ZERO PESTICIDE ATHLETIC TURF

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POSSIBLE?

YOU BE THE JUDGE

HISTORY

I went into this not very happy about being "chemical free" and what I thought may be the end result. We had just gone through a period of time where there were vast improvements in Sports Fields. In almost 25 years I have seen a tremendous transition. However as all of you in the room know. There are many different ways to achieve good results in Turf Management. It is a science but not an exact science. &

Field Hockey

NEW LAWS IN NY

- The Child Safe Playing Fields Act (2010) took effect in May 2011
- NY's ban on pesticide use on school and day care center play grounds (aka sports fields)
- This ban restricts anything with an EPA registration number
- Can be circumvented by individual School Boards
- Very few have done this (hearing more lately)
- 2011 Dishwasher Detergent and Nutrient Runoff Law - Restricts Phosphorous Fertilizer use unless seeding or a shown need through soil testing. &


We've got issues.

NEW LAWS ARE A CHALLENGE

- New York State Legislators virtually pulled muscles patting themselves on the back with this new Legislation.
- There has been a lot of discussions on the “exact “ implications of the law. Entire property, just playing fields, buffer areas and what constitutes an emergency.
- Thankfully, cooler heads have prevailed

Weather Challenge 2011

In late August in 2011 we were inundated by a Tropical Storm named Irene which parked over our area and dumped anywhere from a foot to a foot and a half of rain in a 24 hour period. We had some very bad results in Schoharie County, the Hill towns of Albany County, Southern Vermont as well as both the Mohawk and Hudson River Valleys. Basically a 100 year flood. Ten days later Tropical Storm Lee dropped another half foot on us.

Weather Challenge 2012

- We went from extremely wet in 2011 for the entire year to extremely dry for most 2012 and then to extremely wet in fall during the football season.
- Well south of us Super Storm Sandy was devastating this year. We were spared.
- Mother Nature has a way of balancing things out.
- We always need to adjust to varying conditions

What 18"+ of Rainfall Looks Like Late August & Early September 2011

3 WEEKS LATER &

END OF SEASON

WE ALL HAVE CHALLENGES!

NORTHEAST WEATHER

EXPECTATIONS

NEVER ENDING EXPECTATIONS

New Laws

Budget Cuts

Less Labor

A need to be more creative

OUR EXAMPLE

- HOOSICK FALLS CENTRAL SCHOOL DISTRICT
- HOOSICK FALLS NEW YORK

Neighboring School Districts Visit JUNE 2012 &

August 2012

Opening Game 2012

EXAMPLE

- Hoosick Falls Central Schools
- NYS Class C School (Grades 9-12 ,approx. 600 students)
- Extreme community pride
- Known for its Football team (2012 Class C State Champs)
- The Superintendent is in it for the kids only
- Large commitment to Labor & Materials

FACILITY EXAMPLE

15 Acres of Athletic Fields

Glacial Till Soil

PH 6.0 to 6.3

High Capacity Well Pump

Manual Irrigation with Water Reel

One full time Grounds Worker + Lead with backup with custodians.

MISSION STATEMENT

"The mission of the Hoosick Falls Central School District is to develop responsible citizens who possess the knowledge, skills and values to be successful participants in a global society"

