Pesticide Use

As with fertilizers, it should be obvious that extreme care must be taken to prevent the direct application of pesticides into surface water areas.

Properly timing pesticide applications is crucial to their overall effectiveness against the pest and to minimize adverse environmental impacts. Often minimal amounts of pesticide can be used when the pest is in a young and/or highly vulnerable stage. For example, when weeds or insects are quite large and mature, greater amounts of pesticides are usually needed and may not be that effective. Likewise, treating disease problems at very early stages of infection is more prudent and may require less fungicide than attempting treatment of large, heavily infected areas.

Proper timing also can relate to the time of year when a pesticide may be most effective. For example, fall is the best time to control cool season perennial broadleaf weeds. At this time of year (mid-September to early October), these plants are actively growing and will more readily take up the herbicide. Often, lower rates and only one application of an appropriate herbicide are needed to be effective. Since much of the landscape plant material is either going dormant for the winter or has been removed from garden and flower beds, there is usually less chance for off-target plant injury. However, that does not give license to be careless when applying a pesticide product.

Sometimes it is necessary to water-in a pesticide treatment for it to be most effective. Pre-emergent types of herbicides typically used for controlling crabgrass and other annual weedy plants must be moved into the soil surface to be effective. Their mode of action is such that it affects the seed as it begins to germinate but before it emerges from the ground. Depending on the soil type, .25 to .50 inches of moisture should be applied following application of these products. (This is about one to two hours of irrigation with most common lawn sprinklers. Automatic irrigation systems may need to be adjusted accordingly.)

This not only puts the product where it will be the most effective but may move the material far enough into the soil that it will not be carried away in runoff.

A similar situation exists when using insecticides and fungicides. Those materials used for controlling thatch and soil-inhabiting insects and diseases usually require some type of irrigation following application to move the product into the thatch and thatch/soil area. This puts the product where it will be the most effective, reduces the chances of it being carried away in runoff and potentially reduces exposure to the material. While thatch can facilitate the breakdown of these materials and potentially reduce their effectiveness, it also can shorten their persistence in the environment. Pesticide label directions will indicate whether post-application irrigation is needed.

In the case of herbicides, it is often unnecessary to thoroughly drench an area to achieve satisfactory weed control. This may be wasteful of both water and herbicide as well as moving the herbicide beyond the plants and into the soil where it may be more prone to leaching. Where plant cover is sparse, the herbicide could potentially be carried in runoff either directly or bound to sediment. Spraying to wet the foliage and not spraying to runoff is usually sufficient to get enough herbicide into the plant to be effective. Again, follow label directions for proper mixing and water volume to use with the product.

Protecting our surface water resources as well as groundwater resources is not something to be taken lightly. However, neglecting our turf areas for fear of introducing nutrients and pesticides into our water supplies is not a way to protect these resources. Evidence is beginning to build that properly maintaining turfed areas with appropriate but modest uses of fertilizers and pesticides may do more to protect our water resources than to hurt them.

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