

Strategies and perspectives



The Campo Limpo System adapts itself to new needs of the industry and agriculture

The continuous expansion of Brazilian agricultural production directly influences inpEV's activities, which makes efforts and dedicates a growing volume of resources to the Campo Limpo System (SCL) to keep up with the pace of activities in the field. According to the Instituto Brasileiro de Geografia e Estatística (IBGE [Brazilian Institute of Geography and Statistics]), the 2013 national production of cereals, legumes and oilseeds hit a record, reaching 188.2 million tons, 16.2% above the 2012 harvest (161.9 million tons).

Due to the increase in planted area, technological development and the advent of new pests, the consumption of crop protection products has increased year after year in Brazil - a trend observed since inpEV's foundation in 2001. In order to keep up with this trend, the institute has improved its actions, always focusing on

the environmentally correct disposal of empty packages. Besides this, it has intensified the awareness and educational campaigns aimed at farmers, among other SCL agents, under each one's responsibility with regard to the entire reverse logistics involving this activity. By doing so, inpEV also strengthens its mission based on its own institutional values.

Over the years, inpEV has improved and intensified its actions, focusing on the correct final disposal of empty crop protection packages.



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In 2013, 11,132 vehicles transported empty packages across the country processed by the Campo Limpo System. These vehicles were operated based on the return shipment concept.