Sup. of Schools Ken Facin

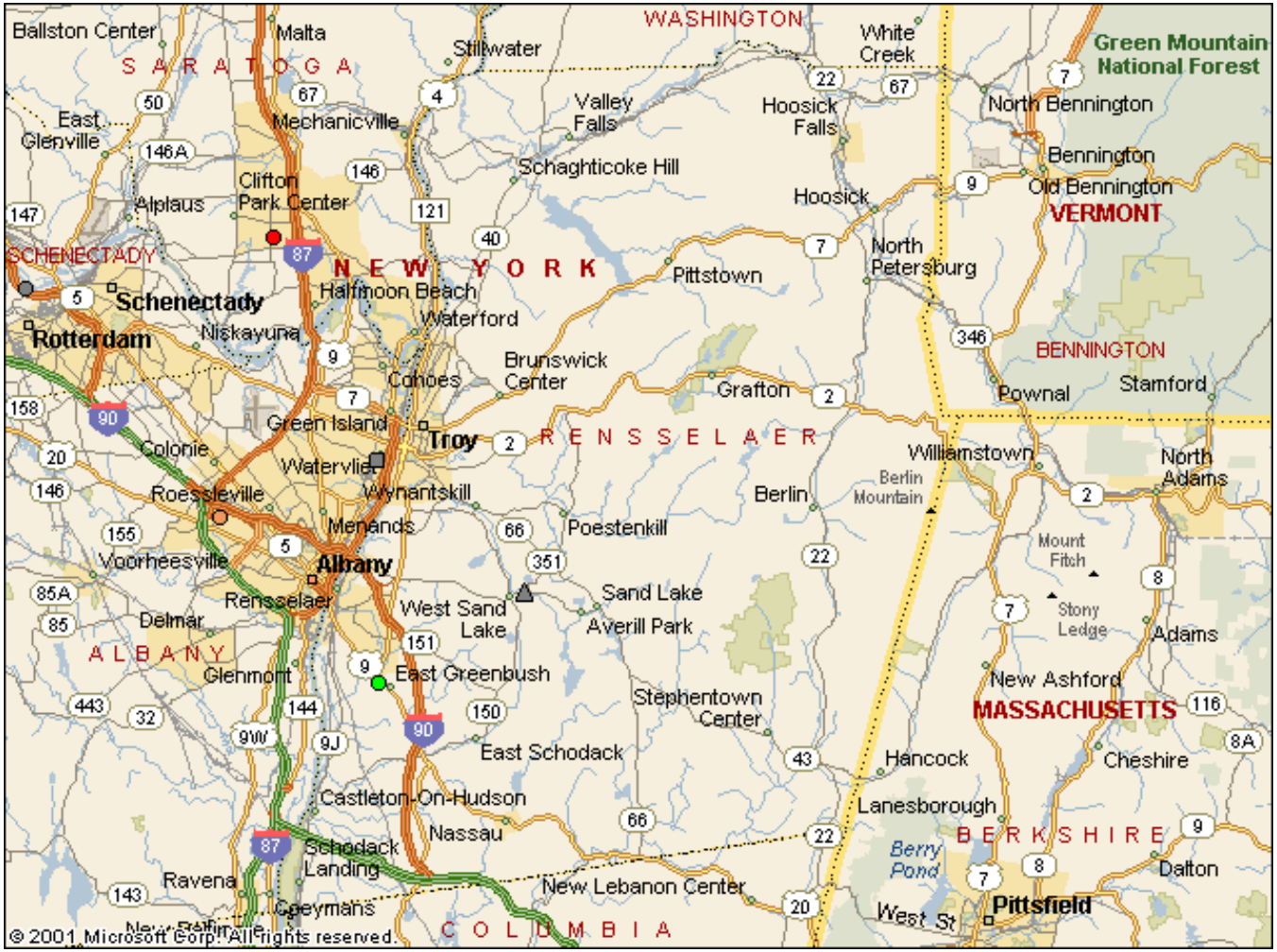
HOOSICK FALLS PRIDE

HOME OF THE PANTHERS

Paul Baker Sup. of B&G

HISTORY & GEOGRAPHY

- Located very close to Bennington Vt. And Williamstown Mass.
- Close to the Bennington Battlefield where Ethan Allen's Green Mountain boys defeated German Mercenaries in the Revolutionary war.
- Home of Grandma Moses
- Population around 3,500
- A tight knit community that loves its High School Sports


Ballston Center
Malta
Stillwater
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White Creek
Green Mountain National Forest
SARATOGA
East Glenville
Mechanicville
Valley Falls
Hoosick Falls
North Bennington
Schaghticoke Hill
Bennington
Clifton Park Center
Hoosick
Old Bennington
Alplaus
VERMONT
SCHENECTADY
NEW YORK
North Petersburg
Pittstown
Schenectady
Halfmoon Beach
Waterford
Rotterdam
Niskayuna
BENNINGTON
Brunswick Center
Cohoes
Grafton
Pownal
Stamford
Green Island
Troy
RENSSELAER
Colonie
Williamstown
Watervliet
Berlin
Berlin Mountain
North Adams
Wynantskill
Roessleville
Menands
Poestenkill
Mount Fitch
Voorheesville
Albany
Sand Lake
Rensselaer
West Sand Lake
Averill Park
Stony Ledge
Delmar
Adams
ALBANY
Glenmont
East Greenbush
New Ashford
Stephentown Center
MASSACHUSETTS
East Schodack
Hancock
Cheshire
Castleton-On-Hudson
Lanesborough
Nassau
BERKSHIRE
Berry Pond
Schodack Landing
Dalton
Ravena
New Lebanon Center
Pittsfield
West St
COLUMBIA
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The Plan

