CropLife Australia

November 2024

Opportunities in the circular economy

Australian Government - Productivity Commission

Introduction

CropLife Australia (CropLife) is the national peak industry organisation representing the agricultural chemical and plant biotechnology (plant science) sector in Australia. CropLife represents the innovators, developers, manufacturers, formulators and suppliers of crop protection products (organic, synthetic and biological based pesticides) and agricultural biotechnology innovations. CropLife's membership is made up of both large and small, patent holding and generic, Australian and international companies. Accordingly, CropLife advocates for policy positions that deliver whole of industry and national benefit. However, our focus is specifically on sustainable environmental land management and an Australian farming sector that is internationally competitive through globally leading productivity and sustainability practices. Both of which are achieved through access to world-class technological innovation and products of the plant science sector.

The plant science industry contributes to the nation's agricultural productivity, environmental sustainability and food security through innovation in plant breeding and pesticides that protect crops against pests, weeds and disease. More than $31 billion of the value of Australia's agricultural production is directly attributable to the responsible use of crop protection products, while the plant science industry itself directly employs thousands of people across the country.[1] CropLife Australia is a member of CropLife Asia and part of the CropLife International Federation of 91 CropLife national associations globally.

CropLife welcomes the opportunity to comment on the Productivity Commission's inquiry into Australia's opportunities in the circular economy to improve materials productivity and efficiency in ways that benefit the economy and the environment.

The agricultural sector, being a key component of the nation's economy, has a unique potential to innovate in the areas of sustainable packaging and recycling, thereby reducing waste and promoting resource efficiency. CropLife's submission will focus on the role of packaging and agriculture in advancing Australia's transition toward a circular economy, as these have been identified as priority areas for development.[2]

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1 Deloitte Access Economics, 'Economic Contribution of Crop Protection Products in Australia', August 2023, https://www.croplife.org.au/resources/reports/economic-contribution-of-crop-protection-products-in-australia/.

2 H Schandl et al., 'Australia's Circular Economy Comparative and Competitive Advantages. A Report to the Office of the Chief Scientist.' (CSIRO, 24 April 2024), https://research.csiro.au/circulareconomy/australias-circular-economy-comparative-and-competitive-advantages/.

Progress in Australia: circular economy success stories

CropLife and its members have been national, and even global, leaders in packaging collection and recycling for over 25 years. CropLife's programs demonstrate national and international best practices, offering effective models for the responsible management of packaging.

Programs such as ***drum****MUSTER*® and bagMUSTER® were initiated, developed and funded by industry and with strong on-ground backing from the communities in which they serve and operate (a brief overview is provided below with further information available in the attachments). CropLife's collection and recycling programs are administered by its wholly owned stewardship services provider, Agsafe. These industry-led product stewardship programs were established well before government regulatory intervention, demonstrating the plant science industry's commitment to product stewardship – industry-led product stewardship is deeply embedded in the sector's culture.

drum*MUSTER*® and bagMUSTER® have been designed to enable the responsible recovery and recycling of agricultural product packaging. Both programs are a first of their kind in Australia – Australian agriculture is renowned for its vast distances and spread-out communities, creating unique challenges for efficient supply chains and resource distribution, including waste management efforts. Not only do these programs contribute to Australia's recycling efforts and bolster our transition toward a circular economy, but they also address the significant challenges associated with managing Australian agriculture's plastic waste.

Circular economy approaches generally deliver lower emissions while contributing to other public good and outcomes, such as reduced pollution and reduced demand for virgin materials.[3] Furthermore, the circular economy approaches adopted in ***drum****MUSTER*® and bagMUSTER® contribute to deepening the economic complexity of the Australian economy and strengthen domestic supply chains by utilising recovered resource streams instead of importing new or raw materials.

[3] David McGinty, '5 Opportunities of a Circular Economy', 3 February 2021, https://www.wri.org/insights/5-opportunities-circular-economy.

