



Integrated Thatch Management

Most golf course superintendents and professional turf managers are doing everything they can to culturally and mechanically control thatch. But sometimes, verticutting, topdressing, aerifying and dethatching still can't control it. In those situations, consider adding Thatch-X® to your program. Thatch-X can give a big biological boost to your thatch control efforts.

Microbiological Thatch Management™

The difference between a healthy, managed thatch layer and an unhealthy excessive layer is the rate of conversion of fibrous material to humus. Microorganisms convert thatch to humus. Thatch-X is a completely unique microbiological thatch management material. It works by mineralizing thatch into humus at a rate of conversion sufficient to prevent excessive thatch accumulations. And it does it *better*, *faster*, and *cheaper* than any competitive material on the market.

Better...

Applying Thatch-X once per season (twice in extreme situations, e.g., two inches or more) at 3 lbs. per 1,000 sq. ft. can dramatically improve your thatch management program.

Granular Thatch Reducer

Faster...

Just six weeks after a single application of Thatch-X... "significant decreases in the thickness of the thatch layer..."

"Six weeks after a single application of Thatch-X at the label rates recommended by the manufacturer, we measured statistically significant decreases in the thickness of the thatch layer. In addition, there was an apparent improvement in the quality of the plots treated with Thatch-X."

—Bridget Ruemmele, Ph.D.
Department of Plant Science
University of Rhode Island, 1993.

It's granular, so it's easy to apply. Just water well after spreading.

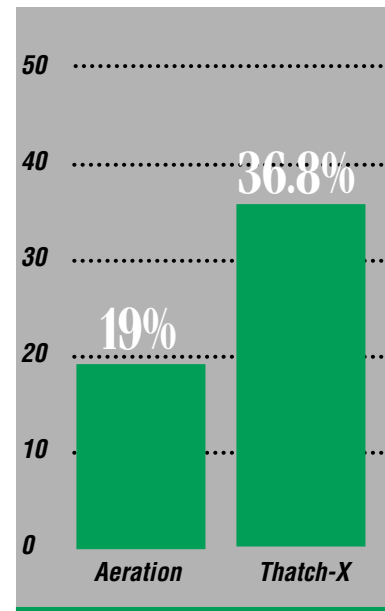
Cheaper...

Beginning in 1992, researchers in Columbus, Ohio conducted laboratory, greenhouse and field tests on Thatch-X. Scientific tests measuring organic matter reduction (loss on ignition) were conducted with these results:

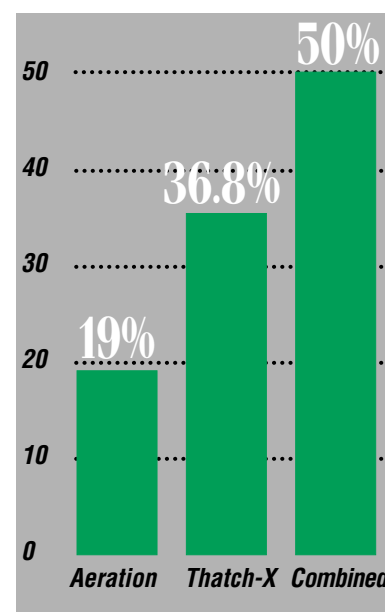
X A single application of Thatch-X at the recommended rate (3 lbs. per

1,000 sq. ft.) reduced thatch almost twice as much as aeration — 36.8% compared to 19%.

X Thatch-X at the recommended rate reduced thatch up to 50% when combined with aeration.



Nearly Twice as Effective as Aeration

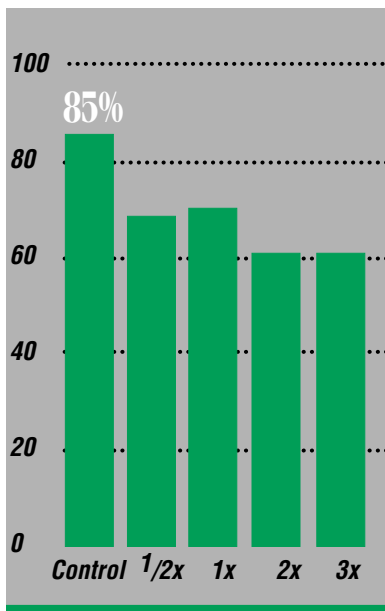


Reduced Thatch Up to 50%

“It worked tremendously.”

Chip Brearley applied Thatch-X twice in 1992 and again in 1993 at the recommended rate of 3 lbs. per 1,000 sq. ft. In October, 1993 the thatch layer had been reduced by two inches compared to the spring of 1992. And, in 1993, the treated green didn't require syringing — none at all — while the untreated control area required what it had in the past.

The thatch problem Chip inherited was a particularly tough one. He applied Thatch-X twice instead of once as is normally recommended. He was able to treat aggressively because there is no phytotoxicity with Thatch-X, even at significantly higher than recommended rates. Chip also applied Emerald Isle's PanaSeá Plus™ at the recommended rate of 4 oz. per 1,000 sq. ft. monthly during the season. PanaSeá Plus Liquefied Sea Plant Extract is the only biostimulant which both enhances rooting and reduces thatch accumulation.



Thatch reduction over a five month period using Thatch-X.

It's generally accepted that about 1/2 inch or so of thatch is desirable because it improves wear tolerance and helps filter leachable nutrients and pesticides. But too much thatch causes or compounds these major problems:

- X Scalping
- X Localized dry spots
- X Poor air and water movement, resulting in:
 - reduced drought tolerance
 - reduced tolerance to high temperature stress
 - increased disease susceptibility
 - increased risk of winter injury
- X Reduced efficiency of applied major and minor nutrients
- X Reduced efficacy of certain pesticides
- X Higher maintenance costs due to the increased need for:
 - aerification
 - wetting agents
 - syringing

Replicated Results

In 1993, replicated tests of Thatch-X in Columbus, Ohio at various rates showed from 27% to 39% thatch reduction over a five month period beginning in May. The thatch layer was approximately one inch thick at the start of the test.

Replicated tests comparing different rates of Thatch-X.

	5/11/93 Weight in grams	10/12/93 2nd Weight in grams	% Reduction
Control	1.89	1.60	15%
Thatch-X 1/2x	2.18	1.48	32%
Thatch-X 1x	2.10	1.52	27%
Thatch-X 2x	2.31	1.42	39%
Thatch-X 3x	2.17	1.32	39%

Thatch-X Granular Thatch Reducer—Bioremediation for Thatch Control

Thatch-X is a scientific blend of food and feed-grade organics, cold water sea plants, enzymes, selected microorganisms and other bioactive ingredients formulated to dramatically accelerate thatch reduction. It's based on a unique formula and proprietary delivery system that ensures efficacy across a wide range of environmental conditions and cultural practices.

Thatch buildup varies significantly in different turf grass varieties. Since thatch consists mostly of incompletely decomposed stem tissues, those grasses with creeping stems (rhizomes and/or stolons) are the greatest thatch builders and if mismanaged can accumulate large amounts of thatch. Like other organic controls, the time required for Thatch-X to perform will vary. But if thatch is a problem for you, it's an excellent, easy to apply, environmentally-friendly solution.



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