

2022 PA Fertilizer Law

Act 83 of July 11, 2022 (P.L. 1538, No. 83, Chapter 68)
Amended November 1, 2023



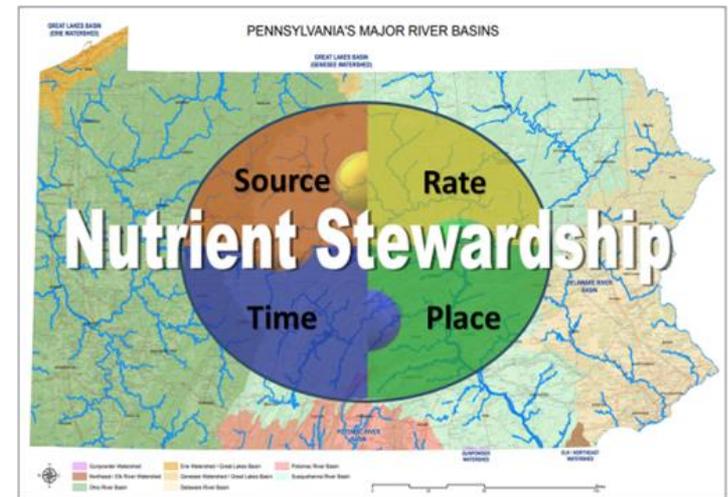
Agenda

- Summary of changes to the fertilizer law
- How the law applies to guarantors
- How the law applies to applicators

Changes to the Fertilizer Law

Summary of Changes

- License and registration fee structure
- Component requirements for turf
- Label requirements
- Application rate restrictions
- Environmental site restrictions



CHANGES THAT AFFECT MANUFACTURERS AND GUARANTORS

Fertilizer License Fee

- All manufacturers and guarantors who intend to distribute fertilizer in Pennsylvania must be licensed.
- **\$50 annual fee**

Specialty Fertilizer Registration Fee

- Non-agricultural use OR
Supplies nutrients other than NPK
- **\$100 annual fee**
 - Per grade of each brand

WHAT ARE THE GUARANTOR REPORTING REQUIREMENTS?

Inspection Fees

- Semi-annual fee
 - January 31 & July 31
- **17 cents per ton**
 - \$25 minimum

Tonnage Reports

- Semi-annual report
 - January 31 & July 31
- Net ton of each brand and grade
- By county

TURF FERTILIZERS MUST CONTAIN:

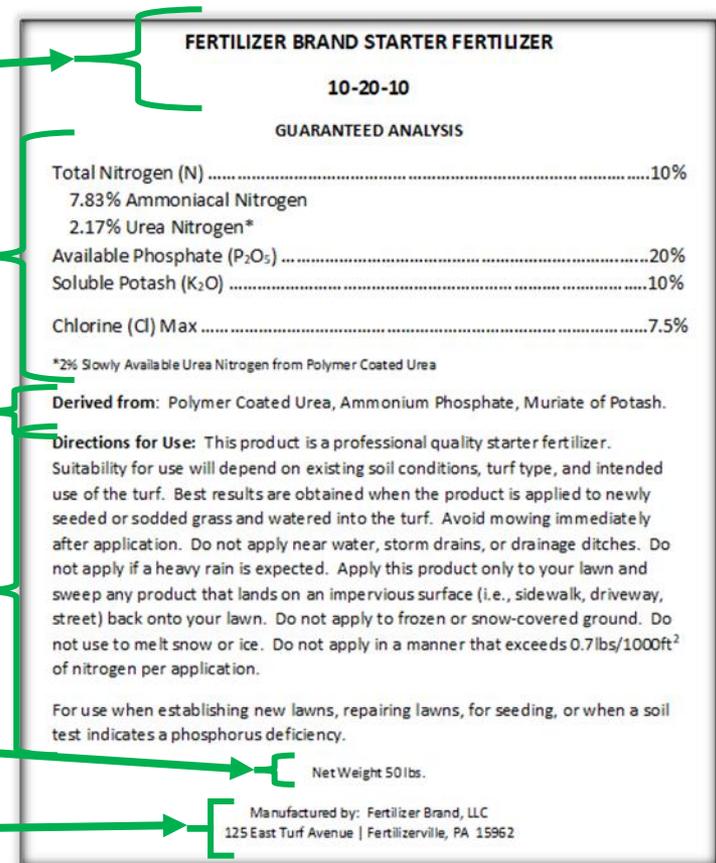
- **Zero Phosphorus**, unless:
 - Natural organic or organic-based
 - Labeled for turf repair or establishment

- **20% enhanced efficiency nitrogen**, unless:
 - Liquid
 - Label contains application rate directions



WHAT MUST BE INCLUDED ON ALL FERTILIZER LABELS?

