



AIVALOR

FRENCH PROFESSIONAL PLANT PROTECTION PRODUCT WASTE COLLECTION SCHEME

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ADIVALOR: the success story of a voluntary approach

As part of their obligation to defend sustainable agriculture, crop protection chemical manufacturers, distributors and farmers have combined their commitments in order to ensure the safe disposal of waste arising from crop protection products.

To achieve this objective, a voluntary collection scheme for farm crop protection packaging waste was set up by UIPP¹ in 2001. The initiative stands alone as the only packaging waste management scheme in France undertaken on a voluntary basis. On the 1st October 2003, a collaborative agreement was finalised between ADIVALOR (Agriculteurs, Distributeurs, Industriels pour la VALORisation des déchets agricoles), and the French Ministry of Ecology and Sustainable Development (M.E.D.D.). When signing the agreement, Mrs. Roselyne Bachelot-Narquin declared that:

“Adivalor represents, above all, the success of the voluntary action versus a regulated approach...”

¹Via its subsidiary COVADA, the UIPP (Union des Industries de la Protection des Plantes - French Pesticide Industry Association) is the main ADIVALOR's shareholder; UIPP's members represent all together about 90% of the of the French CPC market turnover.

Partnership: a comprehensive approach

ADIVALOR's viability relies upon the voluntary action of:

- More than 30 crop protection product manufacturers² which finance the scheme and provide in-kind support, plus 11 fertilizer manufacturers³ which bring their financial contribution for empty packaging collection only.
- Over 1000 distributors, co-operatives as well as private dealers, who manage collection and storage of the waste coming from farmers.
- Agricultural organisations, especially the Chamber of Agriculture that ensure effective coordination of the collection at state and/or regional level.

Further support is provided by water agencies, the Environment and Energy Management Agency (ADEME), the Ministry of Ecology and Sustainable Development, the Ministry of Agriculture, Regional Councils, the farmers' social mutual insurance, and many other local communities.

² AGRIPHYT-CHIMAC-AGRIPHAR, AGRYDINE, AGROCEAN, ARYSTA LIFESCIENCES (*)(**), B H S (**), BASF AGRO (*)(**), BAYER CropSciences (*), BAYER ES Espaces Verts (**), BELCHIM Crop Protection (*), CEREXAGRI (*), CERTIS (*), CHAUVIN, CHEMINOVA (*), COMPO (**), DE SANGOSSE (*), DOW AGROSCIENCES (*)(**), DU PONT DE NEMOURS (*), GOEMAR, IBE France, JOUFFRAY DRILLAUD, JOHN ET STEPHEN B, MAKHTESHIM AGAN France (*), MONSANTO (*)(**), NUFARM (*)(**), PHILAGRO (*), PHYTEUROP (*)(**), SAMABIOL, SDP, SPPC, SUMI- AGRO (*), SYNGENTA (*)(**), TAMINCO NV, TRADIAGRI (*)(**), XEDA international

