

# Overview of N2N "BIOVERT"

N2N™ BIOVERT LIVING SOILS / ORGANIC  
FERTILIZERS & BIOMASS CONVERSION  
SYSTEM



# PROJECT SUMMARY:

## N2N™ Biovert Products & The "SIEP" Process

- N2N Biosystems Group owns all global License(s) and Rights to N2N products and systems as they pertain to the Biovert Biomass Conversion System and Biovert Products.
- The Biovert Biomass Conversion System is based on the use of N2N's specially developed enzymes / microorganisms, which through an accelerated enzymatic process, digest and convert biomass into nutrient rich living soils and organic fertilizers.
- Unlike composting processes, the N2N BIOVERT process attaches the processed carbon, contained within the biomass, to the soil, stabilizing the carbon in solid and dissolved forms, eliminating atmospheric warming, reducing the human carbon footprint, while capturing 97%+ of the available carbon that completely off-gases as CO<sub>2</sub> during most composting process.



# N2N™ Biovert Products & Process

- 1 The process was originally developed to extract sugars from biomass as part of an organic alcohol conversion process, however, during development, an alternative series of reactions and outputs was discovered which led to the creation of the Biovert process and Biovert living soils.
- 2 The Biovert conversion process is used in conjunction with N2N "SIEP" (selective indiscriminate electro-chemical process) which centers on an electro-chemical reaction to achieve molecular disassociation, unlike traditional processes that rely on agitation or other similar methods to achieve the breakdown of the biomass.
- 3 Traditional composting processes can take 140 plus days to complete. The Biovert process, depending on biomass being processed, takes only a matter of weeks.



# N2N™ Biovert Products & Process



### Targeted Molecular Processing

Traditional biomass to soil conversion processes can eliminate both the good and the unwanted microbes, whereas the Biovert process targets specific molecules, thereby decreasing processing time while increasing the quality of the yield in the soil.



### No Pre-Treatment Required

"SIEP" does not require pre-treating of any of the feedstocks, as many other processes do.



### Versatile Feedstock Processing

As the "SIEP" process is indiscriminate, in terms of what biomass can be processed, it can be utilized with nearly every cellulosic feedstock imaginable.



# N2N™ Biovert Products & Process



### Simple Preparation

The BIOVERT process requires Biomass feedstocks to be reduced to quarter of an inch particle size only which is easily achievable by the inclusion of a horizontal grinder or similar mulching equipment



### Resistant to Contamination

The BIOVERT process is not affected by foreign bacteria whereas most composting processes fail when unwanted bacteria are encountered



### Zero Waste

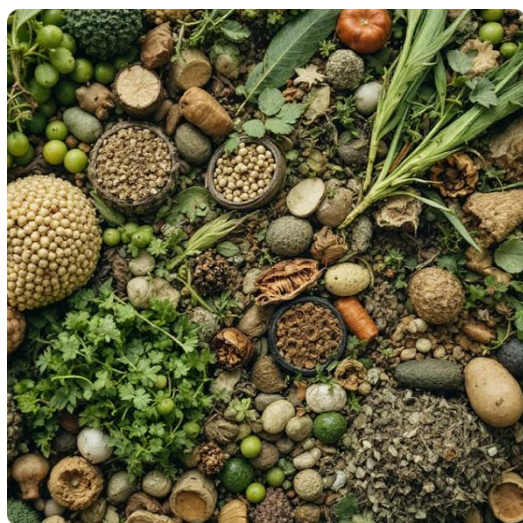
All waste products are digested during the BIOVERT process with any waste products treated and recycled back into the BIOVERT



### Complete Conversion

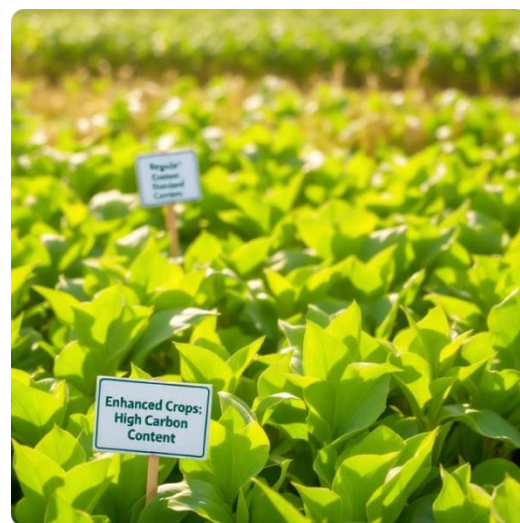
Traditional processing methods have varying percentages of total waste products whereas BIOVERT leaves no unusable byproducts .