- Brand and Grade
- Guaranteed Analysis
 - % Total nitrogen
 - % Available phosphate
 - % Soluble potash
- **Source of Nutrients**
- **Directions for Use**
- Net Weight
- Guarantor Name and Address



FERTILIZER BRAND STARTER FERTILIZER

10-20-10

GUARANTEED ANALYSIS

Total Nitrogen (N)	10%
7.83% Ammoniacal Nitrogen	
2.17% Urea Nitrogen*	
Available Phosphate (P ₂ O ₅)	20%
Soluble Potash (K ₂ O)	10%
Chlorine (Cl) Max	7.5%

*2% Slowly Available Urea Nitrogen from Polymer Coated Urea

Derived from: Polymer Coated Urea, Ammonium Phosphate, Muriate of Potash.

Directions for Use: This product is a professional quality starter fertilizer. Suitability for use will depend on existing soil conditions, turf type, and intended use of the turf. Best results are obtained when the product is applied to newly seeded or sodded grass and watered into the turf. Avoid mowing immediately after application. Do not apply near water, storm drains, or drainage ditches. Do not apply if a heavy rain is expected. Apply this product only to your lawn and sweep any product that lands on an impervious surface (i.e., sidewalk, driveway, street) back onto your lawn. Do not apply to frozen or snow-covered ground. Do not use to melt snow or ice. Do not apply in a manner that exceeds 0.7lbs/1000ft² of nitrogen per application.

For use when establishing new lawns, repairing lawns, for seeding, or when a soil test indicates a phosphorus deficiency.

Net Weight 50 lbs.

Manufactured by: Fertilizer Brand, LLC
125 East Turf Avenue | Fertilizerville, PA 15962

ADDITIONAL LABEL REQUIREMENTS FOR TURF FERTILIZER.

➤ TURF Fertilizer

- any fertilizer that mentions turf/lawn
- Bulk or \geq 1-pound packages:
 - Label must include the **environmental site restrictions**.
 - Product may not be applied near water, storm drains, or drainage ditches.
 - Product may not be applied if heavy rain is expected.
 - Product may only be applied to the intended application site.
 - Material, except liquid, that lands on an impervious surface (sidewalk, driveway, road, etc.) must be swept back onto turf.

ADDITIONAL LABEL REQUIREMENTS FOR NONTURF FERTILIZER.

➤ Bulk or \geq 40-pound packages:

- Label must include the **environmental site restrictions**.
 - Product may not be applied near water, storm drains, drainage ditches, or to any impervious surface.
 - Product may not be applied if heavy rain is expected.
 - Product may only be applied to the intended application site.

EXEMPTIONS TO LABEL REQUIREMENTS

- Fertilizers containing pesticides:
 - Label does not have to include the environmental statements.
 - Must include the EPA environmental hazard statement.

- Fertilizers labeled for aquatic settings, growing media, indoor use or potted plants.
 - Label does not have to include the application restrictions.

PROHIBITIONS

- Fertilizer labels cannot include product use as a snow or ice melt.

NEW LABEL REQUIREMENTS BECOME EFFECTIVE

JANUARY 11, 2024

Source of nutrients

Directions for use

Environmental site restrictions

HOW THE LAW AFFECTS FERTILIZER APPLICATORS

WHO IS AN APPLICATOR?

- Anyone who applies fertilizer.
 - Lawn care professional
 - Farmer
 - Homeowner/resident
- All applicators must follow the Fertilizer Law requirements.



WHAT DO YOU NEED TO KNOW ABOUT APPLYING FERTILIZER?

- Currently no license or certification is required.
- Follow application rates.
- Follow environmental site restrictions.
- Read the label and follow directions for use.