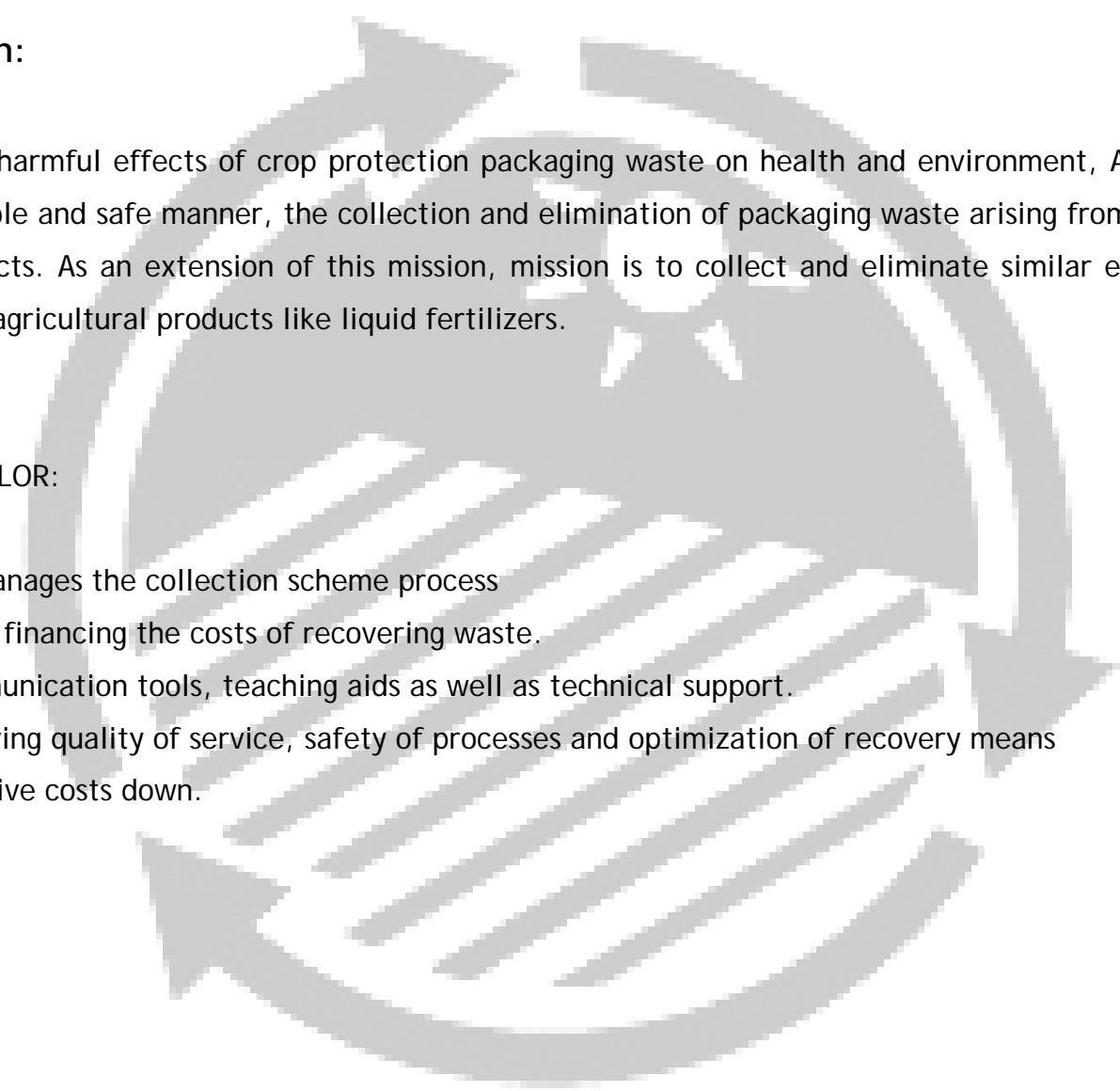
³ AGROCEAN, AUMALE SYNERGIES, BMS micronutrients, CEDENA, France Tourbe, GOEMAR, LIGAPAL, SDP, RHONE ALPES ENGRAIS, SECMA-RENO, TIMAC

ADIVALOR's Mission:

On order to minimise harmful effects of crop protection packaging waste on health and environment, ADIVALOR's mission is to manage, in a sustainable and safe manner, the collection and elimination of packaging waste arising from the professional use of crop protection products. As an extension of this mission, mission is to collect and eliminate similar empty packagings arising from the use of other agricultural products like liquid fertilizers.

To achieve this, ADIVALOR:

- Defines and manages the collection scheme process
- Participates in financing the costs of recovering waste.
- Provides communication tools, teaching aids as well as technical support.
- Aims at improving quality of service, safety of processes and optimization of recovery means
- Struggles to drive costs down.



ADIVALOR's activity area

Type of Waste Collected

The packaging waste comes from professional users of crop protection products⁴ and results in two main waste streams:

- Empty and rinsed crop protection product containers (ECPPC), in a wide range of sizes
- Obsolete and unused crop protection product (UCPP).

In 2006-2007, ADIVALOR has achieved a one-shot collection and elimination programme of an arsenic based fungicide that had been used on grapes until 2001, and had been banned without timeframe for use of existing stocks. This programme, developed on 55 French departments, ended up with 1910 tons of arsenic waste that was withdrawn from environment.

In 2007, other empty containers are also being collected through ADIVALOR's scheme:

Empty foldable crop protection product containers: bags, bag in boxes, ...