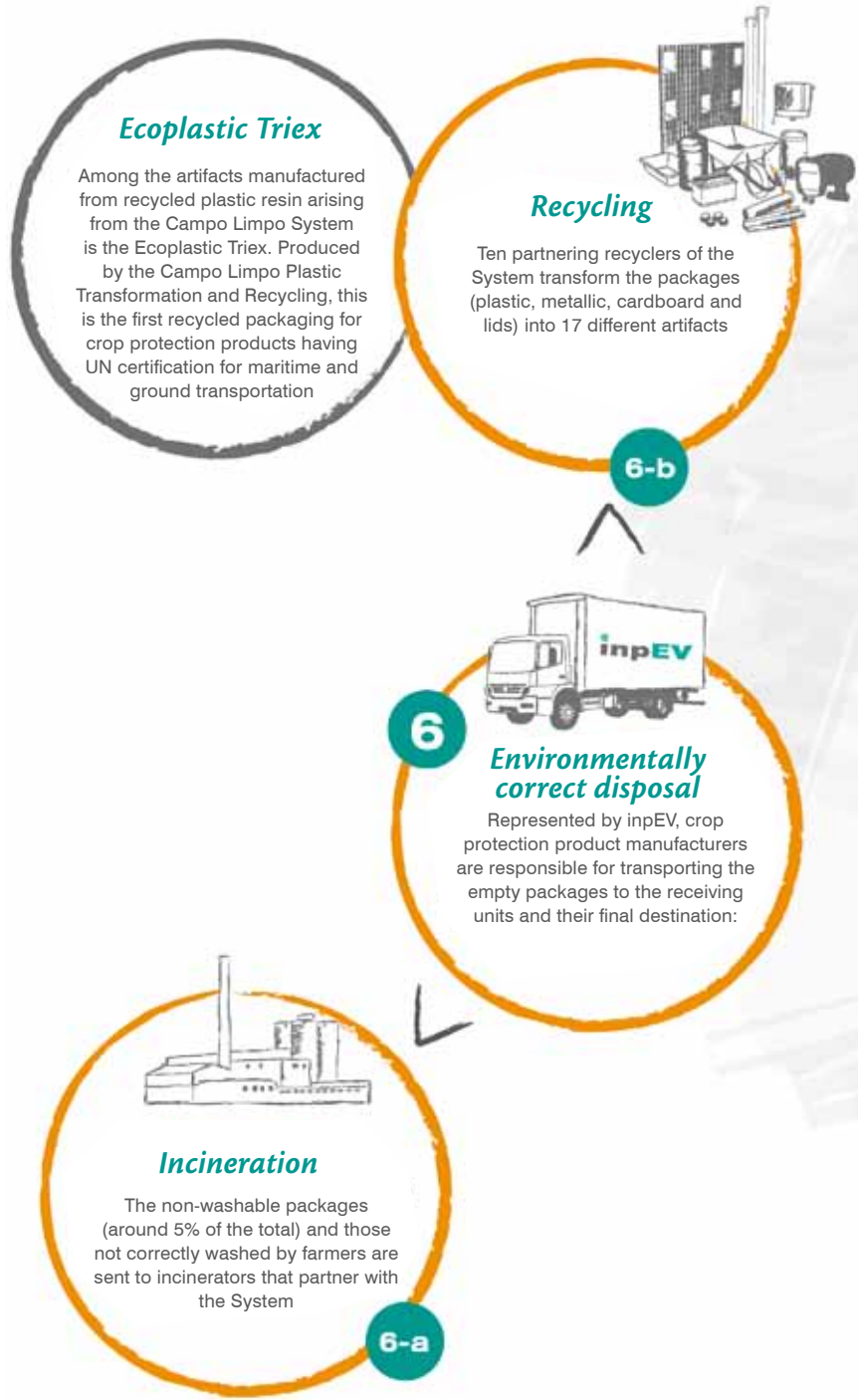
Campo Limpo [Clean Field] System



Since 2012 when it started its operations, SCL has already sent 280,637 tons of empty plastic crop protection packages to recycling or incineration, thanks to the engagement of the industry (represented by inpEV), distribution channels, farmers and the public power.

The responsibility shared among the program links explains SCL's capacity to route 94% of primary packages to recycling (i.e., in direct contact with producers) and 80% of the total empty crop protection packages commercialized in the Brazilian market (plastic, cardboard and metal).

In 2013, 40,404 tons were sent to environmentally correct disposal, an 8.2% increase when compared to 2012, when the indicator reached 37,379 tons (see table on page 24). Of this total volume, 92% of the packages were sent to recycling and 8% to incineration - flexible materials or that conditioned products immiscible in water or that were not correctly washed by producers while preparing the product solution applied to the crops. <EN22 & EN27>





Logistical knowledge

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The continuous improvement of logistical operations represents another SCL strong point. The concept adopted is that of return shipment: the same truck that delivers the crop protection products from the industry (manufacturer) to the distributors and cooperatives takes advantage of the return trip to transport the empty packages (bulk or compacted), which are stored at the receiving units. Besides the reduction in greenhouse gas (GHG) emissions, the available resources are used in a more efficient manner. Currently, 100% of contracted shipments to the final destination follow this procedure, requiring inpEV to only pay for one-way shipment. <EN29>

In 2013, the goal for the average packages shipment per truck (truck-equivalent average) was of 13,000 kg per vehicle, but was exceeded when it reached 13,347 kg in December. The result is due to better bail compacting and to adequate loading techniques that take into account proper safety conditions. inpEV does not import nor export any kind of hazardous waste. In 2013, it transported 3,208 tons of hazardous waste (type 1), not suitable for recycling and, for this reason, the final destination was incineration. <EN24>

Destination of empty crop protection packaging per state – 2010/2013 (in tons)

State	2010	2011	2012	2013
Mato Grosso	7,103	8,785	8,693	9,564
Paraná	4,716	4,490	4,832	5,003
São Paulo	3,613	3,740	4,528	4,769
Goiás	3,314	3,580	4,006	4,499
Rio Grande do Sul	2,839	3,272	3,436	3,753
Minas Gerais	2,605	2,733	3,235	3,304
Bahia	2,469	2,760	2,973	3,254
Mato Grosso do Sul	2,176	2,290	2,440	2,646
Maranhão	581	710	741	996
Santa Catarina	529	551	588	615
Piauí	247	277	403	509
Espírito Santo	194	209	239	296
Tocantins	176	153	287	278
Rondônia	234	168	189	246
Pernambuco	213	239	249	216
Pará	57	63	147	162
Others	199	182	392	296
Total	31,266	34,202	37,379	40,404

Total waste per type and method of disposal (t)

Type of waste	Destination ¹	2010	2011	2012	2013
Packages with triple wash, lids and cardboard	Recycling	28,779	31,519	34,600	37,197
Non-washable packaging	Incineration	2,487	2,684	2,779	3,208
Total		31,266	34,203	37,379	40,404

¹ The waste is directly disposed of by inpEV or by contracted third parties. Besides those mentioned, there is no other form of disposal.

Total of disposed post-consumption packaging (in t)

31,266	2010
34,202	2011
37,379	2012
40,404	2013

“The Campo Limpo System is a successful program based on the fact that Brazil disposes of 94% of the total packages that the industry commercializes. In Guatemala, the rate is 67% and in Argentina, 31%. This process is advancing in all Latin American countries at an average yearly rate of 10% regarding indicators. In other words, there is a lot of work ahead for them to reach the level of the Brazilian system, but the trend is improving year after year.”