Emphasised in numerous inquiries and reports, the primary barrier to realising a closed-loop system for Australian packaging is the country's limited recycling infrastructure. A second challenge to sustaining a closed-loop system is securing feedstock. CropLife and Agsafe have successfully overcome the significant logistics challenges of managing agricultural plastic waste across Australia, particularly considering the country's dispersed farming communities. While ***drum****MUSTER*® can collect more plastic than Australia's current recycling capacity, the bottleneck now lies in processing, as recycling infrastructure struggles to keep up with collection capabilities.

drumMUSTER® and Drums-to-Drums

Since inception, ***drum****MUSTER*® has collected over 43.5 million containers, equivalent to over 52,300 tonnes of plastic. The program has a participation rate of over 97% of the agricultural and veterinary chemical product market. Crucially, CropLife and Agsafe continue to invest in on-ground outreach and education programs to maintain and increase program engagement. ***drum****MUSTER*® has become a world-leading example of sustainable pesticide container management, with CropLife Australia actively facilitating other nations like Canada and New Zealand, in establishing similar container management systems.

Furthermore, critical to the success of ***drum****MUSTER*® is that it is embedded into local communities. The design-led approach to the program's national rollout meant that community needs and preferences were considered. In some community settings, ***drum****MUSTER*® also provides a revenue stream for the local community groups.[4]

In August 2024, CropLife, in partnership with Pact Group, an Australian based packaging manufacturer, launched Drums-to-Drums. This initiative demonstrates how industry-led programs can effectively accomplish packaging sustainability outcomes before government regulatory intervention.

Drums-to-Drums is a major evolution of ***drum****MUSTER*®. Challenges in the past have meant that collected ***drum****MUSTER*® containers could only be recycled into plastic pellets to make other products. Pact Group has now produced an agricultural chemical drum whose composition is at least 30 per cent recycled plastic chemical drums. Building on the availability of recovered plastic from ***drum****MUSTER*®, it is likely that there will be other advanced manufacturing opportunities to deploy the technology behind Drums-to-Drums.

4 'Community Groups', ***drum****MUSTER*®, accessed 13 December 2022, https://www.drummuster.org.au/whos-involved/inspectors/.

bagMUSTER®

In strategic partnership with the Australian Seed Federation, CropLife developed bagMUSTER® as the first not-for-profit national initiative focused on the collection and recycling of single-use agricultural plastic bags. The partnership between CropLife and the Australian Seed Federation represents the major pesticide, seed, and bag manufacturing and supply companies in the Australian market. This is a crucial partnership that reiterates the plant science industry's serious commitment to industry-led and genuine stewardship initiatives.

Learnings from the administration of ***drum****MUSTER*® informed the development of bagMUSTER®. Pilot trials were conducted in 2023 to refine logistics and inform infrastructure requirements, and phase one of the program's national rollout is set to commence in early 2024.

When established with a national footprint and through partnerships with processing and recycling businesses, bagMUSTER® has the potential to collect and process agricultural plastic bags into recyclate over 45,000 tonnes of soft plastic from Australian farms.[5]

Both ***drum****MUSTER*® and bagMUSTER® demonstrate the plant science industry's commitment to industry-led product stewardship to protect our natural environment from plastic pollution but also strengthen our domestic supply chains.

Metrics: how to measure progress

CropLife and its members recognise the importance of ensuring that their product stewardship programs, such as ***drum****MUSTER*®, meet their intended goals. With this goal in mind, CropLife, through its wholly owned stewardship services provider, Agsafe, has invested in the establishment of data management systems that track and report on packaging placed onto the market and its subsequent collection and responsible management. This capability provides CropLife members with crucial insights, providing accountability of the positive impact of their investment in full whole-of-lifecycle product stewardship. CropLife and Agsafe continues to modernise its stewardship services, maintaining a portfolio of solutions that remain ahead of both member needs and regulatory requirements.

5 'Australian Plastic Flows and Fates Study 2021-22 National Report - DCCEEW', accessed 29 October 2024, https://www.dcceew.gov.au/environment/protection/waste/publications/australian-plastic-flows-and-fates-national-report-2021-22.

CropLife supports a national reporting mechanism to track and measure Australia's progress in transitioning toward a circular economy. Integrating existing industry systems—such as the data management tools built by CropLife and Agsafe—with future frameworks, can facilitate effective use of public resources, leverage current industry initiatives, and minimise duplication. These partnerships are also essential for addressing industry-specific needs while meeting policy objectives cost-effectively. For example, to obtain meaningful data on the collection of pesticide containers, a five-year rolling average would better capture seasonal variations in production and individual consumer product use patterns. Continued collaboration between industry and government is vital to ensuring that decisions and performance evaluations towards Australia's circular economy policy objectives are based on accurate and context-sensitive information.

