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Introduction to the New Jersey Fertilizer Law

New Jersey enacted a law in 2011 regulating the application, sale, and use of fertilizer for turf. This state law pre-empts local municipal ordinances on fertilizer use. Both professional fertilizer applicators and consumers are required to comply with rules on fertilizer use.

The law was passed to protect all New Jersey surface and ground waters by minimizing nitrogen and phosphorus pollution that may be derived from fertilizer applied to turf. Nitrogen and phosphorus are the specific fertilizer nutrients being regulated; other nutrients and liming materials are not affected.

What are the Nutritional Requirements of Turf

Plants require 16 essential elements for growth. Oxygen, carbon, and hydrogen are non-mineral nutrients that plants get from the air and water. The other essential nutrients are largely taken up by plants from the soil and many are applied as a component of fertilizers. These include:

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Symbol</th>
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<tbody>
<tr>
<td>Nitrogen (N)</td>
<td></td>
</tr>
<tr>
<td>Phosphorus (P)</td>
<td>Fe</td>
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<tr>
<td>Potassium (K)</td>
<td>Cu</td>
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<tr>
<td>Calcium (Ca)</td>
<td>Mn</td>
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<tr>
<td>Magnesium (Mg)</td>
<td>Sulfur (S)</td>
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<tr>
<td>Chlorine (Cl)</td>
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<tr>
<td>Manganese (Mn)</td>
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<tr>
<td>Zinc (Zn)</td>
<td></td>
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<tr>
<td>Molybdenum (Mo)</td>
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</table>

Nitrogen, phosphorus, and potassium are typically the nutrients applied in the largest amounts (macronutrients) to turfgrass, other landscape plants, and crops. If not properly applied, nitrogen and phosphorus intended for the turfgrass can instead move into surface and ground waters reducing water quality.

What Happens to Nutrients after Applied to Turf?

Turf cover of soil actually protects water quality by reducing runoff and soil erosion. Less runoff means there is less risk for nutrients and sediment (soil) to move off landscapes and pollute water. The goal of applying fertilizer is to have nutrients taken up by plants and other organisms for growth or storage in the soil for later use. When properly applied, fertilizer nutrients help to maintain and, in some cases, improve the effectiveness of turf at reducing nutrient runoff and soil erosion.
Depending on how nutrients are applied to turfgrass the outcome may be:

- **Good:** Taken up by plants and other soil organisms
- **Good:** Stored in the soil on clay particles and organic matter
- **Bad:** Runoff into water or with soil erosion
- **Bad:** Leach into ground water when water carries nutrients past plant roots
- **Bad:** Volatilize – nitrogen can convert to a gas & be lost to the air

### What are the Risks of Excess Nitrogen and Phosphorus in New Jersey waters?

Good water quality is important for human, animal, and plant health. Excess phosphorus and nitrogen can degrade both fresh and coastal water quality. In particular, excess phosphorus is the primary concern in freshwaters, while nitrogen is the main concern for coastal waters and drinking water supplies.

An example of this is when a pond becomes “eutrophic.” You’ve seen stagnant green ponds covered with algae. This can happen naturally over a long period of time, but it may happen “unnaturally” if a waterbody receives runoff with excess levels of nitrogen or phosphorus. The excess nutrients allow some plants to overgrow, throwing off the balance of organisms living in the pond. The result is a body of water that can’t support a diverse population of living things.

### When and Where Does the Law Restrict Fertilizer Application?

To avoid runoff and leaching of fertilizer nutrients intended for plant health, don’t apply fertilizer to surfaces where they can’t be absorbed, when soil conditions are very wet or frozen, and when nutrient uptake into plants is slow. This is the basis for prohibiting fertilizer application as directed in the law:

- Applications are prohibited before and during heavy rain and whenever soil is saturated or frozen.
- Applications to impervious surfaces are prohibited and any fertilizer accidentally applied to impervious surfaces must be swept up and removed. Impervious surfaces include driveways, sidewalks, streets, porous pavement, paver blocks, gravel, crushed stone, decks, patios, elevated structures, and other similar structures, surfaces, or improvements.
- Nitrogen and phosphorus fertilizer cannot be applied within 25 feet along water bodies (buffer area). This buffer distance can be reduced to 10 feet if the application is directed. One “rescue treatment” per year is allowed to turf between 10 and 25 feet of a water body.
- Applications are prohibited after December 1st and before March 1st for professionals. Applications by consumers (homeowners) are prohibited after November 15th and before March 1st.
What Amount and Kind of Fertilizer Does the Law Restrict?