# N2N™ Biovert Products & Process



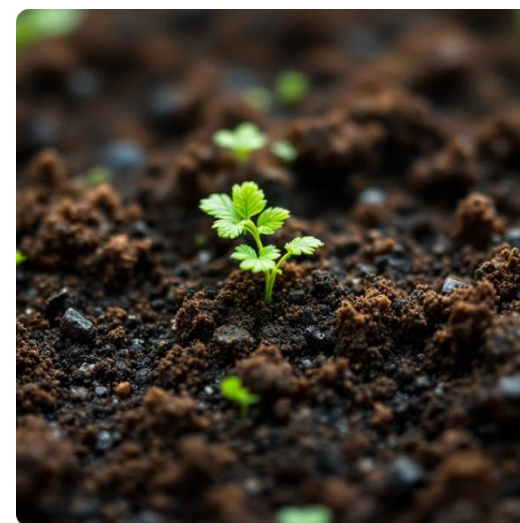
## Feedstock Optimization

While BIOVERT can utilize a wide range of feedstocks, N2N has refined the process to maximize the efficiency and carbon capture capacity in BIOVERT products derived from crops grown using N2N developed genetics and N2N HEDGE enhancement products.



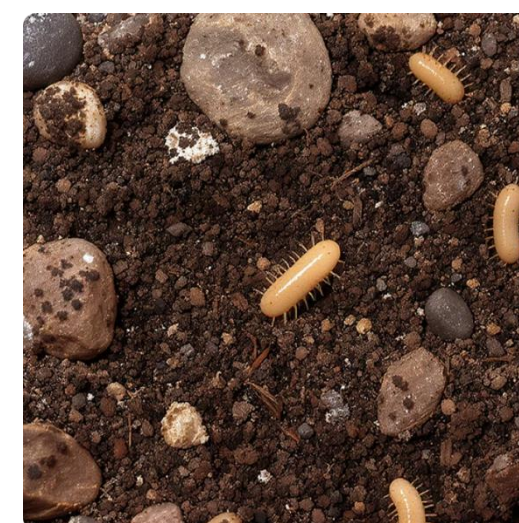
## Enhanced Carbon Content

N2N Grown biomass has a considerably higher carbon content than traditionally grown biomass



## Nutrient-Rich Conversion

This biomass is converted into nutrient rich growing mediums, with elevated level of fixed carbon unlike composted products that have off-gassed the bulk of its carbon



## Living BIOVERT Mediums

The converted biomass, now BIOVERT, is a living soil / growing medium, teaming with microbial-nutrients, which is used as the basis of all BIOVERT organic fertilizers.



