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presents

A Miracle-like Story

POLYACRYLAMIDE (PAM) AND MICRONIZED PAM SOIL CONDITIONERS

– 50 YEARS OF PROGRESS

December 2003

by
**Arthur Wallace
Garn A. Wallace**

Past – Present -- Future

This unique volume features scientific, technical, and practical information on mineral, organic, and synthetic conditioners and their beneficial effects of the soil physical properties that **promote** optimal plant growth, **maximize** soil fertility, and **enhance** other inputs.

The Essential Truth About PAM

*PAM does one simple thing.
It stabilizes soil structure.
This one simple thing, however, has far
reaching implications that ultimately
lead to increased crop yield, higher
profits, and a safer environment.*



"Micronized PAM" ¹

Present use of PAM and Validation

PAM is used on more than a million acres annually for control of soil erosion and increase in crop production. Its use has been validated and proved to be safe and very friendly to the environment.

PAM can be a farmer's or gardener's best friend.

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Why use PAM?

(PAM is polyacrylamide)

Different purposes sometimes require different application procedures.

PAM stabilizes soil structure:

1. Increases water infiltration (up to 50%).
2. Increases soil aeration and drainage.
3. Decreases water run-off.
4. Prevents crusting and compaction.
5. Stops wind and water erosion (up to 99%).
6. Makes friable soil that is easy to cultivate.
7. Makes soil workable sooner after rain or irrigation.
8. Increases bulk density of soil.

These can translate to:

1. Runoff of sediment containing soil, pesticides, some nutrients, weed seed, and microbes is prevented.
2. Increased crop yields (up to 57%).
3. Decreased water usage (up to 50%).
4. Earlier germination and crop maturity (3 to 20 days).
5. Increased plant size and population.
6. More vigorous plants with more extensive root systems.
7. Greater response to fertilizers and amendments (33% or more).
8. Increased value from added organic matter.
9. Less plant disease related to poor soil aeration.
10. Decreased energy requirements for tillage.
11. Enhanced quality of produce.
12. Decreased dust down to near zero.
13. Decreased adverse effects of sodicity.
14. Soil salt easier to leach from soil.
15. Near 100% success in tree and shrub transplanting.
16. Root crops harvest cleaner.
17. Clay soils are easier to manage.

Financial value of PAM can be several times the cost of treatment. As high as 25 times have been reported and around 10 times is very common.

Why use the Micronized form of PAM? (small particle sizes)

1. It goes into solution almost instantaneously depending on particle size.
2. When used dry, there are more particles mixed into a pound of soil.
3. When made into a slurry it is more potent than when put into various solutions.

Some ways to use PAM and Micronized PAM

1. In irrigation water- sprinkler and furrow irrigation.
2. Tilled into soil.
3. In a hydroseeder.
4. On seed.
5. With anhydrite gypsum.
6. With fertilizer solution.
7. In drip irrigation.
8. In transplant holes.

What are PAM and Micronized PAM?

PAM or polyacrylamide is a polymer meaning that several simple molecules are joined together to make a long chain of them. Examples of polymers in nature are starch and proteins. Microbes produce polymers called polysaccharides that function in soil to improve the ability of plants to grow in soil. PAM is much more effective than polysaccharides. PAM is a mixture of two simple molecules combined so that about 200,000 of them make one long molecule. It is a copolymer because of the two different kinds of simple molecules that are used. Micronized PAM is a very small particle size of PAM in micron size of 28 to 150 microns.