The risk of nitrogen and phosphorus pollution increases if fertilizer is applied at a rate beyond what is needed for turfgrass health. The law specifies the amount and kind of nutrients that may be applied. Those restrictions include:

- The “per application” rate of total nitrogen is limited to 1.0 lb per 1,000-ft² and any amount of nitrogen above 0.7 lb must be applied as slow release nitrogen.
- The annual nitrogen rate applied to turf is limited to 4.25 lb per 1,000-ft².
- Fertilizer applied to turf cannot contain available phosphate unless:
  - a soil test (no more than 3 years old) indicates there is a need
  - turf is being established for the first time
  - turf is being re-established or repaired
  - fertilizer is delivered under the soil surface directly to feeder roots
  - using certain products with natural organic components containing phosphorus

Who Can Apply Fertilizer?

To ensure fertilizer applicators are aware of the risks of fertilizer to New Jersey water and that fertilizer is applied as the law directs, the law requires:

- Professional fertilizer applications must be done by certified or trained applicators.
- Trained applicators must be supervised by a certified fertilizer applicator.

Certification and Training of Professional Fertilizer Applicators

Any individual who applies fertilizer for hire, including any employee of a government entity who applies fertilizer within the scope of employment must obtain:

1. certification as professional fertilizer applicator or
2. training if applying fertilizer under the direct supervision of a certified professional fertilizer applicator.

The certification program provides professional fertilizer applicators with training and education in at least the following subject areas:

1. the proper use and calibration of fertilizer application equipment;
2. the environmental risks to water quality related to fertilizer use on turf;
3. all applicable State and federal laws, rules and regulations;
4. the correct interpretation of fertilizer labeling information; and
5. the best management practices developed by the Rutgers New Jersey Agricultural Experiment Station (NJAES) for nutrient management in turf.
Certified Professional Fertilizer Applicators

The Rutgers NJAES conducts examinations to certify that an individual possesses sufficient knowledge of the State and federal laws, rules and regulations, standards and requirements applicable to the use and application of fertilizer.

Before taking the exam, individuals must demonstrated that they have obtained the education and training established by the certification program developed by Rutgers NJAES, in consultation with the NJ Department of Environmental Protection (DEP).

Trained Professional Fertilizer Applicators

Professional fertilizer applicators who will apply fertilizer only under the direct supervision of a certified professional fertilizer applicator must obtain training.

Direct supervision means that the Certified Fertilizer Applicator provides written instructions to the Trained Fertilizer Applicator and maintains immediate contact through a mobile phone or radio. Written instructions should include directions for the application as well as spill response protocol.

The minimum standards for the training program are established by the Rutgers NJAES, in consultation with the NJ DEP.

Training Programs for Certified and Trained Professional Applicators

Online training programs for Certified and Trained Professional Applicators are available on online at ProFACT.rutgers.edu

Organizations qualified by Rutgers NJAES may train certified professional fertilizer applicators and individuals who will apply fertilizer only under the direct supervision of a certified professional fertilizer applicator.

Rutgers NJAES may also recognize the training program of any person employing professional fertilizer applicators if the training meets the established requirements.

Public List of Certified and Trained Professional Applicators

Rutgers NJAES publishes and maintains a list of all certified and trained professional fertilizer applicators on its internet website (ProFACT.rutgers.edu).
How to Read a Fertilizer Label

Explanation of Fertilizer Grade on the Fertilizer Label

Fertilizer grade describes the analysis of the fertilizer or the guaranteed concentration (expressed as a percentage of the total fertilizer weight) of the three macronutrients in the product:

- total nitrogen (or N)
- available phosphate (or P₂O₅)
- soluble potash (or K₂O)

The format used to display this information is the "N - P₂O₅ - K₂O" label. The first number is the percentage of nitrogen, the second number is the percentage of available phosphate, and the third number is the percentage of soluble potash. Note that the chemical terms of P₂O₅ and K₂O that represent phosphorus (P) and potassium (K) are used for historical reasons; fertilizers actually contain other chemical forms of these nutrients.

