

**Phytotoxicity of Herbicides and Abiotic Factors to Landscape and Turf - Causes, Impacts and Procedures for Mitigation.** Lauren E. Howell, Director of Horticultural Services, Bemus Landscape, Inc. PO Box 74268, San Clemente, CA 92673  
[www.Bemus.com](http://www.Bemus.com) [Lauren.Howell@bemus.com](mailto:Lauren.Howell@bemus.com)

Phytotoxicity is a toxic effect by a compound on plant growth or health. It often presents itself as plant tissue necrosis, chlorosis or plant cell distortion and stunting. Any of these is a problem for landscape management companies and their clients. Often times misdiagnosis occurs in the identification of phytotoxicity from herbicides. While actual herbicide phytotoxicity does occur in the landscape, more often the issue is actually due to an abiotic factor or an insect or disease which is causing damage. Common abiotic factors include irrigation and water issues, harmful weather conditions, damage by animals, and damage by humans and equipment.

Phytotoxicity in the commercial landscape management field happens due to poor training, improper product selection, poor application in the field, or site conditions that are not conducive to proper herbicide application. These can be mitigated with high quality, hands-on, continuous training; simplification of product selection; and an environment of concern and honesty among employees.

Damage from herbicide phytotoxicity is damaging to the landscape management industry's reputation among the public and it negatively impacts client trust and satisfaction. It creates an actual cost due to repairing damage to the property as well as a cost in wasted product and time. Knowing how to respond to possible and actual phytotoxicity damage help to minimize these costs

Improvements to the herbicide application process, which help prevent phytotoxicity, include training of field staff, spray techs, and landscape managers. Feedback from employees back to management, and suggestions and requests from landscape management companies to distributors and manufacturers are all useful in improving the systems we implement and the products we utilize.