeves are widely used for their strength, clarity, moisture resistance, ease of handling, cost-effectiveness, and potential for branding
- **RISING SUSTAINABILITY EXPECTATIONS**
  Legislation, consumer preferences, and retailer standards are increasingly driving the transition toward more sustainable packaging solutions
- **EXPLORING VIABLE ALTERNATIVES**
  Non-plastic packaging options are on the market, but their suitability varies based on factors such as flower type, transport conditions and overall cost
- **RECYCLED OPTIONS A POSSIBLE POSITIVE STEP**
  100% recycled polypropylene plastic sleeves are becoming available on the market, offering a circular solution

Image: RMCG

Alternatives to plastic sleeves

As the industry has expanded, and supply chains have become more complex, there has been a subsequent increase in the use of plastic sleeves. While plastic sleeves remain the dominant packaging method, several alternatives do exist as illustrated in Figures 1- 4 below.

Figure 1 Alternatives to plastic sleeves for cut flower packaging

No sleeves

Some hardier flowers, such as native varieties, can be transported and sold without sleeves, reducing plastic use

LIMITATIONS

Not suitable for delicate flowers that may be damaged during transport

Paper

Butcher paper or kraft brown paper can be used to wrap flowers; this was commonly used before plastics became widespread

LIMITATIONS

May not provide as much protection against moisture or crushing

Cardboard

Corrugated cardboard boxes are often used to package roses, particularly for imported or airfreight shipments

LIMITATIONS

May require additional packaging material at different points in the supply chain

Biodegradable / Compostable Sleeves

Serve the same protective function as traditional plastic sleeves; made from plant-based materials or bio-based polymers

LIMITATIONS

Material tends to break down easily when exposed to water or high humidity; may be too soft for transport in cool, damp storage

Reusable Transport Systems

All-in-one harvesting, transport, and display systems for growers. Existing circular bucket return systems (between florists, wholesalers and growers) in Australia are efficient but currently rely on sleeves.

LIMITATIONS

Higher upfront cost and may require workflow changes

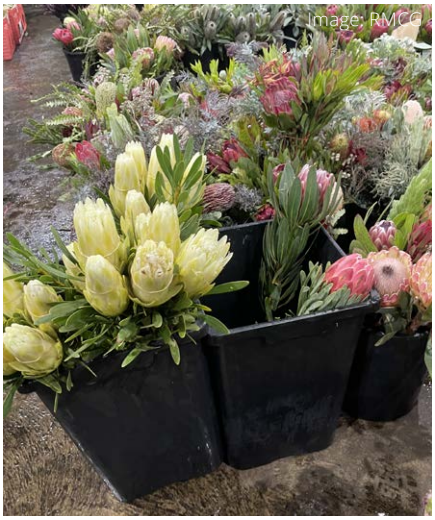

Figure 2 Some hardier flowers, such as native varieties, can be transported and sold without sleeves

Figure 3 Butcher paper or kraft brown paper can be used to wrap flowers

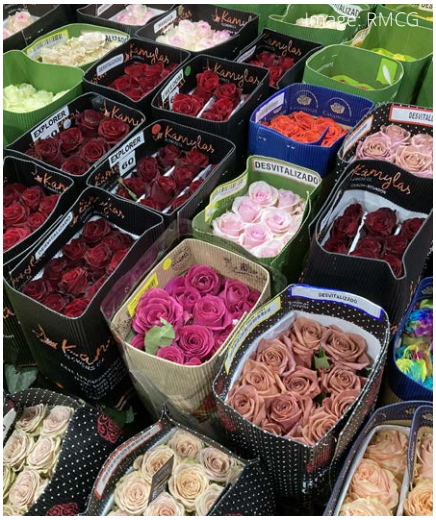

Figure 4 Corrugated cardboard boxes are often used to package roses, particularly for imported or airfreight shipments

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Plastic sleeve recycling

Polypropylene is a high-quality plastic with reuse potential. While collection trials for plastic sleeve recycling have taken place in Australia, there is currently no national recycling scheme for them. Although technically recyclable, several challenges have limited recycling efforts, including:

- Contamination with leaves and organic matter reduces the quality and recyclability of collected sleeves
- Imported sleeves printed on laminated stock introduce mixed plastics that complicate recycling processes
- The low weight-to-volume ratio of sleeves means collection bins fill quickly but contain insufficient plastic weight for economic recycling. Containment and baling at collection sites is generally required to manage the minimal weight and prevent sleeves polluting surrounding areas.

Some sleeves are being collected and fed into the national PP5 recycling program by Garden City Plastics. However, the challenges listed above have so far prevented large-scale reuse or recycling of plastic sleeves in the Australian flower industry. Improved communication, industry education, and support for proper preparation of sleeves for recycling are likely to enhance the success of future collection initiatives.

Image: RMCG

Circularity for plastic sleeves

Because so many sleeves are used by industry (florists and wholesalers), and as PP5 is a highly recyclable plastic, there is an opportunity to create a circular system for the sleeves if they are collected and recycled appropriately.

Ellen Macarthur Foundation vision for a plastic economy highlights that plastics must be recycled in practice to meet the requirements of a circular system.

100% recycled sleeves are now available in Australia and New Zealand through **Circular Plastics Alliance**. These sleeves are made in Vietnam by a Dutch-owned company, but manufacturing is currently being shifted to China. Two sizes are currently available – these may not be suitable for all flowers.

Need more information?

Visit the Circular Plastics Alliance website:
https://www.circular-plastics-alliance.com

Visit the Ellen Macarthur Foundation website:
https://www.ellenmacarthurfoundation.org

Visit the Garden City Plastics website:
https://gardencityplastics.com/services/closed-loop-packaging

Further resources

This resource is part of a suite of factsheets developed to support growers in reducing plastic and chemical use in the cut flower industry. This includes materials focused on chemical use, pest and disease management, and plastic use.

This fact sheet has been developed by RMCG as part of a Storm and Flood Industry Recovery project to reduce chemical use in the NSW cut flower industry.

Image: AdobeStock.com/hedgehog94

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