



3R AGROCARBON

“Converting Trash Into Cash”

ADVANCED CARBON BIO-REFINERY BY HIGH-TECH PYROLYSIS TECHNOLOGY

The **3R AGROCARBON** is a natural Phosphorous recycling and reuse **ZERO EMISSION** technology for economical conversion of agri/food waste bio-resource streams into high added value natural products. **Standard input industrial capacity is from 4 m3/h (30,0000 m3/year).**

The **INPUT FEED STREAMS** are low value - plant and/or animal - organic by-products; such as high Phosphorous content food grade (category 3) animal bone meal, refuse grain, food processing, agricultural and forest by-products and excess natural organic materials.



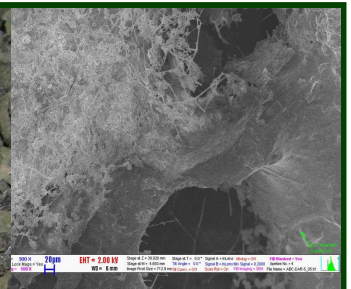
BONE MEAL



BONE CHARCOAL



BIOTECH FORMULATION



SEM Microscope picture

The **OUTPUT PRODUCTS** are high quality **animal bone charcoal 10,000 t/y** for wide range of agricultural (**natural Phosphorus fertilizer, biochar**) and environmental (adsorbent) applications, **recycled nitrogen fertilizer (3,500 t/y)** and transport quality **bio-oil clean energy (6,500 t/y)**.



3R CARBONIZATION EQUIPMENT

The **3R** is a horizontally arranged indirectly heated **low temperature zero emission carbonization system** (operated at <850°C), with integrated agro biotechnological and catalytic conversion units.

High Phosphorus mineral and carbon content food grade animal bone meal and other agro/food by-products recycled in combined innovative processes:

- 1 Advanced carbonization to manufacture biotechnological specific solid mineral/carbon carriers.
- 2 Innovative Solid State Fermentation/Formulation.
- 3 Synthetic bio-fuel production.

3R AGROCARBON

“Proven, demonstrated and industrial permitted new generation 3R solution”

THE 3R AGROCARBON CHARACTERISTICS

- ✓ **ECONOMICAL SUSTAINABILITY** = economical valorization process for conversion of low value excess / waste feed materials into added value refined output natural products. Low production cost and high economical value creation for wide market applications of the products.
- ✓ **HIGH ECONOMICAL YIELDS - SHORT RETURN ON INVESTMENT** = ROI 2-4 years.
- ✓ **MARKET AND CONSUMERS SUSTAINABILITY** = "WIN-WIN" for all stake holders.
- ✓ **ENERGY SUSTAINABILITY** = uses minimum energy, all energy is recycled and reused.
- ✓ **TECHNICAL SUSTAINABILITY** = industrialized production system with controlled output quality.
- ✓ **ENVIRONMENTAL SUSTAINABILITY** = recycles and reuses waste materials to added value products by an advanced **ZERO EMISSION carbonization process with carbon negative solution**.
- ✓ **LEGAL SUSTAINABILITY** = The 3R technology operations and product applications are designed to meet all the EU/US/JP and international norms, standards and Authority permit requirements. The patented 3R technology is invented and sole owned by the Swedish inventor Edward Someus.
- ✓ **ORIGINAL SOLUTION**, which is safer, better, faster and less costly than any known solutions.
- ✓ **AUTHORITY PERMITTED, VALIDATED, PROVEN DEMONSTRATED TECHNOLOGY**.

3R AGROCARBON APPLICATION STRATEGY

The **output end product provides** combined effect, and used in the **ORGANIC** and **LOW INPUT FARMING** agriculture, with special aim to the vegetable, rice and medicinal herb plant cultivars:

- 1 **Plant growth promotion**, for natural substance support to get **higher plant yields** with **better quality** and **safer food products**.
- 2 **Natural N, P, K fertilization**: Food crop mineral deficiency and disturbance stress mitigation by restoration of soil natural balance. Substitution of energy intensive artificial fertilizers.
- 3 **Biological control effect** against soil borne plant pathogens, for substitution or significantly lower the input of agro-chemicals.

The advanced animal bone charcoal recycling program is a key important product and technology item for organic and low input farming horticultural productions to achieve high quality and safe food crop products with higher yields and higher market values, but by less production costs.

3R AGROCARBON INTERNATIONAL BUSINESS STRATEGY

Regional manufacturing **LICENSING** and **TECHNOLOGY TRANSFER** program for manufacturing and use of the novel 3R technology. Equity investments are also available. **Market demanded and user oriented zero emission carbon bio-refinery with outputs for Customers and Consumers in focus**.



3R Environmental Technologies Group

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