

Synthetos[®]
Geolife[®] technology

Compost starter for green waste treatment



 **SWISS
MADE**

Bioma[®]



A Swiss company with more than 30 years of international presence.

BIOMA is a company active in the production and marketing of "Chemical free" and "GMO free" solutions for the food industry, oenology, agriculture, environmental bioremediation, zootechnics and animal and human well-being.

Our products optimize all biological processes through indigenous microbiology and make it possible to reach an optimal balance in the targeted biomass. We seek to minimize the environmental impact within each structure.

The purpose of BIOMA solutions is to optimize production while guaranteeing economic sustainability



GMO-free



Chemical-free



Risk-free

Geolife® technology

An innovative manufacturing and patented process.

Geolife® is a technology for the extraction and stabilization of organic compounds allowing the activation of our products. This technology makes our products unique, easy to use and safe for the user, animals and the environment.

Synthetos®

Bio-enzymatic complex specifically designed for composting

Synthetos® can accelerate the transformation of vegetable waste into quality compost and helps microbial bioremediation.

OBJECTIVES

On
compost



**Making
nutrients
available**

**Activating
proper
microbiology**

**Foster soil
structuration**

- Optimization of composting processes
- Odorless and leachate-free composting
- Stimulation of aerobic and anaerobic microbial processes, which increases the waste decomposition rate within a shorter span
- Rapid mineralisation, humification and complete maturation of compost within 4-6 month
- Degradation of lignin in the processed material
- High and immediate availability of nutrients

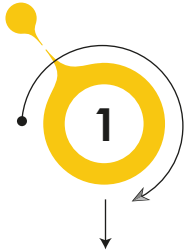


The Synthetos® kit for vegetable waste consists of 3 components for one application.

Applications on vegetable waste

Synthetos® 1

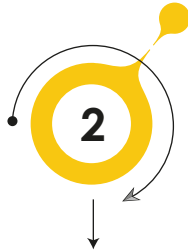
Lipoprotein-based activator



Milk powder
(lipoprotein substrate)

Synthetos® 2

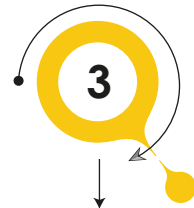
Microorganism
and enzyme mixture



Lyophilized powder
(mixed natural culture)

Synthetos® 3

Liquid
activator



(Deionized water,
Ascophyllum nodosum,
Arthrospira)

Preparation



**Synthetos® kit includes
instructions for use**

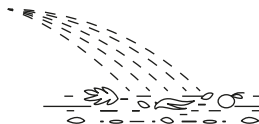
How to apply?

Depending on the material to be composted.

