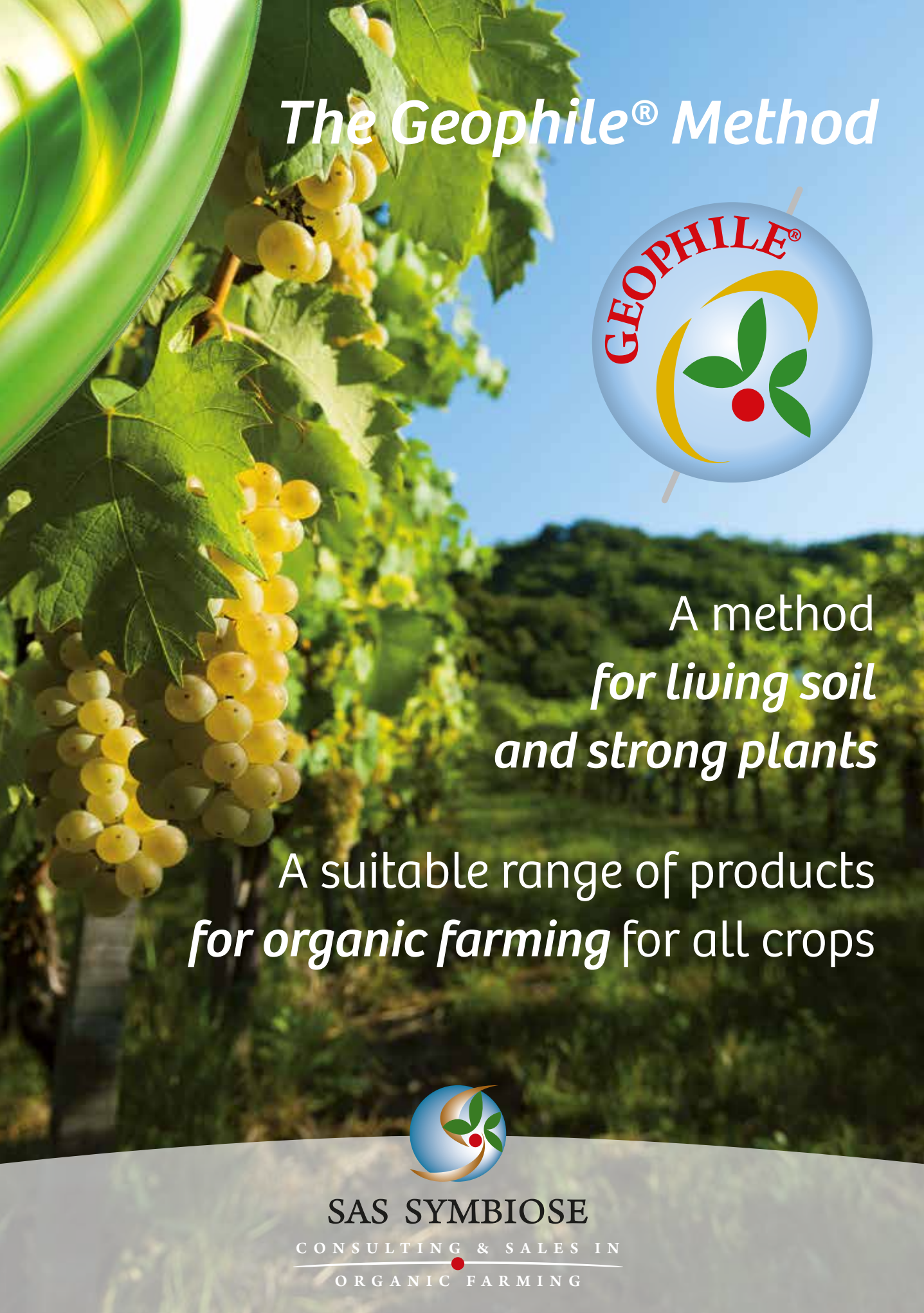

The Geophile® Method

A method
for living soil
and strong plants

A suitable range of products
for organic farming for all crops

SAS SYMBIOSE

CONSULTING & SALES IN
ORGANIC FARMING

The **GEOPHILE® method**

is a "holistic*" agro-biological method that focuses on the entire soil/plant ecosystem.

Ecology and biodiversity are very fashionable terms.
The Geophile® method does not just ride the wave:
for nearly 30 years, it has been a pioneer in the implementation of a comprehensive agronomic method that is 100% organic and resolutely focused on soil biodiversity.

Living soil

The Geophile® method, developed by the Jacques Moreau SARL, was the first in France to democratise and offer a ready-to-use solution called "Compost Tea", one of the main pillars of the method.

These herbal teas have since been supplemented and reinforced with other microbial compounds that have strong agronomic potencies (atmospheric nitrogen fixation, release of blocked fertilising elements, silica recovery, etc.).

