GREEN BEAR BIO

BIOLOGICAL EVOLUTION OF ACTIVE RESOURCES

Biorigeneral® PLUS

MIXED COMPOST SOIL IMPROVER

A BIOLOGICAL APPROACH TO THE AGRICULTURE OF THE FUTURE

GIMAS

Biorigeneral® PLUS

Product registered with SIAN
no. 0037704/22

APPROVED FOR ORGANIC FARMING

Biorigeneral Plus consists of a pure and natural blend of two selected organic raw materials, namely high-quality organic compost from dairy cattle manure and biodigestate from poultry manure, both composted for a period ranging from 7-8 months to 12-14 months.

The main feature that makes **Biorigeneral® PLUS** an excellent organic matter corrector is the total guarantee of the origin of the organic raw materials used and their traceability.

Biorigeneral®-Plus has a high level of biodiversity, containing **812 different species of bacteria and fungi.**

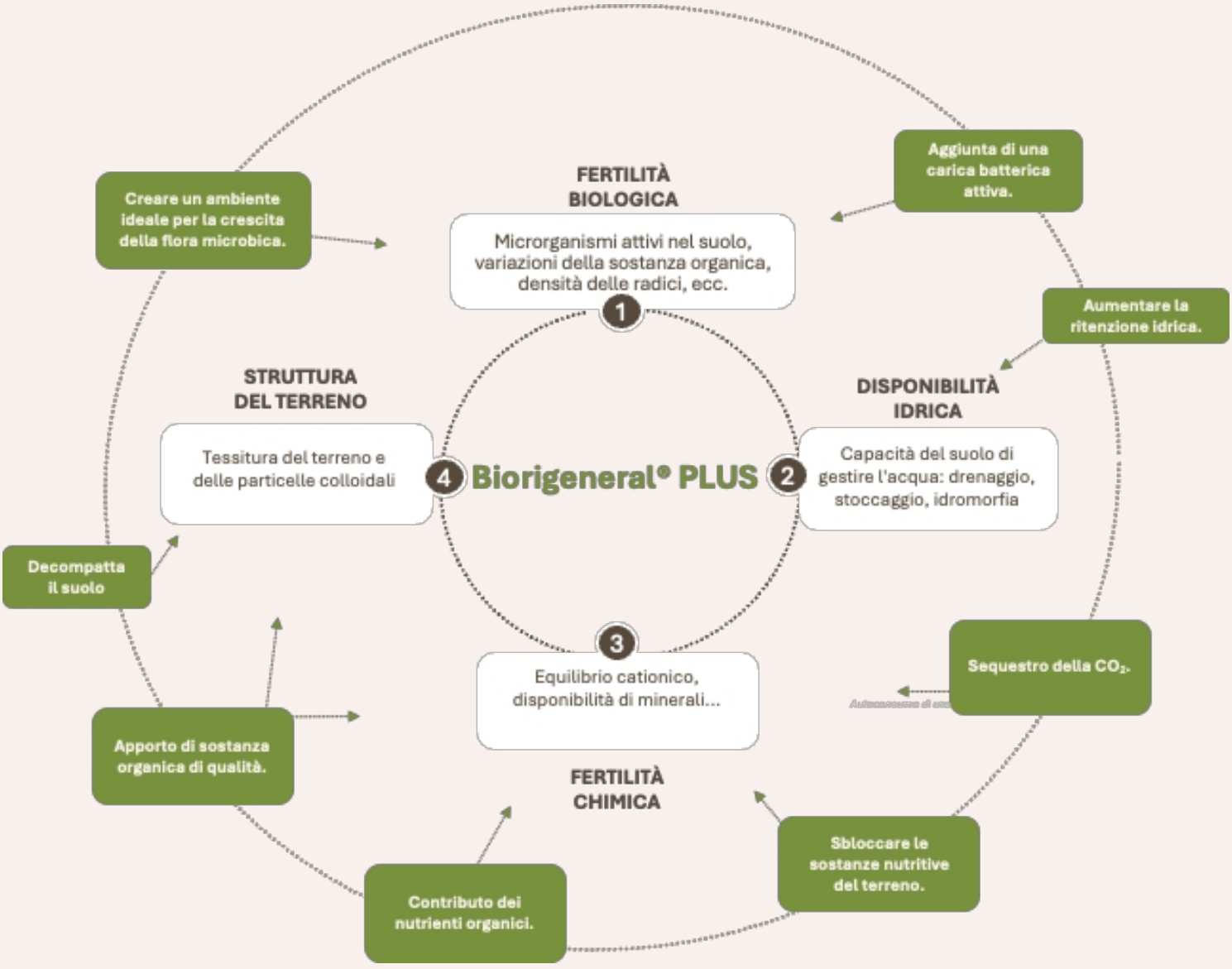
ADVANTAGES

- **Reduces soil compaction.**
- **Increases water retention.**
- **Provides high-quality organic matter.**
- **Increases CO_2retention.**
- **Allows for a reduction in chemical fertilizers.**
- **Provides active microbial flora.**
- **Creates an ideal environment for microbial flora growth.**
