NATURAL CHAR SOLUTIONS, LLC

Bob Rice / 570-765-2020 / rec2@ptd.net / NaturalCharSolutions.com

THE HEALTH OF AMERICA BEGINS IN THE SOIL ™

Ecochar

USDA CERTIFIED BIOBASED PRODUCT
PRODUCT 99%
FP

EcoReOrg

OMRI LISTED

- EARTHCARE offers a Soil Amendment - **ECOCHAR** a USDA Certified Bio-Based Product and **EcoReOrg** an OMRI certified Organic Soil Amendment.
- ECOCHAR and EcoReOrg are produced from our Manure / Biomass Gasification Processing System that processes the manures, by-products from animal and food processing plants, biosolids from water treatment plants, horse muck, mushroom substrate and all types of vegetation such as wood, switch grass, cord fodder, etc. to produce various grades of ECOCHAR. The EcoReOrg processed through a dryer and hammermill and is not charred. Manure with a slight additive of food waste is best for the agricultural market.
- In applying the ECOCHAR to poultry houses we greatly reduce, if not eliminate the ammonia, making the birds healthier, increasing their growth weight as well as possibly shortening the grow out period. One way that we help reduce the overall costs for the grower is that the fan activation is considerably lessened due to the decrease of ammonia, thus electrical costs are at a minimum.
- In this respect, there is less use of propane gas, another savings.
- In applying the ECOCHAR to the soil, we adsorb the nutrients and allow the microbes to be activated and retain the moisture. Within 2 to 3 years of applying ECOCHAR and EcoReOrg the probability is that the use of commercial fertilizers is greatly reduced, if not eliminated. Natural soil conditions lend to the possibility of having much less use of commercial pesticides and herbicides, if needed at all. EcoChar can also be applied for water purification.

- The complete process of applying ECOCHAR and EcoReOrg leads to a cleaner environment with respect to the elimination of acidity in the soil caused by the spreading of manure, etc. and commercial fertilizers. The application of ECOCHAR to the soil, water and basic applications, (streets, etc.), greatly reduces, or eliminates contaminated runoff.
- A healthier soil produces healthier plants and healthier nutrition for human consumption. This also enhances the health of all human beings as well as all animals and birds.

CONTACT:

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Earthcare LLC Earns USDA Certified Biobased Product Label

Evansville, IN. June 25, 2024 — Earthcare LLC announced today that it has earned the U.S. Department of Agriculture (USDA) Certified Biobased Product Label for Ecochar.



The Ecochar can now display a unique USDA label that highlights its percentage of biobased content. Third-party verification for a product's biobased content is administered through the USDA BioPreferred® Program, which strives to increase the development, purchase, and use of biobased products.

Biobased products help address climate change by offering renewable alternatives to petroleum-based products; sequester carbon dioxide, lowering the concentration of greenhouse gasses in the atmosphere that contribute to climate change; create and expand markets; are generally safer for people and the environment than their petroleum-based counterparts; and represent incredible technological advances and innovations.

"We applaud Earthcare LLC for earning the USDA Certified Biobased Product Label," said Vernell Thompson, USDA BioPreferred Program. "The label is intended to help spur economic development, create new jobs, and provide new markets for farm commodities.

But the label also makes it easier for consumers and federal buyers to locate biobased products and consider planet-friendlier options during purchase decisions. By having their products become USDA Certified Biobased, Earthcare LLC joins an expanding list of businesses combatting inaccurate marketing claims and the practice of greenwashing, while also contributing to a thriving bioeconomy that decreases our reliance on petroleum."

In the latest Economic Impact Report released by USDA, the biobased products industry supported 4.6 million American jobs; contributed $470 billion to the U.S. economy and generated 2.79 jobs in other sectors of the economy for every biobased job. Biobased products also have a substantial environmental impact, displacing about 9.4 million barrels of oil a year, with the potential to reduce greenhouse gas emissions by an estimated 12.7 million metric tons of CO2 equivalents per year.