The Geophile® method works to revive soils and restore the biodiversity lost in the mid-20th century, caused by intensive, productivity-focused agriculture based on the use of chemical fertilisers, which were evidently weapons of mass destruction.

This practice drastically reduces soil microbial populations, inversely increasing the susceptibility of plants to pathogens.



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* *Who is interested in the subject as a whole.*

A global method

- ***Agricultural biology***
- ***Compost herbal tea***
- ***Microbial biodiversity***
- ***NDS stimulation*** Natural Defence Systems
- ***Plant protection***

A strong plant

A famous Chinese proverb says, "When a man is hungry, it is better to teach him how to fish than to give him fish." The same applies to plant protection.

Rather than relying solely on products to ensure the plant's good health, it is preferable to train or re-train it how to use its own Natural Defence Systems (NDS).

In viticulture, for example, it remains difficult today to eliminate the use of sulphur and copper. With the Geophile® method, we are working to reduce the doses used by stimulating the plant's NDS.
Whenever necessary, the Geophile® specialised products (specifically formulated to stimulate the NDS) are added to phytosanitary sprays.

However, NDS are extremely energy-intensive for plants.
It is therefore essential that soil resources are immediately available in the event of pathogen attacks.

Biodiversity therefore becomes a crucial issue. Organic matter – which is solid – cannot be directly assimilated by plants, which only consumes liquids.

Thus, the role of microorganisms is not only to attack pathogens head-on, but also to colonise organic matter and increase its volume so that the soil's "pantry" is instantly accessible when plants need it to defend themselves and activate their NDS.

The importance of the "Vincent Bioelectronics" sience.

Louis-Claude Vincent, a hydrology engineer, has studied the correlation between water supply quality and epidemics. He has demonstrated that the bio-electronic parameters of the environment (pH, oxidation-reduction potential, conductivity) have a significant impact on the development of diseases, particularly in plants and their environment.

Taking into account the bio-electronic parameters of the plant and its rhizosphere is therefore another key aspect of the Geophile® method, particularly when developing sprays.



The GEOPHILE® method is distributed by the SAS Symbiose, a company providing advice and supplies in the field of organic farming.

Product design and manufacturing

From a range of over 100 products designed by us,
we have included in this catalogue the essential products
for implementing the GEOPHILE® method.

Prepare the ground

Maintaining soil fertility

Taking care of plants

For a healthy vegetarian diet

Living soil

A strong plant

All products are developed by Jacques MOREAU SARL in association with SAS SYMBIOSE.

They are covered by a technical data sheet available on the internet.

sas.symbiose@orange.fr
www.geophile.fr

CONTROLED BY Certipaq

All specialities listed on the following pages (unless otherwise specified) are certified as compliant with EC Regulation 834/2007 on Organic Farming by the CERTIPAQ* control company.

Jacques MOREAU SARL is authorised to distribute plant protection products under number BO 10757 (multi-site organisation including our consultants). Each product has a detailed technical and usage data sheet available on our website.
* CERTIPAQ - Contrôle d'intrants marque "Contrôlé par CERTIPAQ"
[56, rue Roger-Salengro - 85013 La Roche-Sur-Yon Cedex - Tél. 02 51 05 14 92 - fax 02 51 36 84 63]

Prepare the ground — A Living soil

Optimised plant nutrition

Vigorous vine stock after application of Microsfer

Microsfer pulvérisation

Fertility-promoting bacteria

Liquid preparation of bacteria that fixes atmospheric nitrogen and releases phosphorus bound in the soil.

Benefits

- Improves natural plant nutrition and effectively complements the effect of fertilisers.
- Contributes to resistance to environmental stress!

The most

- The selected bacteria also produce plant growth substances.
- Better roots development and better utilisation of the soil by the plant (water, minerals, etc.).

Findings

- Even when farmed organically, soils do not always produce sufficient yields unless they are heavily fertilised.
- The price of organic fertilisers has always been high, but now the cost of NPK units is reaching historic levels!
- Bacteria that fix atmospheric nitrogen require the trace elements molybdenum and cobalt to function properly.
- Climate stress is becoming more frequent, and well-balanced plants with a root environment rich in fertility-promoting bacteria are better able to withstand these adverse conditions.

Applications

- Pack for 4 ha containing 10 litres of MICROSFER (bacteria) and 2 litres of MICROSFER PLUS (liquid fertiliser).
- Spray both components in warm, humid conditions, on the ground or on the crop, using non-chlorinated water at a pressure of less than 3 bar.
- Autumn and spring are the most favourable times of year.

Results

- Vegetation growth is greater than control.
- The bacteria mainly work in association with plant roots (rhizosphere). They also use crop residues and green manure.
- They provide additional nitrogen and phosphorus to supplement the fertilisation plan.
- The protein and organic nitrogen content of crops is improved.

Packaging

- Box for 4 hectares.

