



Reduced Nitrogen Inputs By Budgeting Organic Matter With Fertilizer

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Brief Introduction To Research

- Hypothesis- background
- Organic matter- specific to soil biology
- Empirical approach- for using organic fertilizer

A Pathway To Innovation

Background For Hypothesis

- Sources for organic matter
 - Natural fertilizers
 - Organic fertilizers
 - Natural and organic-based fertilizers

The organic matter contained in each differentiates these fertilizer sources from conventional

Background For Hypothesis

- Is the quantity of organic matter significant?
- Sources typically contain 50% to 60% OM
- Organic-based blends contain at least 30%

Background For Hypothesis

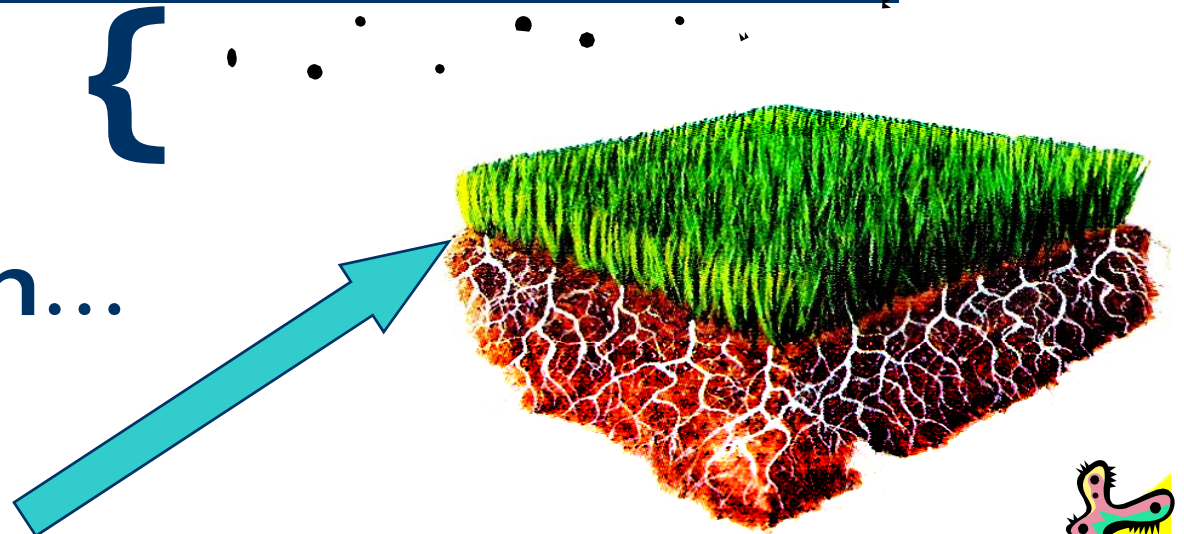
- Applying these sources at standard rates
- Quantities appear to be rather insignificant
- I set out to prove they were insignificant!
- That was almost 15 years ago

Fixing Soils Physically

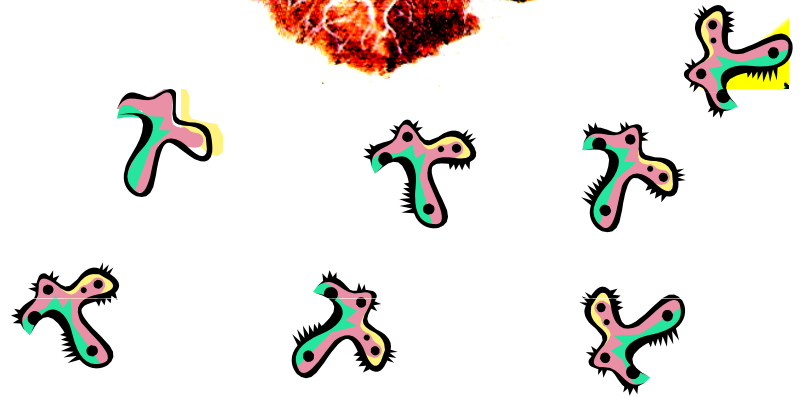


Fixing Soils Biologically

Topical
granule
application...



Feeds 2- 6 TONS
of microbes /AFS



Empirical Approach Evaluates OM

- The term ‘Organic Fertilizer’
 - has various interpretations
- The phrase:
 - “ Fertilizers containing organic matter”
 - is a scientific discussion



Regulation Of Soil N & Organic Matter

“...the soil organic matter and nitrogen should always be maintained at as high a level as economically feasible.”

*The Nature and Properties of Soils,
8th Edition, Nyle C. Brady*



Regulation Of Soil N & Organic Matter

On the subject, Dr. Nyle Brady expresses two definite conclusions:

First

The inherent capacity of soils to produce is closely and directly related to their organic matter and nitrogen contents.

Second

Their levels are difficult to maintain.



A Pathway To Innovation

Many Areas Of Leadership Become Integrated

- Research
- Product Formulation
- Program Design
- State Registration
- Nutrient Management
- Regulation



Nutrient Management In Action

Self Regulatory Solution

A perspective everyone can agree on.

