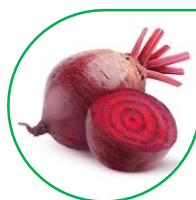
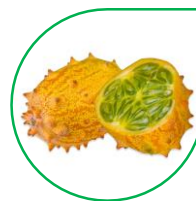
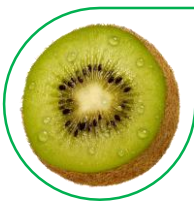
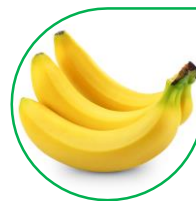


products catalogue

dilos





Company

After many years dealing with plants nutrition and protection products, our founder acquires large experience and becomes a specialist in developing, formulating and manufacturing such kind of goods.

From a beginning, our international vocation taught us to focus on the client satisfaction, offering the best of us and sharing our technical and commercial knowledge fairly.

Leaving in a globalized planet, we understood that the only way to keep and develop this focusing, is to work with multidimensional and non-stop investigation model, introducing latest technologies day by day, and updating our technical (agronomical & chemical) knowledges.

One day, a simple question was raised: Is it really necessary to export WATER?

... A simple answer: NO!

From that moment, we dedicate all our efforts to investigate the best way to reduce or even eliminate totally the water from our formulated products, but keeping their effectiveness and even improve them, to offer the best product that could exists.

This was not an easy task, but with our first class toll manufacturer partner, we finally reach this objective by setting up a new strategy, and we are proud of that.

Our power is our formulation, so even if the drying process is outsourced, we have an absolute control on what we offer to our partners.

Value

Our large experience gift us the confirmation of this new strategy, allowing us to share with our partners, all around the world, the following:

- Research and development issued formula, by using first class raw materials, constantly improved.
- High technology process of drying: high concentrated active ingredients with highest effectiveness.
- As solid product range, the stability and effectiveness are almost endless.
- Economically effective products: we avoid to our clients paying water shipment cost.
- Environmental friendly: during all the process, the CO₂ emission, is greatly reduced, this also thanks to our recycled packing.

Mission

As a conclusion of all previous arguments: NO NEED TO PRODUCE LIQUID PRODUCTS..., AND NO MORE WATERED GOODS WILL LEAVE OUR FACTORY FOR SALES...

We are working everyday to achieve the certification for all our range under the most important national and international organic labelling such:



USA



EUROPE



JAPAN



CHINA



plants life stages

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dilos.es



dilos xylem

Any crop needs a healthy and vigorous root system, which is the principal responsible of plant water and nutrients absorption.

Many studies has shown that some types of amino acids and saccharides are needed for a global root stimulation, in addition to many minerals, specially the phosphorus, playing a crucial role in the production of the nucleic acids DNA & RNA and calcium, major responsible of cell division.

The physical and chemical characteristics of rhizosphere are also important for a balanced root system development, and it is well know that higher content of organic matter at this area is positively correlated with the quality of soil.

All previous brief indications and many additional scientific studies was adopted to ideate an exceptional formula containing humic extracts, selected natural free amino acids, polysaccharides and vitamins, but also phosphorus and calcium.

Many balances were settled and tested to choose finally the best one which is considered our standard formula, but, we can offer alternative ones, as we know the large diversity of growers needs...



dilos phloem

Just after germination and before flowering is the phase of vegetative growth and areal part development. Upon this stage, the quality of next ones is highly influenced, so it is very important to care about crops at this period by understanding what kind of nutrients and stimulant are needed.

During the vegetative phase, plants are busy carrying out photosynthesis and accumulating resources that will be needed for flowering, setting, fruit development and maturation.

It is well known the essential and determinant role that play the amino acids and some vitamins at this period, to help the growth and fight against stress situations.

Nevertheless, not all amino acids and vitamins are equal so not all of theme are necessary at this phase.

This basic information is the essence of our pure and high concentrated standard formula, containing only select and needed components.