- **Unlocks nutrients present in the soil.**

Biorigeneral® PLUS

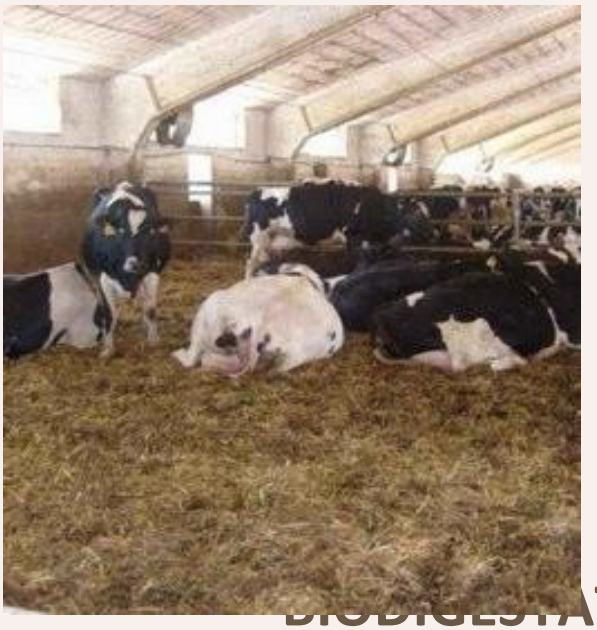
Product registered with SIAN
no. 0037704/22

FERTILIZATION YES, BUT NOT WITHOUT RICH SOIL.



RAW MATERIALS

CATTLE LITTER



The first material to enter the composting process is bedding. Located in covered areas where healthy animals are housed, this bedding is not treated with antibiotics, other medicines, or hormones. The product is based on cereal straw and animal manure. This bedding is periodically replaced with new bedding, while the old bedding is piled up on the composting windrows. Products that do not contain a sufficient percentage of straw or that have undergone drying processes (solar) are not included in the composting material.

BIODIGESTATE FROM MANURE

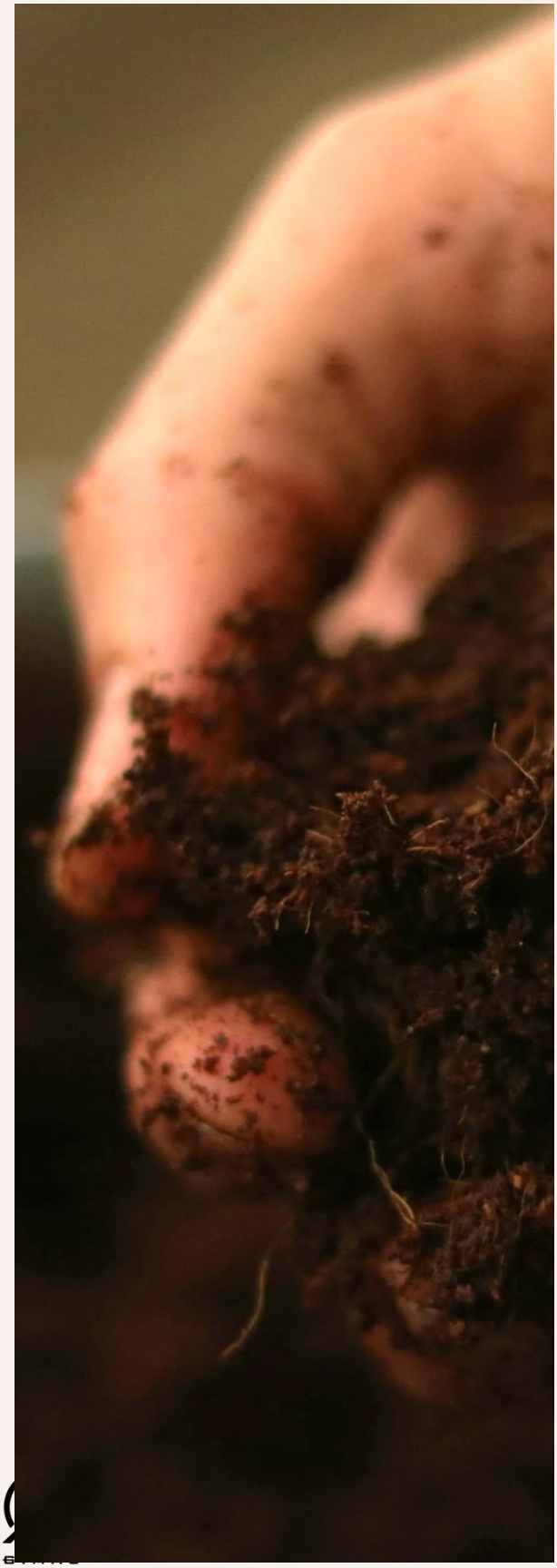
The technology of anaerobic digestion of organic waste is based **on the action of different groups of microorganisms** that transform the organic substance. The biodigested material produced is not to be considered waste, but represents a valuable resource whose exploitation is important for the profitability of the agricultural supply chain.

