Nanotechnology

- Magic Green Corporation
  - Mr. Greg Wommack
    - Patented technology
  - Dr. Dale Baker, Prof emeritus Penn State U.
- ”The art of manipulating materials on an atomic or molecular scale”
- Webster defines as “extremely small”

MG Products

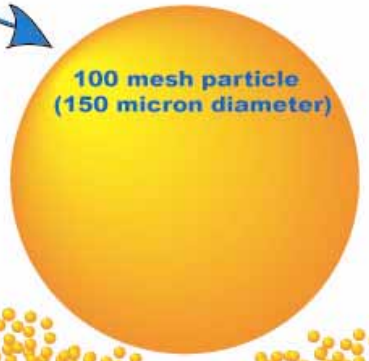
- PotasaCal 0-0-24 w/secondary & micronutrients
- UltraCal or Salt Exit 0-0-0 w/ 30% Ca plus secondary & micronutrients

The Importance of Particle Size

High grade Gypsum or Lime

150 micron diameter

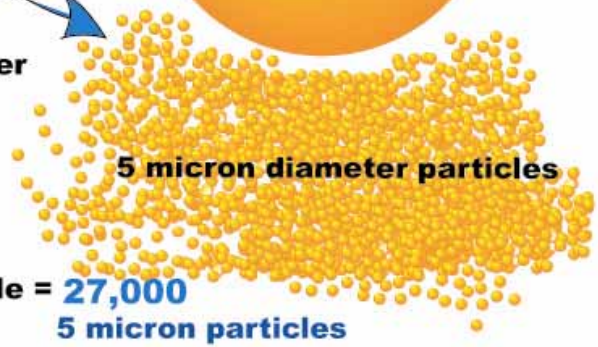
100 mesh



White Gold or Salt Exit

5 micron diameter

3,000 mesh



Volume of one
150 micron particle = 27,000
5 micron particles

Surface Area of 27,000 5 micron particles EQUALS

30 X surface area of one 150 micron diameter particle.

More surface area means
greater reactivity, nutrient availability and uptake

Magic Green Corporation
Nano Science & Calcium Therapy

Soil & Plant Health

- Crop Performance (Turfgrass)
  - Early development, maturity, protein levels
- Soil Structure
- Nutritional Balances
  - High Magnesium, salts, bicarbonates
- Microbial Balance
- Photosynthate Performance

Innovation!

- Availability of nutrients
  - Mesh size 3,000 – 8,000
  - Nano Technology
  - Today standard 15 – 55 mesh
  - Quality Gypsum/Lime 100-175 mesh
- Absorption ability
- Speed
- Mass Flow / Diffusion

Raw Materials

- Readily Soluble
- Predictable
  - Knowing when nutrient will be available
  - Days not months to years
- Environmentally friendly
  - 50% Nitrate leaching reduction
    - Arise Research Institute
  - Water quality (groundwater, wells, etc)
- Use calcium with every NPK application
  - Nitrate efficiency
  - Increase efficiency following application from 50% to 65-75%

MGC - Product Features

- Three calcium sources
- Very high purity - 98% +
- Positive pH movement
- More effectively reduces salts
- Less material with better results
  - 300# is equivalent to 2,000#
  - Salts, Magnesium, pH, etc.

Calcium Benefits

- Improved
  - Soil structure
    - Water infiltration
  - Microbial activity increased
  - Root initiation
  - Cell wall strength and turgidity

“If it is not Nano Science, it is a stone”

Objectives

- Improve soils
  - Water infilitration
  - Aeration
  - Reduce shear strength
  - Improve availability of nutrients
- Improve plant health

“ It must be Soluble to be available”

2006 Corn Crop

- Yield 180-240 bu
  - neighbors averaged 140-165 bu
- Improved color
- Increased ear size
- Increased height (9’ typical – 13’ this year)
- More hanging ears – 3-4 ears / plant common
- Protein level from 6.8 to (8.2-9.8)
- 200 units of N (anhydrous, N-28, organic)
- 65 units P, 150 units of Potassium, 10 units Zn, 6 units Mn, 1 unit Boron, Fe 4 units, 1 unit Cu.

Field

- Rip field 24 – 36” deep
- 12” layer (top) had CEC 8-13.5, pH 6.5/6.8
- 12 – 18” layer, pH 6.0
- 18’ – 24” layer, pH 5.5 – 5.8
- 32-36,000 plants / acre - 40 – 44,000 plants/acre
- 20” rows (less lodging)
- Conventional minimum tillage
- Annual soil testing by Bob Perry Labs, Bowling Green, Missouri

Field

- Beans (upland)
- 88.4 bu / acre state record (non irrigated)
- 20” rows and also drilled
- 144,000 plants / acre = normally 85-95,000
- 330 pods found on some plants (multiple stalks)
- Increased populations (decreased moisture loss from shading)