

PROBLEM MANAGEMENT

by Balakrishna Rao, Ph.D.

No danger of herbicide injury

Problem: Will the damage from lawn-applied Trimec herbicide produce any long term effect on a plant? (New York)

Solution: It is difficult to answer your question without knowing the amount, frequency and timing of application. When applied according to label specifications there should not be any danger from herbicide injury.

According to sources at PBI-Gordon, manufacturer of the product, recommended rates of application were set to provide for a three-fold error before injury to turf occurs. However, herbicide damage to non-target plants can occur due to mis-application, drift, frequent application and/or dry soil conditions.

The label recommendations of herbicide rates are designed to manage herbaceous weeds and should not cause permanent injury to woody plants. The woody plants resist the movement of these products inside because of their different vascular tissue. The mode of entry would be from foliage absorption of drift or from root uptake of materials like dicamba.

Growth-regulating hormones are naturally present in a plant system. The herbicides contain higher rates of similar growth hormones and as a result, affected plant parts show twisting, cupping, or curling of tissues, distortion and discoloration—primarily on new growth.

Herbicide injury from drift usually occurs on the side which contacted the herbicide. Injury from root uptake may show up on the entire plant or be scattered throughout the plant, but it will primarily be seen on new growth.

In the case of drift, deciduous plants may show slight herbicide injury initially, and the new growth may come out without any visible symptoms later in the same season or the following season. However, if it was taken up by the roots the symptoms may continue on new growth until the soil-accumulated products like dicamba are degraded. Dicamba tends to accumulate in dry soils and will be taken upward whenever there is excess water in the soil from rain or frequent irrigation.

In the case of evergreens, any herbicide damage which occurred may remain for a long time and, depending upon the concentration, subsequent growth may or may not show any symptoms.

If the injury is very severe, discoloration, defoliation or death of the plants may occur. In most situations, the rate applied is not high enough to cause long-term effects.

Grow Gun under study

Problem: What is your opinion about using the Grow Gun for aerating compacted and dry soils or dealing with fertilizing these areas? (Colorado)

Solution: We have not yet completed our evaluation of the Grow Gun or other aeration equipment. Dr. Smiley, et. al., of the Bartlett Tree Research Labora-

tories, reported results in the May 1990 issue of *The Journal of Arboriculture*. According to their findings, oxygen diffusion was improved only at the fracture line and bulk density was not reduced. The impact of treatment on tree growth is still under study.

You may also wish to contact the manufacturer of Grow Gun for more information.

Holly planting patterns

Problem: Is there a particular time of year when a holly should or should not be transplanted? Is it necessary to plant a male and female plant close to get berries? (Virginia)

Solution: Field grown hollies should not be moved or transplanted during budbreak and new growth flushing. The timing for budbreak or flushing of new leaves will vary from one geographic location to another where hollies are grown. In your area, the May to June period would be unfavorable.

After the new growth hardens, the hollies can be moved or transplanted when good weather conditions permit. Make sure to provide good care of these plants.

Ideal periods for transplanting hollies would be during early fall (September through mid-November) and early spring (any time the ground is suitable for planting after mid-February).

During extreme cold weather it is difficult to move hollies. Sub-freezing temperatures (below 22°) can cause freezing injury to root systems.

Containerized hollies can be planted any time of the year except during temperature extremes. Extreme care should be given when planting plants during new flush of growth.

As far as your question concerning the need for planting male and female plants, only the female produces berries and the flowers must be pollinated by a male plant. If you are in an area where there are a number of naturally-occurring hollies in the woods or planted in the landscape, you may not need to plant any male plants close by. However, if there are no naturally-occurring hollies in the woods or planted in the landscape, or any problems in proper pollination, then it is advisable to have male holly plants nearby. You could consider planting male hollies only if there would be any problems with pollination and fruit setting. **LM**



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Questions should be mailed to Problem Management, LANDSCAPE MANAGEMENT, 7500 Old Oak Boulevard, Cleveland, OH 44130. Please allow 2-3 months for an answer to appear in the magazine.