APPLICATION RATES

TURF FERTILIZER APPLICATION RATE RESTRICTIONS

- **Nitrogen application** cannot exceed:
 - 0.7 pounds/1000 ft² readily available N per application
 - 0.9 pounds/1000 ft² total N per application (unless labeled as enhanced efficiency)

- **Zero Phosphorus** unless:
 - Establishing vegetation for 1st time
 - Reestablishing or repairing turf
 - Using enhanced efficiency phosphorus, natural organic or organic-based fertilizer
 - ≤ 0.25 lbs/1000 ft² per application
 - ≤ 0.50 lbs/1000 ft² per year

- Rates can be modified when using a recent soil analysis (≤ 3 years)

ENVIRONMENTAL SITE RESTRICTIONS

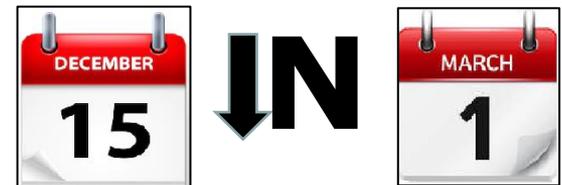
TURF FERTILIZER ENVIRONMENTAL SITE RESTRICTIONS

- Maintain a 15-foot buffer from banks of surface waters.
 - Unless using targeted application technology for establishing stream buffers
- Do not apply near water, storm drains, or drainage ditches.
- Do not apply if heavy rain is expected.
- Apply to intended application area only.
- Sweep any product that lands on impervious surfaces back onto turf.
 - Sidewalks
 - Driveways
 - Roads



TURF FERTILIZER ENVIRONMENTAL SITE RESTRICTIONS

- Use a properly calibrated device intended for fertilizer.
- **Reduced** fertilizer application between December 15 & March 1.
 - 0.5 pounds of total Nitrogen/1000 ft²/application
- Do not apply to snow-covered or frozen ground.
- Do not use as an ice or snow melt.
- Dispose of and store fertilizer properly. Follow label instructions.
 - Prevent overapplication
 - Prevent discharge to waterways



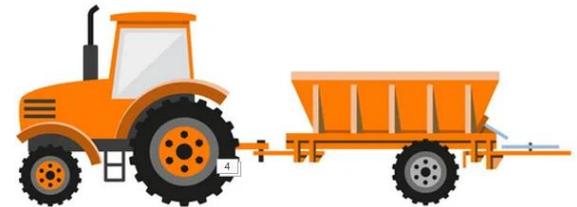
NON-TURF FERTILIZER ENVIRONMENTAL SITE RESTRICTIONS

- Maintain a 15-foot buffer from banks of surface waters.
 - Unless using targeted application technology for establishing stream buffers
- Do not apply near water, storm drains, or drainage ditches.
- Do not apply if heavy rain is expected.
- Apply to intended application area only.



NON-TURF FERTILIZER ENVIRONMENTAL SITE RESTRICTIONS

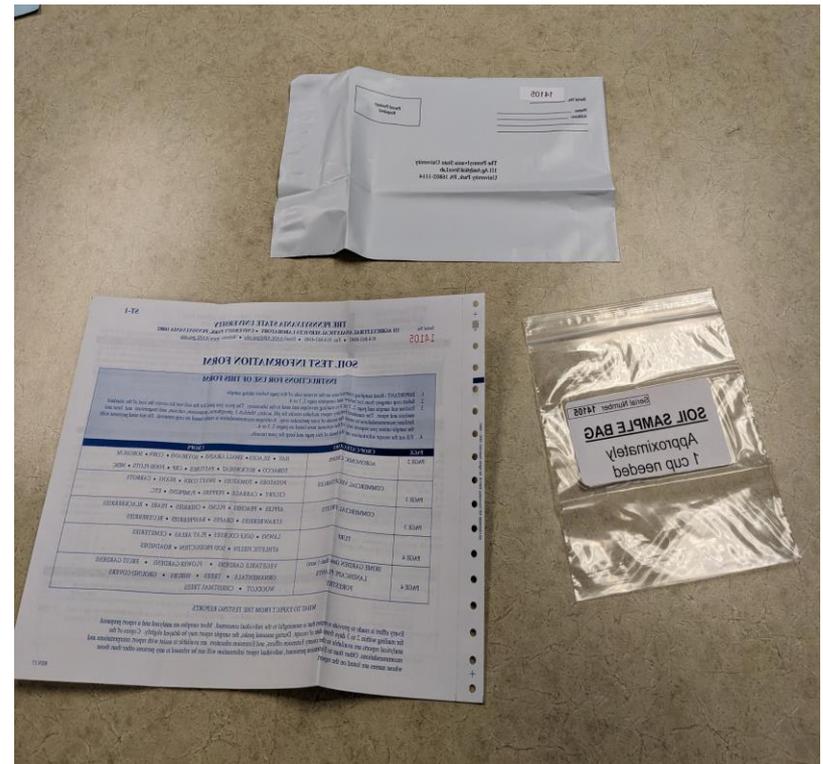
- Use a properly calibrated device intended for fertilizer.
- Do not apply to frozen or snow-covered ground
- Do not use as an ice or snow melt.
- Dispose of and store fertilizer properly. Follow label instructions.
 - Prevent overapplication
 - Prevent discharge to waterways



