

Biological Control



The use of natural enemies of pests as biological controls includes releasing commercially produced beneficial species and conserving native species. For example, insect parasitic nematodes are now registered to control crane fly larvae (leather jackets) in turf and BT (*Bacillus thuringiensis*) which is a caterpillar disease, can be used to control sod webworms. There are also many native insects and mites present in healthy soil that prey on these pests.

Most people do not realize how important beneficial fungi and bacteria are in suppressing fungal diseases in turf. Native

micro-organisms can be conserved by reducing fungicide use; they can also be added to turf by topdressing with compost, which is rich in micro-organisms. Studies have shown that monthly applications of compost and sand topdressing have been effective in suppressing diseases such as dollar spot, brown patch, grey snow mould, and red thread.

Competitive control might be considered a type of biological control because it involves overseeding with highly competitive grasses to prevent weeds from growing. Some managers overseed with turf-type perennial ryegrass at least once a year, in some cases up to four times a year, to maintain the integrity of heavily used turf. This is cheaper than re-sodding a field and minimizes the amount of time the turf is out of operation.

Chemical Control

Under an IPM program of turf management, it is possible to reduce and even eliminate pesticide use without sacrificing the desired quality and performance of turf. If monitoring determines that it is necessary to use pesticides, reduce the

impact on non-target organisms by choosing the least toxic products and by applying them in spot treatments. Take advantage of the most efficient application equipment, such as the lance or wipe-on type of applicators, to further reduce the amount of chemical needed to accomplish the desired level of control.

Evaluation

Evaluation is the final, but very important, component of an IPM program. This is the stage for analyzing results, deciding on improvements and recording costs and benefits. Generally IPM programs cost more than conventional practices for the first few years, but they become less expensive than conventional management in later years. Therefore, good records are important for tracking the long-term results and benefits from an IPM program.

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