Examples of fertilizer grades with zero available phosphate include:

- 22-0-4
- 22-0-10
- 12-0-0
- 16-0-5

Fertilizer containing phosphorus may be applied to turf if the available phosphate content is derived from natural organic fertilizer or Class A biosolids, and the application applies no more than 0.25 pounds of available phosphate per 1,000-ft² per application. This language is not clear in the law, awaiting clarification.

Things to Know about Nitrogen Fertilizer

The Law states: when applying more than 0.7 lb per 1,000-ft² of nitrogen to turf, the fertilizer must contain sufficient slow release nitrogen to keep the amount of water soluble nitrogen being applied to no more than 0.7 lb per 1,000-ft².

- As an example, a N application of 1.0 lb per 1,000-ft² to turf would need to have 30% of the total N coming from a slow release nitrogen.

Forms of Nitrogen

The nitrogen in fertilizer can be composed of several different sources. These sources are categorized in two basic forms:

- Water soluble nitrogen
- Slowly released nitrogen
Water Soluble Nitrogen

- Water soluble nitrogen is readily available for uptake by plants and other soil organisms. It produces a rapid color and growth response in turf. These effects are usually apparent for 4 to 6 weeks.
- Water soluble nitrogen has greater potential for foliar burn and loss through leaching and runoff.
- Sources of water soluble nitrogen in turf fertilizers include urea, ammonium sulfate, potassium nitrate, ammonium nitrate, and ammonium phosphate.

Water Soluble Nitrogen and the Fertilizer Label

The water soluble nitrogen is reported on the label of the fertilizer container as % Ammoniacal Nitrogen, % Nitrate Nitrogen, % Urea Nitrogen, and % Other Water Soluble Nitrogen. These forms are listed as a break-down of the total nitrogen (N) analysis on the fertilizer label. Below is an example of how these forms will be listed on the label.

Total Nitrogen (N)………………………………………………………….%
…………………………………………………….% Ammoniacal Nitrogen
…………………………………………………….% Nitrate Nitrogen
…………………………………………………….% Urea Nitrogen
…………………………………………………….% Other Water Soluble Nitrogen

Slow Release Nitrogen

- Slow release nitrogen fertilizer delays and extends the availability of the nitrogen for plant uptake.
- Slow release nitrogen is available over a longer period of time and the turf response lasts longer.
- Slow release nitrogen also has a lower risk for foliar burn and loss through leaching and runoff.
- Sources of slow release nitrogen include natural organics, ureaform materials, coated soluble materials, and methylene ureas.

Slow Release Nitrogen and the Fertilizer Label

Slow release nitrogen is reported on the label of the fertilizer container as % Slowly Available Water Soluble Nitrogen and % Water Insoluble Nitrogen. These forms are listed as a breakdown of the Total Nitrogen (N) analysis on the fertilizer label. Below is an example of how these forms are listed on the label.

Total Nitrogen (N)………………………………………………………….%
…………………………………………………….% Slowly Available Water Soluble Nitrogen
…………………………………………………….% Water Insoluble Nitrogen
In some fertilizers, the % Other Water Soluble Nitrogen may contain forms of water soluble nitrogen with slowly available properties. The guarantee for those forms is reported on the label as % Slowly Available Water Soluble Nitrogen (possibly as a footnote designated by an *) and is considered slow release nitrogen. The specific source (sulfur coated, methylene urea, feather meal, etc.) of slow release nitrogen, if claimed, is listed on the label using a footnote.

Fertilizer Label Requirements for Nitrogen

New Jersey law requires that the complete break-down for Total Nitrogen is listed as part of the guaranteed analysis on the label of specialty fertilizers for turf.

```
Total Nitrogen (N)........................................................................%  
........................................................................% Ammoniacal Nitrogen  
........................................................................% Nitrate Nitrogen  
........................................................................% Urea Nitrogen  
........................................................................% Other Water Soluble Nitrogen  
........................................................................% Water Insoluble Nitrogen
```

Note that the sum of each % for breakdown components will equal the % of Total Nitrogen. The Certified Fertilizer Applicator is expected to understand how to use this information to calculate the percentages of slow release versus water soluble nitrogen.

Fertilizer Label - Summary of Best Management Practices

New Jersey law requires that the label of specialty fertilizers for turf contain the following summary of best management practices for nutrient management in turf.

