

ikue
CONSULTING & DEVELOPMENT
Innovative. Kindly. Unique. Efficient.
ECO FERTILIZER
Silabaal 20 8 5

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Innovative. Kindly. Unique. Efficient.
ECO FERTILIZER
Silabaal 20 8 5
With the power of nature

ENFORCING A BETTER AND HEALTH LIFE
WITH INNOVATIONS

Silabaal 20 8 5

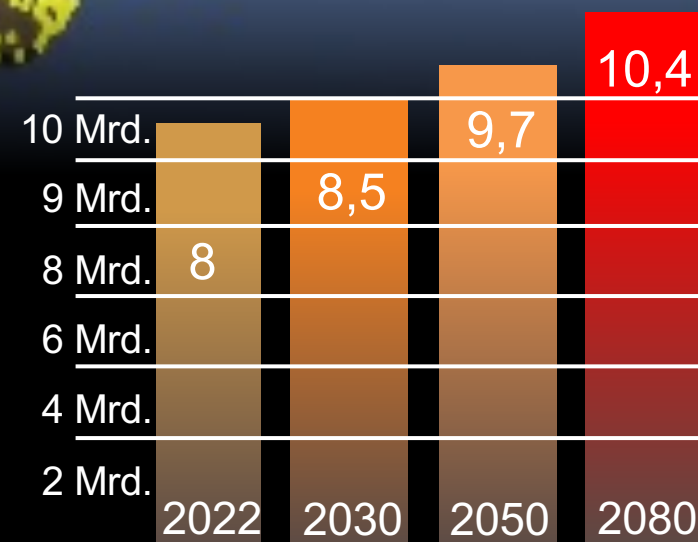
ikue
GRAPHIC DESIGN

**EIN DÜNGEMITTEL
DAS DIE WELT
DRINGEND BENÖTIGT.**

**Reduziert den Wasserverbrauch
und
steigert das Wachstum.**



WORLD POPULATION



ECO2

E2

**Ecological,
economical
Efficient
Edge Technology**

In the year 2030, about 8 billion people will live on earth. Compared to today, this represents an increase of 40%. It is difficult to increase the available arable land without incurring significant infrastructure costs and destroying natural forests and non-agricultural land. As a result, the available arable land per capita is decreasing. In order to feed all people adequately, production on the limited resources of existing arable land must be significantly increased.

Increasing production – preserving forests and natural areas. MG DÜNGER can provide considerable services here. Trade and agriculture can be sure to receive a product of high and stable quality and composition.



**69% of available
Freshwater worldwide
Is used in agriculture**



**Our Fertilizer
Reduce water
consumption
up to
70% less**





SUSTAINABLE AGRICULTURE

100% NATURAL MINERAL PRODUCT



Global logistics cause traffic jams and air pollution.