From an environmental point of view, **the use of biodigestate has numerous positive effects**, such as maintaining biodiversity, ensuring the proper functioning of nutrient cycles, and protecting and decontaminating the environment. Biodigestate from poultry manure is a material with **excellent soil-improving and fertilizing properties**, and contributes to maintaining soil fertility.

The mixture of these two valuable raw materials gives rise to Biorigeneral Plus, a product with important characteristics, rich in bacteria and fungi that contribute to providing the soil with a quantity of high-quality active microbial flora.

PREPARATION

THE COMPOSTING PROCESS OF ORGANIC MATTER



Once the manure and straw windrows have been formed, the composting process begins, characterized by: Aerobic decomposition of the material during composting. Intensive monitoring of the process, especially with regard to temperature, humidity, and ventilation of the windrows.

Pasteurization of the material. The aerobic decomposition generated in the piles produces a controlled increase in temperature inside them, which triggers the pasteurization process that disinfects the material from pathogenic microbial agents, seeds, and insect eggs.

The composting process is divided into two phases. The first phase is decomposition, where the windrows are turned very frequently and which usually lasts about four months. The second phase is maturation, in which the product acquires its final degree of stability.

The duration of this last phase is normally 5-7 months, depending on weather conditions.
7 months, depending on weather conditions. In this phase, the windrows are turned less frequently than in the previous phase, mainly for the purpose of aerating and oxygenating the product.

All this makes it possible to obtain a high-quality material with very specific characteristics:

- **high concentration of humic extract.**
- **high ratio humic humic extract/total organic matter.**
- **High cation exchange capacity.**
- **Level 5 in the maturity test, which is the highest level that can be achieved.**

SUPPLY CHAIN CONTROLS

PRODUCT QUALITY CONTROLS

At our company, we are never satisfied, so we subject our product to various types of analysis in order to meet the growing needs of our customers, the market, and consumers.
To do this, we use specialized external laboratories that are accredited at the
and European level.

THE ANALYSES WE PERFORM ON BIORIGENERAL® PLUS ARE:

- Chemical-physical analysis and heavy metals
- Multi-residue or product analysis
- Product microbiome analysis.

Chemical and physical analysis allows us to detect the basic elements that are then declared on the label, as well as the percentage of heavy metals that must fall within the parameters permitted by law.

Parameters	Unit of measurement	Values
pH (40% aqueous suspension)	pH unit	7.8-8.0
Dry matter at 105° C (40% aqueous suspension)	%	59.
Moisture at 105° C	%	40
Organic matter Total	% on dry matter	41
Organic carbon total	% C on dry matter	22
Humic and fulvic carbon	% C on dry matter	7.65
fulvic		2
Total nitrogen	% N on dry matter	1.6
Organic nitrogen	% N on dry matter	(equal to 80% of total N total)
Potassium soluble in water	% K2O on dry matter	3.5
Total phosphorus	% P2O5 on dry matter	1.75
C/N ratio	------	11. 20
Salinity	dS/m	9.66