Microbial fertiliser preparation; MFSC approval no. 1220696

GEOPHILE®

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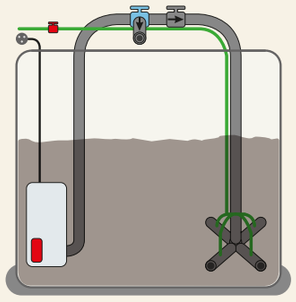
Prepare the ground
A Living soil

The guarantee of biodiversity

Aeroflot: compost tea preparation tool



Actiforce

The biodiversity your soil needs

Compost tea

Benefits

- Contains over 2,000 species of microorganisms, nematodes, protozoa and microarthropods.
- Improves the humus yield of organic matter.
- Improves soil looseness flexibility.
- Competes with pathogenic microorganisms.

The most

- Basic ingredients selected and enriched by us with original and varied microorganisms.
- Integration of biodynamic preparations 502 to 507.
- Consistency of ingredients in their composition.

Findings

To function properly, soil needs four major families of microorganisms, each with a specific role:
1/Bacteria for the breakdown of cellulose and hemicellulose.
2/Fungi (including mycorrhizae) for the breakdown of lignin.
3/Protozoa and nematodes for the release of fertilising elements.
4/Protozoa are also the main food source for earthworms. Chemical fertilisers, pesticides and tillage are detrimental to this biodiversity. ACTIFORCE is a solution that has proven itself over the last 20 years in restoring this biodiversity.

Applications

- Once prepared (24-hour fermentation), ACTIFORCE is applied at a dose of 50 litres supplemented with 100 to 200 litres of water per hectare. As protozoa and nematodes have a very short lifespan in liquid environments, ACTIFORCE must be prepared the day before application, using an Aeroflot (see photo) from our product range.
- ACTIFORCE must be applied to soil with a minimum temperature of 12°C and sufficient humidity.
- These conditions are generally met in spring and autumn, this last one being the most suitable season for application.
- Frequency of application: 1 to 2 times/year.

Results

- The mycorrhization rate is a very revealing indicator of the biodiversity that soil needs. After three years of applying ACTIFORCE, a very significant improvement in this rate has been observed.

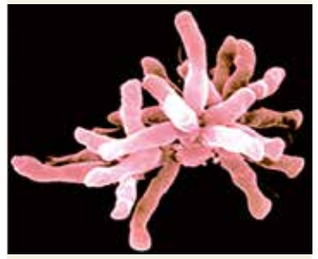
Packaging

- Box for 4 to 5 hectares.

Composting activator; According to EU Regulation 2018/848, Annex II, § 1.9.7

Prepare the ground
A Living soil

Deeply activates the soil



Archaea

ActiPreta

With the Amazonian Indians as a model!

Compost activator containing the same microorganisms as the famous Amazonian "Terra Preta"

Benefits

Terra Preta soils are well known in the Amazon for their fertility, with organic matter levels of up to 15% and specific micro-organisms, the same ones found in ACTIPRETA.

The most

- Anaerobic bacteria acting deep down.
- Synthesis of antioxidants protecting organic matter.
- Suitable for use in organic farming.

Findings

- Archaeologists discovered Terra Preta by chance. These soils are rich in organic matter (up to 15%) and have regenerative properties never seen before.
- These soils are not natural; they were created by a lost Indian civilisation using fermented biomass, charcoal and terracotta.
- Specific microorganisms (particularly archaea) developed in these soils enable the production of organic matter that is highly stable in anaerobic (oxygen-free) environments in deep soils. These microorganisms are found in ACTIPRETA.

Applications

- To be used once a year, ideally in early autumn and in conjunction with ACTIFORCE (Compost Teas).
- Dosage: 2.5 l/ha when used alone, 2 l/ha when used in combination with Actiforce.
- The product cannot be incorporated into phytosanitary protection sprays.

Results

- A true specialist in anaerobic environments, ACTIPRETA's primary function is to "deepen" the useful horizon of soils and extract resources from the soil that are inaccessible to aerobic microorganisms.
- Although it can be used on its own, ACTIPRETA produces the best results when combined with Actiforce. Its specific micro-organisms act as "scouts" for the optimal establishment of all the biodiversity (fungi, protozoa, nematodes, bacteria) that ACTIFORCE brings.

Packaging

- 10-litre container.

Composting activator; According to EU Regulation 2018/848, Annex II, § 1.9.7

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Prepare the ground – A Living soil

The nutrient network in your soil!

Well-developed rhizosphere

Humisfer • Humisfer trempage

Activates the rhizosphere

Mycorrhizae and rhizobacteria preparations that improve plant nutrition.

Benefits

- A well-mycorrhizal plant can explore up to 10 times more soil volume.
- Rhizobacteria help to release nutrients from the soil and improve their availability to mycorrhizae.

The most

- Contains 5 different strains of mycorrhizae.

