



AGRIMEDIC GMBH

Silabaal® 20 8 5

CONTENT

Advantages	Page 2
The minerals	Page 3
Photosynthetic	Page 4 - 5
Application	Page 6 - 8
Technology	Page 9
Product	Page 10
Success stories	Page 11-12
Recovered	Page 13
Suitability	Page 14



ENFORCING A BETTER AND HEALTH LIFE
WITH INNOVATIONS

ADVANTAGES

- Significant increase in green mass
- Increase in overall production up to 100%
- Purely organic – 100% mineral product (calcite)
- Reduced water consumption up to 70%
- Reduced fertilizer consumption up to 98% and also transport costs
- Shortening of the growing season to 30% (faster growth of seedlings)
- Lower costs compared to conventional fertiliser treatment
- Exceptional prophylactic action to combat fungi, insects and plant diseases due to improved resistance
- Increasing the dry matter of the fruit and better quality
- Improvement of taste qualities
- Extension of the storage period of the harvest proceeds
- Optimizes the productivity of a plant due to the natural formation of CO₂ from the calcite process there is no use of CO₂ devices required
- Reduces and prevents the increase in salt and acidification of the soil
- Revitalizes the soil by eliminating the need for additional chemical fertilizer

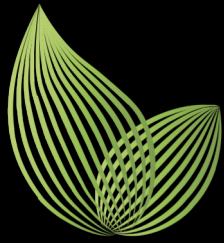


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INDEX

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- IRON
- OXYGENIUM
- MAGNESIUM OXIDE
- MANGANESE
- NATRIUM
- SELENIUM
- CALCIUM CARBONATE



INDEX

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Silabaal 2015

Speeds up the photosynthetic process



Opening of Leaf surface

NATRIUM

CALCIUM

MAGNESIUM
OXIDE

MANGANESE

OXYGENIUM

IRON

CELENIUM

INDEX

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Leaves using sunlight significantly increased by the fertiliser.



NATRIUM

MAGNESIUM OXIDE

CALCIUM

MANGANESE

OXYGENIUM

IRON

CELENIUM

INDEX



BENEFITS

What are the results?

Foliar fertilizer in conjunction with solid fertilizer can be used to quickly correct a nutrient imbalance and to increase root absorption.

This does not mean that foliar fertilizer replaces solid fertilizer altogether, but the use of foliar fertilizer has been proven to increase the availability of the main elements applied in solid form.

For this reason, NPK fertilizer can be reduced by 50% to 70% while achieving better results. By applying the fertilizer directly to the leaf, it increases activity in the leaf while increasing chlorophyll and therefore photosynthesis.

And by increasing photosynthesis we increase productivity and efficiency. The increased efficiency can reduce the need for fertilizer applied to the soil, reducing leaching and runoff of fertilizing nutrients.

Excess carbohydrates produced by the plant due to higher sugar synthesis due to increased chlorophyll are excreted through the root hairs, which stimulate microbial colonies on the root and provide additional sources of energy.

The bacterial colonies, in turn, provide auxins and other compounds for root stimulation. More root tissue and root hairs increase the plant's ability to absorb water and fertilizer ions. The goal of fertilization is the same for both soil and foliar fertilization, but in reality, foliar fertilization of a plant is eight to ten times more effective in terms of the amount of nutrients and the rate at which they are needed.



BENEFITS

Mechanical effect keeps insects away from leaves:

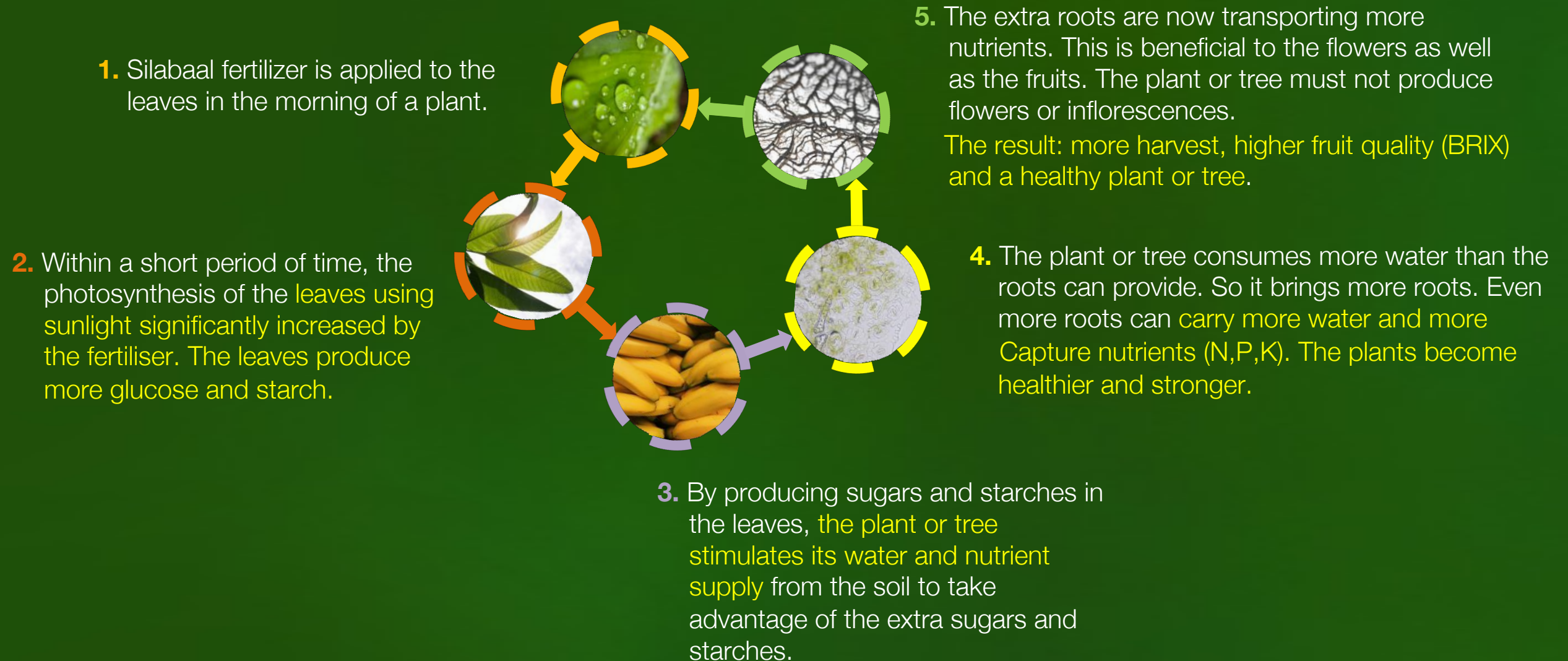
NO PESTICIDES NECESSARY



The silicate particles look like small shards of glass and they do not change and remain on the surface of the leaf. And they have a very nice side effect: all insects that have touch organs in their legs find this unpleasant and will keep their distance from the plant because it is unpleasant. Here we have a repellent through a physical process. And the second effect of the silicate is that the particles are sometimes so fine that they disturb and block the respiratory organs of unwanted insects, i.e. mites, aphids. They don't like the silicate because it attacks the gills. We have a lot of insects that find the leaf fertilizer to be a repellent.

APPLICATION

This cycle begins with each application of the fertilizer.
The more application, the better the tree or the plant.



Only 2.5 kg per hectare per 600 litres of water

The first spraying should be done when the plant has the first three leaves. The other sprays should be done every 15–20 days, for a total of 3–5 applications per growing season of 90–100 days. For perennial crops (oranges, mango, guava, etc.), it should be sprayed 4–5 times a year. The first spraying of orchards, olives and grapes should be done when the plant begins to bow and in any case before flowering.

The frequency of spraying should be based on the appearance of the plants. If plants are under the influence of unfavourable environmental conditions such as drought, in case of frost or heat, the fertilizer should be sprayed more frequently.

For plants with a long growing season (5 months or more), 2-3 kg of fertilizer should be used per 1 hectare of cultivated area to ensure a high frequency of spraying. If plants are under the influence of unfavourable environmental conditions such as drought, frost or heat, the fertilizer should definitely be sprayed. Yields and excellent fruit and vegetable quality.