Empty rigid containers arising from use of other agricultural products, liquid fertilizers in particular

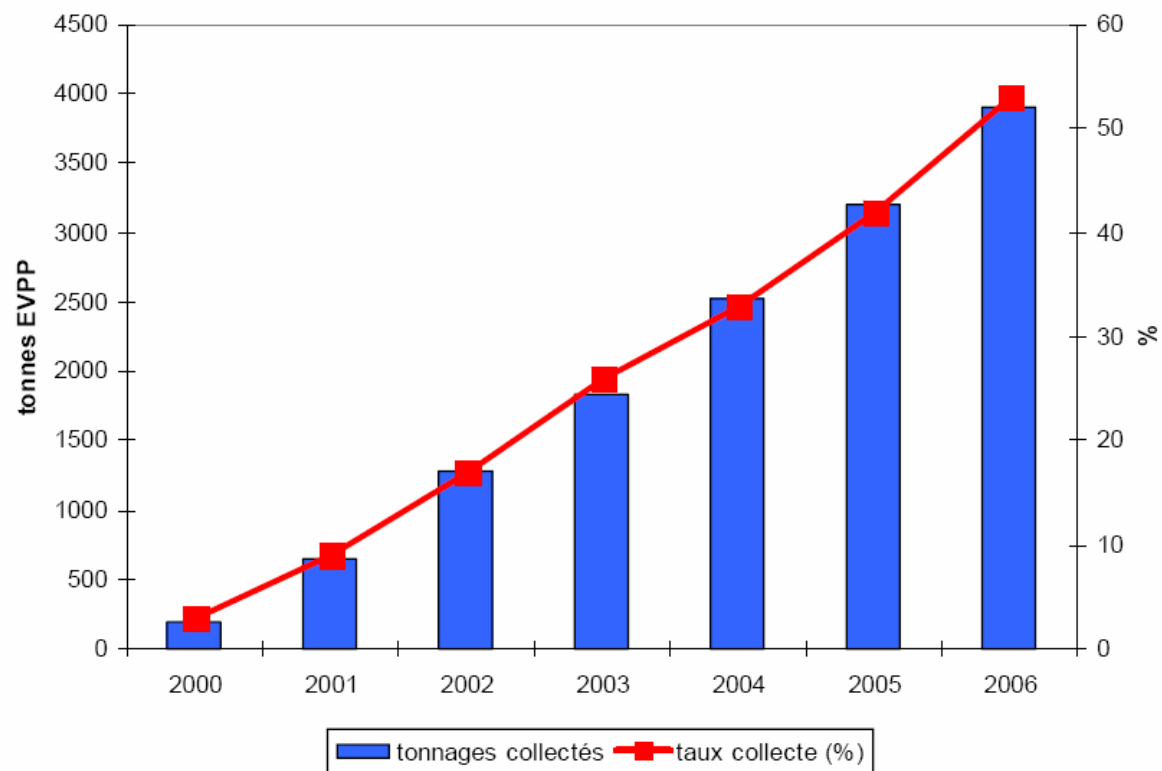
⁴ Other chemicals that are not intended to protect crops (rodenticides, insecticides used against mosquitos,) are not collected via ADIVALOR's scheme as their use and disposal are regulated like other pharmaceuticals.

Key targets and results (1/2)

Both ECPPC and UCPP targets were achieved in 2006

ECPPC:

- A nation-wide network of more than 4400 collecting sites in place
- About 3900 tonnes of packaging waste collected, which represents more than 50% of empty containers produced.