We can offer at lest two level of total free amino acids 60% and 80%, but also enriched with some essential trace elements...



dilos shoots

During all the crop cycle, the plants are exposed to divers and dangerous external environmental stress conditions and enemy attacks.

The strongest and healthiest is the foliage, better is the resistance and problem facing from the plants.

It was proved that plants, under complicated situations, specially parasites attacks, produces some substances allowing better defence: the phytoalexins.

At the same time, the plants needs to make stronger their new shoots and stem by accumulating specific substances at cell walls, enhancing divers mechanisms of resistance, basically it was shown that phenols are essential for such kind of bio metabolisms inside the plants.

To enhance the self production of such substances, we offer a formula containing copper, zinc, manganese and nitrogen (ureic form). Apart of this, we adopt and excellent complexing agent which is the aluminium lignosulfonate, that offers a positive action on the plants tissues lignification and enhances the phytoalexins production, thanks to its combination with copper, which is also an excellent natural bactericide and offers a singular fungi- static effect.





dilos flower

At the flowering stage the plant is under continues internal physiological stress, and the needs of nutritional elements and stimulant components becomes essential.

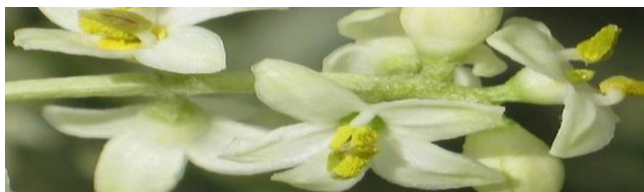
Apart of this, some physiological processes, like pollen production and germination, receptivity of the stigma, elongation of the pollinic tube, ovule germination...etc., occur during a very short time (some days).

As logical conclusion, it is very important that plant has available all needed factors to carryout successfully with this critical processes, and produces healthy flowers.

This is essential for good setting and later fruit development...

A stat of art formula is needs, and after many years of investigation we selected some components we judge essential and suitable for the blooming period: Boron molybdenum, zinc, phosphorus, potassium, vitamins, amino acids, polysaccharides, natural phytohormones that comes from seaweed extracts...

Besides of the first class raw material sources, the most significant of our standard formula is to find the best balance, which is years enriched know-how.



dilos set

The setting phase is an ambiguous and very hard to identify along the time, even by experts, but it is evident that it occurs and it's clear its significance for crops yields. Obviously, poor fruit setting implicates poor harvest.

This stage is closely dependent on the previous one: flowering, so healthy blooming means good setting.

Even this, at this stage the plant needs different factors that are essential to face alternative physiological stress conditions.

At the end of this stage, huge level of energy are required for fruit development, as it require an accelerated cell division and new tissues formation.

At this precis period it is fundamental to prevent eventual future fruit dropping and cracking.

Our standard formula includes calcium and boron are essential for cell division, and to avoid future fruit cracking and dropping, but also ameliorate the shelf-life of fruits. In addition to this, amino acids and polysaccharides provides the energy needed to achieve the hard work of plant at this stage. Potassium is implemented to balance the formula and prepare the crops for next stages.



dilos fruit

After setting, the plant get into a new stages during which almost all physiological mechanisms converge to the fruit development, cell expansion, fruit filling and maturation, tissues softening, ripening, colour change, sugar accumulation and release, acids broking ...etc.

Those processes require massive nutrients and stimulants, that has to be fast and continuously available into the plants bodies.

It is a long period stage, and many features may affects a correct development of those processes.

This phase, is essential for a suitable yield and worthwhile turnover of growing crops, sometimes early harvest is desired, so a special care is needed to reach such commercial targets.

To achieve a formula satisfying the global needs of the crops at this stage, it was necessary the help of our local university that advised us about the needed components, and their recommended proportion.

Finally a selection different and pure free amino acids with some polysaccharides were adopted, in addition to the essential macro-elements, phosphorus and potassium and some trace elements.





dilos alga

A-/ Many types of plant growth regulators that have been identified in seaweed extracts, such as auxins, cytokinins, ethylene, gibberellins, abscisic acid...etc.

