

Evaluating Crop Protection Container Management Programs



Container management programs have successfully implemented in many regions of the world – but further progress can be made – to increase the global coverage of such programs, to improve collection rates and to reduce the environmental footprint through greater re-cycling of used packaging.

Plastic waste is one of the significant environmental problems being faced, given the potential for lasting damage to the earth and its population. The use of virgin plastic for producing more packaging containers is growing and is expected to grow further due to the increasing global population. With approximately one-third of all used plastic 'leaking' into the environment, this has a major impact on the environment and in particular the marine environment. There are opportunities for improvements: such as plastic recycling, which remains limited with an estimated 95% of plastic packaging material value being lost after its first use.

Although the volume of empty crop protection containers is only a small proportion of the total plastic and packaging waste, it needs to be managed correctly - to minimise the risk of pesticides and containers negatively affecting humans and the environment and to contribute to a more efficient plastic re-cycling system.

CropLife International and its members play a key role in managing container management programs and some of these schemes have been operating for more than 30 years.

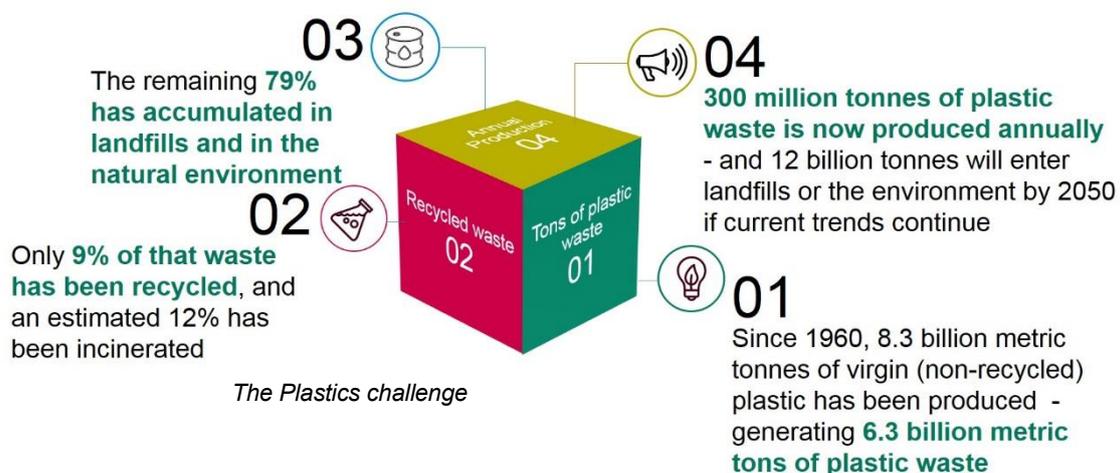
Container Management Programs – How They Work

Collection schemes for empty crop protection containers currently operate in almost 60 countries around the world. Some of the most successful container management programs are based on multi stakeholder projects where every step of the container lifecycle is managed and key stakeholders are taking responsibility. Schemes have benefited from partnerships – with authorities, other industries and stakeholders. These types of local collaborations have helped grow existing programs by reducing costs, raising awareness and building knowledge between all the partners.