Under the National Environmental Protection (Used Packaging Materials) Measure 2011 (NEPM), manufacturers, brand owners, and retailers are accountable for the packaging materials they produce and distribute. The objective of the NEPM is to reduce the negative environmental impact of packaging materials through sustainable practices such as reuse, recycling, and recovery and to encourage liable companies to adopt environmentally friendly practices to minimise the generation of packaging waste. The NEPM strives to fulfil its objectives through a co-regulatory arrangement. In 2021, an independent review identified that the NEPM has been ineffective at attaining its objectives.[6]

Part of the NEPM's ineffectiveness was the inability of the Australian Packaging Covenant Organisation (APCO) to drive industry-wide compliance.[7] APCO was set up as part of the co-regulatory arrangement where signatories of the Australian Packaging Covenant are required to provide comprehensive annual reports demonstrating their work and progress toward the NEPM's objectives. Exemplifying this, a business in the plant science sector who is a CropLife member and current APCO signatory expressed their need for an additional FTE employee to meet APCO's membership reporting obligations. This member also expressed their uncertainty regarding how APCO's data collection process contributed toward the objectives of the NEPM. The review revealed that APCO's initiatives did not sufficiently incentivise industry investment toward achieving the NEPM's targets.

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6 APCO, 'Review of the 2025 National Packaging Targets', April 2023, https://documents.packagingcovenant.org.au/public-documents/Review%20of%20the%202025%20National%20Packaging%20Targets.

7 Department of Agriculture, Water and Environment, 'Business Decisions about Signing up to the Australian Packaging Covenant', May 2020, https://www.agriculture.gov.au/sites/default/files/documents/27581.pdf.

We use the NEPM/APCO as an example of a mechanism intended to demonstrate measurable progress, but which ultimately falls short. As CropLife understands, APCO's reporting framework centres on packaging entering the market, whilst excluding collection statistics such those from CropLife's collection, processing and recycling programs. As a result, the NEPM/APCO framework fails to reflect Australia's true recycling and circular economy achievements. Moreover, the increased compliance costs, often passed on to consumers, contribute to higher prices, increased inflationary pressure, and a rise in the cost of living. To this end, getting data standards that suit industry needs will be critical in demonstrating Australia's genuine progress toward a circular economy.

Opportunities

Celebrating and incentivising progress

With increasing interest in product stewardship and a transition toward a circular economy, there is opportunity to showcase and celebrate the existing meaningful contributions of industry-led initiatives, such as ***drum****MUSTER*® and bagMUSTER®. Doing so would not only provide a positive, and realistic picture of progress Australia has already made, but also incentivise greater collaboration and discourse among other industries seeking to follow suit or find effective solutions.

Highlighting existing successes may also shift community sentiment from an 'all is lost' mindset to a proactive 'can do' attitude, fostering greater public engagement and endorsement. Such an environment would be conducive to further positive change.

Funding: state and federal

State and federal governments have an important role in supplying funding mechanisms that better enable the transition of programs from successful pilots to full implementation. While grants like the Federal Government's Product Stewardship Investment Fund have provided valuable resources to scope out problems,[8] there remains a significant gap when it comes to funding the national expansion of industry-led initiatives, such as bagMUSTER®.

[8] Department of Climate Change, Energy, the Environment and Water, 'National Product Stewardship Investment Fund', accessed 12 December 2022, https://www.dcceew.gov.au/environment/protection/waste/product-stewardship/national-product-stewardship-investment-fund.

CropLife and its members have invested in scoping and piloting bagMUSTER®, again demonstrating the plant science industry's commitment to product stewardship and the potential of bagMUSTER® to benefit the environment and supply recycling businesses with feedstock. Despite promising initial data and constructive engagement with state and federal agencies, CropLife has been unable to secure financial support to expedite the national rollout of bagMUSTER®. We understand that this has been due to restricted grant funding rules.

Without targeted assistance to bridge this "valley of death"—a stage that often impedes the progress of promising initiatives—programs like bagMUSTER® face considerable challenges in scaling their benefits. As a result, the national rollout of bagMUSTER® has been considerably staggered, prioritising cost-effective regions. Government financial backing would accelerate the pace and broaden the scope of the rollout. Redirecting government funding towards enabling both implementation and long-term viability would empower initiatives like bagMUSTER® to deliver tangible environmental outcomes more swiftly, helping Australia realise nation-wide benefits sooner and advancing the transition towards a circular economy.