B-/ Quaternary ammonium molecules, such as betaines and proline, that buffer against major osmotic changes. These osmoprotectants have an important role in plant stress and importantly have been observed to accumulate during increased stress tolerance.

C-/ Alginate and diverse polysaccharides, some sulphated, have been characterised that (i) stimulate root growth both directly and indirectly in association with microbes (ii) trigger the plant's defence mechanisms and (iii) induce plant genes involved in pathogenesis-related defence.

D-/ Minerals and trace elements that enhance nutrition or have a critical role in plant development, along with lipid-based molecules such as sterols were reported.

(Source: Tony Arioli, Scott W. Mattner, and Pia C. Winberg. 2015)

Those are four consistent reasons, justifying the usage of seaweed extracts as natural biostimulant for crops.

Our standard formula is 100% solid pure extracts.



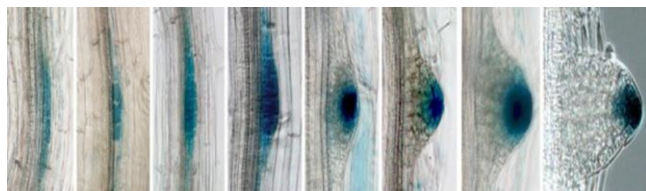
dilos stim

Plant hormones are chemicals such as auxin that regulate plant growth. Plant hormones are signal molecules produced at specific locations in the plant, and occur in extremely low concentrations. The hormones cause altered processes in target cells locally and at other locations. They affect which tissues grow upward and which grow downward, leaf formation and stem growth, fruit development and ripening, plant longevity and even plant death. Hormones are vital to plant growth and, if they were to lack them, plants would be mostly a mass of undifferentiated cells. In general, it is accepted that there are five major classes of plant hormones, some of which are made up of many different chemicals that can vary in structure from one plant to the next.

The chemicals are each grouped together into one of these classes based on their structural similarities and on their effects on plant physiology. Each class has positive as well as inhibitory functions, and most often work in tandem with each other to regulate growth and other responses.

dilos stim

dilos stim G



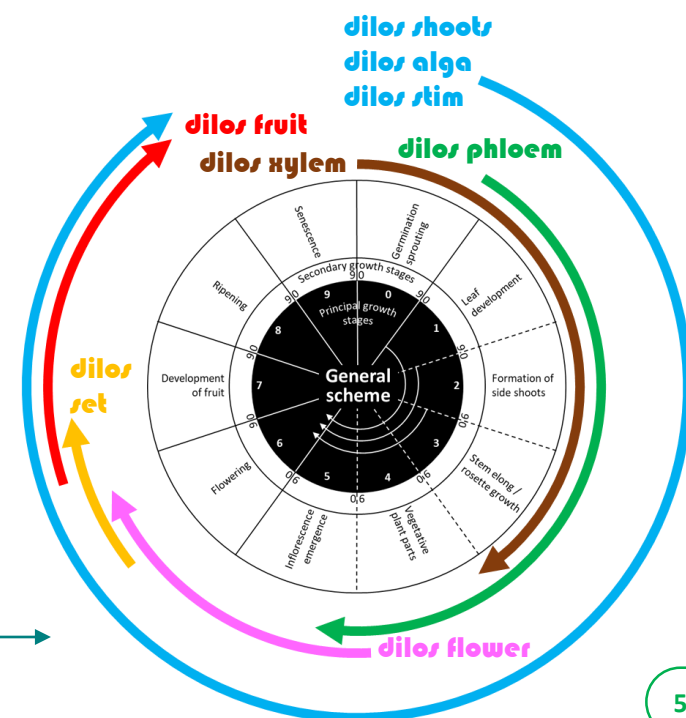
BBCH scale

BBCH is the abbreviation of the name of the German Institute (Biologische Bundesanstalt für Land und Forstwirtschaft) who created this scale.

This phenological scale is used to identify precisely each developmental stage of the annual cycle of a plant.

The BBCH scale is a reference framework for phenology and it was adopted by scientists for their research. With this code scientists and observers can accurately compare their observations. The BBCH code was originally developed to describe the phenology of crops and fruit trees. Here is how to decompose the annual cycle of a plant according to the BBCH scale.

