Comprehensive Review of Current Practices of Lawn Care Product Applications
At
Illinois State University
Normal, Illinois

Submitted by:

Mike O’Grady
Director Grounds Management
Division of Facilities Management
Illinois State University

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Grounds Services, a division of the Illinois State University Facilities Management Unit, provides daily services that play a critical role in the upkeep, safety and appearance of our 490 acre campus. The Grounds Department dedicates itself to the exterior maintenance of 160 acres of turf, as well as parking lots, sidewalks, display gardens, and 85 administrative and academic buildings. As a registered arboretum our Unit prides itself in the establishment of 10,000 trees of over 154 species, which serves as a living laboratory to our campus community, as well as to the general public.

Our Vision:
In the forever changing climate of higher education we are met with challenges on a daily basis. As current trends focus on environmentally sound and sustainable practices on our campus, we as a department must be able to incorporate them in such a way as to not detour from our core function; to provide our students with an aesthetically pleasing and safe atmosphere which is conducive to learning.

Our Mission:
Illinois State University’s Grounds Service’s mission is to work as a unified team in order to provide outstanding customer service to our clients. Each member plays a significant role as we work together to achieve our common goal in a professional, environmentally sound, and efficient manner.

The campus of Illinois State University has over 10,000 trees, 6000 shrubs and 160 acres of grass or turf areas. With over 23 miles of sidewalk, and 72 acres of parking lots, and with a total staff of 20 people our program requires the use of the most innovative methods, excellent time management and up to date equipment, while also focusing on environmentally sound and sustainable practices. Based on the following quotation, it is our belief that the Grounds Department plays a vital role in the recruitment of students.

"The appearance of the campus is, by far, the most influential characteristic during campus visits, and we gained the distinct impression that when it comes to recruiting students, the director of buildings and grounds may be more important than the academic dean.” Ernst L Boyer; College, the Undergraduate; Experience in America, 1987

The use of pesticide, herbicide and fertilizer applications are necessary in order to achieve the aesthetically pleasing product that we as a department desire. We pride ourselves with utilizing the safest and most environmentally sound pesticide practices available to us to achieve our goal.
Program & Process

Grounds Management uses several methods of lawn care, pest management based on the location, use, and needs of the campus and also made the decision several years ago not to use any organophosphate insecticides for exterior turf management on the campus. Because of our size and diverse usage, no one management program can be used for the entire campus. We are firm believers in using an Integrated Pest Management (IPM) program for control of pests on campus.

IPM can best be defined as a pest control program that uses several types of control methods that have little effect on man, non-target organisms, and the environment while keeping pests from reaching an economic and aesthetic injury level. The goal of IPM is to use a balance of various control techniques rather than relying solely on the use of pesticides. However, the proper and judicious use of pesticides is part of the IPM approach.

On the campus of Illinois State University an IPM program is used on approximately 70% of the campus. The other 30% of campus is treated as high maintenance expectation areas, and include athletic fields, our quad, as well as the University residence and annual and ornamental planting beds. In these locations pesticides are used in different degrees depending on use and time of year.

In the spring of each year pre-emergence pesticide are applied to mulched planting beds, parking lots edges, and gravel areas. This pre-emergence has a short effective life of 3 to 4 months. The chemicals used are designed to stop weed seed from germinating but do not affect established plants.

Fertilization of turf, trees and shrubs occurs twice a year, one in the late spring and one in the late fall. The fertilizers are slow release fertilizers and not only benefit the plants by providing continuous, slow applications of nutrients, but they are also environmentally friendly because the plant uses the nitrates. This limits the nitrate levels that might affect ground water supplies.

Two products are used for post emergence control of weeds. One is the well-known product called Round up. We use this product throughout the campus at different times of the year. Our other post emergence broadleaf control is Confront. This product is a non-phenoxy product. (Contains no 2,4 D) The product is used widely across campus and has little or no odor. While there are stronger and more effective products on the market for control of broadleaf weeds, Grounds Management has made the decision to accept a certain number of weeds and use a more environmentally friendly product.