Environmentally
friendly product

Reduces CO₂
in the transportation sector

Advantages of **Silabaal[®] 20 8 5**

- 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



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





Speeds up the photosynthetic process



Opening of Leaf surface

NATRIUM

CALCIUM

MAGNESIUM
OXIDE

MANGANESE

OXYGENIUM

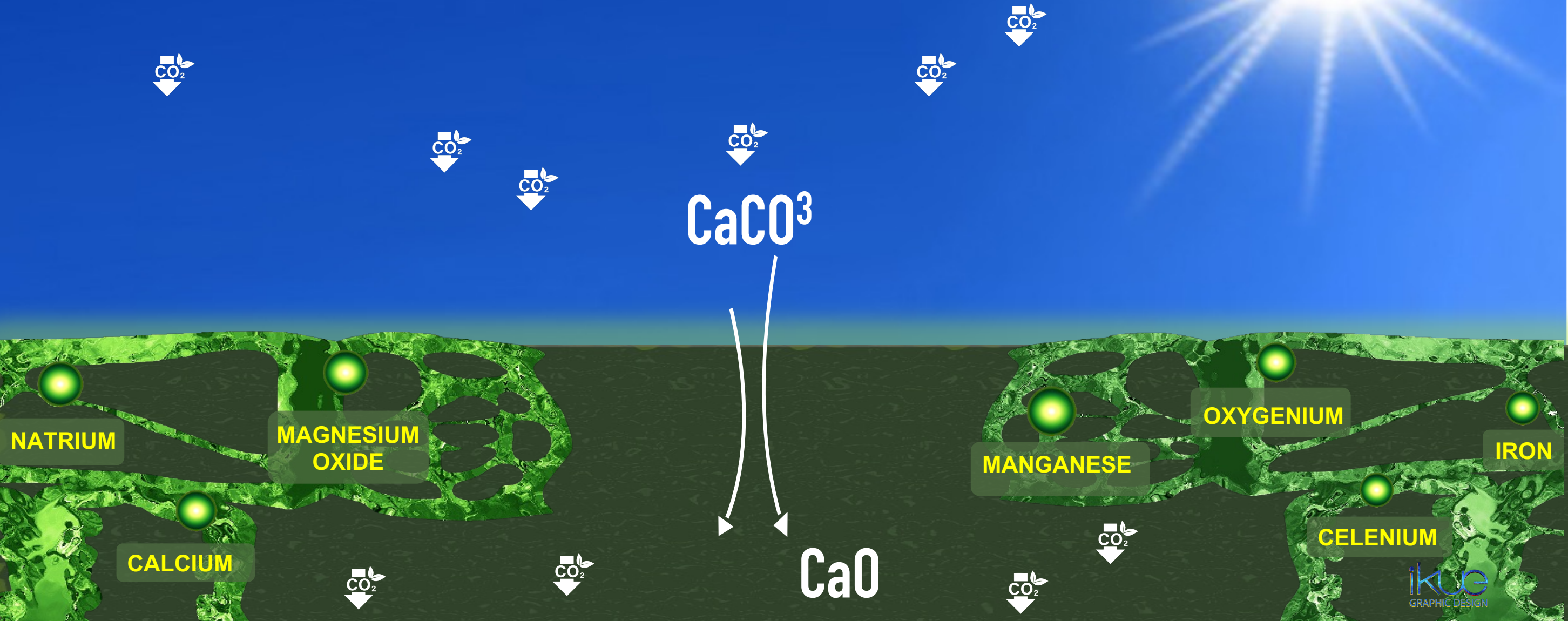
IRON

CELENIUM





Leaves using sunlight significantly increased by the fertiliser.



BENEFITS

What are the results?

Foliar fertiliser in conjunction with Solid fertilizer can be used in order to reduce nutrient imbalances. balance weight quickly and increase root uptake. This does not mean that foliar fertilizers solid fertiliser replaced overall, but the use of foliar fertiliser is increased demonstrably the availability of the the main elements used, which were applied in solid form.

Because of this, NPK fertilizer can be reduced by 50% to 70% while achieving better results. By applying one of the fertilizers directly to the leaf, it increases the activity in the leaf, at the same time increases chlorophyll and thus photosynthesis. And by increasing photosynthesis, we increase Productivity and efficiency. The increased efficiency can reduce the need for fertilizer applied to the soil, which reduces leaching and runoff of fertilizing nutrients.



Excess carbohydrates produced by the plant due to the higher sugar synthesis due to the increased chlorophyll are excreted by the root hairs, which stimulate microbial colonies on the root by providing 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 plants' ability to absorb water and fertilizer ions. The goal of fertilizing with is the same for both soil application and foliar application, but it is **actually 8-10 times more effective** to feed a plant via the leaves in terms of the amounts of nutrients and the speed at which they are required. these nutrients were used.

BENEFITS

L'effet mécanique éloigne les insectes des feuilles :