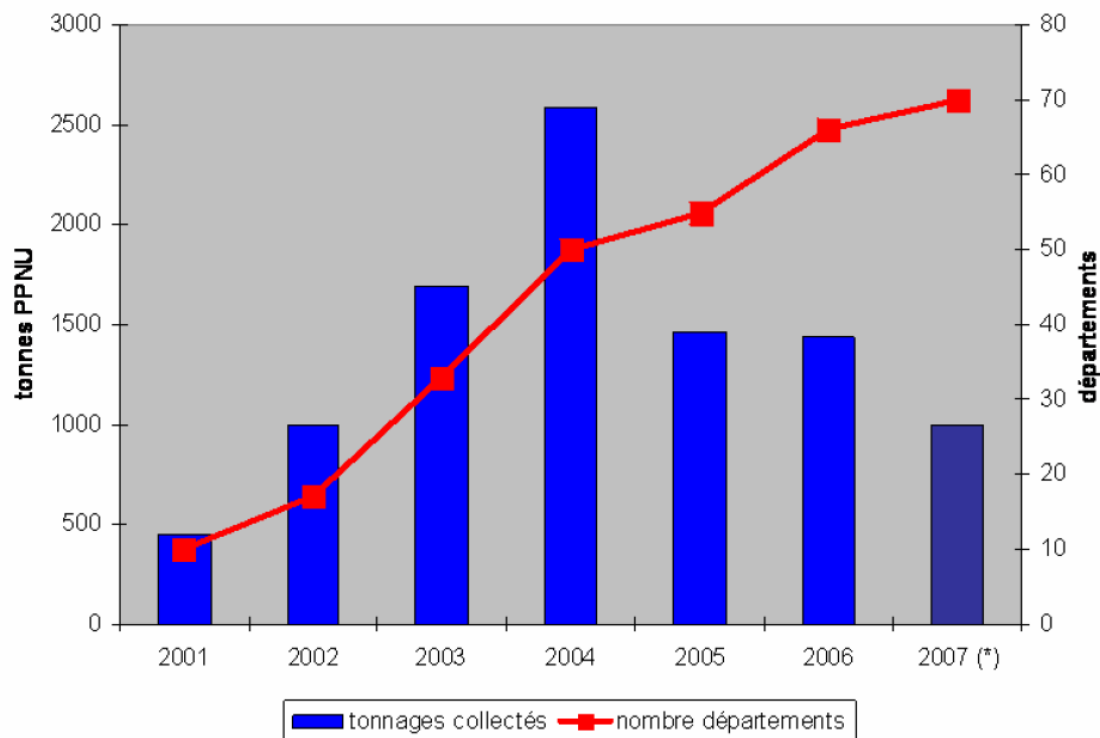


Key targets and results (2/2)

UCPP:

- Between 2002 and 2006, all french departments have benefited from at least one collection operation but some of them benefited from 3 to 4 operations. During this period, over 8000 tons of UCPPs have been collected and disposed of.
- In 2007, an objective of about 1000 tons to be collected is planned; a small residual tonnage of UCPP will remain on French farms, that will be collected along the years through financial participation of farmers who will bring their old UCPPs.

Thanks to CPC distributors and suppliers, Chambers of Agriculture, Farmer's Unions and other agricultural organisations, ADIVALOR's operations have increased positive public awareness French agriculture while eliminating the source of a great danger for human health and environment.



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Future Aims:

Looking into the near future

The goal is to strengthen an established organisation structured around three basic principles:

- Environmental safety.
- Technical and economic efficiency.
- Shared responsibility between all the participants to optimise cost management.