About Earthcare LLC:

About the USDA BioPreferred Program

With the goal of increasing the development, purchase, and use of biobased products, USDA's BioPreferred® Program was first introduced in the 2002 Farm Bill and reauthorized in 2018. It requires federal agencies and contractors to give purchasing preference to biobased products. The USDA BioPreferred Program also includes a voluntary certification and labeling initiative for biobased products. This is referred to as the USDA Certified Biobased Product Label.

More than 1,800 companies across the U.S. and in 47 countries participate in the Program. From farm and field all the way through the manufacturing process, the expanding market for biobased products creates jobs, supports rural economic growth in America, and has a positive impact on our planet. Have questions? Please contact: Vernell Thompson, USDA BioPreferred Program at Vernell.Thompson@usda.gov.

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THE HEALTH OF AMERICA BEGINS IN THE SOIL ™

HAVE YOU THOUGHT ABOUT YOUR SOIL ADDITIVES APPLICATIONS?

USDA CERTIFIED BIOBASED PRODUCT
PRODUCT 99%
FP

Ecochar – a USDA Certified Bio-Based Certified Soil Amendment

OMRI LISTED

EcoReOrg - a Certified Organic Soil Amendment

~ HOW WOULD YOU LIKE TO:

- **GREATLY REDUCE OR POSSIBLY ELIMINATE YOUR COMMECIAL FERTILIZER APPLICATIONS**
- **POSSIBLY REALIZE THE REDUCTION OF YOUR HERBICIDES AND PESTICIDES**
- **IMPROVE THE FERTILITY OF YOUR SOIL**

~ DO YOU WANT TO REALIZE:

- **IN APPLYING ECOCHAR YOU WILL HAVE A CONSISTANT CHAR BASED SOIL**
- **HEALTHIER & MORE NUTRITIONAL PLANTS**
- **POSSIBLE LOWER INPUT COSTS**
- **GREATLY REDUCE OR ELIMINATE RUNOFF CONTAMINATION TO WATER SOURCES**
- **INCREASED SOIL ORGANIC MATTER**
- **INCREASED BENEFICAIL MICROBIAL POPULATION**

IF YOU WOULD LIKE TO REALIZE ALL OF THE ABOVE, YOU MUST SERIOUSLY CONSIDER APPLYING ECOCHAR and/or EcoReOrg!

By applying early spring or preferably fall or early winter, it will allow ECOCHAR and/or EcoReOrg to work its way into the ground and be available for your plants in the spring.

If you decide to apply the ECOCHAR & EcoReOrg soil amendments after planting or when the plants starts sprouting, they will still be effective in increasing your soil organic matter and your microbial population. We recommend 1 ton / acre consisting of 80% EcoReOrg and 20% ECOCHAR / acre. This will give you a very effective Organic Soil Amendment with a Bio-Based Char Soil Amendment resulting in enhancing the health of your crops as well as initiating the improvement of your soil.

ECOCHAR encapsulates nutrients acquired from the feedstock processed through our Gasifier System. As it works down into the soil, it adsorbs additional nutrients that are in the soil and these nutrients are released by the microbes in the soil when the plant calls for them.

The char base of EcoChar stays in the soil forever providing moisture retention, surface area for beneficial microbes, and cation exchange capacity.

The ECOCHAR and EcoReOrg are Pathogen-Free, Contamination Free and Ecoli-Free and EcoReOrg has the same nutrient value but does not have a char base.

If the ECOCHAR and EcoReOrg are applied properly, you will most likely realize a higher nutrient plant. You will also realize a constantly improved soil health that will probably reduce the amount of both soil amendments application needed after a few years of doing so. This would be determined by soil samples. There is a probability that you will reduce your use of herbicides and pesticides.

ECOCHAR is a revolutionary bio-char made from a wide range of sustainable recycled farm waste materials such manures of all types and forages. It is also derived from other sources such as Distiller Grains, and By-Products from Animal Processing, Municipal Waste, Food Processing, Mushroom Growers, Nut Shells and Rice Hulls, etc.

Processed poultry litter mixed with a low percentage of food waste is preferable for ECOCHAR / EcoReOrg agricultural applications.

(Wood char does not have self-contained nutrients in the char and will adsorbs nutrients in the soil, but holds them and does not release those nutrients (for possibly one year) when the plant calls for them until a certain saturation of nutrients are built up. Wood has a char value but does not have the self-contained high nutrient value nor the immediate nutrient release than that of ECOCHAR).