AUCUN PESTICIDE N'EST NÉCESSAIRE



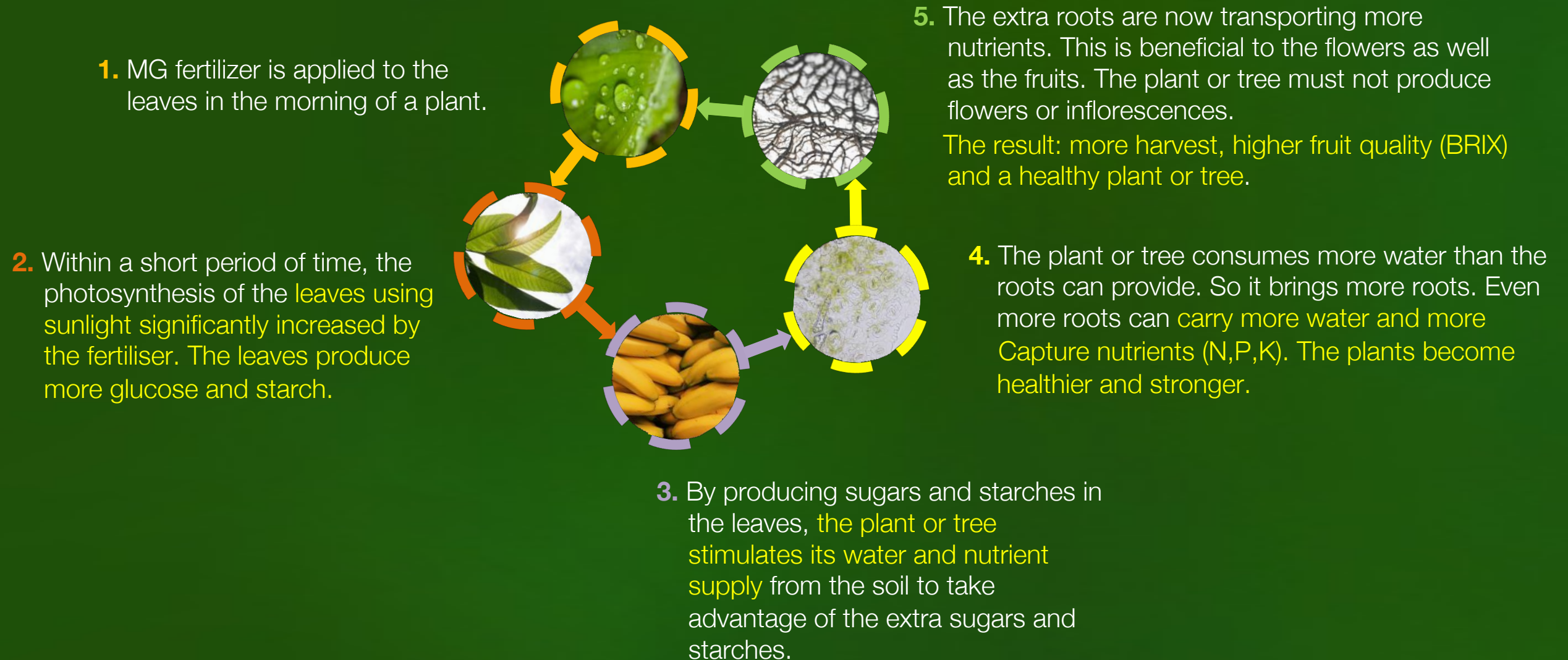
The silicate particles resemble small glass cracks and do not change and remain on the surface of the sheet.

And they have a very pleasant second effect:

All insects with tactile organs in their feet find this unpleasant and keep their distance from the plant which is unpleasant. Here we have a pulse through a physical process. And the second effect of silicate is that the particles are sometimes so fine that they disrupt and block the respiratory organs of intoxicating insects, namely acarids and pucerons. They don't like the silica because it attacks the branches. We have a beautiful collection of insects which find that the leaf stalk is repulsive.

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 vegetation period (5 months or more), 2–3 kg of the fertilizer should be used for 1 hectare cultivated land to ensure high. If plants are under the influence of unfavourable environmental conditions such as drought, frost or heat, the fertiliser should be sprayed more frequently werden.er yields and excellent fruit quality.

