

## Forestry Herbicide Use A Hazard to Our Environment

This year, due to natural cycles, the spruce budworm is not as abundant, and therefore we do not have to worry about B.t. spraying. But the chemical battles against the environment are not restricted to insects. Our forests will still be doused with pesticides. Whereas last year almost all forestry herbicide spraying was done with Round-Up/Vision, this year we will be exposed to three herbicides, namely Velpar L (hexazinone), Princep Nine-I (simazine), and Vision, alias Round-Up (glyphosate). The herbicides Velpar L and Vision, kill hardwoods needed by wildlife and which our soils require to balance the dominant natural acidity in Nova Scotia. All herbicides contain two categories of ingredients, “active ingredients” and various unknown “inert ingredients”. Whatever data exists and is publicized by advocates of pesticide use, these only concern the active ingredients.

**VELPAR L:** This is manufactured by Dupont. It has 25% hexazinone as the active ingredient, which is a triazine herbicide. It is being used for site preparation, to eliminate all vegetation prior to planting conifer seedlings. According to company literature, Velpar L suppresses asters, honeysuckle, fireweed, aspen, birch, oak, maple, willows, and more. It leaches readily through some soils, particularly if rocky or gravelly, and can thus contaminate the groundwater. Velpar L gets absorbed through the roots of a plant and inhibits photosynthesis. Two years ago this pesticide was involved in a scandal, in an “experimental” aerial herbicide program by Scott in Pictou County. This year, this herbicide is routine for forestry spraying in Nova Scotia.

**SIMAZINE:** This is manufactured by Ciba-Geigy. Simazine is the active ingredient in Princep Nine-T and makes up just under 90% of this herbicide. It is also a triazine, and kills vegetation by inhibiting photosynthesis. It is being used for conifer release in softwood plantations, to kill off annual broadleaf weeds and grasses. Many plants have developed resistance to simazine, for example some types of foxtail, lamb’s quarters, pigweed, etc. Simazine is said to have moderate toxicity to bees, and the 1987 B.C. government Handbook for Pesticide Applicators and Dispensers warns against spraying it on open flowers. Simazine has a long-term residual action and will suppress vegetation, even the year following the application. It also leaches through some types of soil. Simazine is closely related to atrazine, a herbicide with a known record of groundwater contamination in the Atlantic Provinces and in several European countries. Farmers who use simazine are warned not to let their cattle graze on land treated with this herbicide for at least 30 days. The Web asks, who will warn the wildlife, after the “managed” forest has been sprayed with simazine?

**VISION/ROUND-UP:** This is manufactured by Monsanto. Its active ingredient is glyphosate and makes up 41% of the herbicide Vision or Round-Up. It is a broad-spectrum herbicide which gets absorbed through the leaves. It is non-selective and will kill annual and perennial broadleaf plants and grasses, such as wild strawberries and raspberries, maples and birches. Monsanto’s own safety data show the herbicide to be toxic to some fish. Non-industry financed studies show it to have questionable safety for mammals. Scott, Stora and Bowater did extensive aerial spraying with Vision last year.

The above information dealt with the main ingredient of the herbicides, named “active ingredient”. All pesticides also have so-called inert ingredients, which are frequently not inert at all. Some of these are emulsifiers, wetting agents, stickers, preservatives, and various unknown contaminants. Inerts often have toxic characteristics of their own, or accentuate the toxicity of the main chemical. We do not know what many of these inert substances are, since they are considered trade secrets, not open to public scrutiny. So

we are sprayed with chemicals approved as “safe” by the provincial and federal governments, the inert components of which we cannot even be told the names of! (*Note: We have recently been made aware [August 1988], that the Round-Up/Vision formulations contain 15% of a surfactant called polyoxyethyleneamine; 3% isopropylamine and 0.1 ppm of N-nitrosoglyphosate as contaminants. The other inert ingredient is water.*)

**The general effect of herbicide use in forestry cannot but be detrimental to the forest environment.**

Herbicide and insecticide use are a direct consequence of the pulpwood orientation of our forests, decided upon in the late 1950's and early 1960's by the provincial government. Pulpwood forestry relies mainly on clearcutting and the promotion of tree plantations, with a very small range of softwood pulp species being grown. Clearcutting “needs” herbicide and insecticide use – and ultimately fertilizers to try and replenish a depleted soil. Clearcutting, which eliminates much natural reseeding, makes the most money for the individual pulp and paper company, and the long-term environmental and health costs are born entirely by others. The multinational corporations which take the economic benefits can always move to other countries, when the game is eventually played out in Nova Scotia.