The fertilizer should be diluted well with water before use. To do this, you must first shake/stir the solution well and let it rest for 45 minutes. It should be stirred well again before use. Only then you can begin misting or spraying the fertilizer while using a sprayer or atomizer.



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INDEX

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APPLICATION

Where and how to apply?

The fertilizer works on all types of plants with Photosynthesis. It is important to spray the fertilizer in the form of a fine fog, so that it can easily penetrate the leaf. The best time for spraying is in the morning or late afternoon, at temperatures ranging between 8 and 20°C and hygrometry > 60%. The spraying has to be done during favourable weather conditions without rain, strong wind or hot sun.

The fertilizer is mixed with water in a ratio of 0.3% up to 0.5%. The colloidal solution is then sprayed during the whole vegetation period every 15 – 20 days (approx. 3 times) on the plant (misting). For example: 1kg per 200 litres of water, **per hectare 2.5 – 3.0 kg** in 600 of litres of water.

Application	Solution	Mixture	Area (ral)	Areal (acre)	Areal (Hectare)
Subsequent used	0,3%	1Kg/333 litres	4,2/Kg	1,7/Kg	0,7/Kg
First used	0,5%	1Kg/200 litres	2,5/Kg	1/Kg	0,4/Kg
Subsequent used	0,3%	3gr/1 litres	1/0.24Kg	1/0.6Kg	1/1.5Kg
First used	0,5%	5gr/1 litres	1/0.40Kg	1/1Kg	1/2.5Kg

It is very important to know that the fertilizer should never be mixed or used with any other products, especially with preservatives as it worsens the results. Therefore, the fertilizer should only be used exclusively when applying on the plants. For spraying conventional spray nozzles can be applied such as those used for pesticides

TECHNOLOGY

Speed up the photosynthesis process

How does it work?

The fertilizer is directly penetrating the leaf pores (stomates – leaf organs which control the gas exchange in the plant) travelling through to the plants interior. This is possible due to the granulometry of Silabaal ($0,1\mu\text{m}$) which is much less than the size of a leaf's pore opening (ostiole). By penetrating the intercellular area of the leaf through the leaf pore (stoma), calcium carbonate (CaCO_3) is split into calcium oxide (CaO) and carbon dioxide (CO_2). The carbon dioxide switches on immediately in the process of photosynthesis. With the help of sunlight (which becomes energy of chemical bonds), water and carbon dioxide, organic compounds are formed. Since the intensity of photosynthesis depends primarily on the light intensity and the CO_2 concentration. Silabaal fertilizer ensures an optimal amount of CO_2 for the plant and thus contributes significantly to the process of photosynthesis as well as to primary and secondary metabolic processes but also to other physiological processes in the plant Plant at.

The mode of action of the fertilizer is to intervene in the structure of the cell parts via the foliage and the surface of other organs. Thus, it positively participates in all physiological processes in the tissues of the plant, from photosynthesis and primary metabolism to the complicated metabolic and cytological processes that take place in the plant from germination to the ripening of the fruit.

In the course of the gradual dissolution, the mineral in combination with the carbon dioxide creates a saturated environment. In this way, atmospheric conditions are created on each leaf, similar to a greenhouse when the CO_2 is produced.

The benefits of the fertilizer inside the plant can be attributed to the two decomposition products that leak out and nourish the plant: carbon dioxide (CO_2) and calcium oxide (CaO). The fertilizer also acts as an antioxidant for plants, which means a vitalizing and anti-aging effect.



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INDEX

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PRODUCT



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What is our fertilizer?

The basic component of fertilizer is activated micronised natural calcite, a sediment rock mineral of ocean origin formed by the collection of seaweed. Calcite consists of magnesium carbonates and shades of silicon, iron and other elements.

The fertilizer **is of 100% natural** origin, thus not contaminating or damaging the environment and therefore suitable for biological agriculture and farming.

The main components of fertilizer consist of:

• Calcium Carbonate (CaCO₃)	95.0%
• Silicon Dioxide (SiO₂)	2.0%
• Magnesium Oxide (MgO)	1.5%
• Iron (Fe)	8783mg/kg
• Manganese (Mn)	156 mg/kg 0.24mg/kg
• Selenium (Se)	65
• Carbonate solubility	47
• Neutral components	0.1µm to 20µm
• Granulate size	

The innovation lies in a specially applied process. The fertilizer plant nutrition. With the patented Tribo Mechanical Activation (TMA) the calcite is crashed into nano particles, most as small as 0.1 µm. This is much less than the size of a leaf's pore opening (ostiole). The fertilizer can therefore enter directly into the leaf and enable the mineral to penetrate and be absorbed through the leaf pores.