Findings

- Mycorrhizae are fungi that live symbiotically on the roots of most plants. This means that there is reciprocity between the plant and the mycorrhiza.
- The benefits for a plant with a well-mycorrhized root system are considerable:
  - better resistance to drought;
  - better availability of nutrients;
  - better soil structure through the synthesis of glomalin (a glycoprotein that aggregates soils);
  - mycorrhizal bridges between plants, forming a veritable nutrient network.
- Rhizobacteria from other inputs complement the action of mycorrhizae in the rhizosphere and, in particular, release phosphorus that has been retrograde in the soil.

Applications

- At least once at the start of cultivation or in conjunction with ACTIFORCE (Compost Tea). Repeat once a year if necessary.
- Dosage: 0.2 kg/ha (by watering or spraying).
- The product cannot be incorporated into phytosanitary protection sprays.
- Humisfer trempage, combined with other components, is diluted into a fluid paste for root system drenching and seedlings.

Results

- The establishment and vegetative development of a well-mycorrhizal crop, from planting or sowing onwards, are improved. There is no latency period; the resources available in the soil are immediately put to use.
- The disease resistance of a well-mycorrhizal plant is also improved, in particular through better stimulation of the Natural Defence Systems (NDS).

Packaging

- 1 kg pot (Humisfer), box for 1,000 grafts (Humisfer soaking).

MFSC approval number pending

Prepare the ground – A Living soil

Optimal mineral balance for the plant.

Disappearance of chlorosis symptoms after application of Humisève

Humisève

Improves the physiological behaviour of plants

**For crops sensitive to deficiencies and blockages.
Fertiliser very rich in naturally occurring humic acids.**

Benefits

- Liquid humic acids act as a catalyst for plant nutrition.
- Boron improves sap flow within the plant.

The most

- A good supply of boron limits the risk of poor fruit set and millerandage (grapevine).
- Better mineral balance in the plant.

Findings

- Most cultivated soils are deficient in boron.
- Clay soils do not retain boron, which is easily leached.
- Boron deficiency reduces sap pressure and disrupts fruit set. It also disrupts the action of potash, which works synergistically with boron (transport of sugars from the leaf, enzyme activation).
- Some minerals in the soil or fertilisers are not readily available to plants. Humic acids release them into circulation.

Applications

- Spray on the ground at 10 litres per hectare, in autumn or spring, on an annual basis.

Results

- Humic acids have a strong buffering capacity in the soil and regulate plant nutrition, particularly by reducing iron chlorosis and phosphorus deficiencies.
- Certain potassium deficiencies are resolved by applying boron.
- Boron limits the risk of millerandage and poor fruit set during and after flowering.

Packaging

- 10-litre container.

EC fertiliser

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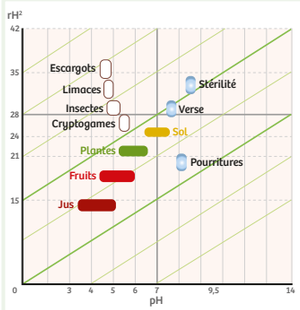
For more effective treatments



Bio-electronic graph of crops according to Louis-Claude Vincent

Lactostim

Stimulates the Natural Defence Systems (NDS) against powdery mildew

Contains a basic substance, whey Natural Substances for Biostimulation (NSB) and sulphur.

Benefits

- Whey acts by stimulating defences against certain diseases, including oïdium.
- NSB complete the product's composition.

The most

- Acidic and reducing product that promotes good pH and redox potential in the sprays for greater effectiveness (Vincent Bio-electronics).
- Liquid product that is easy to incorporate into sprays.

Findings

- The benefits of whey in the fight against oïdium have long been recognised. However, whey acts more as a blocker, unlike sulphur, which has a preventive action. Whey cannot be used on its own but is an excellent complement to sulphur.
- Like whey, NSBs cannot be used on their own. Nevertheless, they have a positive effect on vegetation.
- To maximise its effectiveness, a phytosanitary mixture must have bio-electronic parameters as close as possible to those of the plant, i.e.: a pH equal to or less than 6 and an rH2 equal to or less than 21 (see diagram).

  The acidic and reducing sulphur contained in LACTOSTIM helps to achieve these values.

Applications

- Lactostim can be used from the first treatment and throughout the season.
- Dosage: 3 to 7 l/ha.
- Supplement with 2 to 5 kg/ha of wettable sulphur depending on disease pressure.

Results

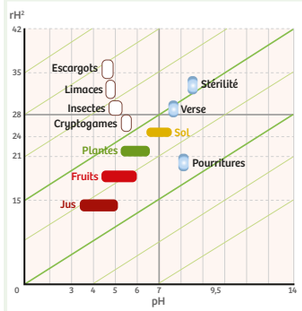
- LACTOSTIM acts in a manner complementary to sulphur, allowing the overall dose to be reduced over a season and thus limiting stress on foliage during hot periods.
- Due to its composition, LACTOSTIM also has a stress-relieving and nourishing effect on foliage.