“Do not apply near water, storm drains or drainage ditches. Do not apply if heavy rain is expected. Apply this product only to your lawn, and sweep any product that lands on the driveway, sidewalk or street back onto your lawn.”
Specialty Fertilizer Labels for Turf

The following information (a–g), in the format presented, is the minimum required for all fertilizer labels.

a. Net weight
b. Brand Name
c. Grade
d. Guaranteed Analysis
   Total Nitrogen (N) .......................................................... ____%
   ____ % Ammoniacal Nitrogen
   ____ % Nitrate Nitrogen
   ____ % Urea Nitrogen
   ____ % Other Water Soluble Nitrogen
   ____ % Water Insoluble Nitrogen
   (Break-down forms of N add to the Total Nitrogen guarantee)
   Available Phosphate (P₂O₅) ............................................ ____%
   Soluble Potash (K₂O) ...................................................... ____%
   (Note: If other nutrients are claimed, then those will also be listed in the Guaranteed Analysis. Zero guarantees are not allowed except in the chemical form break-down where they may be used if needed for clarity. Sources of nutrients, when shown on the label, shall be listed below the completed Guaranteed Analysis statement.)
e. Derived from: Source of nutrients, when shown on the label, shall be listed below the guaranteed analysis treatment.
f. Name and address of the licensee.
g. Directions for use to the end user. Minimum directions for use of specialty fertilizers include:
i. Recommended application rate or rates in units of weight or volume per unit area of coverage (where application rates are given in volume, the label shall provide information to calculate the application rates by weight); and
ii. Application timing and minimum intervals to apply the product when plants can utilize nutrients; and,
iii. The statement "Apply Only as Directed" or a statement of similar designation.
Calibration and Use of Equipment – Granular Application

There are two basic equipment types: Broadcast and Drop Spreaders

- Each spreader should be used based on its specific characteristics for:
  - Swath width
  - Overlap distance
  - Walking or vehicle speed
  - Settings for “trim” areas along impervious surfaces and buffers

- Consult the Certified Professional Fertilizer Applicator and equipment manual for specific details on equipment setup and calibration.

Fertilizer manufacturers will often provide instructions on the fertilizer container regarding the proper settings for specific brands of spreaders. Field calibration checks are done to ensure these settings are correct.

If the field calibration check indicates the settings are not accurate, the spreader needs:
  - maintenance and re-calibration or
  - should be replaced.

The Certified Fertilizer Applicator is responsible for performing or providing instructions on how to perform a field calibration check for spreading equipment.

Granular Spreader Terms to Know

Swath width – this is the distance (width) over which a spreader applies fertilizer.

Overlap – this is amount (%) of overlap that each successive pass (swath) of the spreader should deliver over the previous pass (swath).

The swath width and overlap distance determine the parallel distance between successive passes of the spreader. For example, if the swath width is 12 feet and the overlap is 100%, the parallel distance between passes should be 6 feet.

Walking or vehicle speed – this is speed that an applicator or machine travels while applying the fertilizer.

It is important to maintain a consistent walking or vehicle speed during the application to ensure an accurate rate of fertilizer is applied. The fertilizer application rate will be too high if the walking or vehicle speed is too slow.

Certified Fertilizer Applicators are responsible for providing Trained Fertilizer Applicators with instructions on the proper spacing between passes of spreading equipment.
Spreader Settings

Drop and rotary spreaders typically have a slide control setting that adjusts the size of the openings, which the fertilizer flows through. Increasing the size of the openings increases the rate of the fertilizer application.

This slide control is typically numbered or lettered. Calibration is performed to match specific settings with a specific application rate. Fertilizer manufacturers often perform calibrations of their products for various spreaders. Those results are then provided as recommended settings on the fertilizer labels.

The Certified Fertilizer Applicator is responsible for providing Trained Fertilizer Applicator with the proper slide control setting(s). The slide control setting should not be adjusted without approval of the Certified Fertilizer Applicator.

Spreaders, Deflector Shields, & Buffer Size

Drop and rotary spreaders may have deflector shields to control the delivery pattern of the fertilizer.

For drop spreaders, the deflector shield is used to scatter the fertilizer and prevent the fertilizer from being dropped (delivered) as narrow lines or rows of fertilizer within the target area.

For rotary spreaders, a deflector shield is used to deflect the delivery pattern away from non-target areas such as sidewalks, streets, and buffers.

A buffer size of 25 feet is required along water bodies when fertilizer is applied with a rotary spreader without a deflector shield. A drop spreader or a rotary spreader with a deflector shield must be used if a buffer size of 10 feet will be maintained.