CALCULATING APPLICATION RATES

Know the Rate - Don't Guess. Soil Test!

- A soil test conducted within the last 3 years.
- Penn State University soil test procedures.
- Rates recommended by Penn State University or other PA institute of higher learning.
- Contact your local Penn State Extension office for soil test kits and procedures.
 - \$10 for “kit” – covers cost of test



What will the soil test tell you?

- pH
- Phosphorus (P)
- Potassium (K)

SOIL NUTRIENT LEVELS			Below Optimum	Optimum	Above Optimum
Soil pH	5.5				
Phosphorus	15	ppm			
Potassium	81	ppm			

What will the soil test tell you?

- Recommendations:
 - Lime
 - Nitrogen (N)
 - Phosphate (P_2O_5)
 - Potash (K_2O)

Limestone needs, lb/1000 square feet

90

Limestone

Apply the quantity of limestone recommended to the left to your soil in a single application unless it exceeds 100 lb/1000 square feet. If the recommendation exceeds 100 lb/1000 square feet, split the recommended amount into 2 or more separate applications, 4 to 6 months apart. Optimum soil pH can be maintained by testing your soil every 2 to 3 years and following limestone recommendations. See additional comments on back of report for adjusting application rates, as-needed, and additional considerations.

Nutrient needs, lb/1000 square feet/year

1 to 4	3.5	3.0
N	P_2O_5	K_2O

Nitrogen (N), phosphorus (P_2O_5) and potassium (K_2O) needs for optimum turf growth are listed to the left. Apply these nutrients following guidelines provided below and on the back of this report for a 2 to 3 year period and retest to determine if adjustments are needed.

What will the soil test tell you?

Developing a turfgrass fertility program to meet your objectives

The first step is to determine how much nitrogen to apply. There is no reliable soil test to predict the amount of nitrogen needed for turfgrass throughout the growing season. The appropriate rate of nitrogen fertilizer is determined based on the grass species being grown and how intensively you wish to manage your lawn. Guidelines provided below will help you make the best decision for your conditions. See additional comments on back of report.

High maintenance program: For a high quality lawn containing predominantly Kentucky Bluegrass, apply a total of 2 to 4 lbs of nitrogen/1000 square feet/year with the annual total amount split into 2, 3, or 4 applications over the course of the growing season. New lawns (less than 4 years old), lawns growing on marginal soils, lawns receiving significant traffic, and/or where clippings are removed typically benefit from these higher rates of nitrogen.

Low to medium maintenance program: For a lawn containing predominantly Kentucky Bluegrass, apply a total of 1 to 2 lbs of nitrogen/1000 square feet/year. If using 2 lbs of nitrogen/1000 square feet/year, split the total amount into 2 applications and apply in spring and late summer or fall. Established lawns that are over 4 years old, growing on good quality soil, with minimum traffic, and where clippings are not removed typically perform adequately with these lower rates of nitrogen.

If P_2O_5 and/or K_2O are needed, try to find a fertilizer grade with $N-P_2O_5-K_2O$ in a ratio similar to needs of your lawn. If P_2O_5 and K_2O are not needed, apply a fertilizer containing nitrogen only. Apply fertilizer to turf at a rate that will provide 0.75 to 1.0 lb nitrogen per 1000 square feet per application (this typically matches the label rate on most lawn fertilizers). See additional comments on back of report.

READ THE LABEL

- Guaranteed analysis
 - %N, P, K by weight
- Directions for use
 - Application rates
 - Site restrictions

FERTILIZER

24-0-18

GUARANTEED ANALYSIS

TOTAL NITROGEN (N)	24%
Urea Nitrogen*	24.0%
Soluble Potash (K ₂ O)	18%

Derived From: Polymer Coated Urea, Urea, Muriate of Potash

*19.20% Slowly Available Nitrogen from Polymer Coated Urea.