I encourage you to consider applying ECOCHAR along with EcoReOrg on a portion of your acreage and compare the health of your forages as well as the health of your soil. I know you will be pleasantly satisfied with the overall results results.

For those of you who apply for government programs, the NRCS has a program in which you can be reimbursed for applying Biochar. We suggest that you visit the local Conservationist to start the process as you could save precious time in submitting the correctly filled out form.

ECOCHAR and EcoReOrg will enhance the quality and yield of your crops as well as improve your soil.

Please let me know if you want to order ECOCHAR and/or EcoReOrg or of your interest in applying for the NRCS program. I will be glad to help in any way needed and am available to visit with you at any time to discuss how we can help you.

Thank you, Bob
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THE HEALTH OF AMERICA BEGINS IN THE SOIL ™

The following suggestions are the ways in which we know that we can help you increase your soil organic matter, increase beneficial microbial population improving the fertility of your soil.

USDA CERTIFIED BIOBASED PRODUCT
PRODUCT 99%

Ecochar – a USDA Bio-Based Certified Soil Amendment

OMRI LISTED

EcoReOrg - a OMRI Certified Organic Soil Amendment

The facility processing these products uses 100% renewable power and dries predominantly using recovered heat from the carbonization system (low / no fossil fuel use, renewable heat treatment / drying). This facility is part of a carbon negative biochar production facility.

If you no-till, we suggest that you start the first year of spreading 100% - Ecochar or 80% - EcoReOrg and 20% - Ecochar in the fall at the rate of 1 ton / acre (or equal to the agronomic rate for nutrients, whichever is less) before you plant your cover crop. Ecochar has nutrients encapsulated and EcoReOrg has those same NPK micronutrients from the organic feedstock that is processed through our Gasification System to produce both of these Soil Amendments.

Ecochar has encapsulated nutrients from the type of feedstock processes and will adsorb the nutrients in the soil. These nutrients are released by the microbes in the soil when the plant calls for them. The char base stays in the soil forever providing moisture retention, surface area for beneficial microbes, and cation exchange capacity.

(Wood char (carbon) does not have self-contained nutrients in the char and will adsorb nutrients in the soil but holds them and does not release those nutrients when the plant calls for them until a certain saturation of nutrients are built up. Wood has a char value but does not have the self-contained high nutrient value nor the immediate nutrient release than that of Ecochar).

A whole house cleanout of chicken litter has a C/N ratio of approximately 35:1 to 40:1. It has 2 ½% to 3% nitrogen that is basically not available. It has been found that nitrogen is not sufficient because none of the nitrogen is available as it is being bound up by carbon.

When you plant your legume cover crop in the fall and it matures, (either fall or spring – dependent on the type of farming such as food or grain crops), to the point when the plant is in the “milk” or “dough” stage of seed maturity or when ¾ of the plants are flowering if not a cereal crop, we suggest that you terminate the legume with a crimper. Crimping is time selective and must be done before the seed matures.

The roller crimped cover crop would act as your pre-emergent because it would block out the weed seed while your crop is coming through. There is a strong possibility that ou will greatly reduce or eliminate the use of herbicides realizing savings in your input costs for herbicides, fuel and time. Pesticide use should also decrease over a 3 year period because of the increasing organic matter, increasing the microbial population.

Ecochar is for soil microbes and soil carbon as it increases the soil carbon so it will hold moisture and hold nutrients. Spreading Ecochar in the fall allows it to work into the soil and gets the microbes going so they are highly populated coming into the spring and can do a better job of producing nutrients to the plants. EcoReOrg can be spread with the Ecochar or by iself depending on the nutritional needs of the soil.

If you are interested in our ideas for this type of management strategy, please contact us as we look forward to visiting with you.

Thank you, Bob

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NATURAL CHAR SOLUTIONS, LLC

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THE HEALTH OF AMERICA BEGINS IN THE SOIL ™

HAVE YOU THOUGHT ABOUT ECOCHAR APPLICATION IN YOUR ANIMAL & BIRD HOUSINGS?