The lack of co-responsibility laws involving all agents of the value chain –industry/distribution/producers -, different from what happens in Brazil, limits the progress, but we continue to be committed to work with authorities and the industry, with the purpose of reaching a common objective.”

José Perdomo, CEO of CropLife Latin América

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Bails of empty crop protection packages being unloaded at the Campo Limpo Plastics Transformation and Recycling in Taubaté (SP - São Paulo) where they will be recycled.



New committees

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The success of the SCL is also due to the fact that inpEV and member companies maintained a close relationship in seeking innovations and improvements, among other forms of exchange established with the other links of the chain. In 2013, the partnership was reinforced with the creation of two committees to stimulate the discussion on issues of common interest and that have a practical application for the SCL.

The Logistics Committee, formed by area and Supply Chain professionals of member companies, started its activities late in 2012 with the purpose of consolidating itself as

a technical forum. The work proposal is to convert the topics debated by the 11 companies involved in the meetings every two months into measures that improve the processes and technologies involving reverse logistics.

Also, the Packages Committee, created in June 2013, held its first meeting in October, at which time its members discussed new trends in the industry, the life cycle of packages and innovations in progress in terms of materials and profiles. The intention with this initiative is for the meetings every four months to result in more sustainable packaging that create a lesser impact on the SCL.

INFORMATION MANAGEMENT

Information systems that guide decision-making focusing on efficiency, productivity, cost reduction and value capturing.

Information System of Central Offices (SIC)

It supplies the quantities and type of material moved until the previous day in real time, in various grouping formats.



Return Scheduling of Empty Packaging

A new on-line option for farmers to return empty packaging

Logistics System

It allows managing the shipping value practiced by inpEV

Cost Sharing System

It facilitates the calculation of cost sharing among SCL members

New systems under development

Information management

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Robust information systems that allow for decisions based on increase in productivity, reduction in costs and value capturing in the reverse logistics chain are a critical success factor for SCL. Since the start of its operations in 2012, various tools and programs have been developed, some of which are ad-hoc to provide management with reliable and up-to-date data.

Within this context, the following initiatives must be highlighted: Information System of the Central Offices (SIC), which supplies the quantity and type of material moved in real time up to the previous day in several types of grouping formats; Empty Packaging Return Scheduling, a new on-line option for farmers to schedule and return empty packaging to the SCL collection points; Logistics System (an SIC module that allows to manage the shipping value practiced by inpEV based on the value practiced by members) and the Cost Sharing System, which facilitates the calculation of SCL cost sharing among members.

Small producers

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SCL's growth is also associated with it servicing small producers, dedicated to family agriculture which, due to the great distances between rural properties and the receiving units, not always face ideal conditions to return empty packages to the collection locations.

For this reason, inpEV has invested in planning and in executing itinerant receiving stations. In 2013, a new model was successfully tested in three pilot actions, done in the Catuti and Mato Verde region, in the north of Minas Gerais, and in Acrelândia, in Acre. This initiative will be replicated throughout Brazil.

New units

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In 2013, SCL started to count on new receiving units at different locations in Brazil. They are:

Receiving central offices

Ilhéus (BA - Bahia)

Uruçui (PI - Piauí)

Receiving stations

Biritiba Mirim (SP - São Paulo)

Camaquã (RS - Rio Grande do Sul)

Juara (MT - Mato Grosso)

Nova Monte Verde (MT - Mato Grosso)

São Desidério (BA - Bahia)

Innovative products

Campo Limpo Plastic Transformation and Recycling stands out in the market since it offers differentiated products having a high quality standard. Post-consumption High Density Polyethylene resin (HDPE) is one of the examples, as well as Triex Ecoplastic, manufactured with three layers by means of a co-extrusion process (internal and external layers consisting of fresh resin and an intermediate layer of post-consumption resin), available in 5l and 20l versions.

Triex Ecoplastic was the first in its category to obtain UN certification (group II, density 1.4 g/cm³) for maritime and ground transportation of hazardous products. Besides this, it has guaranteed certification for maritime transportation by the Brazilian Navy, as well as the Green Seal of the Associação Brasileira de Normas Técnicas (ABNT [Association of Technical Standards]), which certifies the products (based on their composition) and environmentally friendlier services.