Spreader Delivery Pattern Settings

More advanced and accurate rotary spreaders have an adjustment (for example, helical cone) that optimizes the delivery pattern of the fertilizer application. This adjustment increases or decreases the amount of fertilizer that is thrown to one side of the delivery swath.

On some spreaders this adjustments is simple to use and allows applicators to setup the spreader for normal operations versus applications along ‘trim’ areas such as sidewalks, streets, and buffers.

Certified Fertilizer Applicators are responsible for training Trained Fertilizer Applicators on how to set this adjustment for altering the delivery pattern.
Some rotary spreaders have a 3rd port adjustment as well as deflector shield and a helical cone. The 3rd port (opening) is open during normal operations but closed during ‘trim’ applications to reduce the flow of fertilizer from the hopper. The 3rd port, helical cone, and deflector shield are used in combination to more accurately control the delivery of fertilizer.

Certified Fertilizer Applicators are responsible for training Trained Fertilizer Applicators on how to use these adjustments during applications.

**Calibration and Use of Equipment – Liquid Application**

Training for the proper application of liquid uses concepts similar to that for granular applications.

- Correct flow rate of the liquid (calibrate)
- Swath width
- Overlap distance
- Walking or vehicle speed
- Settings for “trim” areas along impervious surfaces and buffers

Certified Fertilizer Applicators are responsible for training Trained Fertilizer Applicators on spray equipment setup and calibration. An example of calibrating liquid fertilizer equipment follows.

**Select the Proper Head for the Desired Flow Rate**

Handheld “shower-head” nozzles are often used for liquid applications on turf. These nozzles produce a large droplet size with low drift potential to prevent off-target application.

Select the proper “shower-head” nozzle for the desired flow rate. For example,

- 1.5 gallons per minute
- 2.0 gallons per minute
- 3.0 gallons per minute
- 4.0 gallons per minute

Nozzles are typically color coded for the intended flow rate.

**Confirm Proper Flow Rate**

After selecting the nozzle, confirm that liquid flows through the nozzle properly.

- Flow water into a measuring bucket for one minute.
- You should collect the expected amount of water after one minute.
- If there is more or less water in the measuring bucket, adjust the pressure regulator down or up and repeat the one-minute calibration measurement.
- Repeat until the pressure delivers the correct amount of water in one minute.
Liquid Spreader Terms to Know

*Spray Swath*

A spray swath is created as the operator holds the spray-gun at a 45° angle to the body and swings the spray-gun back and forth across his/her body. The applicator’s arm should swing fast enough to hit an area within the swath three times with the spray.

*Width*

Shower-head nozzles are typically used to apply a swath width of 8 feet.

*Overlap*

The stop and return motion of the operator’s arm swing creates a spray distribution that requires a 100% overlap between successive passes so that application has an even distribution. Thus, an applicator should overlap 4 feet between each parallel pass (8 foot swath).

A typical *walking speed* is 20.5 feet in 5 seconds (2.8 mph) for handheld sprayer applications.

**Handheld Spray-gun for Trim Application**

Trim application along sidewalks, streets, and buffers are performed using a half-swath with a handheld spray-gun.

- The applicator walks along a position that is 1.5 feet from the non-target edge.
- To start the application and avoid “burn”, the handheld spray-gun is held pointing away from the non-target edge. The spray is triggered as the applicator’s arm swings toward the non-target edge.
- Applicator uses a half-swing of the arm to create a swath that is 4 feet wide and throwing the spray back into the turf area (away from the non-target area).
- Walking speed is increased to 26 feet in 5 seconds (3.5 mph).

First pass after the trim pass, move over 4 feet and use the full (8 feet) application swath. Spray back to foot tracks from previous pass.

**The Proper Use of Fertilizer Application Equipment**

**Mixing and Loading Practices**

Take care to avoid spills while mixing and loading fertilizer. Spills should be cleaned up immediately. Regular spills of small quantities in the same place or on paved surfaces with the potential to wash away, put water quality at risk.
Basic Guidelines:

- Park fertilizer application and transport equipment on level ground. Avoid slopes that lead to open water or stormwater drainage features.
- Avoid mixing and loading fertilizers near a well, surface waterbody, drainage feature, or paved surface that drains into a stormwater drainage system. Stay 100 feet or more downslope from any well.
- Place a tarp under fertilizer spreaders and hoppers when mixing and loading granular fertilizers to contain spills.
- Have brooms, shovels, and buckets available for immediate cleanup.
- Sweep small spills off trailers and hoppers onto the tarp and collect for distribution to intended target (turf).