Sellectom  
Selective breakdown of cellogracious

+10:25mm

# Superior Biomass Processing

## Targeted Molecular Breakdown

Preserves beneficial microbes while eliminating unwanted ones

## No Pretreatment Required

Works with virtually any cellulosic feedstock

## Minimal Processing

Only requires quarter-inch particle reduction

## The "SIEP" Process Advantage

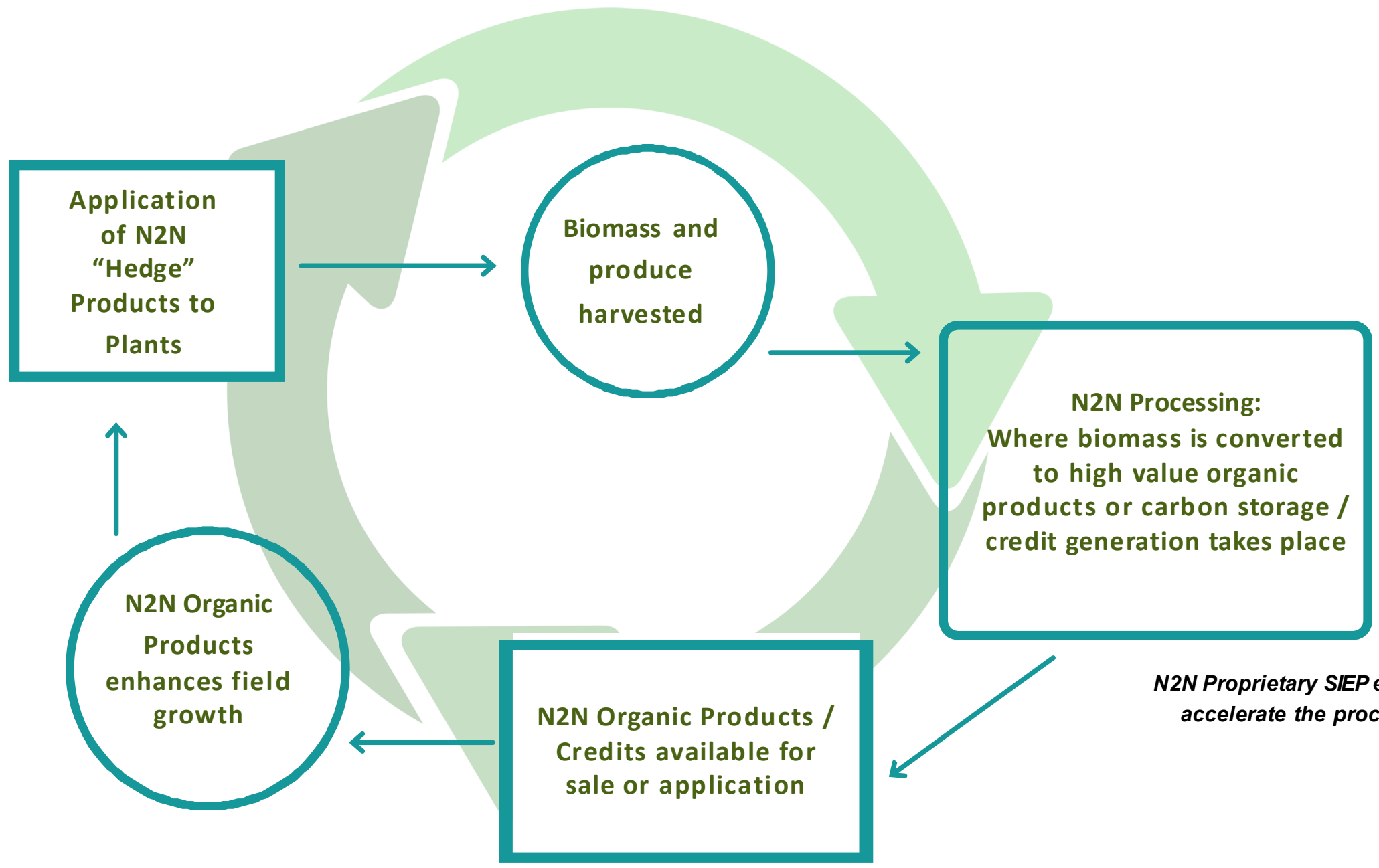
**180+**  
Compost Days.

**30**  
Biovert Days

**97%+**  
Carbon Captured

# N2N Systems / Products and the Regenerative cycle

*"Hedge" Products accelerate the CO2 absorption in plants up to 300+%*












*N2N Proprietary SIEP enzymes accelerate the processes*



# What are N2N™ "HEDGE" Products?

Eco-friendly plant protection and plant enhancement products that REALLY WORK

-  HEDGE encases plants/foilage in a protective barrier
-  Enhances photosynthesis
-  Enhances plant health
-  Protects against molds & mildew
-  Increases the rate of Carbon Sequestration
-  Allows for "Veganic" growing
-  Deters aphids, mites and other destructive insects
-  Increases plant / produce growth
-  OMRI listed as safe for use in organic growing

# Hedge



# The “SIEP” system for “BIOVERT” and Carbon Credit production.

Bagging not required for carbon credit only projects, bury and cover only.

- The biomass is processed into quarter inch sizing for Biovert products, seven-inch sizing for bury only, using a hammer mill, tub-grinder or similar grinding equipment.
- Processed Biomass then delivered to bury site or bag stuffer.
- Processed Biomass is sprayed with a measured amount of a liquid SIEPenzymes.
- The Biomass is stored for approximately four weeks in the air-tight bags, (or similar oxygen starved environment), to ensure full conversion of all variations in feedstock composition.
- The bag / bury site, is then opened and a small portion of a proprietary “living soil” is added to the mix to start regeneration and reinvigoration of the microbes and initiate the process to create an active BIOVERTproduct.
- Alternatively, when SIEP is being used for the creation of Carbon Credits only, the treated biomass is buried in open pits with soil put on top for cover, where it remains.
- No off-gassing, heat generation or loss in quantity of the treated biomass ever occurs with the SIEP system.



# N2N Contracting Group

(A wholly owned subsidiary of N2N Farming Group)

N2N Contracting Group undertakes the physical works and supplies all equipment and management for N2N “SIEP” and N2N BIOVERT operations globally

- N2N Contracting Group provides all site services for each different N2N project along with undertaking civil / contracting projects for third parties. This includes the supply of land clearing, excavation, grinding, mulching, preparation for cropping and harvesting, transportation and all establishment and on-site services required for a N2N project.
- The Contracting Group owns / operates a wide variety of equipment / machinery including dozers, loaders, excavators, grinders, flat-bed / tip-trucks and trailers, tractors, spray-units, baggers, cultivation and harvesting equipment etc.
- Having the ability to undertake the Civil part of any project allows N2N to control all aspects of the operation as a fully vertically integrated business thereby reducing the overall risk of any project and eliminating any potential third-party issues.