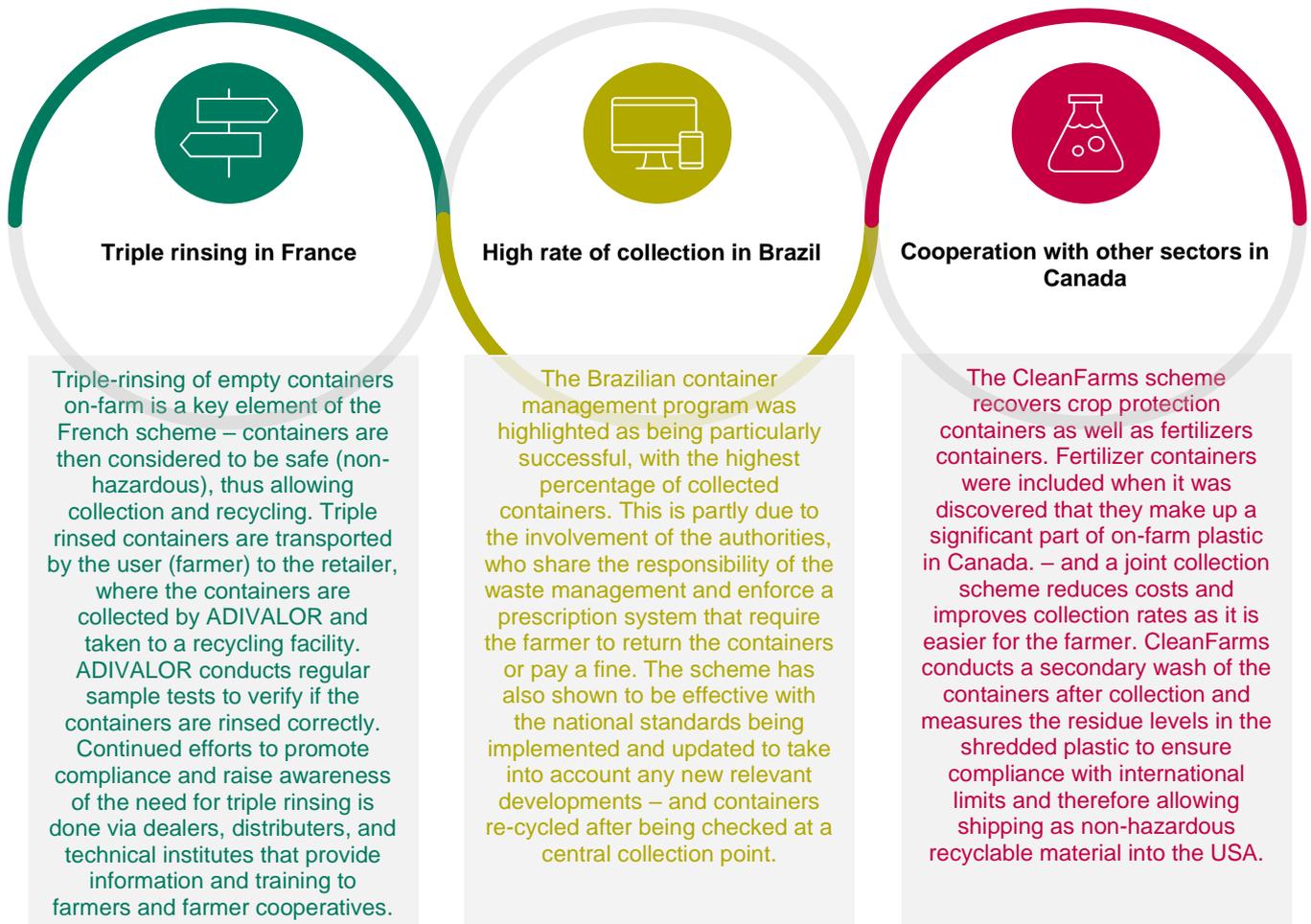
The organization of the schemes do face management issues in different parts of the world. The classification of containers as hazardous waste is one difficulty that has been faced. This issue has been overcome in many regions by requiring that containers be triple rinsed at the farm level. The use of triple rinsing has led to acceptance that used containers are safe to be transported and re-cycled, reducing the amount of plastic waste that is unnecessarily incinerated and enters landfill sites – and reducing the costs and the overall environmental footprint of used containers.

Training and awareness raising along the production chain are vital to promote container management programs and to ensure knowledge sharing between authorities and industry. And there is a need to look at new approaches to raise awareness and increase the rate of collection and recycling of crop protection containers.

It is important that container management programs be cost effective for stakeholders. This includes simplifying the scheme - as the easier it is for farmers to return the empty containers the greater the recovery rate. There is also a need for engagement of all stakeholders to promote the schemes and ensure that they deal with the environmental and recycling challenges.