Parameters sought	Unit of measurement	Values	Limit values
Cadmium	mg/kg on dry matter	0.27 <	< 1.5
Total copper	mg/kg on dry matter	56 <	< 230
Hexavalent chromium	mg/kg on dry matter	0.10 <	< 0.50
Total lead	mg/kg on dry matter	0.75 <	< 140
Total nickel	mg/kg on dry matter	8.6 <	< 100
Total zinc	mg/kg on dry weight	298 <	< 500
Total mercury	mg/kg dry weight	0.10 <	< 1.5

MULTIRESIDUAL ANALYSIS

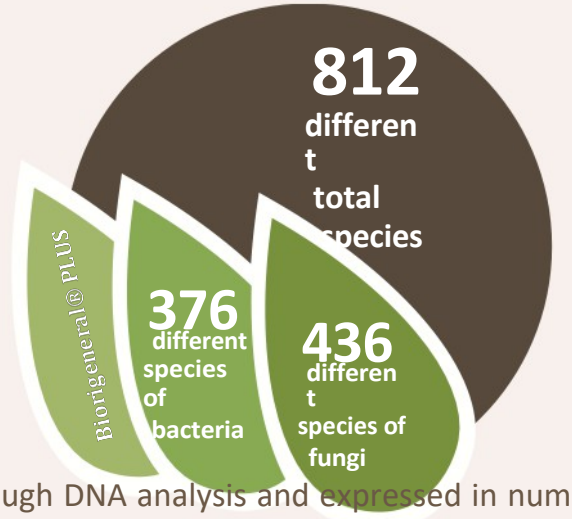
Multi-residue or product analysis is used to verify that the product does not contain active ingredients from plant protection products. (Approximately 300 active ingredients are tested for.) This type of analysis is useful for those working in the supply chain and is provided to the customer upon request.

MICROBIOME ANALYSIS

Product **microbiome analysis** is definitely **a brand new development!**

Why do we do it? **Because farmers and consumers are demanding a more ecological approach to food production, and it is only with this type of analysis that we can obtain the data necessary to understand what we are really bringing to our soil and crops in terms of bacteria and fungi.**

CONTENTS OF THE BIORIGENERAL® PLUS MICROBIOME



CONTAINS 376 DIFFERENT BACTERIA all mapped through DNA analysis and expressed in number of cells per gram of product. **Some of these contribute to the fixation of atmospheric nitrogen**, while others, such as Baccillus sp and pseudomonas sp, act on the solubilization of phosphorus and potassium already present in the soil, thus reducing the need for chemical products.

CONTAINS 436 DIFFERENT SPECIES OF FUNGI including mycorrhizal fungi. Some species present in the product **are able to exercise a sort of biocontrol by occupying space at ground level and thus preventing the settlement of other pathogens**, others, such as Trichoderma, exert a fungicidal function, and still others act against insects and nematodes.

SIMAS

GREEN BEAR BIO

Biorigeneral® PLUS

Biorigeneral® PLUS

DOSAGE AND METHOD OF USE:

The product can be applied manually or mechanically with a fertilizer spreader.

• **GREENHOUSE VEGETABLES**: Biorigenera PLUS® can be applied by spreading the product evenly over the surface and then mixing it into the soil, or by applying it locally to the row or ridge, about 20 cm from the plant.

• **OPEN FIELD HORTICULTURE**: Mix the product into the soil of the ridge or distribute the product over the open field, taking care to bury it.

• **CITRUS AND VINE ORCHARDS**: Apply the product near the roots, using a fertilizer spreader that buries it at the same time if possible: it can also be applied under the drip irrigation system.

Crops	Dosages	Application period
Horticultural crops (under tunnels) and strawberries	2,000-2,500 kg/ha	Before transplanting
Horticultural crops in open fields	2,000-3,000 kg/ha	Localized, before transplanting
Cereals	1,000-3,000 kg/ha	Pre-plowing or harrowing
Citrus fruits	2,000-3,000 kg/ha	In winter and spring
Fruit growing	1,500-2,500 kg/ha	Late winter, early spring Late winter, early spring
Vines	0.5-1 kg/vineyard	
Ornamental plants and lawns	2,500-3,000 kg/ha	Throughout the cycle and especially potted plants (mixed with soil)
Barbieto	1,200-1,500 kg/ha	One week before sowing or transplanting

GIMAS S.R.L.

REGISTERED OFFICE

Bolzano Via Della Mostra, 19

ADMINISTRATIVE HEADQUARTERS

Ferrara Via Caselli 13,F

Tel: 0532 413284

info@infogimas.com

www.gimasitalia.com