Challenges

Greenwashing

There has been a misalignment between the government's waste export ban, the availability of local recycling infrastructure, and the community's enthusiasm to 'do the right thing'. This misalignment has led to stockpiling situations, like REDcycle, and consequently threatened public trust in Australia's recycling system and credible product stewardship schemes.[9]

Alarmingly, the gap between plastic waste export regulations and the availability of advanced recycling technologies in Australia has inadvertently enabled for-profit businesses to exploit consumer goodwill and brand owners' responsibilities, creating conditions for greenwashing.

Ensuring human and environmental safety

While designing packaging to enable a circular economy is desirable, it should not compromise its ability to perform its primary function – maintaining the safe storage, transport, and use of its contents. Additional regulatory requirements may be present for the packaging of specific industry products. For the plant science industry, this includes meeting robust requirements for performance standards set by the Australian Pesticide and Veterinary Medicines Authority.[10]

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9 'Shoppers Told to Put Plastic Bags in the Bin after Suspension of REDcycle's Soft Plastics Recycling Scheme', *ABC News*, 9 November 2022, https://www.abc.net.au/news/2022-11-09/redcycle-soft-plastics-recycling-program-suspended/101632220.

10 Section 18 - Australian Government, 'Agricultural and Veterinary Chemicals Code Regulations 1995' (Federal Register of Legislation), accessed 23 October 2024, https://www.legislation.gov.au/F1996B00288/latest.

Regulatory flexibility to accommodate innovation

One of the challenges that delayed the implementation of the Drums-to-Drums initiative was the significant traceability and source determination requirements for recycled plastics. Although these requirements were intended to safeguard the quality, safety, and compliance of recycled materials, they often demanded a level of detail that did not increase or add safety value.

Australia's recent changes in regulations regarding recycled plastic traceability reflect a shift towards simplifying requirements while still encouraging the use of recycled content in packaging. These changes were made to reduce the regulatory burden of maintaining stringent traceability across the supply chain and focus on balancing the need for recycled content with practicality. This move was not only welcomed but necessary given that domestic recycling infrastructure and supply chains are still developing.

Drums-to-Drums became viable when the traceability and source determination requirements were recently revised. This example demonstrates how industry can lead in delivering agreed outcomes of the NEPM and in creating a circular economy when given the flexibility to innovate. The example also demonstrates that industry can respond rapidly to create a solution.

The definition of "recycle"

Bags collected in CropLife's newest stewardship program, bagMUSTER®, can be recycled overseas, with the process fully tracked for quality assurance. However, recycling conducted in international jurisdictions cannot be officially claimed as "recycled" under the Australian Competition and Consumer Commission's (ACCC) definition. As such, while bagMUSTER® has the potential to remove more bags from farms and prevent environmental contamination, its impact is currently limited by Australia's soft plastic recycling capabilities.

To aid Australia's transition towards a circular economy, the ACCC could consider introducing a transition period during which the definition of 'recycle' is broadened beyond the current onshore processing requirement. This transition period would enable more packaging waste to be managed responsibly and effectively, delivering both environmental benefits and a stronger business case for product stewardship programs, while providing the manufacturing industry with access to recyclate. Clear and graduated timeframes would be essential for this transition, giving industry the assurance it needs to invest in new solutions.

Conclusion

The success of ***drum****MUSTER*® and now bagMUSTER® exemplify how industry-led efforts can deliver meaningful environmental outcomes and create a more resilient domestic supply chain, reducing reliance on virgin materials and supporting a circular economy. By celebrating successful initiatives, incentivising meaningful progress, and establishing flexible yet robust regulatory environments, Australia can accelerate its transition towards a more sustainable and circular economy.

We emphasise the importance of effective collaboration between government and industry to overcome barriers, such as limited recycling infrastructure and complex regulatory requirements, which may impede the realisation of a fully circular economy in Australia.

CropLife and its members are committed to continuing its leadership role in promoting sustainable practices within the agricultural sector, particularly as it pertains to enhancing the circular economy through industry-led product stewardship initiatives.