Synthetos®

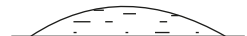


vegetable
waste



→
4 - 6
months
after

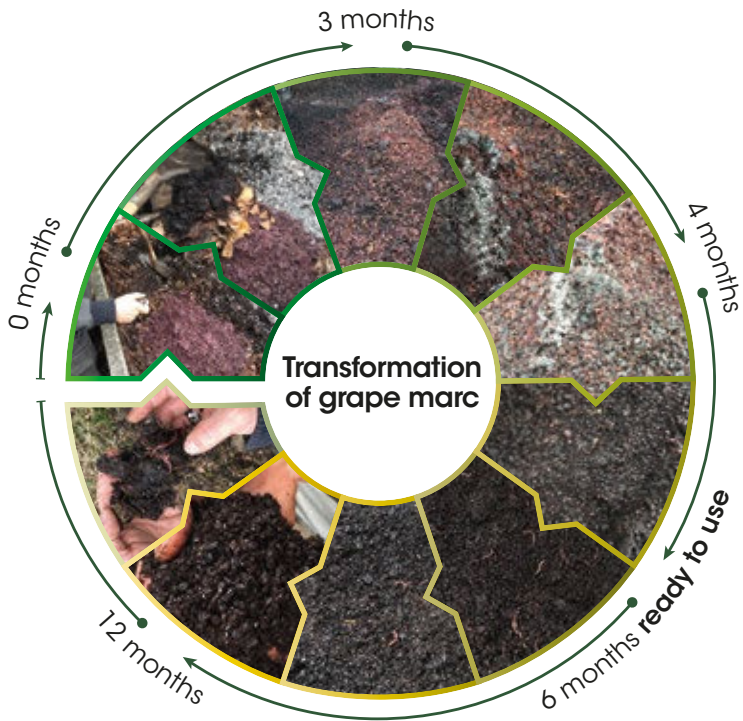
compost is
ready to use



Single application

Examples:

Transformation of grape marc



Processing of pruning residues

Outside



Inside



Our results: Vine shoots

Synthetos® for vegetable waste Campania, Italy - 2003

Immediate and long-term effects.

- **Immediate effects:** 72 hours after application of Synthetos®, biodegradation of organic materials, pH balance, and elimination of odor nuisance from the composting process could be observed.
- **Long term effects:** significant reduction of the time required in order to obtain a compost whose chemical and physical properties comply with limit values set by the law and the current technical regulations (30 days, instead of 90); furthermore, reduction of processed substrate volumes.

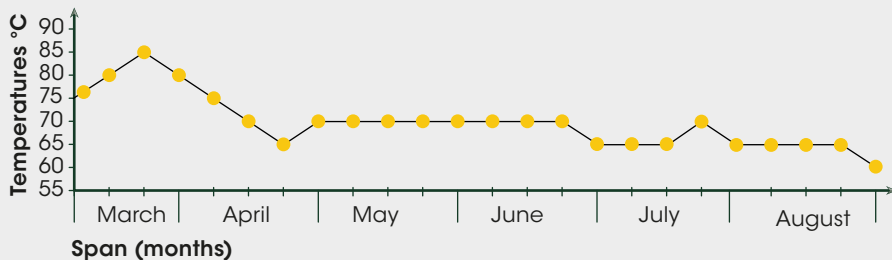
Odor emissions (concentrations are measured in mg/Nmc, with Cyranose 320 portable handheld electronic nose)

Compounds	0 h	24 h	72 h
Ammonia	46.4	17.4	4.1
Volatile Organic Acids	38.4	16.3	5.2
Sulphur compounds	32.6	16.3	4.6
Aromatic compounds	40.5	24.6	9.4

Synthetos® for vegetable waste from vineyards and winery Lombardy, Italy - 2000

Report on compost from organic waste treated with Synthetos®.

Temperature graph, in the compost heap, with initial temperatures allowing microbial remediation.



Processing and conservation:

Composition of the Synthetos® kit:

- a) Synthetos® 1 (bag with lipoprotein activator)
- b) Synthetos® 2 (bag with bacterial-enzymatic mixture)
- c) Synthetos® 3 (bottle with liquid activator)

Closed packaging, can be stored for 2 years in a dry and dark room between 10°C and 43°C. Opened packaging, can be stored for 3 months at room temperature and in a dark place (if properly closed and protected from humidity).

Composition:

Synthetos®

Dried selected microorganisms cultures in a cereal and talc substrate.

Classification and labelling:

Chemicals are classified according to their level of physical, health and environmental hazard. These hazards are indicated by specific labels and safety data sheets (SDS). With the GHS (Globally Harmonized System), hazard statements have been worldwide standardized so that the recipients of the information (production workers, first aiders and consumers) can better understand the hazards of the chemicals used. In the EU, the principles of the GHS are ratified in the EU-1272/2008 (CLP) regulation.

In accordance with this regulation, the Synthetos® range does not require classification or labelling according to its physicochemical properties, its effects on the health and safety of the environment and does not require a safety data sheet.

The Synthetos® range includes only organisms that are naturally present in nature and non-hazardous (WHO Class 1).



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