HOW WOULD YOU LIKE TO REALIZE THE FOLLOWING:

Poultry Houses:

- REDUCE PROPANE COST
- REDUCE ELECTRICAL COSTS
- IMPROVE BIRD HEALTH
- LESS AMMONIA INHALATION
- LESS MOISTURE IN BEDDING
- POSSIBLY SHORTEN GROWTH PERIOD
- INCREASE NUMBER OF FLOCKS / YEAR
- REDUCE ODOR
- REDUCE MORTALITY

Horse Stalls:

- IMPROVE HEALTH
- REDUCE BEDDING COSTS
- REDUCE LABOR COST
- REDUCE ODOR

Calf Pens:

- IMPROVE HEALTH
- REDUCE PNEUMONIA
- REDUCE BEDDING COSTS
- REDUCE ODOR

Concerning the application of Ecochar, (a USDA Certified Biobased Product), mentioned above, even though the enclosed literature emphasizes the improvement of the soil and plant health, we ask that you consider the above alternatives towards improving the health of your animals & birds as well as a great reduction, or elimination of the odor. We named a few but there are others such as rabbit pens, etc.

Please let me know if you are interested in discussing the application and uses of Ecochar as I would arrange to visit with you to discuss.

USDA CERTIFIED BIOBASED PRODUCT
PRODUCT 99%
FP

Thank you, Bob Rice

Natural Char Solutions LLC

Owner Robert C. Rice

Representing Earthcare Solutions Natural Fertilizers

ECOCHAR

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ECOCHAR

ALTERNATE REPLACEMENT FOR UNSUSTAINABLE PEAT MOSS IN THE GREENHOUISE INDUSTRY

Peat Moss is a major component of potting mix and harvesting of this component is becoming unsustainable. Peat Moss is being removed faster than it can re-form.

ECOCHAR (A Natural Soil Amendment) & VITAL FORCE (A natural Fertilizer containing a mix if ECOCHAR and other ingredients giving it many more microbes than the basic ECOCHAR). Either of these natural additives activate the microbes in the soil, unlike peat moss, which contributes to the releases carbon dioxide into the atmosphere.

Most of the peat moss from the potting soil mix is either mineralized by the microbes or thrown out and decomposed.

When organic material decomposes naturally, the process release carbon dioxide. But ECOCHAR decomposes very slowly – potentially on the order of centuries – so when organic material is turned into ECOCHAR, the carbon is essentially sequestered and can`t escape back into the atmosphere.

Use of ECOCHAR to replace peat moss should be seriously considered because it has much higher properties than peat moss.

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REPRESENTING EARTHCARE, LLC

GASIFICATION SYSTEM

Earthcare, LLC is a leading provider of sustainable waste management solutions, specializing in manures, biosolids, residual wastes and organics management through thermal gasification and specialized biochar production.

Gasification System produces ECOCHAR – A Soil Amendment

THE HEALTH OF AMERICA BEGINS IN THE SOIL ™

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FP

ECOCHAR

Consistent char-based soil

Increases soil organic matter

Adsorbs nutrients from the soil

Increase beneficial microbial population

Eliminate runoff contamination in water sources

Greatly reduce commercial fertilizer applications

Enhance the health of the soil, forages and waterways

Lower input costs and realize higher net revenue / acre

Encapsulates nutrients from type of feedstock processed

Higher nutritional forages improve health of animals & humans

Provides moisture retention & surface area for beneficial microbes

RENEWABLE ENERGY CONSULTANTS, LLC

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Earthcare Gasification System



Earthcare, LLC is a leading provider of sustainable waste management solutions, specializing in manures, biosolids, residual wastes and organics management through thermal Gasification Processing System and specialized biochar production.

The Gasifiacation System processes by-products from animal and food processing plants and all types of vegetation such as wood, switch grass, cord fodder, etc. to produce various grades of Biochar (from wood & vegetation by-products) along with the following Soil Amendments from manure and by-products from food & animal processing facilities.

Ecochar – (A USDA certified Biobased Product)
ECOCHAR is the carbon-rich product obtained when biomass is heated in a closed container, in either an oxygen-starved or oxygen-free environment.