Liquid Fertilizer Guidelines

- Mixing and loading liquid fertilizers on an impervious pad with a containment slope/curb and a sump that allows collection and transfer to storage is preferred. Avoid mixing and loading on impervious surfaces (driveways, streets, parking lots) that drain into a stormwater sewer system or surface water body. Mixing and loading above a clay surface is better than sand or gravel; sand and gravel allow the fertilizer to quickly soak through the soil.
- Use a water source for mixing liquid fertilizers that is separate from a well to fill the sprayer tank; for example, a separate water tank. Anti back-siphon devices on wells are required by New Jersey law. Do not put the hose into the spray tank; leave an air gap of 6 inches between the hose and top of the sprayer tank.
- Always supervise filling of the sprayer.
- Consider a closed handling system which transfers the fertilizer directly from the storage container to the spray tank through a hose.
- Use rinsate for mixing subsequent loads or apply the rinsate to the turf.
- Limit the number of fertilizer transfer/loading sites within a facility whenever feasible.

Spill Cleanup Procedures

All personnel handling and applying fertilizer should have a copy of standard operating procedures (SOP), which describes the procedures for fertilizer spill response.

The fertilizer spill SOP should identify personnel responsible for clean-up and the chain-of-command for documenting remedial actions.

In the event that a fertilizer spill does occur, the following steps should be taken:

- Contain spills on tarps placed under loading trailers and application equipment receiving the fertilizer.
Have buckets and shovels available for immediate clean-up of dry granular fertilizers.
Have absorbent materials available for immediate clean-up of liquid fertilizers.
Sweep small spills off trucks, trailers, and hoppers onto the tarp and distribute this material within the intended target field.

Dry impregnated fertilizer is considered a pesticide; if spilled, it should be swept up and applied to the turf as it was intended.

For liquid spills, recover as much of the spill and reuse as intended, if feasible. Use absorbent materials for use in recovering small spills. There are numerous gel and clay-based granules as well as absorbent pads and towels available on the market.

Report spills of any amount into streams or lakes. Report spills of more than 50 gallons on the soil or a mixing/loading pad. Smaller quantity spills should be reported if these could cause damage because of the nature of the material or spill location.

To report, call the 24-hour Emergency Hotline of the New Jersey Department of Environmental Protection (DEP) at 1-877-WARNDEP / 1-877-927-6337
Remove the spilled material and contaminated soil and dispose according to DEP recommendations.

Prepare an emergency response plan for the site. You should understand where runoff will go, how to handle your particular fertilizers, and whom to call for help.

Review - New Jersey Fertilizer Law for Professional Fertilizer Applicators

Prohibited applications of nitrogen and phosphorus fertilizer include:

- Applications are prohibited before and during heavy rain and whenever soil is saturated or frozen.
- Applications to impervious surface are prohibited and must be removed. Impervious surface include driveways, sidewalks, streets, porous pavement, paver blocks, gravel, crushed stone, decks, patios, elevated structures, and other similar structures, surface, or improvements.
- Applications are prohibited after December 1st and before March 1st for professionals. Applications by consumers are prohibited after November 15th and before March 1st.

Restrictions on nitrogen and phosphorus fertilizer use include:

- N and P fertilizer cannot be applied within buffer areas (25 feet) along water bodies.
  - When using a “directed” application, buffer size can be reduced to 10 feet.
  - One “rescue treatment” per year is allowed to turf growing between 10 and 25 feet of a waterbody.
- Turf fertilizers must not contain available phosphate. Only apply phosphate if prescribed by a soil test that is no more than 3 years old; when new turf is being established or
repaired; or when using certain products with natural organic components containing phosphorus.

- The maximum “per application” rate of N is 1.0 lb per 1,000-ft$^2$.
  - Applications cannot apply more than 0.7 lb per 1,000-ft$^2$ water soluble nitrogen.
- The annual rate of N cannot be more than 4.25 lb per 1,000-ft$^2$.
- Professional fertilizer applications must be done by certified or trained fertilizer applicators. Trained fertilizer applicators must be supervised by a certified fertilizer applicator.