Directions for Use:

To feed at the rate of 0.9lb Nitrogen (N) per 1,000 sq. ft., apply this product at 3.75 lbs per 1,000 sq. ft.

Use in accordance with recommendations of a qualified individual or institution, such as, but not limited to a certified crop advisor, agronomist, university crop extension publication, or apply according to recommendations in your approved nutrient management plan.

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 back onto your lawn. Do not apply to frozen or snow-covered ground.

APPLICATION RATE CALCULATIONS

How do you determine the amount of fertilizer to apply?

- **Select fertilizer that will provide the best source of recommended nutrients.**

Lbs. nutrient per 1000 ft ² per year		
N	P ₂ O ₅	K ₂ O
1-4	0	2



FERTILIZER 24-0-18	
GUARANTEED ANALYSIS	
TOTAL NITROGEN (N)	24%
Urea Nitrogen*	24.0%
Soluble Potash (K ₂ O)	18%
Derived From: Polymer Coated Urea, Urea, Muriate of Potash	
*19.20% Slowly Available Nitrogen from Polymer Coated Urea.	
Directions for Use:	
To feed at the rate of 0.9lb Nitrogen (N) per 1,000 sq. ft., apply this product at 3.75 lbs per 1,000 sq. ft.	
Use in accordance with recommendations of a qualified individual or institution, such as, but not limited to a certified crop advisor, agronomist, university crop extension publication, or apply according to recommendations in your approved nutrient management plan.	
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 back onto your lawn. Do not apply to frozen or snow-covered ground.	

How do you determine the amount of fertilizer to apply?

- Typically use Nitrogen for calculation
- Split application over course of growing season
 - 0.9 lbs total N per application

Nitrogen Application Calculation

Lawn needs 2 lb N/1000 ft²/year

24-0-18 Fertilizer

Total N = 24% (Decimal form = 0.24)

Split into 2 applications of 0.9 lbs N

0.9 lb N /1000 ft² ÷ 0.24 N in fertilizer =

**3.8 lbs. of 24-0-18 fertilizer per 1000 ft²
per application**

How do you determine the amount of fertilizer to apply?

- Using fertilizer rate, you can calculate the amount of Phosphate and Potash that will be also applied.

Phosphate Application

24-0-18 Fertilizer
Total P_2O_5 = 0%

*No phosphorus is allowed unless establishing or repairing lawn or a soil test indicates a deficiency.

Potash Application

24-0-18 Fertilizer
3.8 lbs of fertilizer being applied
Soluble K_2O is 18%
 $3.8 \text{ lbs} \times 0.18 = \underline{\mathbf{0.68 \text{ lb of } K_2O}}/1000\text{ft}^2$ per application

How do you determine number of bags of fertilizer for your lawn?

- Determine the area one 50 lb bag of fertilizer will cover at application rate.
 - 50 lb bag of 24-0-18
 - Divide pounds in bag by application rate
 - Multiply by 1000 ft²
- 6. Determine the number of bags of the fertilizer you need for your 20,000 ft² lawn:
 - Divide square feet by area covered by 50lb bag.

