



9th Annual Pesticide Stewardship Conference

Development of Schemes for the Management of Empty Pesticide Containers

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Developing Container Management Scheme

Developing a Container Management Scheme

Points to consider:

- Legal basis
- Funding (Levy, pesticide sales tax or general taxation)
- Incentives (deposit scheme, awareness, actions of retailers)



Developing Container Management Scheme

Infrastructure and Logistics of Scheme:

- Administration
- Logistics (acceptance from users, reverse distribution, collection centres, collection, pretreatment, recycling and disposal)
- Information and Communications (container label, education programmes, publicity campaigns)



Developing Container Management Scheme

Pre-processing of empty pesticide containers

- Volume reduction (bailing, crushing, shredding)
- Material segregation



Developing Container Management Scheme

Recycling:

- Recycling into new products (glass, shell, aluminum, cardboard, various types of plastic)
- Resource recovery (alternative fuels)



Developing Container Management Scheme

Disposal

- Destruction (high temperature incineration, catalysed dechlorination, etc.)
- Sequestration (specially engineered contaminant landfill site)



Performance of Container Management Schemes around the World (Source CropLife 2006)

Country	Weight of pesticide packaging shipped into Market (kg)		Weight of Pesticide Packaging collected (kg)		% Collected	
	2004	2005	2004	2005	2004	2005
USA	18 000 000	18 000 000	3 600 000	3 564 000	20.0	19.8
Canada	2 778 300	2 960 264	1 950 480	1 975 616	70.0	67.0
Argentina	5 700 000	5 700 000	102 600	501 600	1.8	8.8
Bolivia	537 000	537 000	19 869	39 738	3.7	7.4
Brazil	11 706 283	15 707 000	10 067 403	13 665 090	86.0	87.0
Chile	100 000	130 000	20 000	26 000	20.0	20.0
Colombia	2 365 000	2 365 000	148 995	182 105	6.3	7.7
Costa Rica	650 000	650 000	144 950	200 200	22.3	30.8
Dom Republic	140 000	140 000	36 960	40 600	26.4	29.0
Ecuador	300 000	300 000	0	24 900	0.0	8.3
El Salvador	355 000	360 000	99 400	136 800	28.0	38.0
Guatemala	350 000	350 000	120 050	177 450	34.3	50.7
Honduras	215 000	250 000	39 990	74 000	18.6	29.6
Mexico	3 220 000	5 450 000	199 640	348 800	6.2	6.4
Nicaragua	350 000	350 000	0	0	0.0	0.0
Panama	315 000	315 000	22 050	31 500	7.0	10.0
Paraguay	1 150 000	2 400 000		792 000		33.0
Peru	625 000	800 000	6 250	32 000	1.0	4.0
Uruguay	166 000	450 000	6 640	22 500	4.0	5.0
Venezuela	900 000	900 000	0	27 000	0.0	3.0



Performance of Container Management Schemes around the World (Source CropLife 2006)

Country	Weight of pesticide packaging shipped into Market (kg)		Weight of Pesticide Packaging collected (kg)		% Collected	
	2004	2005	2004	2005	2004	2005
Australia and New Zealand	2 744 666	2 049 021	1 070 420	1 106 471	39.0	54.0
Austria	350 000	350 000	245 000	245 000	70.0	70.0
Belgium	585 000	585 000	538 000	538 000	92.0	92.0
France	7 500 000	7 500 000	3 200 000	3 200 000	42.7	42.7
Germany	3 200 000	3 000 000	1 760 000	1 950 000	55.0	65.0
Hungary	2 763 000	2 763 000	1 263 000	1 263 000	45.7	45.7
Poland	2 000 000	2 000 000	550 000	550 000	27.5	27.5
Spain	6 672 000	6 672 000	1 072 000	1 072 000	16.1	16.1
The Netherlands	1 271 000	1 271 000	571 950	1 143 900	45.0	90.0

Regions

N-America	20 778 300	20 960 264	5 550 480	5 539 616	26.7	26.4
LATAM	29 144 283	37 154 000	11 034 797	16 322 283	37.9	43.9
Australia/NZ	2 744 666	2 049 021	1 070 420	1 106 471	39.0	54.0
Europe	24 341 000	24 141 000	9 199 950	9 961 900	37.8	41.3
Total	77 008 249	84 304 285	26 855 647	32 930 270	34.9	39.1
Estimate (global):		190 000 000		32 930 270		17.3



Examples from different countries

AUSTRALIA

- Called "drumMUSTER"
- Stewardship programme, voluntary
- Levy charged based on MoU

BRAZIL

- Run by "National Institute of Empty Containers (inpEV)"
- Mandatory scheme since 2002
- InpEV more than 300 collection centres (2009)
- 95% recycled, rest incinerated



Examples from different countries

GUATEMALA

- Called "Campo Limpio"
- Voluntary scheme, initiated by CropLife Latin America
- More than 350 collection centres, 60% of all containers being collected

GERMANY

- Called "PAMIRA"
- Voluntary scheme, by pesticide association
- Final destruction, mainly as disposal/thermal recovery



Examples from different countries

USA (ACRC)



Thank you very much for your attention.

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Thank you