When we look at herbicide use, it is clear that we cannot remove one type of plant from the forest ecosystem, without it affecting other plants, the animals and the physical environment – soil, water, air. When weeds susceptible to a herbicide are killed off, more of the “noxious” weeds, resistant or tolerant to the herbicide, will colonize the area, and they will spread more, because they will face no competition from the other weeds. The weed problem will thus get worse and, eventually, more chemicals will have to be introduced.

**Herbicide use will affect animal life.** Removal of certain plants will reduce the insects which use them for food and shelter. It will reduce the birds which feed on the insects and plants, and which nest there. It will remove larger animals which browse on the vegetation or use it in other ways. Since it is very difficult to measure the effect of pesticides in the field (as opposed to controlled experiments in the lab), it is difficult to determine what direct effect low level pesticide applications will have on wildlife, fish, and other organisms. How are feeding, learning, mating and escape behaviours affected?

**Clearcutting, and herbicide use to eliminate ground cover, will promote soil erosion.** The water table will be affected. The general environment will become drier as streams dry up. Water is retained or held back by tree and plant cover. The water left in streams will warm up, possibly creating too warm a water temperature for fish. Reduction of streamside vegetation and the killing of algae in the streams due to herbicide use will also reduce insect populations upon which many fish feed. Forest fires will increase because of the drier conditions brought about by extensive clearcutting. Toxins could be released through forest fires from the chemicals incorporated into the vegetation and the soil, for example dioxins and phosgene.

**Humans who live near herbicide-treated forest sites will have to worry about spray drift, especially if done from the air.** Surface and groundwater contamination with unknown chemicals will take place in the vicinity of herbicide spraying. Because of all the spraying, we will have a more restricted environment to enjoy. People who like picking wild berries – strawberries, raspberries, blackberries etc. – and who would rather be safe than sorry, will have to forego these pleasures. But it becomes harder every year to hide from forest spraying. Hunters and anglers have to consider these herbicide additives in the animals they take. (Already, deer liver should not be eaten because of high cadmium levels.) Short-term, direct environmental effects from herbicide use may not be immediately known, but long-term indirect effects are sure to occur. The signs are all around us, for those who want to look.

The general picture with pesticides is that as more problems become evident for one particular pesticide, such as groundwater contamination, resistance, effect on wildlife, cancer-causing properties, etc., the

forest industry, rather than reduce the dependence on chemicals, will, together with the pesticide industry, search for and apply new pesticides, whose main advantage (from an industry point of view), is that they have not been around long enough to reveal similar problems as the now discredited chemical poisons.

**Is there an alternative?** Yes, there is. In general, we must organize our economic activity so it is ecologically sustainable and does not destroy wildlife and people's health. We must end "managing" the forests for pulp in Nova Scotia. We need to allow for the natural regeneration of tree species in a forest of uneven-aged hardwood and softwood trees and harvested by means which do not destroy the forest environment. We must harvest by selection forestry – individual tree selection and group selection – resulting in small openings of less than an acre in size. All chemical spraying of our forests must be ended. For a starting measure, demand the right to consent to or to veto a particular pesticide use which falls within your immediate environment. For forestry, this would mean that all residents living within one kilometre of proposed forest spray blocs must be notified 30 days prior to the proposed spraying, and such residents have the right and responsibility to give an informed consent or informed rejection, by signature, in regard to the issuing of the particular pesticide permit, which then becomes binding upon the government and forest industry. **Only together can we stop chemical spraying!**

This leaflet was originally produced in the early summer of 1988 by the North Shore Environmental Web, of which we were then members. It is now being reproduced by the Green Web.

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