

Title: **Fertilizer and Pesticide Handling and Application – Procedure**

Statement of Intent:

UMD Facilities Management will minimize the use of Fertilizers and Pesticides by:

- **Determining specific campus appearance standards:**
 - **To demonstrate leadership in protecting the environment.**
 - **To reflect the needs of the campus.**
 - **To respect the aesthetics of the greater community.**
 - **To maintain a safe outside environment.**
 - **To optimize labor, materials and natural resources required maintaining the standard.**

- **Developing an Integrated Pest Management program:**
 - **To promote the health of the living landscape.**
 - **To choose the most appropriate plant materials.**
 - **To minimize the influx of disease and invasive species.**
 - **To protect water, air and energy resources.**

Fertilizer Handling and Application

1) Determine Need

- a) Test athletic fields soils yearly to determine fertilizer requirements.
- b) Test soil in areas of concern on the remainder of the campus.
- c) Application rates not to exceed Best Management Practices and recommendations of University of Minnesota Extension and is dependent on soil test requirements or use of the area to be fertilized.
- d) Phosphate fertilizers to be used only as per MN state regulations.
(Ref# Chp.179, 2005 MN statue 2002, sect 2018c.6, sub div 2)

2) Ordering

- a) Order quantities needed to facilitate using the majority of the stored materials in one growing season and to reduce carryover from one season to the next.

3) Storage / Handling

- a) MSDS (Material Safety Data Sheets) must be on file at the Robert W. Bridges Fleet Grounds/Fleet Maintenance building in MSDS binder.
- a) Store granular fertilizer in the barn at the Research and Field Studies Center on pallets.
- b) Transport the fertilizer needed for an application to the campus from the Research and Field Studies Center as needed.
- c) During applications, fertilizers in their original containers are temporarily stored under Griggs Stadium or in the Grounds Large Equipment Storage building.
- d) Return any excess to the Research and Field Studies Center for storage after the application takes place.
- e) Store liquid fertilizers at the Research and Field Studies Center barn, Griggs Stadium or Grounds Large Equipment Storage building in a similar manner.

4) Application

- a) Prepare equipment for use: complete annual servicing of equipment
- b) Collect Personal Protective Equipment (PPE).
- c) Calibrate the application equipment for proper rates to minimize the potential for leaching of nitrogen and/or phosphorous into streams.
- d) Apply granular fertilizer with drop spreaders and cyclone spreaders.
- e) Apply liquid fertilizer with a 1-ton truck or Gator with tank, boom and wand.
- f) Post signage. (Not required for fertilization but done as a courtesy)

5) Clean-up

- a) Clean up all spills or ripped bags and store in barrels or buckets and use this material first during the next scheduled application.
- b) All granular fertilizer on hard surfaces must be cleaned up immediately to prevent movement directly into the storm water system.
- c) Clean equipment by triple rinsing the tanks and spraying the residual onto a treated area.
- d) Clean and/or dispose of PPE
- e) 24 hours: remove any flags from treated areas.

6) Record keeping

- a) Keep soil tests on file for a minimum of 7 years.
- b) Keep record of applications on file for a minimum of 7 years.

Pesticides Handling and Application

1) Determine need

- a) Use IPM (Integrated Pest Management) according to our management plan to determine level of damage.
- b) Use least invasive methods first for control before using pesticides

2) Ordering

- a) Order only quantity needed to control the pest.

3) Storage / Handling

- a) MSDS (Material safety data sheets) must be on file at the Robert W. Bridges Fleet Grounds/Fleet Maintenance building in the MSDS binder.
- b) Store pesticides to be used in a locked pesticide storage cabinet in the Robert W. Bridges Fleet Grounds/Fleet Maintenance building.
- c) Other storage of pesticides is in the locked pesticide storage room in the barn at the Research and Field Studies Center.
- d) Store small applicator equipment; such as backpack sprayers, weed-wicks and small pump sprayers, the pesticide storage room at the Research and Field Studies Center when not in use.
- e) Confirm that all storage containers are properly labeled.

4) Application

- a) All UMD Gardeners, the Landscape Gardener, and the Grounds Supervisor, are to be licensed non-commercial pesticide applicators with the State of Minnesota, Department of Agriculture.
- b) Application of weed control on turf and landscape areas is to be done according to the appearance standards for the specified area.
- c) Calibrate equipment properly and have general maintenance completed before use.

- d) Read the label and MSDS of the material to be used
- e) Collect all necessary PPE
- f) Pesticides are only to be applied by those trained regarding the safe use and handling of the materials being used, and under the supervision of a licensed applicator.
- g) Equipment used for pesticide applications include:
 - i) One-ton truck or Gators with a sprayer tank, wand and/or boom,
 - ii) Solo back-pack sprayers
 - iii) Solo 2.5 gal sprayers
 - iv) Weed-wicks
- h) Review MSDS in binder at the Robert W. Bridges Fleet Grounds/Fleet Maintenance building.
- i) Record amount of pesticide taken from storage.
- j) Record amount of pesticide used and amount returned to storage when the project is complete.
- k) Complete the Pesticide Application Form for each application. The form is used to record: area, material used and amount, wind speed and direction, temperature, operator, equipment.
- l) Apply pesticide

5) Clean-up

- a) Clean equipment by triple rinsing the tanks and spraying the residual onto a treated area.
- b) Dispose of containers according to label and regulations
- c) 24 hours – remove flags from treated turf areas.

6) Record keeping

- a) Inventory pesticides prior to Nov. 30th each year.
- b) Record location of pesticides and provide copy to Duluth Fire Department, FM office and Grounds Supervisor.
- c) Maintain Pesticide Application Form on file for a minimum of 7 years according to Department of Agriculture regulations.
- d) Update Material Safety Data Sheets annually.
- e) Application records:
 - i) Record amount of pesticide taken from storage.
 - ii) Record amount of pesticide used and amount returned to storage when the project is complete.
- f) Complete the Pesticide Application Form for each application.
 - i) Area,
 - ii) Material used
 - iii) Rate of application
 - iv) Wind speed and direction
 - v) Temperature
 - vi) Operator and license
 - vii) Equipment used
- g) File Pesticide application Form at Robert W. Bridges Fleet Grounds/Fleet Maintenance building.