

# New Injection System for Killing or Curing Trees

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CONVENTIONAL equipment used to control undesirable trees is often bulky, wasteful of chemical, and awkward to use on multiple stems or many-forked trunks. A new injection instrument, the Hypo-Hatchet, has given consistent plant control results on a variety of hardwoods and conifers. Unlike most injectors and hand spray equipment, it can be operated without serious problems.

## Impact Injects Dose

This new, lightweight hatchet is a precision instrument. It weighs about 3 lbs. and operates automatically upon impact. No chemical is released until the blade has penetrated its target. A check valve system eliminates drip from chemical outlet holes in the hatchet blade, and the chemical reservoir is lightweight

**Hatchet injector blade** is wedged into the vascular system of a tree for treatment. Only small, predetermined chemical doses are injected at each impact.



New Hypo-Hatchet injects tree curing or killing chemicals through small holes just above the sharpened edge of its blade. Liquid is fed from the flexible tubing through the hatchet handle and is closely metered by a check valve system.

plastic, carried or worn anywhere that is comfortable for the user. A self-priming, positive-displacement pump supplies a consistent chemical flow, even if the reservoir is worn below the hatchet usage level. Under steady use, one full reservoir, about 2½ lbs., should last roughly one-half a day at injection rates of 0.5 ml. per cut. Any dosage volume up to 1 ml. may be calibrated, and production models will deliver more.

Many injected compounds are effective and have limited foliage toxicity (see Table). Additional combinations of chemicals for the treatment of more species will be found.

## Hatchet Used for Systemics

Use of the Hypo-Hatchet is not limited to tree killing. Control of insects with systemics requires a sealed system that will meter highly poisonous materials with precision, yet will protect the applicator from contamination. The hatchet is ideally suited



**Chemical reservoir** is worn at waste level and a pump supplies a constant even flow of liquid to the hatchet's check valve system. This worker is injecting a modern chemical which minimizes sprouting.

for insecticides now in use. Antibiotics for tree disease control, such as Actidione in blister rust control, may be applied more efficiently with this system than with current methods. However, formulations of healers or killers first must be matched for compatibility with the vascular system of the treated tree or plant species.

This system should find wide usage in many aspects of vegetation management. Benefits will be labor savings for tree thinning, forest and tree stand improvement, rights-of-way conifer control and other uses, combined with its versatility for systemic insect and disease control.

The Hypo-Hatchet is being developed by the Ansul Chemical Co. in Marinette, Wisconsin.

**Tree species controlled with undiluted compounds. All treatments were applied with 0.5 ml. injections spaced at various distances.**

Species	Herbicide (0.5 ml.)	Cut Spacing (inches)	Trade Name (remarks)
Sugar maple	2,4-D amine	3	Weedar 64
	Picloram + 2,4-D	6	Tordon 101
Red maple	Picloram + 2,4-D	3	Tordon 101
<i>Prunus</i> spp. (cherries)	2,4-D amine	9	Dow formula 40
	Picloram + 2,4-D	9	Tordon 101
	Cacodylic acid	9	Ansar 160
Bigleaf maple	Picloram	6	Tordon 22K
	Potassium silvex	6	Kurosol SL
Red alder	2,4-D amine	3	Dow formula 40
	Dicamba	6	Banvel-D
Douglas fir	Cacodylic acid	9	Ansar 160
	Picloram + 2,4-D	9	Tordon 101 (Root graft problems)
	Picloram	9	Tordon 22K (Root graft problems)
Sitka spruce	Picloram + 2,4-D	6	Tordon 101
Western hemlock	Cacodylic acid	6	Ansar 160
	Picloram + 2,4-D	6	Tordon 101
Grand fir	Picloram + 2,4-D	6	Tordon 101
	Cacodylic acid	6	Ansar 160
Eastern white pine	2,4-D amine	6	Weedar 64