Our arborist uses the Arborjet system when the need for treating trees arises on campus. This system uses injection through small holes drilled in the trunk of the tree (plugs are utilized to keep the chemical in) for the application of pesticides and fertilizers. Pesticide
products are transported systemically throughout the tree and treatment is done in less than an hour with no exposure to the public. Upon occasion the need to spray a tree is necessary and measures are taken to perform this task to make this practice as safe and environmentally sound as possible. Spraying is done as early in the day as possible to avoid pedestrian traffic, the area we are treating is blocked off and is also flagged until the chemical has dried the specified label time.

Athletic fields on campus require a great deal of maintenance because of their high use and level of competition. On our campus many of the game fields for athletes are also used as their practice facility. Because of this high demand, fields are treated with a number of products to insure player safety and to be aesthetically pleasing. Fungicides are applied as a preventive on a monthly basis during the growing season. Plant growth regulators are applied to promote plant durability and re-growth. Chemicals used for insect control is biological, using products that move insects prematurely into the next life cycle, or shut down their digestive systems.
Education & Safety

In August of 1989 the State of Illinois enacted P.A. 86-358, Lawn Care Products Application and Notice Act. This act gave the Illinois Department of Agriculture the responsibility to monitor and enforce the rules and regulations of this Act.

Under Illinois law Illinois State University is required to have any person that will be applying a pesticide to be certified with an Operator classification by the Illinois Department of Agriculture and working under the supervision of an individual with a certified Applicator’s license. The State requires that retesting be completed every three years for both classifications.

The Ground’s Department requires that all employees who are going to apply pesticides attend Department of Agriculture training classes annually. While these classes are only required every three years, this training helps keep staff up to date on rules, regulations and safety issues. Each year all pesticide applicators attend in house training on campus issues, new products, equipment calibration, and safety procedures.

Currently Illinois State University has fourteen (14) staff members who are licensed to apply pesticides. Of that number ten (10) are licensed as Applicators which means that they have trained and tested to a level that qualifies them as supervisors of spray operations. Currently Grounds Management has staff licensed in the following categories: Turf, Right of Way, and Ornamentals and this additional training and testing helps insure safe and quality application of pesticides on the campus of Illinois State University.

Pesticide applicators are required to wear safety apparel when handling pesticide products including appropriate respirators, gloves, spray suits when necessary, goggles, etc. All PPE is provided by the department. Staff spraying chemicals are also required annually to receive a respirator physical through our Health Services department, as well as a respirator fit-test administered by our Health and Safety Office.

Due to the fact that the most common complaint of misapplication or error received by the Illinois Department of Agriculture is caused by product drift. Staff is provided with hand-held wind gauges to monitor wind speeds and policy has been established that when winds exceed 5 to 10 mph all spraying is to stop. Wind speeds and gusts are also monitored via a Davis Vantage Pro weather station located in the main office.
Lawn Care Product Control Containment and Notification

In 1996 Illinois State University received a containment permit from the Illinois Department of Agriculture for construction of chemical rinsate structure. This building was designed to handle the safe storage of all of the University’s lawn care products. In addition all loading, mixing and washing of spray equipment is performed in this building. The building is designed to contain any spills, and in the event of a fire the building is designed to hold the runoff from fire fighting efforts.

During application of products Grounds staff notifies the campus with small lawn flags that indicate that a lawn care product has been applied to the area. The public is advised to stay off the area until product is dry and the area is safe for use. Each Applicator is required to log all spraying or application of pesticides each daily and includes the time of application, type of product used, rate of application, and weather conditions. This log allows for the review of staff activities in the event questions or concern might arise at a later date. Records of application activities are kept for two years. The public is advised to stay off the area until product is dry. After the product has dried the area is then safe to use. Grounds Management is very concerned for the safety of the University community. We make every effort to spray very early in the mornings and weekends when winds are low and there is less activity on campus. The only exception to this practice is due to weather condition that requires application during a specific time of year.

Metcalf and University High School are areas that require special attention when it comes to notification. Illinois law requires that we notify all parents and guardians of students at least two days prior to the applications of lawn care products. Grounds Management sends out a letter to the parents and guardians of students through the principals of the school. We identity what products will be used, and we choose a date that school is not in session.