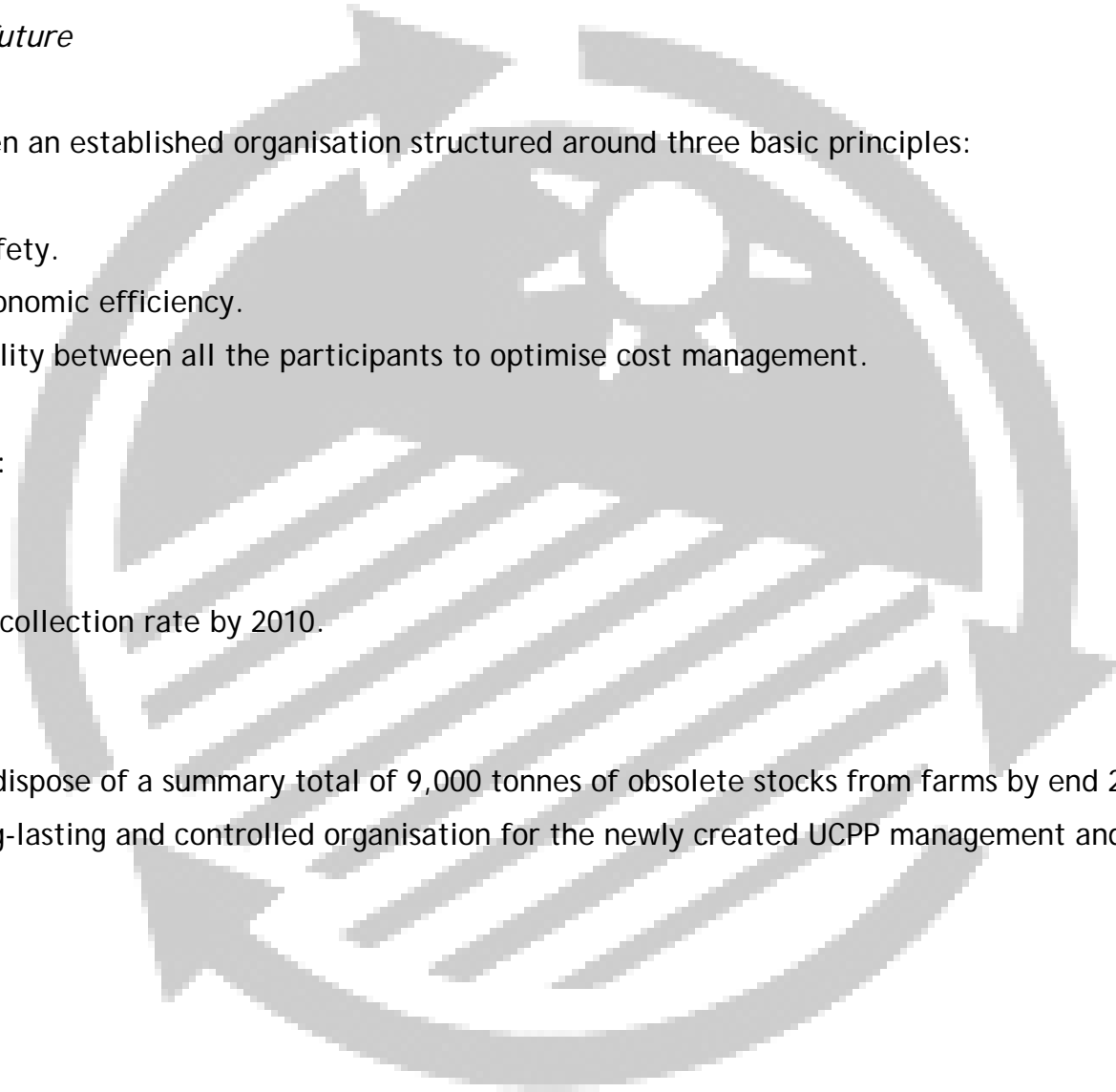
Key aims are as follows:

ECPPC:

- To reach a 70% collection rate by 2010.

UCPP:

- To collect and dispose of a summary total of 9,000 tonnes of obsolete stocks from farms by end 2007.
- To set up a long-lasting and controlled organisation for the newly created UCPP management and disposal.