Packaging

- 10-litre container

EC Fertiliser Base Substance Natural Substances for Biostimulant Use

Provides elemental sulphur to the plant



Bio-electronic graph of crops according to Louis-Claude Vincent

Soufre Biofa

Improves pH and redox

For better compatibility between the plant and the sprays

Benefits

- A spray with a suitable pH and redox potential is much better absorbed by plants.
- Plants must be in an acidic, reducing environment (Vincent Bioelectronics). These are precisely the characteristics of SOUFRE BIOFA.

The most

- Excellent micronisation facilitates dissolution and prevents deposits.
- Contains lignin sulphonate, which improves adhesion to the plant.

Findings

- Vincent's Bio-electronics teaches us that proper management of the pH and rH2 of a phytosanitary spray is essential. The pH neutrality is 7 (on a scale of 1 to 14), while the less well-known rH2 neutrality is 28 (on a scale of 1 to 42).
- To maximise its effectiveness, a phytosanitary mixture must have bioelectronic parameters as close as possible to those of the plant, i.e. a pH close to 6 and an rH2 close to 21 (see diagram).
- The final pH of a phytosanitary spray will obviously depend on the initial pH of the water used to make it. SOUFRE BIOFA (the only acidic sulphur on the market to our knowledge) will, due to its composition, lower both the pH and the rH2.

  Example

  Water only ..... pH = 7,45 ..... rH^2 = 23,65

  Water + SUFRE BIOFA (3 %) ..... pH = 6,47 ..... rH^2 = 19,81

Applications

- SOUFRE BIOFA, classified as a foliar fertiliser, can be used from the first treatment of the season to ensure proper management of the bio-electronic parameters of the spray mixture.
- Dosage: 2 to 8 kg/ha.
- Can be combined with all standard organic farming products (except Armicarb and alkaline products).

Results

- An acidic, reducing spray will release the elements it contains more easily.
- At a concentration of 3% (the usual dose in viticulture), SOUFRE BIOFA can decrease the pH by one point and the rH2 by nearly four points. If the decrease is not sufficient, the mixture can be supplemented with Lactoplante (see page 14).

Packaging

- 25 kg bag

EC fertiliser

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Taking care of plants — A strong plant

For more effective treatments

Silicuivre • Silizinc

Penetrating copper and Natural Defense System (NDS) activators against downy mildew

Contains plant extracts that facilitate the penetration of copper present in the spray.

Benefits

- The trace elements that have penetrated are protected from leaching, which prolongs their effectiveness over time.
- They contain fructose, recognised as a basic substance in the fight against downy mildew.

The most

- Acidic and reducing product which is compatible with the principles of bioelectronics.
- The plant extracts and silica it contains have a positive effect on the plant's metabolism.

Mildew blocked on Pinot after application of Silicuivre

Findings

- Downy mildew is an internal fungus that settles in plant cells. Making copper more penetrating is therefore of considerable interest in combating the disease.
- During periods of high fungal pressure, heavy rainfall limits the action of copper, so it is essential to provide the plant with other means of control. Stimulating its Natural Defence Systems (NDS) is one such means. This is precisely the role of the fructose contained in SILICUIVRE and SILIZINC.
- Zinc, Manganese and Boron are trace elements that are very useful to plants and help them respond to stress. These elements enter the plant at the same time as copper. The plant can then mobilise them when needed.
- To maximise its effectiveness, a spray must have bio-electronic parameters as close as possible to those of the plant, i.e. a pH equal to or less than 6 and an rH2 equal to or less than 21. The parameters of SILIZINC are as follows:
  $pH = 6,5/rH^2 = 21,4$.

Applications

- SILICUIVRE and SILIZINC can be used in viticulture, arboriculture, market gardening and cereal crops from the first treatment onwards.
- Dosage: 1 to 2 litres/hectare (never apply more than 0.75 litre of SILICUIVRE or SILIZINC per 200g of copper metal).

Results

- The combined effect of persistent copper penetration and NDS stimulation reduces copper doses while ensuring more effective treatments.
- SILICUIVRE and SILIZINC strengthen the plant and give it greater physiological resistance to environmental stress.

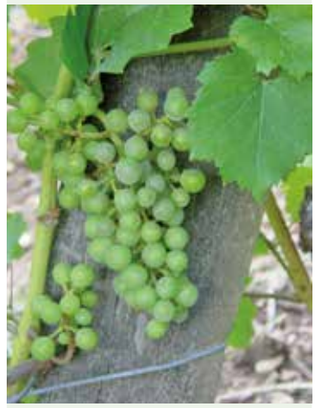
Packaging

- 10-litre container.

