



## **Pesticide Container Collection Program 1998**

### **BACKGROUND**

In 1979, empty pesticide containers were discovered and removed from the St. Mary's River in southern Alberta. The incident highlighted the need for a program to provide Alberta farmers and municipalities with a management system for disposing of empty pesticide containers.

A pilot program was established in 1980 by Alberta Environmental Protection in co-operation with municipal authorities. In its first year, the Container Management Program (CMP) collected 80,473 empty pesticide containers at 122 collection depots throughout the province. CMP has grown since then, and now has 99 permanent sites and over 100 temporary sites throughout the province's farming area. In 1997 alone, CMP collected more than one million containers.

CMP has also been adopted by other provinces, and in 1989 CropLife Canada (an organization of pesticide pesticide manufacturers) took over the program's national co-ordination. There are now 825 container sites in in Canada with more than 4.3 million containers recovered in 1997, a 10 per cent increase over 1996. Alberta's container collection return rate has been approximately 75 per cent.

### **PARTICIPANTS**

The container collection program involves many individuals and agencies. Farmers and commercial applicators drop off their empty containers at the collection sites. Municipal governments, transfer station operators, and landfill operators transfer containers from temporary depots to permanent sites where containers are processed. Local authorities manage the day-to-day maintenance and supervision of the sites.

Alberta Environment funded the permanent sites construction, and is involved in environmental monitoring of the sites. The department also works with municipalities when issues arise. CropLife Canada oversees removal of containers from the sites by funding and hiring contractors to process the containers (shredding for bulk reduction). CropLife Canada also explores recycling options for the processed containers. At present, metal containers are shredded and compressed into briquettes. Steps are being taken to have the metal accepted at steel mills as scrap steel for rebar or other steel products. Shredded plastic containers are manufactured into fence posts or the material is used for energy (heat) recovery.

### **ENVIRONMENTAL MONITORING**

Alberta Environment performs two major environmental monitoring activities at container collection sites: container rinsing surveys and shallow groundwater monitoring. Shallow groundwater monitoring determines pesticide levels at container collection sites, but does not reflect hazards to farm wells. Container sites are located well away from farm wells, which draw their water from a much greater depth.

### **Container Rinsing Surveys**

CropLife Canada has advertised extensively to remind farmers to return clean and dry containers to collection sites. Rinsing eliminates residues that could otherwise affect container sites, and the handling, processing and recycling of containers into safe end products. Container rinsing surveys over the past several years indicate that rinsing rates average only about 70 per cent province-wide.

### **Shallow Groundwater Monitoring**

Since 1991, 90 collection sites have had stainless steel shallow (less than 35 feet) groundwater monitoring wells installed. Samples are collected at least once every three years at each site. Each sample was analyzed for between 8 and 39 pesticides. As of the end of 1998, 27 per cent of the wells were dry on the last visit, 28 per cent had no pesticides detected on the last visit, while 45 per cent had one or more pesticides detected. Seventeen pesticides have been detected to date: atrazine, bromacil, bromoxynil; clopyralid; 2,4-D, 2,4-DP, dicamba, diclofop-methyl, diuron, imazamethabenz, imazethapyr, lindane, MCPA, mecoprop, picloram, triallate and trifluralin.

It had been initially suspected that most pesticide residues found in shallow groundwater were from containers disposed at sites that were in use prior to 1989/90. The combination of unrinsed containers, leftover pesticide solution, and rainfall/snowfall accumulation on these sites increased the accumulation and downward movement of pesticide residues. To combat this phenomenon, many container collection sites underwent extensive upgrading after 1990, including roof installations. Subsequent monitoring has shown a small number of new and renovated sites with low levels of pesticide in groundwater, which are being assessed on a site by site basis to determine potential factors, and trends.

Long-term sampling is planned to monitor the trends in groundwater residue levels, and to ensure that residues do not pose a risk to surrounding land. In anticipation of eventual closure of these sites, Alberta Environment, with input from the Alberta Pesticide Container Management Committee, will establish decommissioning and reclamation standards for pesticide container collection sites.

For information about pesticide management in Alberta, or to answer questions about the pesticide container collection program or collection site locations, please contact a pesticide specialist at the nearest Alberta Environment office:

**Grande Prairie** (780) 538-5460, Fax (780) 538-5336, Room 1701, Provincial Building  
10320 - 99 Street, Grande Prairie, Alberta T8V 6J4

**Stony Plain** (780) 963-6131 Fax (780) 963-4651, Westerra Building, 52322 - Golf Course Road, Stony Plain, Alberta T7Z 2K9

**Edmonton** (780) 427-7617 Fax (780) 427-7824, Twin Atria Building #111 4999-98 Avenue NW  
Edmonton, Alberta T5K 2J6

In August 1996 the Alberta Pesticide Container Management Committee was formed to monitor the Container Management Program in Alberta, to promote awareness of the program with Albertans, communicate with Alberta stakeholders, and to identify and address any program concerns. This committee has representation from CropLife Canada, AB Association of Municipal Districts and Counties, Alberta Department of Agriculture, Food and Rural Development and Alberta Environmental Protection.

**Red Deer** (403) 340-5310 Fax: (403) 340-5022, 3rd Floor, Provincial Building  
4920 - 51 Street, Red Deer, Alberta T4N 6K8

**Calgary** (403) 297-7602 Fax: (403) 297-8232, 2nd Floor, Deerfoot Square  
2938 - 11 Street N.E., Calgary, Alberta T2E 7L7

**Lethbridge** (403) 381-5511 Fax: (403) 382-4008, 2nd Floor, Provincial Building  
200 - 5th Avenue South, Lethbridge, Alberta T1J 4C7