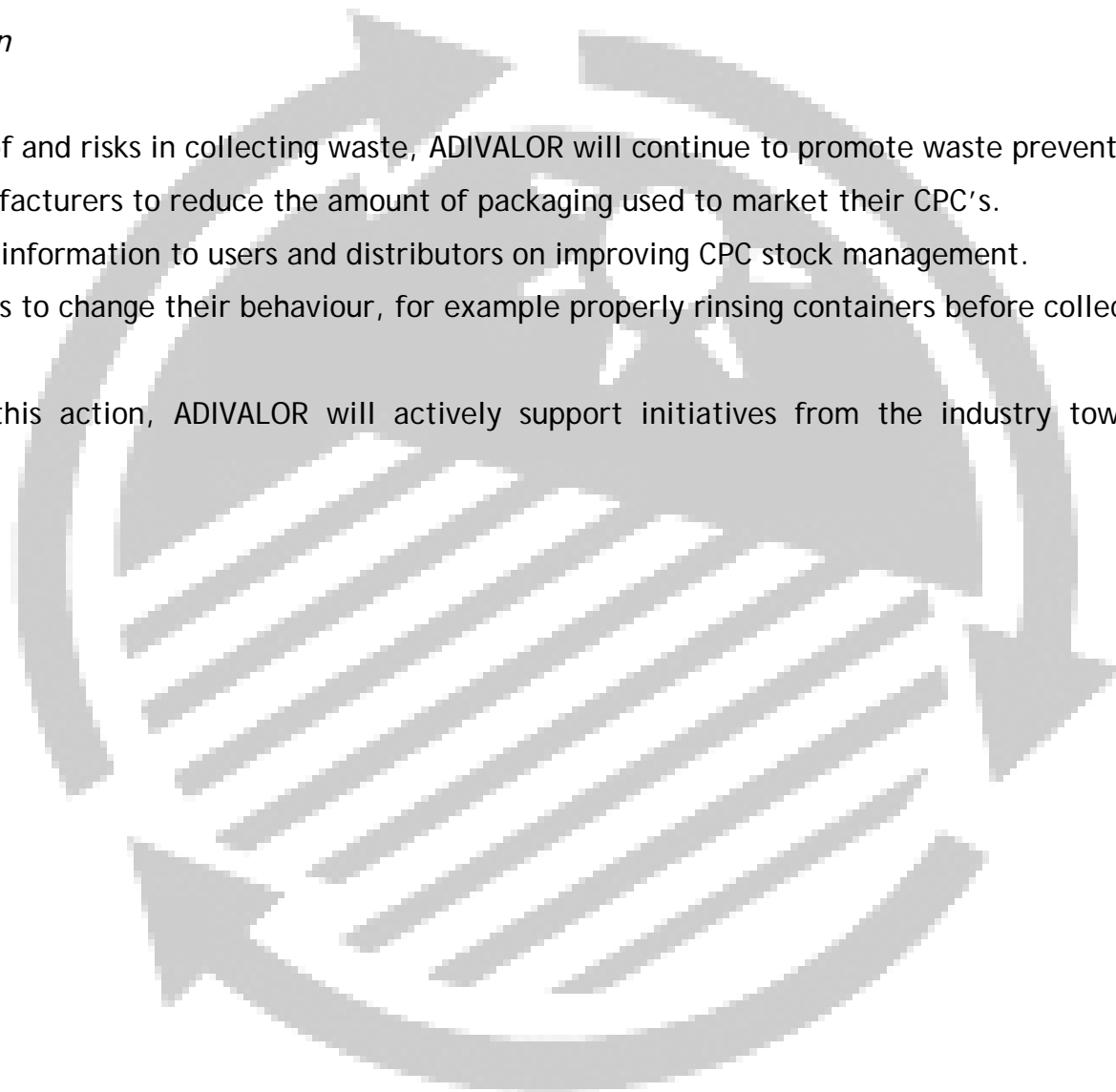
Prevention at source

Advice and optimisation

To minimise the costs of and risks in collecting waste, ADIVALOR will continue to promote waste prevention by:

- Encouraging manufacturers to reduce the amount of packaging used to market their CPC's.
- Giving advice and information to users and distributors on improving CPC stock management.
- Convincing farmers to change their behaviour, for example properly rinsing containers before collection.

As a contribution to this action, ADIVALOR will actively support initiatives from the industry towards "Good Agricultural Practices".



Communication

Targeting information

ADIVALOR has launched a large campaign that provides information on the waste collection and recovery process. Videos, posters, leaflets, mail shots, stickers, press advertising will continue to be used and improved to provide information on collection steps, correct preparation of containers, as well as dates and locations of the collection.

The communication programme is delivered locally by suppliers and agricultural organisations, and via the schemes website www.adivalor.fr

ADIVALOR will continue these activities improving its messages and targeting of all segments of the industry. This is vital in getting farmers and others to participate in the scheme and improve farm waste management practice. ADIVALOR's pictogram is now printed on labels of all CPCs marketed in France by member companies, showing that collection service is available under some conditions for French farmers.



Le détenteur de l'emballage portant ce pictogramme bénéficie, sous certaines conditions, des services de collecte proposés par les distributeurs partenaires de la filière ADIVALOR

Development

Long-term management

ADIVALOR's main target is to manage the development of crop protection packaging waste collection and disposal programmes in a long-lasting and controlled manner. It has in place a programme of research and development studies aimed at improving the functioning of the scheme.

These include:

- An evaluation and characterisation of the waste involved and the associated risks.
- The development of new collection and recovery procedures, and the creation of new development networks.
- Increasing the area from which waste is collected.

ADIVALOR regularly shares the findings of its research with its partners at national technical conferences and meetings.

ADIVALOR aims to position its scheme so that it complements other existing or future waste management networks.

ADIVALOR takes a proactive part in the workgroups and consultations which are part of the operations of ADEME (French Environment and Energy Management Agency) and the department of the French Ministry of Ecology and Sustainable Development. The joint goal is to help determine an optimised policy for agricultural waste management in France.