TALL FESCUE

PROGRAM

- Monthly Over - Seeding
- Slow Release Nitrogen Applications
- Monthly Turf Aeration with solid tine and vibration

SPECIFIC PLAN

Monthly over seeding (2 Pounds per 1,000 square feet) of Fine Leaf Tall Fescue Mixture (May through October)

Varying degrees of monthly turf aeration (dependent on turf conditions)

Two applications of slow release nitrogen 1.5 pounds per 1,000 square feet. (Mid May & Mid August)

Most Important: CONTROL OF FIELD USAGE &

Grassland Equipment & Irrigation Corporation

LOCAL SCHOOL DISTRICT WINS WITH ZERO CHEMICALS ON THEIR SPORTS TURF

MARCH 1, 2012

Hoosick Falls Central School Wins

HURRICANE IRENE AND TROPICAL STORM LEE COULD NOT RUIN THE FIELD. (PICTURE TAKEN 11/20/11)

Hoosick Falls Central Schools made a concerted effort to go achieve "zero chemical applications" to their turf in 2010, a year ahead of the legislature

requirement.

Hoosick Falls Central School Administrators used 2010 as a time to experiment with new turf solutions eliminating the use of herbicides, fungicides and insecticides to all turf in the School District.

The first step in the plan's implementation was the acquisition of a turf aerator / over-seeder to help bring oxygen, water and nutrients to the turf. A Finn Products three point mounted Aerovator accomplished this by fracturing up to 3" of soil and dropping seed into a perfect seed bed. This tractor mounted aerator can be used upwards to ten times during the growing season and can be used with or without seed.

The next step in the process was to choose seed varieties and types. A choice was made of fine leaf tall fescue and perennial ryegrass seed mixtures. These seed mixtures were quick to establish and took a tremendous amount of wear from sporting events.

Use of fine leaf tall fescue turf seed strongly mirrors latest research out of Cornell University for "zero pesticide" athletic field maintenance.

BENEFITS

THE TURF PROGRAM

SEED

FERTILIZER

COSTS

BOTTOM LINE FOR YOUR SCHOOL DISTRICT

Safe

Playable

Athletic Fields

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SPECIFIC "HOW TO SHEET"

E mailed a copy of this to few local schools. Many of them were struggling with "what to do" with the advent of this new legislation and the continued high expectations of administration, coaches, players and parents.

Received permission to use Hoosick Falls Central School District as an example of how it could be done. Hoosick Falls Central School District went Zero Pesticide a full year before it became law.

OVER SEEDING

- Sports Field Mix
- 10% 98/85 Kentucky Bluegrass
- 20% Exacta Perennial Rye
- 40% Masterpiece Tall Fescue
- 30% Rembrandt Tall Fescue

This seed blend works well for us in our locale. Check with you local University Extension and seed suppliers in your area for information on the fine leaf Tall Fescue available to you.

TURF NUTRITION

- Use of Slow Release: Poly Coated with 20 week release characteristics
- Formulation 30-0-10 90% Slow Release with 2% Iron
- Application Rate: 1.5 Lbs. of Nitrogen per 1,000 sq. ft. in mid May and Mid August

Check with University Extension or local suppliers. The temperature dependent formulation that we use works best for us.

WHY FINE LEAF TALL FESCUE?

- Why Fine Leaf Tall Fescue
- High Wear
- Low Fertility Needed
- Drought Tolerant
- Not your Grandmothers K31 Tall Fescue ! K31 was a lot of things, pretty is not one of them

More Turf Nutrition

- With soil samples we found that a "phosphorous free" fertilizer would work best because of available phosphorous existing in this "glacial till soil". Our particular area is in what is known as "the phosphorous belt" with plenty of available phosphorous.
- We would be completely within the new law parameters restricting phosphorous because of the over seeding that we are doing
- Also, at times we have used some 6-2-0 Milorganite to spread pre-germinated seed.

