

BIOROCK MINERALS INC.

BIOROCK FOUNDATION NFX™

BIOMINERAL

FOR SOIL REMINERALIZATION and REVITALIZATION

WITH 100% NATURAL AND ABUNDANT BIOLOGICAL ENDOPHYTES AND PLANT SYMBIONTS INCLUDING FREE-NITROGEN FIXING (NFX) & MINERAL SOLUBILIZING MICROBES*

INTRODUCING the BIOROCK FOUNDATION NFX

A REVOLUTIONARY SOIL AMENDMENT, SOIL CONDITIONER, AND BIOFERTILIZER

Advancing the best practices of soil remineralization combining rock dusts, clays and humates with pyrogenic carbon (a.k.a., biochar) and selecting non-GMO biomass to culture abundant microbiology on mineral and carbon substrates using proprietary methods.

SUGGESTED USE: Minimum effective application rates; **Perennial trees, shrubs, berries, ornamentals, forage hay and pasture:** 500 lbs./ acre (+12 lbs. / 1000 sq. ft) broadcasted to the ground. Incorporate lightly into the root zone where possible, and water in. Use up to 1,000 lb./ acre on mature perennial crops, such as trees and shrubs in year one, then reduce rates. **Annuals and row crops:** 500 lbs./ acre (+12 lbs./ 1000 sq. ft.). One application; apply in the spring pre-plant or at the time of planting, in the row or furrow, or top dress or side dress established crop. Applying in the fall; prior to dormancy or at pre-plant for cover crop seeding. Split annual applications; spring pre-plant and fall prior to dormancy. **On potted plants:** One teaspoon to one tablespoon per pot covering the top of the soil lightly and water in thoroughly. **As an admixture to potting soils and soil-less media:** Typically mix at up to 5% by volume. Loose bulk density of BioRock is +/- 74 lbs. per cubic foot. (approximately 10 lbs./ gallon volume). Test final blended product for water infiltration and aeration prior to planting.

***Contains the following species, or species belonging to genus of microbiology approved by the CDFA; Bacteria:** *Sporosarcina sp.*, *Sporosarcina pasteurii*, *Cellulomonas sp.*, *Bacillus infernus.*, *Bradyrhizobium sp.*, *Bacillus nitritophilus*, *Paenibacillus sp.*, *Bacillus sp.*, *Brevundimonas olei*, *Streptomyces thermogriseus*, *Pseudomonas sp.*, *Corynebacterium efficiens*, *Cellulosimicrobium Cellulans*, *Rhizobium sp.*, *Mesoshizobium sp.*, *Rhodopseudomonas sp.*, *Streptomyces griseus*, *Rhizobium oryzae*, *Bacillus farraginis*, *Pseudomonas flexibilis*, *Pseudomonas formosensis*, *Bacillus caseinilyticus*, *Brevibacillus limnophilus*, *Streptomyces albidoflavus*, *Aneaurinbacillus sp.*, *Flavobacterium sp.*, *Bacillus fordii*, *Bacillus lichenformis*, *Bacillus lentus*, *Clostridium botulinum*, *Brevibacillus panacihumi*, *Lysinibacillus sphaericus*


***Contains the following species, or species belonging to genus of microbiology approved by the CDFA; Fungi:** *Penicillium pinophilum*, *Rhizopus microspores*, *Penicillium levitum*, *Aspergillus clavatus*, *Candida railenensis*, *Penicillium commune*, *Aspergillus fumigatus*, *Trichoderma virens*, *Aspergillus sp.*, *Aspergillus ruber*, *Aspergillus versicolor*, *Penicillium georgiense*, *Penicillium implicatum*, *Penicillium paneum*

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*Microbial mediated advantages based on genomic Identification: *Free Nitrogen Fixing* and *Mineral Solubilizing* plant symbionts; High hormone production including *Auxins* for cell division and stem elongation; High *Cytokinin* production for cell proliferation and differentiation; High abiotic and biotic stress adaptation from *Exopolysaccharide* production for nutrient exchange, salinity protection, drought resistance; High salinity protection, drought resistance and disease pathogen protection from **ACC Deaminase** production; Salt tolerance and heavy metal resistance for bioremediation, and detoxification, High *Siderophore* production for iron availability and bio-fertilization; High inorganic Nitrogen and Phosphorus and Potassium solubilization; High Calcium, Magnesium, Copper and Chlorine mobility.

Typical “Soil Test” Analysis using Mehlich III Method.

Test	Method	Results
Soil pH	1:1	8.8
Buffer pH		
Phosphorus (P)	M3	110 ppm
Potassium (K)	M3	523 ppm
Calcium (Ca)	M3	931 ppm
Magnesium (Mg)	M3	232 ppm
Sulfur (S)	M3	43 ppm
Boron (B)	M3	0.6 ppm
Copper (Cu)	M3	1.6 ppm
Iron (Fe)	M3	333 ppm
Manganese (Mn)	M3	45 ppm
Zinc (Zn)	M3	2.9 ppm
Sodium (Na)	M3	114 ppm
Soluble Salts		
Organic Matter	LOI	1.6%
Estimated N Release		76 lbs/acre
Nitrate Nitrogen		

Calculated Cation Exchange Capacity		
8.4 meq/100g		
%Saturation		
	%sat	meq
K	16.0	1.3
Ca	55.4	4.7
Mg	23.0	1.9
H	0.0	0.0
Na	5.9	0.5
K/Mg Ratio: 0.69 		
Ca/Mg Ratio: 2.41 