EC Fertiliser + Base Substance

Taking care of plants — A strong plant

Strengthens the epidermis



Silibrix

For improved plant resistance

Contains dairy products, natural enzymes, sulphur and magnesium.

Benefits

- Improved health of leaves and fruit thanks to greater resistance of the epidermis to stress.
- The presence of magnesium and sulphur enhances photosynthesis and the plant's use of nitrogen.

The most

- Contains NSB
- Less crop loss.
- Does not make the plant susceptible to sunburn.
- Suitable for use in organic farming.

Findings

- As the season progresses, the cumulative effect of disease attacks, including oïdium, makes the foliage less lush. Fruit or bunches may also be affected before ripening, despite phytosanitary treatments.
- Weakened fruit skins are often accompanied by cracks and delayed ripening.
- Opportunistic rots (Botrytis, acid rot) take advantage of these entry points to damage the fruit, resulting in a loss of quality and yield.

Applications

- Preferably apply before damage appears on the epidermis or cuticles of leaves and on the epidermis of fruit.
- Dosage: 1 to 2 litres/hectare
- The product can be added to phytosanitary sprays.

Results

- The combination of components strengthens and therefore restores damaged or threatened epidermis.
- Fruit or berry ripening proceeds normally until completion. On grapes, veraison is not blocked.
- Application of the product does not make the vegetation sensitive to sunburn.

Packaging

- 5-litre container (5.45 kg).

Liquid inorganic EC fertiliser with macroelements
PFC 1.C.II-b-ii Magnesium oxide (MgO): 2.5% /Sulphur trioxide (SO3): 5%

CE

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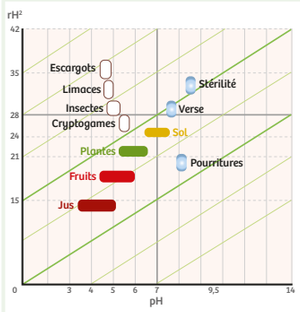
Taking care of plants — A strong plant

Improves pH and Redox



Bio-electronic graph of crops according to Louis-Claude Vincent

Lactoplante

For better compatibility between plants and sprays

Lactofermented cereal and vegetable juice. Acidic and reducing, it improves the compatibility between plants and sprays.

Benefits

- Lowers the pH and redox potential of the mixture, which is then better absorbed by the plant.
- Lactic acid bacteria colonise the soil, leaving less room for vine pathogens.

The most

- Contains Natural Substances for Biostimulation (NSB).
- Contains B vitamins, well known for their role in energy metabolism.

Findings

- VINCENT BIO-ELECTRONICS teaches us that proper management of the pH and rH2 (calculated from the redox potential (E) and pH) of a phytosanitary spray is essential. The neutrality of pH is 7 (on a scale of 1 to 14), while that of rH2, which is less well known, is 28 (on a scale of 1 to 42).
- To maximise its effectiveness, a phytosanitary spray must have BIO-ELECTRONIC parameters as close as possible to those of the plant :
  A pH close to 6
  A rH_2 close to 21
- The final pH of a phytosanitary spray will obviously depend on the initial pH of the water and the products used to make the spray. LACTOPLANTE is particularly suitable if a sulphur other than BIOFA SULPHUR is used or if the water is particularly alkaline. Due to its composition, LACTOPLANTE will act on both the pH and rH2 of the mixture:
  pH LACTOPLANTE = 3,5
  rH_2 LACTOPLANTE = 10,5

Applications

- LACTOPLANTE can be used from the first spraying of the season to ensure effective management of the bioelectronic parameters of the spray mixture.
- Dosage: 1 to 3% (depending on the pH of the water and the sulphur used).
- Can be combined with all standard organic farming products (except Armicarb), but is particularly effective with SOUFRE BIOFA.

Results

- An acidic, reducing mixture is more effective than a traditional mixture, as it will release the elements it contains more easily and the spraying will no longer be perceived by the plant as an attack..

Packaging

- 10-litre container

NSB According to Decree No. 2019/329

GEOPHILE®

Taking care of plants — A strong plant

Soothes plants

Plantonic

For better resistance to abiotic stress

Soothing blend of beet vinasse and brown seaweed juice

Benefits

- Contains betaine, which acts as a natural osmotic regulator.
- Contains potash, which is also effective in combating frost and drought.

The most

- Provides 4% potash and 3% organic nitrogen, mainly in the form of easily assimilated amino acids.
- Contains mannitol and fulvic acids.

Findings

- Year after year, the effects of climate change are increasingly affecting crops. The need to support them in order to increase their resilience, particularly to excessive heat but also to cold, can no longer be ignored.
- Betaine, potash and mannitol, all three of which are contained in PLANTONIC and are very easily assimilated by plants, have an osmoprotective effect. During periods of extreme heat, they limit plant desiccation, and during periods of frost, they lower the freezing point.
- When faced with abiotic stress, a combination of several substances, as in PLANTONIC, is more effective than a single substance.
- The nitrogen contained in PLANTONIC is mainly in the form of amino acids. It is very easily assimilated by plants.

