

Stop 17. Evaluating the Effects of Lightweight Rolling on Athletic Fields

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Routine lightweight rolling has become a common management practice of golf course greens due to numerous studies that have taken place over the last couple decades, several of them right here at Michigan State. Benefits of rolling putting greens discovered through research include faster green speed, reduced broadleaf weeds, decreased dollar spot, greater topdressing incorporation. However, there is currently no published research evaluating this practice on athletic fields. This research looks at routine lightweight rolling at its effects on athletic field surface and subsurface characteristics. Current studies are looking at how rolling affects athletic field characteristics such as surface smoothness (ball roll), root stability, moisture content, compaction, and more. For more information on rolling athletic fields, visit the link: <http://www.kenilworth.com/publications/cg/de/201407/>

Stop 18. Organic Weed Control in Turf

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At the end of 2010, over 170 municipalities in Canada, including the provinces of Ontario and Quebec placed restrictions on the “cosmetic” use of “synthetic” lawn herbicides. New Brunswick and Prince Edward Island, in 2009 and 2010, respectively, banned the use of 2,4-D on lawns. Many U.S. cities and communities have worked to reduce or ban “cosmetic” pesticide use in their respective parks and communities, often even in residential areas. Questions about “organic” herbicide efficacy have continued to increase over the years from home owners and lawn care operators trying to serve the home owners. One trial was initiated to investigate the efficacy of “organic” herbicides and “organic” methods for selective control of broadleaf weeds in turfgrass. Another trial was initiated for nonselective control of broadleaf weeds and turfgrass. Herbicide applications and weeding methods employed for each of these trials were initiated on July 24, 2014. So what makes a product or method organic? The Organic Materials Review Institute (OMRI) is a “nonprofit organization that determines which input products are allowed for use in organic production and processing.” So, OMRI determines which products can be used by certified organic operations under the USDA National Organic Program. There are other organizations with programs that hand out “organic certification” such as the Northeast Organic Farming Organization’s Organic Land Care Program (NOFAOLC). Although there are regulations in place in order for foods to receive the “organic stamp” from the USDA, this stamp has yet to be identified in lawn care. Also, although there are some products, like St. Gabriel Organic’s BurnOut II that are approved as “organic” by OMRI, others don’t bother seeking this status or even call the product organic on the label. These other products use creative marketing and use labels, such as “natural” or “Elemental,” like Ortho’s iron product. Still, other products actually have an EPA regulation number and, so, are officially pesticides, such as Monterey’s Herbicidal Soap. It seems that just as “organic” weed control in turf has not yet been well investigated, it is also not well defined. There is much room for creative marketing by lawn care operators to sell “organic” products, “natural” products, “subjectively safer” products, or any product-less methods, like mechanical control, for selective and nonselective weed control.

Trial 1: “Organic” Selective Weed Control:

	Company	Product	Active Ingredient
1	Ortho: Elementals	Lawn Weed Killer	1.5% Iron HEDTA
2	The Dial Corp.	20 Mule Team Borax	Sodium tetraborate (Boron)
3	AgraLawn Inc.	Crabgrass Killer	0.95% cinnamon bark
4		iron + cinnamon	
5		iron + cinnamon + boron	
6	Flame Engineering, Inc.	Weed Dragon Torch	fire
7		Steam Weeding	steam
8		Mechanical Weeding	Hand weeding
9	PBI Gordon	Trimec Classic	2,4-D, MCPP, dicamba
10		Untreated	

Trial 2: “Organic” Nonselective Weed Control

	Company	Product	Active Ingredient
1	EcoSmart	Organic Weed and Grass Killer	1% rosemary oil 0.06 % sodium lauryl sulfate
2	Monterey	Herbicidal Soap	22% ammoniated soap of fatty acids
3	Naturally Clean and Green	Natural Horticultural Vinegar	20% acetic acid yucca extract (surfactant)
4	St. Gabriel Organics	BurnOut II	
5		Acetic acid + Epsom Salt	
6		Clear Plastic	
7		Glyphosate	41% glyphosate
8		Untreated	