Area Covered by 50 lb Bag

$$50 \text{ lb bag} \div 3.8 \text{ lbs} = 13.2$$

$$13.2 \times 1000 \text{ ft}^2 = \mathbf{13,200 \text{ ft}^2}$$

Number of 50 lb Bags Needed

$$20,000 \text{ ft}^2 \div 13,200 \text{ ft}^2/\text{bag} =$$

$$\mathbf{1.5 \text{ bags per application}}$$

$$\mathbf{1.5 \times 3 \text{ applications} = 4.5 \text{ bags}}$$

Rate Calculation Tools

- Fertilizer Rate Grid
 - Penn State – Tanner Delvalle

		Rate of Fertilizer to Apply Per 1000 Square Feet														
		Pounds of Nitrogen desired per 1000 sq. ft (Granular Material)														
		0.35	0.4	0.45	0.5	0.55	0.6	0.65	0.7	0.75	0.8	0.85	0.9	0.95	1	1.25
Fertilizer's Percent Nitrogen (%)	5	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00	25.00
	6	5.83	6.67	7.50	8.33	9.17	10.00	10.83	11.67	12.50	13.33	14.17	15.00	15.83	16.67	20.83
	7	5.00	5.71	6.43	7.14	7.86	8.57	9.29	10.00	10.71	11.43	12.14	12.86	13.57	14.29	17.86
	8	4.38	5.00	5.63	6.25	6.88	7.50	8.13	8.75	9.38	10.00	10.63	11.25	11.88	12.50	15.63
	9	3.89	4.44	5.00	5.56	6.11	6.67	7.22	7.78	8.33	8.89	9.44	10.00	10.56	11.11	13.89
	10	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	12.50
	11	3.18	3.64	4.09	4.55	5.00	5.45	5.91	6.36	6.82	7.27	7.73	8.18	8.64	9.09	11.36
	12	2.92	3.33	3.75	4.17	4.58	5.00	5.42	5.83	6.25	6.67	7.08	7.50	7.92	8.33	10.42
	13	2.69	3.08	3.46	3.85	4.23	4.62	5.00	5.38	5.77	6.15	6.54	6.92	7.31	7.69	9.62
	14	2.50	2.86	3.21	3.57	3.93	4.29	4.64	5.00	5.36	5.71	6.07	6.43	6.79	7.14	8.93
	15	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00	5.33	5.67	6.00	6.33	6.67	8.33
	16	2.19	2.50	2.81	3.13	3.44	3.75	4.06	4.38	4.69	5.00	5.31	5.63	5.94	6.25	7.81
	17	2.06	2.35	2.65	2.94	3.24	3.53	3.82	4.12	4.41	4.71	5.00	5.29	5.59	5.88	7.35
	18	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17	4.44	4.72	5.00	5.28	5.56	6.94
	19	1.84	2.11	2.37	2.63	2.89	3.16	3.42	3.68	3.95	4.21	4.47	4.74	5.00	5.26	6.58
	20	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	6.25
	21	1.67	1.90	2.14	2.38	2.62	2.86	3.10	3.33	3.57	3.81	4.05	4.29	4.52	4.76	5.95
	22	1.59	1.82	2.05	2.27	2.50	2.73	2.95	3.18	3.41	3.64	3.86	4.09	4.32	4.55	5.68
	23	1.52	1.74	1.96	2.17	2.39	2.61	2.83	3.04	3.26	3.48	3.70	3.91	4.13	4.35	5.43
	24	1.46	1.67	1.88	2.08	2.29	2.50	2.71	2.92	3.13	3.33	3.54	3.75	3.96	4.17	5.21
	25	1.40	1.60	1.80	2.00	2.20	2.40	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	5.00
	26	1.35	1.54	1.73	1.92	2.12	2.31	2.50	2.69	2.88	3.08	3.27	3.46	3.65	3.85	4.81
	27	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78	2.96	3.15	3.33	3.52	3.70	4.63
	28	1.25	1.43	1.61	1.79	1.96	2.14	2.32	2.50	2.68	2.86	3.04	3.21	3.39	3.57	4.46
	29	1.21	1.38	1.55	1.72	1.90	2.07	2.24	2.41	2.59	2.76	2.93	3.10	3.28	3.45	4.31
	30	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50	2.67	2.83	3.00	3.17	3.33	4.17
	31	1.13	1.29	1.45	1.61	1.77	1.94	2.10	2.26	2.42	2.58	2.74	2.90	3.06	3.23	4.03
	32	1.09	1.25	1.41	1.56	1.72	1.88	2.03	2.19	2.34	2.50	2.66	2.81	2.97	3.13	3.91
	33	1.06	1.21	1.36	1.52	1.67	1.82	1.97	2.12	2.27	2.42	2.58	2.73	2.88	3.03	3.79
	34	1.03	1.18	1.32	1.47	1.62	1.76	1.91	2.06	2.21	2.35	2.50	2.65	2.79	2.94	3.68

Image: Tanner Delvalle, Penn State

- Website Calculators
 - Purdue Turf Fertilizer Calculator
 - [Fertilizer Calculator | Purdue University Turfgrass Science at Purdue University](#)

Purdue Turf Fertilizer Calculator

 **HOW MUCH DO I NEED** - Calculate how much fertilizer you need given an nutrient application rate.

 **HOW MUCH AM I APPLYING** - Find how much of each nutrient you are applying based on how much fertilizer is applied.  **COMPARE FERTILIZERS** - Compare up to 3 fertilizers and find the best value for you.