Applications

- PLANTONIC can be used from the first treatment if temperature conditions require it (risk of frost). The amino acids contained in the product will also be quickly assimilated by the plant and will contribute to good vegetation growth at early spring.
- At the first signs of drought or if temperatures rise, PLANTONIC can be added to sprays to relieve the plant and help it cope with climatic stress.
- Dosage: 1 to 5 l/Ha.
- Can be used in combination with all products commonly used in organic farming.

Results

- Protecting plants from climatic stress also means protecting the harvest and optimising its quality in terms of both quantity and organoleptic properties.

Packaging

- 10-litre container.

FERTILISER NF U 42001 4.6.1 – 8a

GEOPHILE®

Taking care of plants — A strong plant

For optimised foliar nutrition

Optimised fruit set after application of Flosève

Flogreen • Flosève • Flosun • Flobrix

Anti-deficiency and growth-stimulating effects

Promotes the proper utilisation of minerals by plants.
Fertiliser based on solubilised liquid fulvic acids.

Benefits

- Fulvic acids have a strong affinity for minerals. They facilitate their penetration into the plant.
- Natural growth stimulation.
- Better fruit set and more root exudates.

The most

- Rapid correction of deficiencies during vegetation.
- Improved ripeness of grains and fruit.

Findings

- Soil deficiencies, even when mitigated by microbial activity, sometimes require specific interventions on the plant at key moments in its growth cycle.
- Some deficiencies are very visible: iron and magnesium (lack of colour and photosynthesis). Others are less so: boron, molybdenum and phosphorus (lack of sap pressure, poor fruit set, poor utilisation of nitrates by the plant, lack of production of defence substances).
- In addition, climatic stresses are frequent and disrupt the internal balance of the plant. Foliar corrections are often useful even if the soil is well supplied with minerals.

Applications

Dosage: 1 to 2 litres/ha of either of these products, depending on field observations or analyses.

- FLOGREEN: Iron
- FLOSÈVE: Boron and Molybdenum
- FLOSUN: Magnesium
- FLOBRIX: Phosphorus.

Results

- Fulvic acids are molecules that easily combine with all minerals and enable them to be absorbed by the plant. They therefore act very quickly and have an effect on growth (hormonal effect).
- Correcting observed deficiencies leads to better utilisation by the plant of all other elements, particularly nitrogen and potash.

Packaging

- 10-litre container.

EC fertiliser

GEOPHILE®

The GEOPHILE® method is distributed by SAS SYMBIOSE

SAS SYMBIOSE

A typical example of a Geophile® treatment programme*

Treatment frequency and quantity of products are adjusted according to the pressure of the vintage.	TREATMENTS - APPLICATIONS in agriculture - YEAR 2024										
	March	April	May	May	May	June	June	July	July	August	October
ACTIFORCE (PACK 4HA)											X
MICROSFER (PACK 4HA)	X										
HUMISFER (KG/HA)											0,2
HUMISEVE (L/HA)	10										
Hydroxyde Cu 50 % (KG/HA)		0,2	0,2	0,3	0,4	0,4	0,3				
Bouillie Bordelaise 20% (KG/HA)		0,5	0,5	0,75	1	1	0,75	1	1	1	
Nordox 75% (KG/HA)								0,2		0,2	
SILIZINC or SILICUIVRE (L/HA)		0,75	0,75	1,25	1,5	1,5	1,25				
LACTOSTIM (L/HA)		5	5	5	5	5	5	5	5		
SOUFRE BIOFA (KG/HA)				1	2	2	3	3	3		
FLOSEVE (L/HA), B	If deficiency is confirmed (symptoms on leaves and/or analyses) 1 to 2 L/HA at the same time as treatments, at the beginning, middle or end of the cycle depending on the type of deficiency										
FLOSUN (L/HA), Mg											
FLOGREEN (L/HA), Fe											
FLOBRIX (L/HA), P											
Copper Metal by Treatment (KG/HA)		0,2	0,2	0,3	0,4	0,4	0,3	0,35	0,2	0,35	
Total Season Copper Metal (KG/HA)		2,7									
Elemental Sulphur by Treatment (KG/HA)		2,4	2,4	3,2	4	4	4,8	4,8	4,8		
Total Seasonal Elemental Sulphur (KG/HA)		30,4									

* Simplified treatment table sent to each member at the beginning of the year, tailored to their operation.

We were the first in the French professional agriculture market to offer "Compost Teas" or "liquid compost" in 2002, to be spread either on the soil or on the leaves.