Tribomechanical activation - A patented nano technology:

• **Principle:**

Mineral collisions at very high speed

• **Results:**

A corn distribution ranging from the Nano to the Micro particle, which increases the active surface. The increase of the specific surface of the calcite particles is **up to 100%** and the porous volume is tripled which increases the reactivity.

The mineral particles are now small enough to enter the leaf. In the process of the gradual dissolution, the mineral creates an environment saturated by carbon dioxide (CO₂). In this way the same atmospheric conditions are created for each single leaf as in the greenhouse by blowing in CO₂.

INDEX

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SUCCESS STORIES

Are there case studies?

The fertilizer has been used in many countries and on various plants with stunning results. Following is a selection of success stories, where the use the fertilizer led to an increase of the harvest or rot a recovery from diseases and parasites.

Increased harvest



89% increase of female flowers with fruits after using the fertilizer on palm oil trees.



Increased dry mass and fruit quality of pineapple treated with the fertilizer (left) compared to control plant (right).



Control tapioca root (left) compared to tapioca root treated with the fertilizer (right).

SUCCESS STORIES



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WINE GREPES



Without



After applying Silabaal



STRAWBERRIES



Without



After applying Silabaal

PAPRIKA



Without



After applying Silabaal

POTATOS



Without



After applying Silabaal

BEANS



Without



After applying Silabaal

PEACHES



Without



After applying Silabaal

SUGAR BEETS



Without



After applying Silabaal

RECOVERED



Damaged rice field by plant hoppers



Recovered field 3 weeks after spraying



Damaged field area by rats



Recovery 2 weeks after spraying



Blast disease is a fungal disease recovered by Silabaal fertilizer



Mealy bug infection on sugar cane control plot



Good health condition of sugar cane test plot

SUITABILITY FOR VERGATABLES, FRUITING VEGETABLES

PLANT	YIELD INCREASE	SPECIAL FEATURES
Salad	Up to 25 %	improved shelf life
Celery	Up to 10 %	
Pumpkin	Up to 40 %	
Melon	Up to 70 %	Higher resistance to diseases, long shelf life and thus better storage, very good taste, extension of the growing season by up to 30 days.
Sugar beet	Up to 25 %	increase in sugar content by up to 3 %

SUITABILITY FOR CEREALS

PLANT	YIELD INCREASE	SPECIAL FEATURES
Wheat,	Up to 20 %	Shortening of the vegetation period by up to 10 days
Barley Rice	Up to 10 %	High resistance to diseases and pests, etc.
Soja bean.	Up 15%	Stronger and longer stems, richer leaf biomass and large number of well-developed pods. Very large oil and protein content in grain.
Sunflower	Up to 22%	
Maiz	Up to 40%	

SUITABILITY FOR FRUITS, OTHER

PLANT	YIELD INCREASE	SPECIAL FEATURES
Apple Pear Cherry Blackberry	Up to 50 %	Intense color of fruits, size of fruits more uniform, earlier ripening of fruits, higher firmness of fruits (cherries) larger more uniform fruits, earlier ripening of fruits (about 10 days earlier), high resistance to diseases
Wine	Up to 25 %	High resistance to diseases and pests, very good stress tolerance in case of water shortage, increase of sugar content
Paprika	Up to 80 %	Higher uniformity of fruits (size and color), very good taste, improved shelf life
Strawberry	Up to 25 %	More intense flavor, better color and shine of the fruit, improved shelf life, higher fructose content up to 2 %
Olive	Up to 30 %	Faster growth, larger fruits and uniform color and size, significant increase in quality.
Cucumber	Up to 50 %	Better storability, extended production and vegetation time by up to 30 days, improved fruit appearance
Potato		increased resistance to Colorado potato beetle infestation
Pistachio		Significant increase in quality, Higher stress tolerance in case of water shortage



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INDEX

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