

Urease Inhibitor

What is it?

Urease inhibitor is a chemical that can delay nitrogen (N) volatilization for up to two weeks. N Volatilization is the conversion of solid fertilizer (Urea) to a gas by a naturally occurring enzyme (urease) if there is not enough rain in the few days after application to convert it into a plant available form of N (ammonium). In those few days, if the field does not receive enough water in short time period after application, it is possible for 30% or more of urea's nitrogen to be lost to the atmosphere through volatilization

Where can I get it?

Urease inhibitor can be ordered online, over the phone, but it is not yet available locally.



Talk to your agricultural supplier and tell them you are interested in purchasing urease inhibitor.



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Forage Renovation Demonstration 2010-2011



This demonstration
was supported by:



Introduction

Fairbanks Soil and Water Conservation District works with farmers in interior Alaska to explore ways to improve production and efficiency in agriculture. FSWCD provides technical assistance, equipment

borrowing, soil testing and nutrient recommendations, and other services to landowners. Go to www.fairbankssoilwater.org to

Purpose of Demonstration

The purpose of this demonstration project was to evaluate the effectiveness of two techniques as an alternative to tillage/replanting that can be used to improve older hay fields that are declining in yields and quality within interior Alaska.



1. Soil aeration— to renovate older hay fields that have compacted soils, low infiltration and are root-bound
2. Urease inhibitor fertilizer additives – to reduce nitrogen losses due to volatilization

Methods

Site Selection

Three sites were chosen for their geographic distribution across the Fairbanks Soil & Water Conservation District, the establishment age of the brome fields (≥ 10 years), and a history of declining production/quality.

(1) Fairbanks (2) Two Rivers (3) Nenana

Treatments

Aeration & Urease Inhibitor	Aeration
Urease Inhibitor	Control

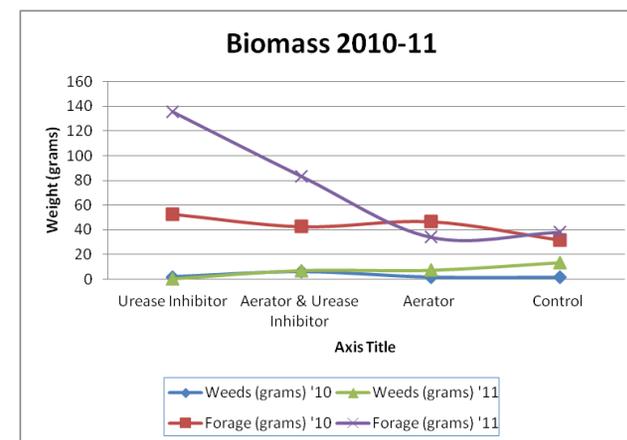
Sampling

Forage and soil samples were taken to monitor changes in soil quality and forage quantity/quality. Soil infiltration rate and compaction were also measured.



Results

The urease inhibitor allowed the nitrogen more time to receive the adequate moisture/rainfall before volatilization occurred. At a price of \$3.07- 4.68 per acre to apply the additive, it may be a wise economical choice for some producers to use during the drier summer months.



The soil aeration portion of the demonstration project was inconclusive. A longer time period or repeated application may be needed to fully demonstrate any effects of soil aeration on older, declining brome fields.

Research at the University of Alaska Fairbanks
UAF is currently involved in some small plot research on urease inhibitors at the Fairbanks research farm. For more information, contact the School of Natural Resources and Agricultural Sciences.