Jacques Moreau is an agronomist engineer who has specialised in supporting organic farming since 1981. After more than 20 years of practical experience, his contacts in the field and scientific circles led him to set up his own company. Now, SAS SYMBIOSE promotes original ideas developed by agronomists around the world. The synthesis of these practices, in which ***Robert Casenove*** (Jacques Moreau's initial partner) participated, is at the origin of the GEOPHILE® method.

SAS SYMBIOSE
CONSEIL ET FOURNITURE EN AGROBIOLOGIE

SAS SYMBIOSE provides a service to agrobiologists and also markets a wide range of products and processes specific to the GEOPHILE® method.

SAS SYMBIOSE's objective is to offer farmers the opportunity to apply this method in the field, which represents a significant advance for the profession.

The transition from conventional farming to organic farming cannot be improvised!

We also provide technical support to producers according to their needs in all areas of production: viticulture, fruits and vegetables farming, arboriculture, cereals, etc.

Field work is carried out in collaboration with local correspondents and distributors trained on this method.

But beware! Going organic means discovering a whole new world that will take you to new horizons and turn you into an "organic addict"!

So please do not hesitate to contact us!

Many producers have placed their trust in us. See their testimonials at www.geophile.fr

Tailored Services

for effective and efficient use of the GEOPHILE® method

To assist you in implementing the Geophile® method, SAS Symbiose offers several services, from periodic consulting to monitoring...

Seasonal recommendations

We regularly publish seasonal newsletters (between 8 and 10 per year)**, which you can subscribe to.**

They are about the interventions to be carried out in the organic programme, taking into account the weather conditions for the year and the state of the crop. These newsletter are available in the "Member" area (accessible with a password) of our website geophile.fr. The "Member" area also contains useful technical documents and references to scientific work related to organic farming.

Technical support

In addition to subscribing to the "Seasonal recommendations" newsletter, we offer "basic" or "comprehensive" monitoring with advice from a qualified member of our team.

• **"Basic monitoring".** In addition to the "Seasonal recommendations" newsletter subscription, this monitoring includes ONE off-season visit, regular telephone or online support, as well as ONE visit during the season. Each visit is followed by a written report.

• **"Comprehensive monitoring".** Based on the "Basic monitoring" terns, plus at least ONE additional visit during the season. Each visit results in a written report.

It's important of course, you report us any importants observations you may make, as monitoring cannot be permanent. This will enable us to make the best decisions together.

SAS SYMBIOSE
CONSULTING & SALES IN ORGANIC FARMING

Table of the main analyses offered

These comprehensive services include some elements that have never been offered in France before.

Soil analysis	- Particle size distribution 5 fractions - *NF X 31107.* - Organic matter content - *Carbon Anne x 1.72, ISO 14235 method.* - C/N ratio of organic matter (which provides information on its evolution and quality - *ISO 11261.* - "Assimilable" phosphorus - *Dyer X 31-160 (acidic soils) or Joret-Hébert X 31-161 (calcareous soils).* - Exchangeable calcium, magnesium and potassium - *X 31-108.* - Trace elements Copper (disease resistance), zinc (chlorophyll function, meristem growth), manganese (good protein synthesis), boron (good use of calcium, grain filling, root exudates) and molybdenum (good functioning of atmospheric nitrogen-fixing bacteria, metabolisation of nitrates by the plant) - *X 31-121 except Boron X 31-122 and Molybdenum not standardised.* - Resistivity - *ISO 1126.* - Soluble silica - *Not standardised.*
Search for mycorrhizae on root hairs	- Observation of rootlets using a binocular microscope after applying a selective mycorrhizal dye. - Determination of the percentage of mycorrhizal rootlets. - Indications in the form of an intensity rating on: • External mycelium (extension around the roots); • Internal mycelium (anchoring in root tissue); • Arbuscules (structures connecting to the plant); • Vesicles (nutrient storage organs present in the roots); • Photo of rootlets showing the included mycorrhizae.
Nova Bioscan test on soil or compost	- Assessment by intensity class (6 classes) of the number and variety of the following aerobic species: • Bacteria; • Fungi; • Protozoa (amoebae, flagellates); • Beneficial nematodes (bacteriophages, fungivores and nematophages). - Similar assessment of anaerobic species (generally undesirable): • Bacteria; • Protozoa (ciliates, vorticellae and rotifers); • Harmful nematodes (phytophagous and polyvalent).
Petiole analysis	- Total sugars. - Electrical conductivity of sap. - Elements expressed on a raw basis (approximately 10% dry matter): Potassium, Calcium, Magnesium, sodium, ammonium (NH4+), nitrate (NO3-), total nitrogen, chlorine, sulphur, phosphorus, silica, iron, manganese, zinc, boron, copper, molybdenum, aluminium. An interpretation grid is provided with the results.

GEOPHILE®

Advice & **Supplies**

- ***Analyses***
- ***Farming monitoring***
- ***Training courses***
- ***Customized approach***
- ***Design***
- ***Manufacturing***

Your contact

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www.geophile.fr

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