# N2Ns Further Developments

N2Ns ongoing quest for additional and improved products & processes.

N2N is in the process of expanding its farming operations for the growing of carbon specific crops to be processed using the N2N “SIEP” system into N2N “Biovert” products, along with expanding its in-house genetics development / manufacturing operations.

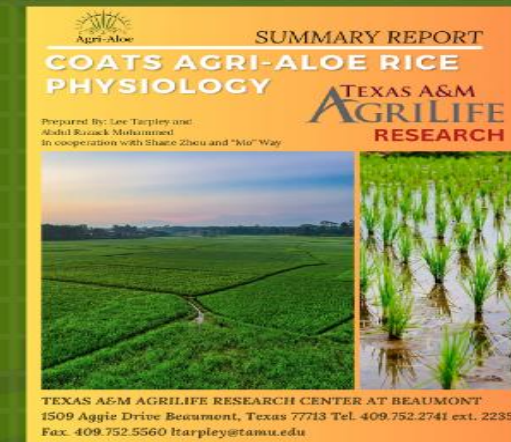
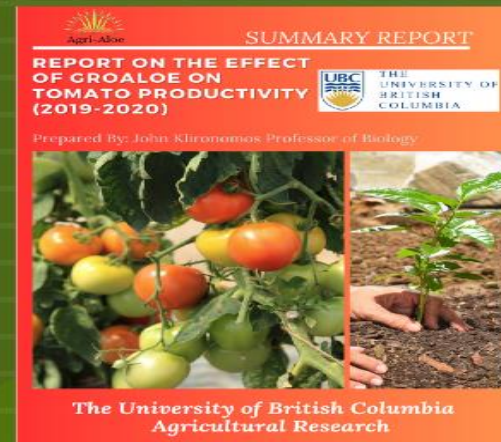
This includes the growing of crops using N2N “HEDGE” spray products and N2N “Biovert” organic fertilizers.

Additionally, a recent collaboration agreement was struck with Agri-Aloe LLC for the use of their GroAlo products to assist in the N2N growing process. And organic fertilizer development.

Early indications are that these GroAlo products increase the microbial activity within the “Biovert” soils thereby increasing the efficiencies and results obtainable within the N2N processes.



Since 2008 Coats Agri Aloe, LLC has undertaken multiple third-party studies using our Patented GroAloe™ to test the efficiency of the product in field trials. These include, but not limited to;



# Validation

## Highlights

N2N has spent substantial capital on the development, testing and production of all N2N Technologies, Systems and Products.

Testing has included extensive independent in-house & third-party testing.

- 1 University of Liverpool Open Innovation Hub for Antimicrobial Surfaces
- 2 Chiapas University of Mexico Agriculture Department
- 3 Cornell University Field Extension Study
- 4 Many Independent University Trials
- 5 Many years of continuous study on N2N owned commercial farms
- 6 Many (Global) Commercial Trials

Turning food waste into Carbon rich Organic soils while eliminating CO2 emissions.



# Contact N2N

27

For further details relating to any information contained in this presentation or any N2N products, please contact one of the following:

## Head office

N2N Global LLC  
**Russ "Kiwi" O'Kane**  
Email: [RussO@N2Ngroup.global](mailto:RussO@N2Ngroup.global)  
Ph, WhatsApp: + 1 918 407 2892

## Dubai/Middle East

N2N Global LLC  
**Prajesh Mohan**  
Email: [prajesh.pohan@n2ncleangreen.com](mailto:prajesh.pohan@n2ncleangreen.com)  
Ph, WhatsApp: + 971 58 689 1656

## Latin America

N2N Global LLC  
**Diwa Ratnam**  
Email: [DiwaR@N2Ngroup.global](mailto:DiwaR@N2Ngroup.global)  
Ph, WhatsApp: +1 651 398 6515

## South Pacific

N2N Global LLC  
**Rob Ballantyne**  
Email: [RobB@N2Ngroup.global](mailto:RobB@N2Ngroup.global)  
Ph, WhatsApp: + 64 21 331 844

## New Zealand

N2N Carbon Group  
**Rod Tindall**  
Email: [rtindall@gmail.com](mailto:rtindall@gmail.com)  
Ph, WhatsApp: + 64 21 197 2646

[www.N2Ngroup.global](http://www.N2Ngroup.global)

[www.hedgedefense.com](http://www.hedgedefense.com)

