

## TREFLAN INJURY OF LOBLOLLY PINE SEEDLINGS

Symptoms produced by phytotoxic levels of Treflan on pine seedlings are illustrated.

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Recent usage of Treflan (trifluralin; a,a,a, trifluoro-2, 6-dinitro-N, N-dipropyl-p-toluidine) for weed control in forest tree

nurseries has resulted in phytotoxic symptoms on pine seedlings. Symptoms occur in areas where excessive rates of the herbicide are applied accidentally. Phyto-

toxic levels of Treflan and other "dinitro" herbicides inhibit lateral root development and cause an enlargement of the tip of the main tap root (fig. 1). Seedling



**Figure 1.** – Loblolly pine seedlings with Treflan phytotoxicity symptoms 14 weeks after emergence. Notice the enlarged root tips and lack of lateral root development.

growth may be reduced (fig. 2) in soil containing as little as 0.5 pound per acre, and death may occur where dosage levels exceed 1 pound per acre.

Treflan injury can best be prevented by not using this chemical for weed control on nursery seedbeds. The label recommendation is for use on ornamental pine plantings. Relatively small areas contaminated with excess Treflan should either (1) not be planted to pines until the product has degraded to nontoxic levels (Treflan has a half-life of 30 days), (2) be treated with an absorptive compound such as activated charcoal so that the excess Treflan is selectively absorbed by the charcoal and slowly released at a nontoxic rate, or (3) be decontaminated by removal of the top layer (8 to 10 inches) of soil containing toxic levels of the herbicide.



**Figure 2.** – Loblolly pine seedlings 14 weeks after emergence. The larger seedlings are healthy and contrast with those on the right, which have been stunted by toxic levels of Treflan.