Figure: This is a BBCH scale. According to "Phenological stages of monocotyledonous and dicotyledonous crops" U. Meier. Blackwell Wissenschafts-Verlag Berlin. 2001.





dilos calcium

Calcium is an essential nutrient for plants. Generally abundant in the soil, it is taken as the Ca^{++} cation by the roots. Its main functions are:

- Participate in the constitution of the cell walls of plants by stiffening them
- Activate various enzymes, including nitrate reductase, which reduces the nitrate to ammonium in the leaves
- Promote the growth of young roots in synergy with the other elements

Unlike potassium, calcium is less mobile in the plant. Its transfer to reserve organs or growth areas may be too slow and induce localized deficiency symptoms. To compensate for this nutritional problem, foliar fertilization is sometimes necessary.

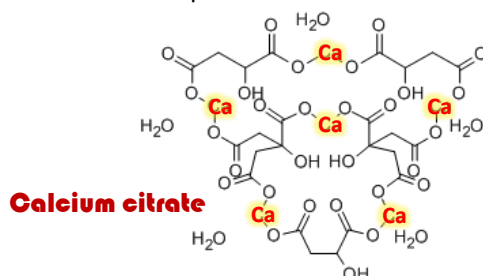
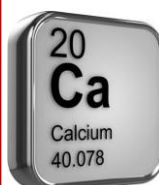
Many formula could be offered, but we present two most used ones:

dilos calcium 14 (EDTA Chelated)

dilos calcium 18 (EDTA Chelated, and Organic Compounds (O.C.) complexed)

The first one is recommended for soil application only.

The second one could be implemented both foliar or into the soil.



dilos magnesium

Magnesium is absorbed by the roots in the form of the Mg^{++} cation. It is an essential component, with nitrogen, of chlorophyll molecule, but also acts at the level of:

- Activation of many enzymes.
- The synthesis of proteins and sugars and their loading into the phloem.
- Of phosphorus metabolism.
- The intracellular osmotic pressure with potassium and the rigidity of cell walls with calcium that keep the plant wearing.

The amount of magnesium absorbed is 4 to 5 times less than that of potassium. It is also less easily absorbed by roots than potassium.

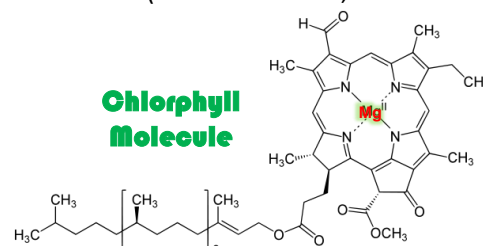
The competition between Mg^{++} and K^+ is also expressed in transfers within the plant: leaf

content of Mg^{++} decreases as potassium absorption increases. Therefore, it is necessary to consider these two elements together by expressing the K / Mg ratio for the interpretation of plant analyzes.

At least two formula are available:

dilos magnesium 10 (EDTA Chelated)

dilos magnesium 14 (EDTA Chelated, and O.C. complexed)



dilos copper

Copper is absorbed by the roots in the form of the Cu^{++} cation. It is quite abundant in the soil, but it is strongly bound to the organic matter.

The functions of copper, an essential component of many enzymes, concern the synthesis of proteins, particularly chlorophyll. The sterility of pollen is a particular effect of copper deficiency. It affects the fertility and filling of ears in straw cereals, it is the disease of the "white tips", marked by empty spikes.

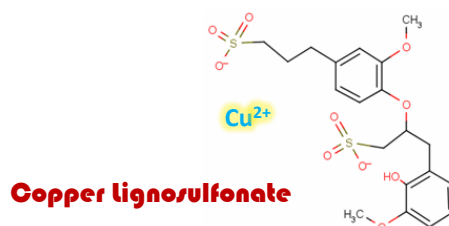
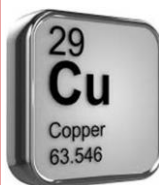
Crop requirements range from 25 to 150 g per hectare. The treatment consists in applying copper sulfate to the soil as a preventive measure or as a curative treatment to be sprayed on the leaves of copper-based specialties.