Good practices in container management programs



Removing barriers to the recycling of crop protection containers

Given the current challenges in managing plastic waste, a key target for authorities and industry must be to maximise the recycling of collected containers. In some cases, this will require national authorities to review their policies on how to deal with crop protection containers. Crop protection containers need to be considered as 'safe' (FAO/WHO recommend that countries should classify properly rinsed containers that have been inspected as non-hazardous.) to simplify the transport and re-cycling process and thus help reduce the costs of the management scheme. Triple rinsing is key to ensure that used crop protection containers can be considered as 'safe'. This also provides an incentive for farmers to rinse containers, resulting in an increased rate of collection of used containers.

“Triple rinsing is key to ensure that used crop protection containers can be considered as ‘safe’ - to simplify the transport and re-cycling process.”

It is therefore essential that training and education continue – in particular to ensure that farmers are aware of all the benefits: triple rinsing not only reduces the risk for users, the environment and the local community – it also has an economic benefit to the farmer ensuring that the crop protection product is not wasted.

While the importance of triple rinse from a safety & recycling viewpoint is vital, showing that the farmer has a benefit will also improve the understanding of why a farmer would want to triple rinse.

Data on triple rinsing – shown to be

99.99% effective

Data on the rinsability of a wide range of packaging and formulations has been carried out by the European Crop Protection Association (ECPA, 2003). In an analysis of data from **180 rinsed containers**, an average rinsing effectiveness achieved using either manual triple rinsing or integrated pressure rinsing was 99.992% (leaving behind 0.008% w/w). From the data presented, it is considered reasonable to use a

0.01% maximum rinsed residue

figure – and for such containers that have been triple rinsed to be considered as **‘safe’ for transport and recycling!**

UN's Sustainability Development Goals (SDGs)

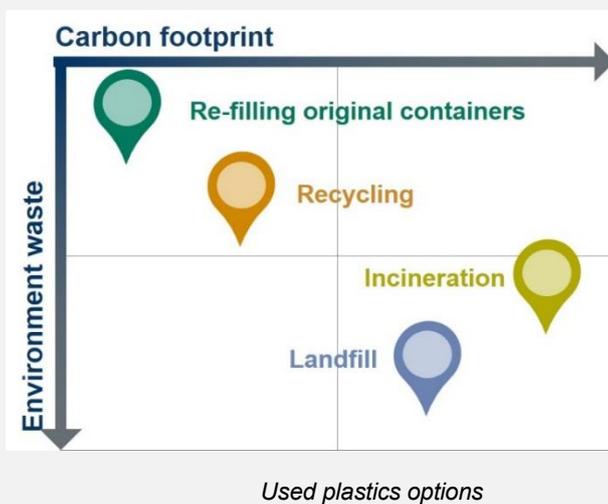
From an environmental and health perspective, moving away from the linear 'take-make-dispose' model of consumption and adopting a more circular approach are essential in order to achieve the UN Sustainable Development Goal on Sustainable Consumption and Production (SDG12). In addition to improving resource efficiency, recycling would reduce negative externalities, such as greenhouse gas emissions (SDG 13), ocean pollution (SDG 14), health hazards for workers handling the containers (SDGs 3 and 8), and leakage in the natural environment (SDGs 3 and 6), especially in developing countries.

To fulfill the aims of the relevant Sustainability Development Goals, indicators need to be developed that will help all stakeholders to track progress.



UN's Sustainability Development Goals

“Cooperation will be essential for the container management programs to achieve the target to increase the rate of collection and recycling of used containers.”



Options for re-cycle and re-use

Plastic collected in container management programs can be **re-cycled into a range of products**. While crop protection containers can be re-used as **packaging** for new crop protection products, this is not a major use. The plastic is most commonly used in applications with lower demands due to some degradation of the properties of the material. But this still delivers many useful products such as **plant pots, outdoor furniture, fencing and fencing posts, garden decking, traffic bollards** as well as **road surfacing**.

“There are many options for the use of re-cycled plastic from crop protection containers – let’s make sure that programs are in place to collect and process the material into useful products!”

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An evaluation of current container management programs has been carried out by ERM on behalf of CropLife International



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