Nitrogen Fertilizer Sources

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Read the label to determine what nitrogen sources are in your fertilizer

General label information →
Analysis (% N - % P_2O_5 - % K_2O) →
Total product weight →
Percentage Nitrogen →

% P_2O_5: P_2O_5 x .44 = % Avail. P →
% K_2O: K_2O x .83 = % Avail. K →
% other nutrients →

Materials used to compose the fertilizer →

Dave's Premium Fairway
24 - 4 - 12
50 LB
Total Nitrogen (N)..... 24.0%
1.6% Ammoniacal Nitrogen
10.8% Water-Insoluble Nitrogen
11.6% Water-Soluble Urea Nitrogen
Available Phosphoric Acid (P_2O_5)..... 4.0%
Available Potash (K_2O)..... 12.0%
Sulfur (S)..... 5.0%

Derived from Isobutylidene diurea, ammonium phosphate, and potassium sulfate. Potential acidity 0 lb. calcium carbonate equivalent per ton.

Inorganic Nitrogen Sources

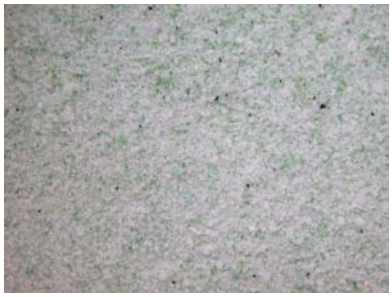
Ammonium Nitrate
NH_4NO_3
34 - 0 - 0

Ammonium Sulfate
$(NH_4)_2SO_4$
21 - 0 - 0
24% S

Calcium Nitrate
$Ca(NO_3)_2$

Monoammonium Phosphate
$(NH_4)H_2PO_4$
11 - 48 - 0

Diammonium Phosphate
$(NH_4)_2HPO_4$
18 - 46 - 0



Potassium Nitrate
KNO_3
13 - 0 - 44

Advantages	Disadvantages

• Quick release
• Rapid low temperature response
• Relatively inexpensive
• Liquid or granular forms
	• Higher leaching potential
	• Short residual (< 30 days)
	• Difficult to apply
	  • High physiological burn potential
	  • Hygroscopic

Natural Organic Sources (list is not inclusive)

Corn Gluten Meal

10 - 0 - 0

Milorganite®
Activated Sewer Sludge

6 - 2 - 0
4% Fe

Ringers®
Feather, Blood Meal
K_2SO_4, Bone Meal
10 - 2 - 6

Sustane®
Composted Turkey Litter
Feather Meal, K_2SO_4
5 - 2 - 4
2% Ca, 2% S

Nature Safe®
Feather Meal, Bone Meal, Blood Meal, Langbeinite, K_2SO_4
10 - 2 - 8

Nature Pure®
Composted Poultry Manure

3 - 5 - 3

Advantages	Disadvantages
• Low burn potential • Slow release • Low leaching potential • Liquid or granular forms	• Generally higher cost • Not effective in cool weather • Require microbial activity for release

Quick Release Synthetic Organic Source

Urea
$CO(NH_2)_2$
46 - 0 - 0

Advantages

- Water Soluble
- Inexpensive
- Rapid low temperature response

Disadvantages

- Moderate burn potential
- Moderate leaching potential

Slow Release Synthetic Organic Sources

- Several are reaction products of urea and formaldehyde. The chain length affects nitrogen release characteristics:

Reaction Product	Example Trade Name	Water Soluble	Solubility Class†	Microbial Degradation
Monomethylol urea	CoRon®	Yes	CWSN	Some
Methylene diurea	Nitro 26-CRN®	Yes	CWSN	Some
Dimethylene triurea	Triaform®	Yes	CWSN	Some
Short chain MUP's (4-5, methylene urea)	Nutralene®	Limited	CWIN	Yes
Long Chain MUP's (>6, ureaform)	Nitroform® Powder Blue®	No	HWIN	Yes

† Cold and hot water insoluble nitrogen (CWIN, HWIN): Slower response, long residual, low burn potential, low water solubility, high cost, low surface runoff and leaching potential, and low frequency of application relative to cold water soluble nitrogen (CWSN)

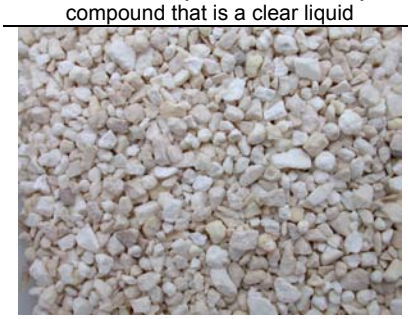
Monomethylol Urea (CoRon®)
$[CO(NH_2)_2CH_2]_nCO(NH_2)_2$
25 - 0 - 0

Triazone (N-Sure®)

28 - 0 – 0
Urea + formaldehyde + ammonia= cyclic compound that is a clear liquid

Methylene Urea (Nutralene®)
$[CO(NH_2)_2CH_2]_nCO(NH_2)_2$
39 - 0 – 0

Ureaform (Nitroform®)
$[CO(NH_2)_2CH_2]_nCO(NH_2)_2$
38 - 0 – 0



IBDU (Isobutylidene diurea)
$[CO(NH_2)_2]_2C_4H_8$
31 - 0 – 0
Release is by slow hydrolysis. Larger particle = slower release.

Sulfur Coated Urea
$CO(NH_2)_2$+S
32 - 0 - 0
12% S. Sulfur coating attenuates nitrogen release.

Polymer Coated Urea

Analysis varies. Polymer coating attenuates nitrogen release.

Advantages	Disadvantages
• Long residual (months) • Low burn potential	• Slow initial release • Relatively expensive • Require microbial activity for release • Not effective in cooler weather