Our standard formulas are:

dilos copper 14 (EDTA Chelated)

dilos copper 14 (O.C. complexed)

This second product, could be used as an enhancer of self defence of crops, against some microorganisms enemies.





dilos manganese

The manganese is absorbed by the roots in the form of the Mn^{++} cation. Like iron, it is quite abundant in the soil, but its absorption is difficult under oxidizing conditions or alkaline pH because it turns into insoluble oxide. The functions of manganese, an essential component of many enzymes, concern the synthesis of proteins, particularly chlorophyll, and photosynthesis. A particular role of manganese is associated with the last stage of nitrate reduction in leaves. Manganese is used by crops in small quantities: 400 - 500 g per hectare, of the order of 1 kg for demanding crops (beet, potato). The soils contain enough in most cases but an induced deficiency is possible in alkaline or recently limed soils and in very aerated soils (oxidizing conditions) where the manganese is insolubilized.

In case of deficiency, foliar nutrition provides a generally adapted response.

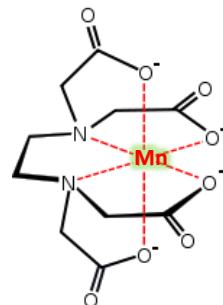
Our basic formulas are:

dilos manganese 13 (EDTA Chelated)

dilos manganese 17 (EDTA Chelated, and Organic Compounds (O.C.) complexed)



Mn-EDTA



dilos zinc

The plant absorbs zinc in the form of the Zn^{++} cation. It is an essential element and acts particularly:

- As an essential component in many enzymes.
- It has a specific role in the metabolism of the growth hormone auxin, for cellular elongation – low auxin levels cause stunting of leaves and shoots.
- Plays an important role in the formation and activity of chlorophyll.
- Involved in the synthesis of proteins and starch
- Important for carbohydrate metabolism.
- Zinc plays a major role in the absorption of moisture (plants with adequate zinc nutrition have enhanced drought-handling capacity).
- Zinc also protects the plant from oxidative stress under conditions of strong light and drought.

dilos zinc 14 (EDTA Chelated)

dilos zinc 19 (EDTA Chelated, and Organic Compounds (O.C.) complexed)



Zinc Gluconate



dilos iron

It is absorbed by the roots as ferrous Fe^{++} . Although abundant in the soil, the absorption of iron by the roots is complex because under oxidizing conditions or alkaline pH, the Fe^{++} cation disappears transformed into unassimilable ferric oxide. Iron functions, an essential component of many enzymes, concern respiration, chlorophyll synthesis and photosynthesis. A particular role of iron is associated with the nitrogen fixation of air by the symbiosis between legumes and Rhizobium. The iron participates in the processes of red-oxing from Fe^{++} to Fe^{+++} with release of an electron. It is found in ferredoxins and other enzymes such as cytochromes and peroxidases. Deficiency induced in calcareous and alkaline soil is common and is characterized by strong chlorosis on younger leaves.

Many formulas could be offered:

dilos iron 13 (EDTA Chelated)

dilos iron HA 620 (EDDHA Chelated, at least 2% O-O)

dilos iron HA 635 (EDDHA Chelated, at 3,5% O-O)

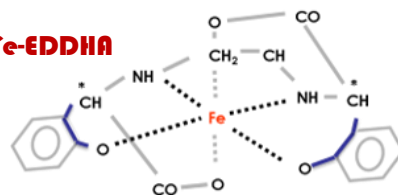
dilos iron HA 648 (EDDHA Chelated, at 4,8% O-O)

dilos iron SA 635 (EDDHSa Chelated, at 3,5% O-O)

dilos iron fifty (EDDHA+EDDHSa Chelated, at 3,5% O-O)



Fe-EDDHA





dilos mazi

Yoshiaki and Ando (1968) demonstrated that the growth of the rice plants depends on both Zn and Mn concentration in tissues and the ratio of Mn to Zn in the tissues. High yield can be obtained even at high Zn and Mn concentration in tissues, if the Mn/Zn ratio in tissues is in the range of 0.1-10. They showed that Mn level could highly affect the critical Zn concentration resulting in Zn toxicity symptoms.