MADE BY NUTRIENTS PLUS SUPPLY
= sourcing/production

MARKETS SERVED BY NUTRIENTS PLUS
= marketing



Served at Any NP Screen Site

5th-year Anniversary

Nutrients PLUS 4-4-2 with 9% Ca

OMRI Organic Materials Review Institute

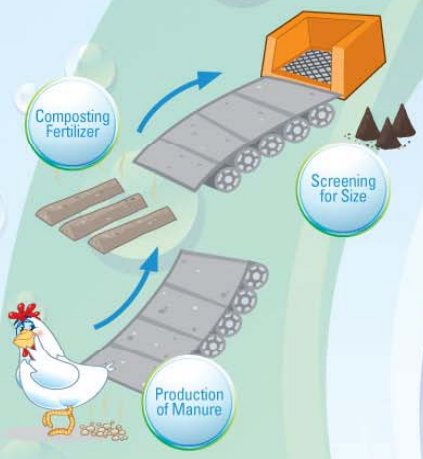
ORGANIC FARMING

GENERAL AGRICULTURE

Distributed by Pennington Seed

Clarus THE CLEAR CHOICE LAWN FERTILIZER

LAWN & GARDEN STORES



NP Customers 4 / Top 10 / Top 150

Nutrients PLUS

LANDSCAPE INDUSTRY

Cosponsors NP Research

GOLF COURSE INDUSTRY

Budgeting organic matter reduces nutrient required by 30%
Get the same result at no extra cost

Self-Regulation

Researched & Proven

"We Make Organic Matter"
www.nutrientsplus.com

A Pathway To Innovation

- Nutrients PLUS
 - No Grants
 - Subsidies
 - Or Loans
- A self funded company since inception
- Financial performance is really agronomic



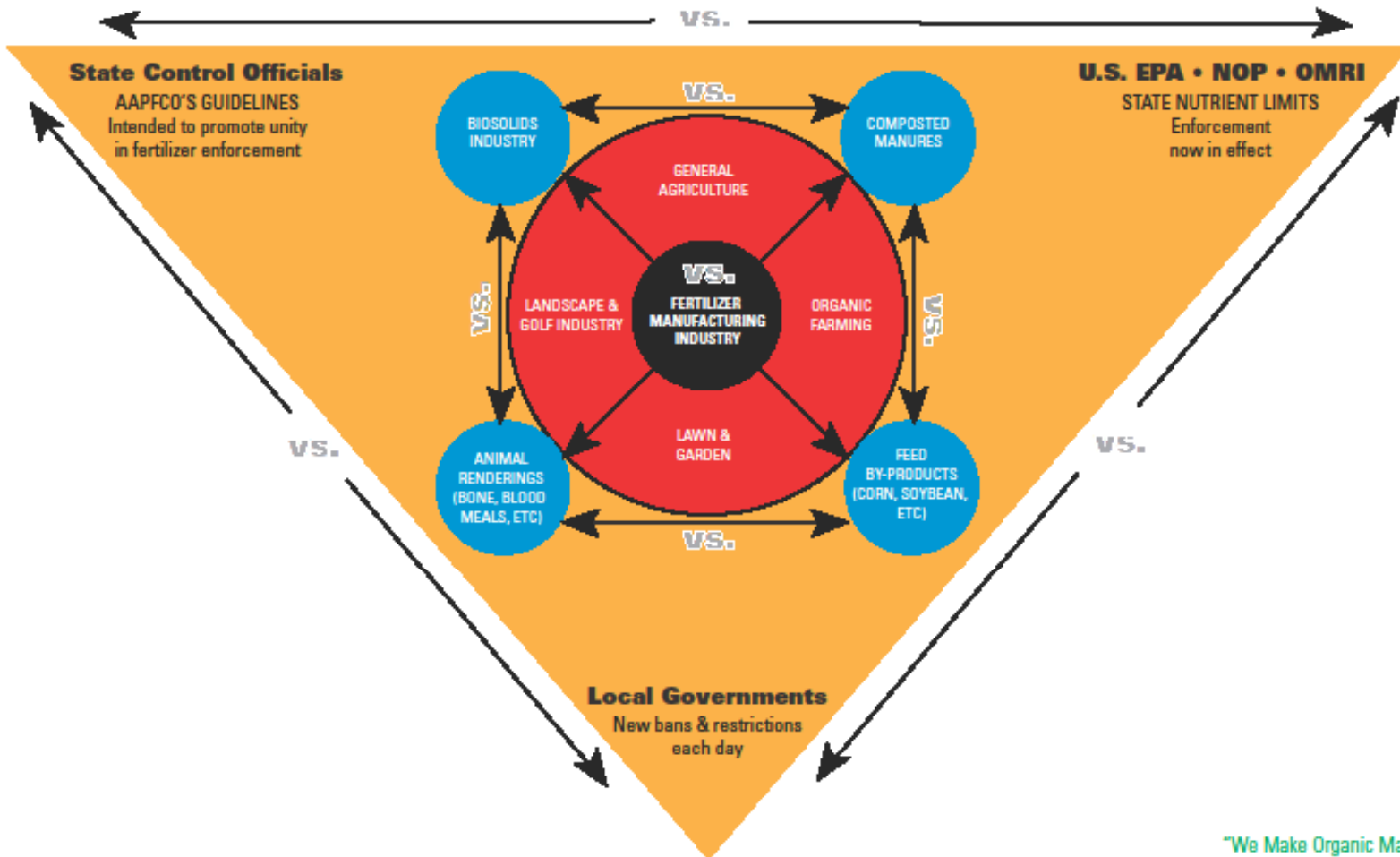


Clean Water - Problem

Debate dominated by competing views - no one can agree

Phosphorous bans • Nitrogen restrictions • No Manure • No Biosolids

Solution = 0-0-0 ?



A Pathway To Innovation

- The New Economy
 - Developing countries: more prosperous, competitive
 - The Challenge For Developed Countries?
 1. Increase GDP
 2. Reduce consumption
 3. Sustainable Capitalism
 - recycle, reuse, reduce

Nutrients PLUS & Virginia Tech

- Agronomic Innovation
- Invent The Future

**THANK YOU
TFI**

