Use the Fertilizer Label to Calculate Appropriate Rates and Applications

UF | IFAS Extension UNIVERSITY of FLORIDA

Florida-Friendly Landscaping™ GI-BMP PROGRAM

Grade (N-P-K-Mg): the percentage (%) total nitrogen (N), available phosphate expressed as P_2O_5 and soluble potassium expressed as K_2O. Sometimes, a palm fertilizer label will express magnesium (Mg) as the fourth number in the grade.

20-0-10

GUARANTEED ANALYSIS

TOTAL NITROGEN (N)..20.00%
20.00% Urea Nitrogen*
SOLUBLE POTASH (K2O)...10.00%
MAGNESIUM (Mg) Total...1.00%
1.00% Water Soluble Magnesium (Mg)
SULFUR (S) Total...8.35%
6.25% Free Sulfur (S)
2.10% Combined Sulfur (S)
IRON (Fe) Total..6.00%
0.06% Water Soluble Iron (Fe)
MANGANESE (Mn) Total...1.00%
0.14% Water Soluble Manganese (Mn)
DERIVED FROM: Polymer Coated Sulfur Coated Urea, Muriate of Potash, Iron Sucrate, Manganese Sucrate, Sulfate of Potash-Magnesia
CHLORINE (Cl) Max..6.00%

*14.00% Slowly Available Urea Nitrogen from Polymer Coated Sulfur Coated Urea.

Guaranteed Analysis: the percentage of plant nutrients claimed to be present in a fertilizer.

Derived From: This is a statement of the actual source materials for the primary or secondary plant nutrients guaranteed. When one or more slow- or controlled-release nutrients are claimed or advertised, the guarantees for such nutrients shall be shown as a footnote (*) following the listing of source materials and are expressed as percent of the actual nutrient.

SLOW-RELEASE NITROGEN (SRN) PERCENTAGE FORMULA

Determine the SRN percentage using the label information (example below)

EXAMPLE

*14.00% ÷ **20%** = **.7** OR **70% SRN**

Nitrogen in a form which delays its availability to the plant
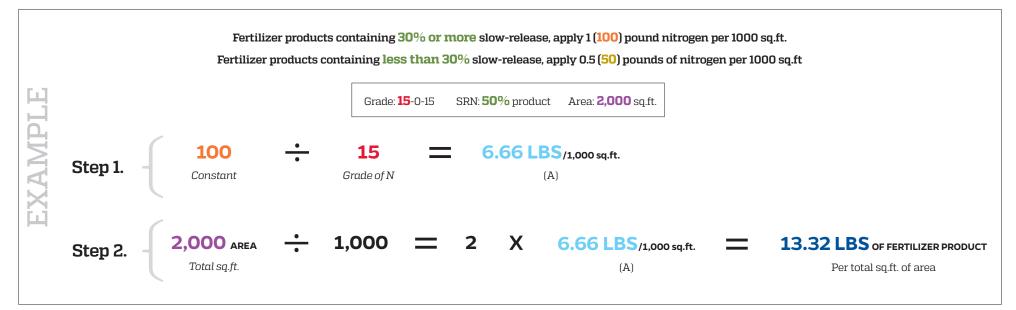
Total N according to the Guaranteed Analysis

If the **SRN is 30% or more**, it is considered a slow-release fertilizer product.

If the **SRN is below 30%**, it is considered a quick-release fertilizer product.

EXERCISE 1. Calculate the slow-release nitrogen (SRN) using the following information.

Fertilizer Label Information	Calculate SRN
Problem 1 Grade: **24**-0-11 Derived from: ***6.60%** Slowly Available Urea	_____ ÷ _____ = _____ SRN
Problem 2 Grade: **8**-0-12 Derived from: ***5.60%** Slowly Available Polymer Coated Sulfur Coated Urea	_____ ÷ _____ = _____ SRN
Problem 3 Grade: **15**-0-15 Derived from: ***4.50%** Slowly Available Urea Nitrogen from sulfur Coated Urea	_____ ÷ _____ = _____ SRN

NITROGEN TO POUNDS OF ACTUAL FERTILIZER FORMULA

Calculate how much fertilizer to use (example below)

EXAMPLE

Fertilizer products containing **30% or more** slow-release, apply 1 (**100**) pound nitrogen per 1000 sq.ft.

Fertilizer products containing **less than 30%** slow-release, apply 0.5 (**50**) pounds of nitrogen per 1000 sq.ft

Grade: **15**-0-15	SRN: **50%** product	Area: **2,000** sq.ft.

Step 1.

100	÷	**15**	=	**6.66 LBS**/1,000 sq.ft.
Constant		Grade of N		(A)

Step 2.

2,000 AREA	÷	**1,000**	=	**2**	X	**6.66 LBS**/1,000 sq.ft.	=	**13.32 LBS** OF FERTILIZER PRODUCT
Total sq.ft.						(A)		Per total sq.ft. of area

EXERCISE 2. Calculate the appropriate fertilizer rate based on pounds of nitrogen per area.

Problem 1 Grade: **24**-0-11 SRN: **70%** Area: **4,000** sq.ft	100 ÷ _____ **GRADE OF N** = _____ **LBS**/1,000 sq.ft. _(A) _____ **AREA** ÷ 1,000 = _____ X _____ **LBS**/1,000 sq.ft. = _____ **LBS** OF FERTILIZER PRODUCT Total sq.ft. (A) Per total sq.ft. of area
Problem 2 Grade: **22**-2-11 SRN: **85%** Area: **5,500** sq.ft	100 ÷ _____ **GRADE OF N** = _____ **LBS**/1,000 sq.ft. _(A) _____ **AREA** ÷ 1,000 = _____ X _____ **LBS**/1,000 sq.ft. = _____ **LBS** OF FERTILIZER PRODUCT Total sq.ft. (A) Per total sq.ft. of area
Problem 3 Grade: **8**-0-12 SRN: **24%** Area: **3,500** sq.ft	50 ÷ _____ **GRADE OF N** = _____ **LBS**/1,000 sq.ft. _(A) _____ **AREA** ÷ 1,000 = _____ X _____ **LBS**/1,000 sq.ft. = _____ **LBS** OF FERTILIZER PRODUCT Total sq.ft. (A) Per total sq.ft. of area
Problem 4 Grade: **14**-0-26 SRN: **14%** Area: **6,000** sq.ft	50 ÷ _____ **GRADE OF N** = _____ **LBS**/1,000 sq.ft. _(A) _____ **AREA** ÷ 1,000 = _____ X _____ **LBS**/1,000 sq.ft. = _____ **LBS** OF FERTILIZER PRODUCT Total sq.ft. (A) Per total sq.ft. of area