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

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

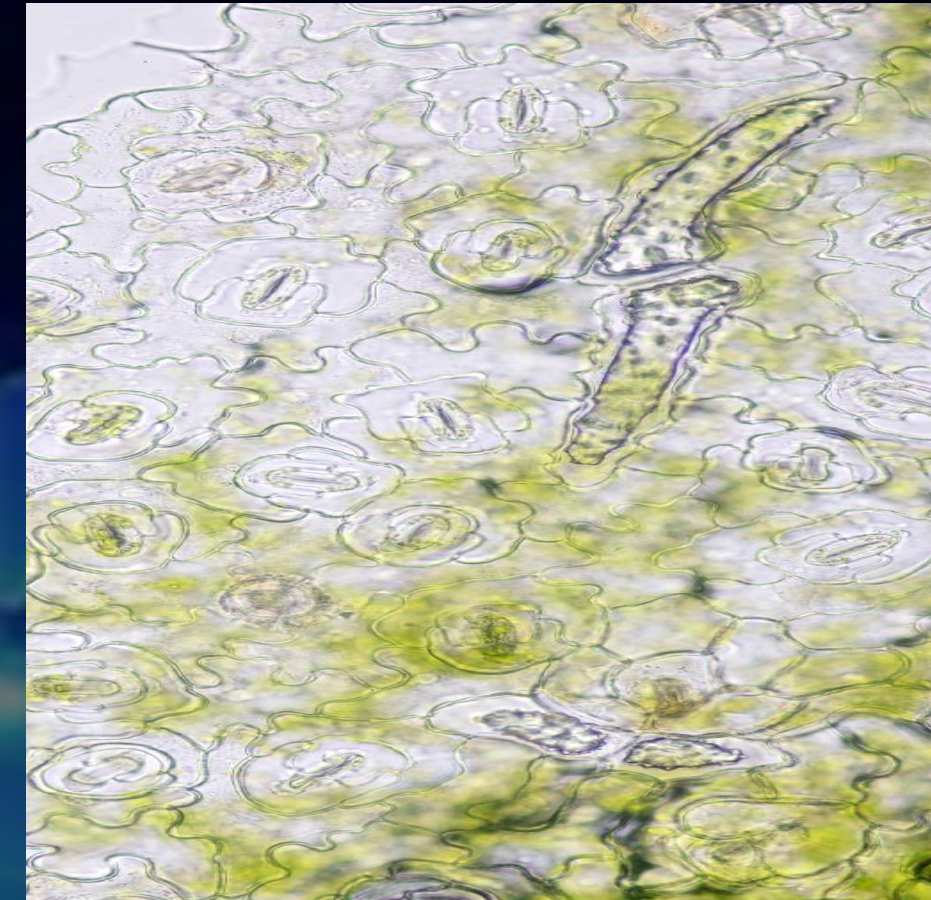
It is very important to know that the fertilizer should never be mixed or used with any other products, especially with preservatives as it worsens the results. Therefore, the fertilizer should only be used exclusively when applying on the plants. For spraying conventional spray nozzles can be applied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

TECHNOLOGY

Speed up the photosynthesis process

How does it work?

The fertilizer penetrates directly into the leaf pores (stomata – leaf organs that control gas exchange in the plant) and enters the interior of the plant. This is possible due to the granulometry of the fertilizer ($0.1\text{ }\mu\text{m}$), which is much smaller than the size of the pore opening of a leaf (ostiol). Upon penetration into the intercellular region 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 immediately switches into the process of photosynthesis. With the help of sunlight (which is converted into energy by chemical bonds), water and carbon dioxide, organic compounds are formed. Since the intensity of photosynthesis depends primarily on the intensity of light and the CO_2 concentration, the 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 processes in the plant.



TECHNOLOGY

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 CO₂ 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 (CO₂) and calcium oxide (CaO). The fertilizer also acts as an antioxidant for plants, which means a vitalizing and anti-aging effect.

PRODUCT

What is 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
• Selenium (Se)	0.24mg/kg
• Carbonate solubility	65
• Neutral components	47
• Granulate size	0.1µm to 20µm

The innovation lies in a specially applied process. The fertilizer lant 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 leafs pore opening (ostiole). The fertilizer can therefore enter directly into the leave and enable the mineral to penetrate and be absorbed the 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 (CO_2). In this way the same atmospherical conditions are created for each single leave as in the greenhouse by blowing in CO_2 .

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).

SUITABILITY FOR VERGATABLES, FRUITING VEGETABLES

PLANT	YIELD INCREASE	SPECIAL FEATURES
Salad	Up to 25 %	
Celery	Up to 10 %	improved shelf life
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.

SUITABILITY FOR FRUITS, OTHER

PLANT	YIELD INCREASE	SPECIAL FEATURES
Potato		increased resistance to Colorado potato beetle infestation
Pistachio		Significant increase in quality, Higher stress tolerance in case of water shortage

SUITABILITY FOR FRUITS

PLANT	YIELD INCREASE	SPECIAL FEATURES
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 ofthe fruit, improved shelf life, higher fructosecontent
Apple Pear Cherry Blackberry	Up to 50 %	Intense color of fruits, size of fruits moreuniform, earlier ripening of fruits, higher firmness of fruits (cherries) larger more uniform fruits, earlier ripening of fruits (about10 days earlier), high resistance to diseases
Wine	Up to 25 %	High resistance to diseases and pests, very goodstress tolerance in case of water shortage, increase of sugar 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
Sunflower	Up to 22%	
Maiz	Up to 40%	