Select which calculator you would like to use



HOW MUCH DO I NEED?



HOW MUCH AM I APPLYING?



COMPARE FERTILIZERS

Your Turn...

APPLICATION RATE CALCULATIONS



Calculate the Application Rate

Nutrient needs, lb/1000 square feet/		
1 to 4	3.5	3.0
N	P ₂ O ₅	K ₂ O

FERTILIZER	
10-10-10	
GUARANTEED ANALYSIS	
TOTAL NITROGEN (N)	10%
3.1% Ammoniacal Nitrogen	
2.3% Water Insoluble Nitrogen*	
0.6% Urea Nitrogen	
4.0% Water Soluble Nitrogen	
Available Phosphate (P ₂ O ₅)	10%
Soluble Potash (K ₂ O)	10%

Nitrogen Application Calculation

Lawn needs 3 lb N/1000 ft²/year

10-10-10 Fertilizer

Total N = 10% (Decimal form = 0.10)

Split into 3 applications of 0.9 lbs N

$$0.9 \text{ lb N} / 1000 \text{ ft}^2 \div 0.10 \text{ N in fertilizer} =$$

9 lbs. of fertilizer per 1000 ft²

How do you determine the amount of fertilizer to apply?

- Using fertilizer rate, you can calculate the amount of Phosphate and Potash that will be also applied.

Phosphate Application

10-10-10 Fertilizer

Available P_2O_5 = 10%

$$9 \text{ lbs} \times 0.10 = \underline{\mathbf{0.9 \text{ lbs } P_2O_5 / 1000 \text{ ft}^2}}$$

per application

Potash Application

10-10-10 Fertilizer

9lbs of fertilizer being applied

Soluble K_2O is 10%

$$9 \text{ lbs} \times 0.10 = \underline{\mathbf{0.9 \text{ lb of } K_2O / 1000 \text{ ft}^2}}$$

per application

LAWN CARE CONSIDERATIONS

KNOW YOUR LAWN

- Soil
 - Texture, structure, compaction
- Plant species
 - Cool vs Warm Season
- Use/Management



TIMING

- Apply fertilizer when your grass is growing
 - Spring
 - Fall
- Reduces nutrient loss
 - Promotes proper lawn growth
 - Protects waterways
 - Saves you money



Perennial Ryegrass



Tall Fescue and Kentucky Bluegrass

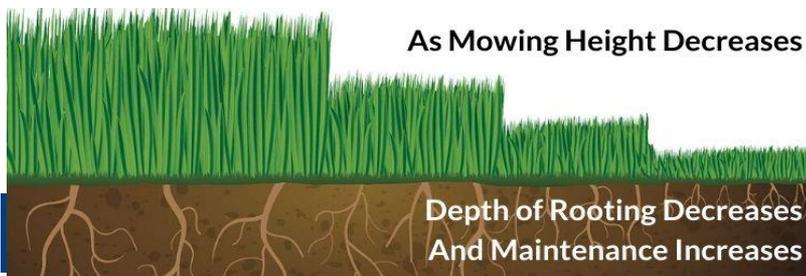
What are other practices that can help reduce runoff?

Increase Mow Height

- Raise mower deck
- Maintain cutting height of approximately 3 inches
- Promotes a healthier, denser lawn
- Reduces weeds
- Reduces lawn stress
- Increases water infiltration and reduces runoff

Leave Clippings

- Source of slow-release nutrients
- Increase organic matter



What are other practices that can help reduce runoff?

Lawn Conversion

- DCNR:
 - Kelsey Mummert, Lawn Conversion Program Coordinator
 - <https://www.dcnr.pa.gov/Conservation/Water/LawnConversion>
- PACD:
 - Holly Miller, Program Manager
 - Sub-grants for landowners to work with CD to convert lawns



- Department of Agriculture Website
 - [www.agriculture.pa.gov/Plants Land Water/Fertilizer](http://www.agriculture.pa.gov/Plants_Land_Water/Fertilizer)
- Penn State Extension
 - Turfgrass and Lawn Care home page:
<https://extension.psu.edu/trees-lawns-and-landscaping/turfgrass-and-lawn-care>

For more information:

Denise Uzupis
Natural Resource Program Specialist
Bureau of Plant Industry
Phone: 717-257-6548
Email: duzupis@pa.gov



Scan the QR Code to learn more!

Website: agriculture.pa.gov/fertilizer

Thank you!