More About Their Soils

- I have had a running dialogue with the Superintendent of Schools who has a B.A in Geology and Masters degree in Earth Science Education. I have always liked Ken Facin's "glacial till soil" for growing turf. He has had a position from day one to amend these particular soils. With some of the horrific "Storms of the Century" that seem to be having every year now I am slowly moving to his point of view. Amendments would really help here especially for drainage considerations.

SOIL AMENDMENTS

- I believe with this particular type of soils at Hoosick Falls Central Schools they are going to have to look at soil amendments for their athletic fields. From my perspective, coarse sand topdressing , ceramic conditioners as well as crumb rubber could all be used in specific areas for improved playing conditions in adverse weather

TURF AERATION

- Use of a solid tine Aerator with vibrating action and adjustability of aggressiveness through speed of operation and or PTO engagement.
- A mounted seed box with adjustability of rate applying from 2 to 5 pounds of turf seed per 1,000 square feet.

HOOSICK FALLS SCHOOLS

Solid Tine Aeration

- Most versatile – Very productive
- Increases seed to soil contact
- Can be used many times even within the particular sports season.
- Great for getting oxygen to roots
- Versatility due to using with or without PTO engagement

Deep Tine Aeration

- Somewhat versatile – Slow process
- Can reduce compaction on surface as well as sub-surface
- Mainly used for drainage
- Can be used “in season” with some restrictions
- Soil amendments can be added
- Less chances for seed to soil contact


TORO
PROCORE

Core Aeration

- Somewhat versatile – Highly productive
- Great for soil amending with core removal
- Brings beneficial microbes up to the surface for thatch control
- Allows oxygen to the roots and non beneficial gasses to escape
- Great for seed to soil contact
- Gives some ability to smooth out ruts on fields
- Usually not able to do “in season” for obvious reasons. I have some School Districts that restrict coring in season. Kids throw them at each other

DRILL AND FILL

- Less Versatile – Mostly for changing soil profile
- OK for seed to soil contact depending on hole spacing.
- A very slow process would more than likely be an “off season” project.
- A very expensive process.

VARIATIONS

Seeding: A Triplex Ryegrass Seed Mixture can be used Early And Late for Quicker Establishment. Seeding rates can be adjusted according to need.

Aeration: Can be varied according to turf conditions. Slow with PTO engaged when needed (most aggressive) and without the PTO(Less). We use a particular type of aerator with a trailing hitch which allows turning while aerating. It will not tear.

Nutrition: You could spoon feed. I prefer the two applications per year of 1.5 Lbs. per 1,000 of very slow release Nitrogen

Control of Use: You must get control of field use.

To quote my friend Floyd Perry from 20 years ago. "Grass is grown by the inch and killed by the foot".

LABOR SAVING PROGRAM

- Monthly over seeding rather than weekly.
- Fertilizer applications twice during growing season rather than 4 to 5 applications with quick release nitrogen.
- In New York we are experiencing huge cuts to education. As I am sure happens in most States, they always seem to be bottom up cuts (maintenance)
- This program saves labor and gets results

BOTTOM LINE

- Control of field use is paramount
- Grown by the inch and killed by the foot!
- Consistency and Flexibility
- Stay true to your program but be prepared to adjust to specific weather and use conditions.

CORNELL UNIVERSITY

- I would be remiss if I did not mention Doctor Frank Rossi. Although this program strongly mirrors what Frank has been doing, I was unaware of his work with fine leaf tall fescue until February 2012 when I heard him speak in Providence RI. However, I did know about Frank's work with Ryegrass over seeding and this program strongly mirrors that with some differences in application timing and type of nitrogen used. Frank does some wonderful work at Cornell University and I have nothing but accolades for what he does!

CORNELL UNIVERSITY

Questions ?

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IPM Integrated Pest Management

Lawn Weeds ?

Bare Spots ?

Repetitive Overseeding Can Help !

MY PERSONAL PROGRAM

- I over seed about 50 pounds of fine leaf tall fescue (7,500 square foot lawn area) over the growing season and make use of two applications of 30-0-10 ultra slow release in May and August at a rate of 1.5 pounds of Nitrogen per 1,000 square feet. I use zero pre emergent herbicides and no grub control. However, I do spray some post emergent herbicides. It works.

THANK YOU

- I will be here at the Conference for a few days and would be happy to discuss this successful proven program with you.
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