*Supporting attachments: **drum**MUSTER® and bagMUSTER® overviews.*

BRIEFING NOTE

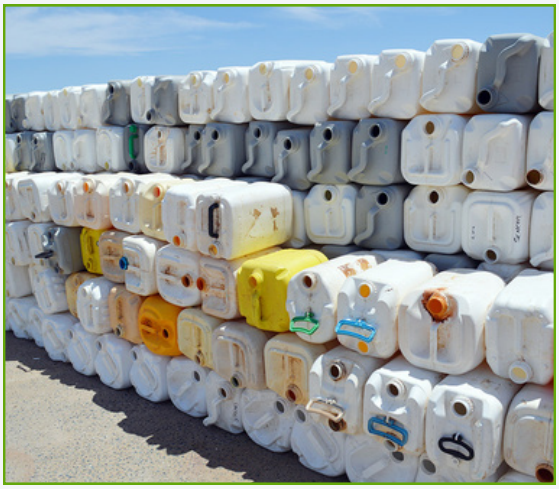
*drum*MUSTER®
A RECYCLING SUCCESS STORY FOR AUSTRALIAN AG

Developed by industry, for industry

drumMUSTER® is the national program for the collection and recycling of eligible agricultural and veterinary chemical drums. With over 830 collection points across Australia, ***drum***MUSTER® is an effective and genuine industry-led product stewardship initiative supporting Australian agriculture's sustainability efforts.

CropLife Australia and its members funded the development and implementation of ***drum***MUSTER® long before the introduction of regulatory requirements. By facilitating the collection and recycling of eligible, empty and clean agvet chemical drums, ***drum***MUSTER® accounts for 40 per cent of Australian agriculture's recycling efforts. What started as a single collection point in 1999, has now expanded to a nation-wide program.

In 2022, ***drum***MUSTER® collected its 40 millionth drum! Which is more than the weight of the Sydney Harbour Bridge!



drumMUSTER® drums ready for collection and recycling.

Enabling our circular economy

Critically, ***drum***MUSTER® collected drums are processed in Australia and manufactured into new products such as wheelie bins, fence posts, irrigation pipes and bollards.

Did you know?

drumMUSTER® accounts for 40% of Australian agriculture's recycling efforts!

Drums-to-Drums – an Australian first closed loop system

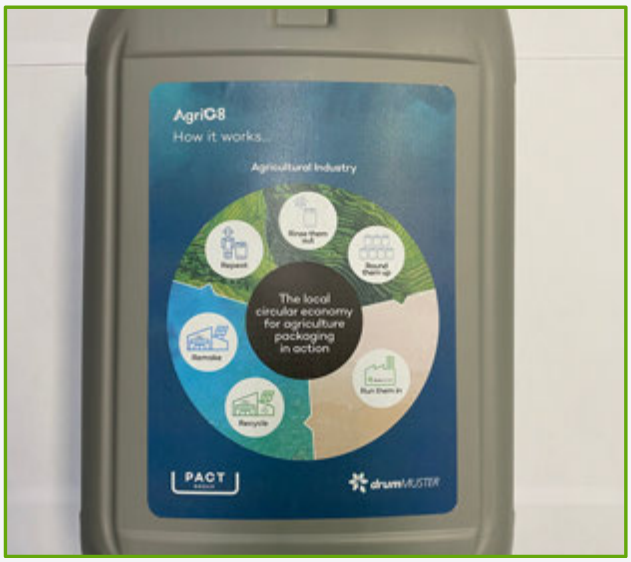
CropLife Australia and Pact Group are proud to unveil a significant evolution of CropLife's ***drum**MUSTER*® initiative, transforming it from a collection and recycling initiative into a truly circular packaging solution.

Technical challenges in the past have meant that collected ***drum**MUSTER*® containers could only be recycled into plastic pellets to make other products but could not be directly recycled back into new chemical containers. Pact Group's technology have addressed this. The product is a recycled agricultural chemical drum that contains **35 per cent recycled material** derived from ***drum**MUSTER*® collected drums. This initiative will be an Australian first.

Agsafe – CropLife's wholly owned stewardship services provider

Agsafe was established in 1993 by CropLife and its members as an industry-led commitment to delivering product stewardship initiatives to the Australian ag community. In addition to administering ***drum**MUSTER*® , Agsafe also delivers ChemClear® for responsible chemical disposal.

Agsafe also provides valuable training for the safe storage, transport and handling of agricultural chemicals.



A ***drum**MUSTER*® and Pact Group collaboration: Drums-to-Drums is an Australian first circular economy initiative. These containers are made in Australia from 35 per cent recycled material derived from collected ***drum**MUSTER*® drums.

Are you looking for a sustainable way to manage agricultural plastic waste?

bagMUSTER is here to help! We are dedicated to providing a safe, easy, and eco-friendly solution for the disposal of single use polypropylene (PP) agricultural plastic bags.

