



CONTROL DE-THATCHER

15-0-0 PLUS MICROBES & ENZYMES

With 10% SLOW RELEASE NITROGEN

- **NATURALLY OCCURRING BACILLUS STRAINS**
- **CONTAINS ENZYME-PRODUCING MICROBES**

GUARANTEED ANALYSIS

Total Nitrogen (N)15%
 5% Urea Nitrogen
 10% Slowly Available Water Soluble Nitrogen*
 Derived From: Methylene Urea, Kelp Extract (*Ascophyllum nodosum*)
 10% slowly available nitrogen from Methylene urea

CONTAINS BENEFICIAL BACTERIA

Bacillus subtilis793,000 CFU** per ml
 Bacillus megaterium793,000 CFU per ml
 Bacillus licheniformis793,000 CFU per ml

ALSO CONTAINS NON-PLANT FOOD INGREDIENTS

Protease0.01 CSU*** / gal.
 Cellulase0.01 FPU****/ gal.
 Amylase0.01SLU****/gal.

Colony Forming Units, *Casine Solubilization Units,
 ****Filter Paper Units, *****Starch Liquefying Units.

Kelp Extract (*Ascophyllum nodosum*)5%
 Natural Wetting Agent (*Yucca schidigera*)1.5%
 Monosaccharides (Maltodextrin)3%

0.44% Glycine	0.65 L-Threonine
1.8% L-Glutamic Acid	0.46% L-Valine
0.56% L-Aspartic Acid	0.40% L-Phenylalanine
0.90% L-Alanine	0.32% L-Isoleucine
0.88% L-Proline	0.30% L-Histidine
0.96% L-Leucine	0.18% L-Methionine
0.36% L-Lysine	0.34% L-Tyrosine
0.44% L-Serine	0.14% L-Cystine
0.40% L-Arginine	

Weight per gallon10.4 lbs.
 Weight per liter 1.24 kg
 pH7-8

PRODUCT DESCRIPTION:

Control De-Thatcher is a unique blend of carbon based raw materials, slow release nitrogen from a carbon / nitrogen source and a concentrated source of naturally occurring soil microorganisms. Control De-thatcher contains powerful enzymes that break down specific components of thatch.

The breakdown of complex organic materials like thatch is often very difficult because of the high ratio of lignin and cellulose fibers. It requires a balance of naturally occurring soil microbes, select enzymes and an adjustment in the ratio of carbon to nitrogen for this breakdown to occur. Thatch requires microbial activity to break down and become a food source for plant materials. If any one of these elements is missing, thatch formation will increase, severely interfering with the turf's ability to absorb nutrients and water.

The specific microbes contained in Control De-Thatcher when applied to the soil produce significant quantities of protease and

- **SLOW RELEASE NITROGEN**
- **PROTEASE, CELLULOSE AND ENZYMES**

cellulase that will digest protein contained in thatch and other organic compounds in the soil. Bacillus also produces cellulase, amylases, lipases, xylanases, and pectinases, which breach down organic matter into valuable nutrients. Excellent for excellerating composting of any organic waste materials.

THE C/N RATIO

The unique nitrogen source contained in Control De-Thatcher is a synthetic organic compound (carbon / nitrogen molecule). This slowly available nitrogen provides both carbon and nitrogen for soil microorganisms. With the addition of De-Thatcher, the C/N ratio -as it narrows- further encourages decomposition of organic residues. The slow release nitrogen source discourages the formation of additional thatch that is produced as a result of fast release nitrogen sources. Since, De-Thatcher contains 10% SRN, you can reduce the nitrogen rates in your fertility program.

MIXING: De-Thatcher can be tank mixed with other technical materials. Use all of tank mix solution within 6 hours.

SHAKE WELL BEFORE USING. DO NOT FREEZE

Turf Application Recommendations

Application	Rate / 1,000 FT ² (100 m ²)	Frequency
Thatch Accumulation	10-12 oz in 1- 3 gallons of water (290 -350 ml in 4-10 L water)	Apply in early spring when soil temp reaches 45° F (7°C) Apply every 30 days for 3 - 4 months
Bentgrass Tees & Greens Maintenance	4 -6 ounces in 1- 3 gallons of water (120 - 180 ml)	Early spring & Early Fall
Fairways	4 oz in 1- 3 gal water (120 ml in 4-10 L water)	Early spring & Early Fall
Bluegrass and Other Northern Grasses	4 oz in 1-3 gal water (120 ml in 4-10 L water)	Early spring & Early Fall
Bahia, Centipedegrass, Tall Fescue, St Augustinegrass Zoysiagrass	5-6 oz in 5 gallons of water (150 - 180 ml in 19 L water)	Early spring & Early Fall
Bermuda	8-10 oz in 3-5 gal water (240-290 ml 10-19 L water)	Early spring & Early Fall
Athletic Fields	4 oz in 3-5 gal water (118ml in 10-19 L water)	Early spring & Early Fall
Composting	1 gal per 100 gal water (1 L per 100 L water)	Apply 3 times during the year when turning