EcoReOrg – OMRI certified Organic Soil Amendment
This is obtained when processed through our dryer & hammermill system and has the same nutrients as the Ecochar, but does not have a char base.

Please call us to discuss if interested in a Gasifiaction System as we know that we can help you turn your waste into a sellable and usable product.

Thank you, Bob Rice

REC.LLC

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POWER TWIST LINK BELT - ONE SIZE FITS ALL

ELIMINATES INVENTORY OF MULTIPLE SLEEVES FOR EACH WIDTH

Sizes range from 3L - A – B – C – D



Reduce your belt inventory to one box (25 Ft. of belting) for each width rather than storing multiple lengths of rubber belt sleeves which will deteorate when hanging on the wall over a long period of time. The Power Twist Belt absorbs vibration, will not deteorate and no disassembly of equipment needed when installing. This belt is a high performance polyurethane elastomer reinforced with multiple plies of polyester fabric. This gives excellent resistance to extremes of temperature, abrasion, exposure to oils, grease, water, steam, and common industrial solvents and chemicals. Past performance shows probability of lasting up to 15 times longer than conventional V-belts.

Owner
Robert C. Rice

RENEWABLE ENERGY CONSULTANTS, LLC
Representing Earthcare Solutions

Gasification Systems
Power Twist Belts
ECO CHAR

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100KW to 7MW

The Earthcare Gasification System can drive up to an estimated 800KW Turbine Generator dependent on the proper degrees of the exhaust gases, the feedstock being processed and size of boiler needed to produce the needed amount of steam.

RENEWABLE ENERGY CONSULTANTS, LLC

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WE CAN HELP YOU PASS EPA STANDARDS

ARE YOU HAVING EMISSION PROBLEMS WITH YOUR PARTICULATES FROM YOUR BOILER SYSTEM?

OR

ARE YOU FAILING YOUR STACK TESTS DUE TO HIGH PARTICULATES IN YOUR EXHAUST STREAM?

Would you like to separate the larger particles and fines (for pelletizing) in your process?

How would you like to eliminate your Cyclone, Baghouse, Scrubbers and your exiting gasses Filter System?

We will size to fit your needs.

We have the answer for you:

We offer Separator Collectors and Fabric Filters as described in the attached flyer.

Please call us to discuss how we may help you.

Bob Rice

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REPRESENT ENGINEER & MANUFACTURER OF:

SEPARATOR COLLECTORS AND FABRIC FILTERS

The objective of fabric filter baghouses is to collect particulate matter from the flue gas stream



> Provide flexibility
- Fuel switching and high dust loading
- Pressure and temperature fluctuations

> Higher HAAP control
- Reduced Reagent consumption, for metals and Acid scrubbing applications

> Capable of lower emission levels

> Gas Path
- Inlet manifold
- Inlet plenum
- Fabric filter module
- Clean air plenum
- Outlet manifold in module

> Dust Path
- Filtered on bags in module
- Drops to hopper during cleaning
- Separation in housing before filter bags
- Conveyed to waste or storage

> Cleaning System
- Manifold
- Blowpipes

Advantages

> Design for Maintenance
- Top door design (proprietary design)
- Modular four wall construction

> Design for Constructability
- Split module fabrications
- Shop insulation and cladding

> Advanced Inlet Designs
- Long bag technology
- High side entry

> Side Entry Latest Technology
- New technology for long bag design >24’
- Flow enters side of module and flows across bags
- Efficient on-line cleaning at high A/C ratios
- Reduces bag abrasion issues

> Side Entry vs. Hopper Entry Side Entry
- Distribution up the front wall
- Lower local velocities
- Reduced abrasion
- Efficient cleaning at high air-to-cloth ratios
    - Reduced re-entrainment

> Hopper Entry
- Less expensive
- Developed for smaller baghouses

> Top Door vs. Walk-In Plenum

> Top Door

- Easy to access for maintenance
- No confined space requirements
- Less time required to cool
- In-leakage concerns
    - No warping or in-leakage with the Dustex floating pan design

> Walk-In

- Less expensive
- No penthouse requirements

Call us if interested or need additional information,

Bob Rice 570-765-2020