Technology To Protect The Lakes From Pesticide Residues
The problem
Research has shown that a significant portion of pesticides reaching water comes from point sources and are related to filling, cleaning, storage and the disposal of waste/remnants. Disposal of surplus spray poses a threat to both ground and surface water.

Internal deposits
The inside of an airblast sprayer tank and hoses can contain up to 4% of the tank capacity.
Failure to rinse the inside of a sprayer results in:
- Blocked filters (strainers) and nozzles.
- Dried material on the inside of the tank.
- Blocked hoses and pipes.

External deposits
Up to 2% of the spray can be found on the outside of a sprayer following an application.
- Can be a risk to operators and bystanders.
- May be washed off and contaminate ground water.
- Solvents used in pesticides may be particularly harmful on some types of hose and components.

Operator
Risk of pesticide splashes while washing the sprayer.

Time
Traditional sprayer cleaning takes time in returning from the field to the water source and then back to the field to spray out the remnants and the process often needs to be repeated. This process occurs during overtime periods at the end of a day's spraying.
The solution

A clean water supply can be connected to a pair of tank rinsing nozzles allowing in situ internal tank and hose washing to be carried out after spraying.

In situ tank rinsing nozzles are available from a number of nozzle suppliers. They increase cleaning efficiency and should be fitted inside the top of the sprayer tank.

A clean water supply tank can be fitted to a frame mounted onto the sprayer. Tank size should be, at a minimum 10% of the capacity of the main sprayer tank.

A straightforward valve arrangement can be used to connect the clean water supply to the rinsing nozzles via the main pump.

An alternative method is to purchase a small proprietary pressure washer, fit a T-piece into the hose for the hand lance and connect another hose with internal tank rinsing nozzles.
**After spraying**

Dilute the remaining spray, with clean water and spray the solution over the area of the field where you started to spray.

Dilute the remaining spray two more times and spray it out again.

Only take the diluted and non-sprayable portion of spray solution back to your farm.

Use a spray lance to clean the tractor and sprayer in the field – avoid build up of pesticides.

Park your sprayer under cover to protect it from the rain so that no pesticide residues are washed off into the watercourses.

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**5 Key Points for keeping your sprayer clean**

- When planning to spray always start with a clean sprayer which has been calibrated.

- Use clean, uncontaminated water to fill the sprayer and make sure anything used which may come into contact with the spray isn’t contaminated.

- Once you have finished spraying, immediately spray out and rinse 3 times.

- Wash contamination off the outside of the tank.

- Use a Tank cleaner which is appropriate for cleaning out the products that have been used.

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Further information on tank rinsing nozzles may be obtained from your local nozzle supplier or:

http://www.lechlerag.com/

http://www.teejet.com/

For more effective spraying techniques see:

http://www.nysaes.cornell.edu/ent/faculty/landers/pestapp