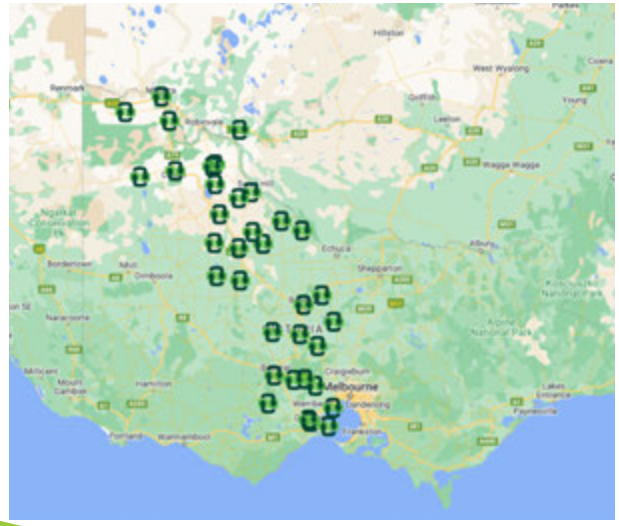
By participating in bagMUSTER, you contribute to a cleaner environment, help reduce landfill waste, and support the recycling of plastic bags into new, useful products. Best of all, there's no cost for end users to dispose of their bags—retailers have already paid a membership fee to be part of the program!

Phase 1: Rural Victoria launch

We're starting with rural Victoria as Phase 1 of our program because the infrastructure is already in place to support 100% recycling in the region. This phased approach allows us to expand across the entire state, ensuring that processes are streamlined and perfected to provide a seamless service for everyone involved.

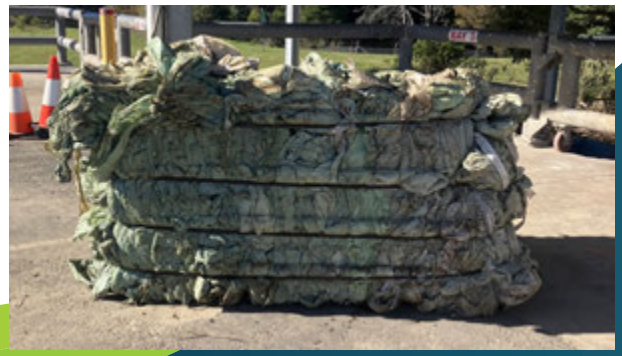
We will expand into other states over time, with recycling as our first preference. However, if the infrastructure isn't yet available, we'll explore other responsible options to remove the bags from farms.

We'll make regular announcements to keep everyone informed on the program's progress as it evolves.



What we aim to achieve

- **Recycling first:** We are committed to recycling 100% of collected bags in Victoria, with recycling being the top priority as we expand to other regions.
- **Alternative solutions:** In areas where recycling infrastructure isn't fully developed, we'll find other sustainable ways to manage the collected bags.
- **Transparency:** We'll keep you informed about where your recycled bags go, helping manufacturers and retailers with their sustainability reporting.
- **A greener future:** Together, we can make a positive impact on the environment.



bagMUSTER baling trial at Merimbula Waste Facility in June 2024

For more details on how bagMUSTER works or to subscribe to updates, visit bagmuster.org.au today.

How to participate

1. Farmers/growers purchase bags from participating retailers and keep receipts.
2. Farmers/growers collect and store empty plastics bags.
3. Farmers/growers visit bagMUSTER website to locate collection site and register bags.
4. Farmers/growers ensure bags are clean and free from non PP plastic and transport them to the collection site.
5. Collection site inspector checks the load, just like the *drumMUSTER* program.
6. Farmers/growers receive a certificate from bagMUSTER for Quality Assurance compliance.
7. Collection sites send plastics bags for recycling.

To find out more about how the bagMUSTER program works or to subscribe for updates, please visit the bagMUSTER website.

www.bagMUSTER.org.au

For partnership discussions, please contact our bagMUSTER program manager.

David Leitch

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Agsafe

bagMUSTER is proudly operated by Agsafe, who are dedicated to promoting responsible waste management in the agricultural sector through comprehensive product stewardship programs. These include *drumMUSTER*, ChemClear, and Member Services that ensure safe chemical management throughout the supply chain.

drumMUSTER® ChemClear MEMBER SERVICES

bagMUSTER®

Dispose of agricultural bags responsibly with bagMUSTER