SUCCESS STORIES

GRAPES



Without



After applying Silabaal



STRAWBERRIES



Without



After applying Silabaal

PAPRIKA



Without



After applying Silabaal

POTATOES



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



**Great investment
Opportunity
into one of the most needed
and important products.**

Production sites and invest / profitability

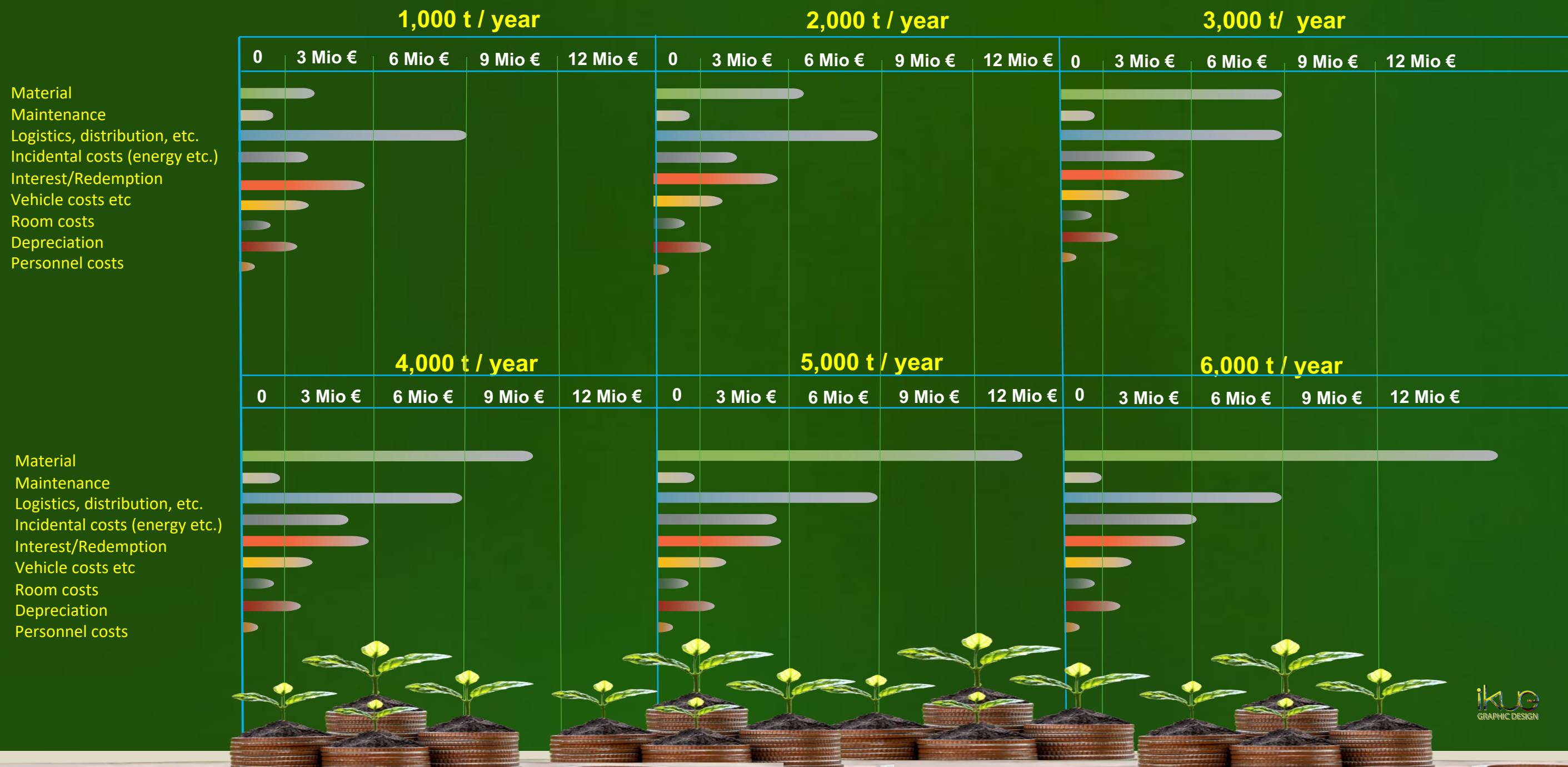
Investment requirements per site: 6 million €

- thereof equipment: 3 million €
- thereof construction: 2 million €
- thereof land / consulting including planning: 1 million €

- Annual production minimum: 6,000 t
- Employees maximum: 10
- Operating costs per kg of fertilizer: max. 10 €
- Average selling price per kg of fertilizer: 20 €
- Operating costs per year: 60 million €
- Sales proceeds / turnover: 120 million €



Production cost per year





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