

# NutriPore Tuff™

## Premium Turfgrass Root-Zone Amendment

Not all zeolites are created equal. They vary significantly in their physical characteristics that is largely determined by the content zeolite mineral types; of clinoptilolite (good), mordenite and clay (bad). NutriPore Tuff has the highest content of clinoptilolite and lowest content of mordenite and clay to provide superior physical characteristics for turfgrass root-zones. Common zeolite materials available have good CEC characteristics although lack the air-filled pore spaces essential to a healthy root-zone. Porosity, and in particular air-filled pore space, is a critical feature of healthy turfgrass root-zones. Not only does **NutriPore Tuff provide 5 times as many exchange sites** to hold essential nutrients than ceramic clay amendments, but **NutriPore Tuff also provides more air-filled pore spaces per g of material than any other zeolite or ceramic clay turfgrass amendment available.** This equates to more benefits at lower rates of incorporation.

### OTHER FEATURES INCLUDE:

- **Balanced air to water pore space ratio**
  - *The particles are a dense honeycomb structure with a mass of connecting cavities providing channels of air and moisture movement through the profile. Air pore spaces help the root-zone to 'breathe' supporting turf growth and microbial populations, while capillary spaces accepts soil solution moisture and nutrients.*
- **Retains available nutrients and moisture**
  - *The high amount of negative charges within the particle structure will hold and exchange essential nutrients into soil solution when required by the turfgrass. The capillary pore spaces will hold a reserve of moisture for turfgrass plants to access, but will release excess moisture to maintain good water movement characteristics through the soil profile.*
- **Absolutely no risk of particle breaking down in the profile over time.**
  - *Being a rock hard, but extremely porous, particle over 300 million years old, it will last throughout the entire lifespan of the turfgrass profile.*
- **Lower rates of incorporation**
  - *As NutriPore Tuff has more air and capillary pore spaces and more exchange sites than any other turfgrass amendment, significant benefits are achieved at low root-zone incorporation rates.*

### PHYSICAL PROPERTIES

Porosity	49.75 %
Pore Space per Gram	0.47 m <sup>3</sup> / tonne. (This means for every tonne of material there is just less than ½ a cubic metre of pore spaces within it).
CEC*	146 meq/100g (*Cation Exchange Capacity)
Clinoptilolite Content	53.56%
Particle Size	0.9mm – 1.4mm