

#### BIOCHAR SOIL SUPPLEMENT APPLICATIONS

Biochar used as a soil supplement provides carbon sequestering resulting in water retention, as well as a harbor for bacteria improving plant growth. Provided as is or in mixes and can be charged with bacteria for severely depleted soils



### APPLICATIONS

Soil restoration

Organic farming

Manure treatment for ammonia, methane, return to soil

Indoor cannabis grow medium

Outdoor grow medium





| VGRID BIOCHAR PARTICAL SIZES                  | TYPICAL USES   |
|---|--|
| PARTICLE SIZE - <b>STANDARD</b> VGRID BIOCHAR | OUTDOOR SOIL TREAMENT, ROW CROPS, TREES, ANIMAL BEDDING<br>(Bedding helps to absorb ammonia, volatiles in animal feces, thereby<br>reducing greenhouse gases and odor.)              |
| PARTICLE SIZE - FINE VGRID BIOCHAR            | INDOOR GROW MEDIUM, SPECIALTY BLENDS & PREMIXES (mixed<br>with organic compost, mixed with coco peat) Nursery/Cannabis.<br>Also, some types of Animal Bedding & Feed Supplement uses |
| PARTICLE SIZE - ULTRA FINE VGRID BIOCHAR      | LIVESTOCK/ANIMAL FEED SUPPLEMENT (bind toxins in the gastrointestinal tract to improve animal digestion, performance, and feed efficiency)   |

## PARTICLE SIZE STANDARD - VGRID BIOCHAR

| ITEM                        | TYPICAL MAKE UP                              | GUARANTEED MAKE | UP COMMENTS                          |
|-----------------------------|--|-----------------|--------------------------------------|
| Starting Material           | Non-treated wood pellets or Pistaccio shells |                 |                                      |
| Ash Content                 | <5%  |                 |                                      |
| Moisture Content, as packed | <5%  |                 | Some variation can occur in shipping |
| Particle Size               | less than 1/2" irregular                     |                 |                                      |
|                             |  |                 |                                      |
| Surface Area                | 200+/- 100 m2/g                              |                 |                                      |
| Total Pore Volume           | 0.17 cc/g                                    |                 |                                      |
| Iodine Number, mg/g         | >1100  |                 |                                      |
| Tap Density, Dry g/ml       | 0.35   |                 |                                      |
| Hardness                    | 85-95  | Min 85          |                                      |
| Heavy Metals                |  |                 |                                      |
| Bulk Density                |  | .42 g/cm3       |                                      |
| Solubility in Water         |  | Not soluble     |                                      |
| pH                          |  | 6 to 10         |                                      |
|                             |  |                 |                                      |
| Melting Point               |  | 3500 C          |                                      |

# **PARTICLE SIZE FINE - VGRID BIOCHAR**

| ITEM                        | TYPICAL MAKE UP                   | GUARANTEED MAKE UP | COMMENTS |
|-----------------------------|-----------------------------------|--------------------|----------|
| Starting Material           | Non-treated wood pellets or Pista | ccio shells        |          |
| Ash Content                 | <5%                               |                    |          |
| Moisture Content, as packed | <5%                               |                    |          |
| Particle Size (D50 microns) | 3x24 mesh                         |                    |          |
| Surface Area                | 200+/- 100 m2/g                   |                    |          |
| Total Pore Volume           | 0.17 cc/g                         |                    |          |
| lodine Number, mg/g         | >1100                             |                    |          |
| Tap Density, Dry g/ml       | 0.35                              |                    |          |
| Hardness                    | 85-95 estimate                    |                    |          |
| Heavy Metals                |                                   |                    |          |
| Bulk Density                |                                   | .42 g/cm3          |          |
| Solubility in Water         |                                   | Not soluble        |          |
| рН                          |                                   | 6 to 10            |          |
| Melting Point               |                                   | 3500 C             |          |

# PARTICLE SIZE ULTRA FINE - VGRID BIOCHAR

| ITEM                        | TYPICAL MAKE UP                          | GUARANTEED MAKE UP   |
|-----------------------------|--|--|
| Starting Material           | Non-treated wood pellets or Pistaccio sh | ells   |
| Ash Content                 | <5%                                      |  |
| Moisture Content, as packed | <5%                                      |  |
| Particle Size (D50 microns) | 3x24 mesh                                | Less than 0.0001 % of material will be larger than mesh size |
| Surface Area                | 200+/- 100 m2/g                          |  |
| Total Pore Volume           | 0.17 cc/g                                |  |
| Iodine Number, mg/g         | >1100                                    |  |
| Tap Density, Dry g/ml       | 0.35                                     |  |
| Hardness                    | 85-95 estimate                           |  |
| Heavy Metals                |  |  |
| Bulk Density                |  | .42 g/cm3  |
| Solubility in Water         |  | Not soluble  |
| рН                          |  | 6 to 10  |
| Melting Point               |  | 3500 C   |