




Polymer Applications in Erosion Control, Dust Control and Stormwater Management

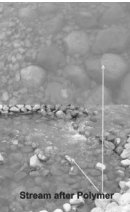
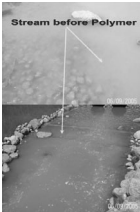

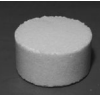
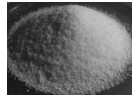
Samuel Roa-Lauby

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Outline

1. Introduction
2. Forms of Application
3. Examples of our work
4. Some results
5. Conclusions




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Introduction

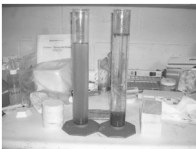
1. Soil Net, LLC
2. Polymer Solutions in:



Erosion Control



Dust Control



Liquid Solid Separation

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About Soil Net

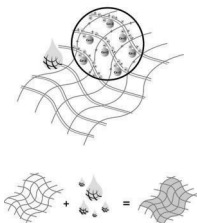
- Founded in 2000
- Family owned
- Erosion Control
- Dust Control
- Current Applications
- 21 patents




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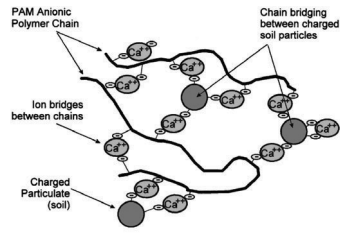
Polymer Solutions Theory



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Polymers in Erosion/Dust Control



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Polymers in Liquid Solid Separation

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Forms of Application

- Polymer granules/ powder
- Emulsions
- Tablets

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Forms of Application - Granules

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Forms of Application - Granules

- DOT approval

Wisconsin Department of Transportation

SOIL STABILIZER TYPE B - Big Item 628.0510

MANUFACTURER	PRODUCT	MINIMUM APP. RATE (lb/ac)	WEAR USE RESTRICTION (Maximum App. Rate, #/ac)
Agricool	B1500	20	-
Construction Fabrics and Materials	FS 2000	20	83
ENCAP	PAM-12 Plus **	2000	6000
Polymer Plus, LLC	Polymer	20	-
Soilnet	ITS/PAM	14	88
Soilnet	BS	14	75
Soilnet	ES	14	93

*Product approved prior to WISDOT biweekly review requirement - apply per manufacturer's instructions
**Product is furnished with a paper tractor - this is not a match

Link of PAL list:
<https://wisconsindot.gov/Documents/doing-bus/eng-consultants/cnslt-rsrces/tools/pal/pal.pdf>

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Forms of Application - Emulsion

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Forms of application - Tablets

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Forms of application - Tablets




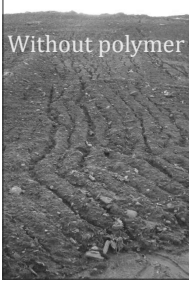
- Long-lasting application, slow released
- Water treatment only (less than 3.5% TS)
- In stormwater treatment, reduce sediment load



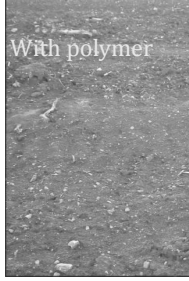
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Examples of our work





Without polymer



With polymer


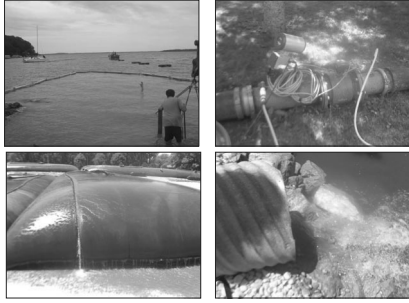
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Examples of our work






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Examples of our work


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Examples of our work

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Results



Location	% Sand	% Silt	% Clay	Classification
Arlington Agricultural Research Station	21	60	19	Silt Loam
UW-Platteville Pioneer Farm	23	56	21	Silt Loam

Location	pH	OM (%)	Ca (ppm)	Soluble Salts (mhos x 10 ⁻⁵ cm ⁻¹)
Arlington Agricultural Research Station	7.4	4.0	2277	3740
UW-Platteville Pioneer Farm	6.9	4.4	1770	381

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Results

• Initial testing EM-1000

Soil	% Reduction Soil Loss
Arlington <small>Silt Loam Dane County</small>	91%
Platteville <small>Silt Loam Grant County</small>	71%

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Results

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Conclusions

Polymer VS Conventional methods:

- Low cost
- Easy to apply / Wide uses
- Long lasting
- Highly effective

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New technology of polymer application

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