Barben et al. (2010a, b) observed that Mn concentration in potato tissues decreased with increasing Zn concentration in nutrient solution from deficient to optimal and then increased as available Zn enhanced from optimal to excessive.

An interaction occurs when the level of one nutrient influences the other in relation to plant growth (Olsen, 1972). Interaction between two nutrients may take place in the soil or within the plant. A nutrient may reduce the translocation rate of the other nutrient or may cause the enhancement of the yield and decrease the concentration of the other nutrient (dilution effect) or may reduce the uptake of the other nutrient at the site of absorption by the roots.



dilos ebor

The root absorption takes mainly the borate form BO_3^{3-} associated with boric acid H_3BO_3 . Boron acts on cell multiplication in meristems. It also intervenes in the metabolism of sugars and their translocation in the plant. It is essential for the production of a fertile pollen. Little moving, it is not easily remobilized from the leaves to the growth points. The symptoms of deficiency appear on the young shoots, the buds or the hearts of certain plants (beet, sunflower, cauliflower, turnip, ...). Boron may become toxic beyond a concentration slightly higher than that considered to be adequate for the plant. Symptoms are caused by necrosis that begins at the outer edge of the leaves.

The calcium / boron partnership: American author has a saying that pretty much wraps up the interrelationship of these two elements: 'Calcium is the trucker of all minerals, and boron is the steering wheel.' Boron can be toxic in the absence of sufficient calcium. The synergy between this pair is such that deficiencies should ideally be addressed together.



dilos mbor

The plant removes the molybdate anion MoO_4^{2-} in the soil. Requirements are low from a few grams to tens of grams but the functions of molybdenum are very specific. It activates the enzyme nitrate reductase which ensures the reduction of nitrate in the leaves. It is also associated with metabolism of iron and phosphorus. Finally, in bacteria of the genus *Rhizobium*, it activates nitrogenase, another enzyme that allows the nitrogen of N_2 air to be bound to ammonium NH_4^+ . These bacteria live in symbiosis in nodules on the roots of legumes, crops sensitive to Mo deficiency. Absorption of molybdenum in contrast to other trace elements is favored in alkaline soils but is limited by the presence of sulfate SO_4^{2-} , an anion of equivalent size which competes for root absorption.

The presence of those two elements at the same product, is not due to any synergetic interaction, but their specific needs at flowering crops' phenologic stage, is the reason of this product.





dilos mazir

The iron / manganese duo: Iron chlorosis often occurs when iron levels on leaf analysis fall below 50 ppm, or when manganese exceeds iron levels by two times or more.

In soil analysis terms, iron should always be higher than manganese to avoid likely iron lockups.

Zinc deficiency is lead to iron (Fe) deficiency, due to prevent of transfer of Fe from root to shoot in zinc deficiency conditions.

While Zn moves as an anion in the form of Zn-citrate or malate, Mn moves as a cation in plants (Tiffin, 1967; Grusak et al., 1999).

In addition, while Zn is considered as the most mobile micronutrient, Mn is not easily remobilized in plants (Grusak et al., 1999).

As a conclusion, there is no direct confirmed interaction between those three elements at the same time. Nevertheless, for some crops, their uptake is important and it occurs at punctual periods, like Tomato, peper, Citrus...etc.

In our formula, it is important to note that the iron is EDDHSA chelated and the zinc and manganese are also chelated by EDTA.



dilos combi

Liebig's Law of Minimum, often called simply Liebig's Law or Law of the Minimum, is a principle developed in agricultural science by Carl Sprengel (1828) and later popularized by Justus von Liebig. It states that growth is not controlled by the total amount of available resources, but by the scarcest resource. From this it follows that even the most insignificant element for life is really essential for life. This concept was originally applied to plant and crop growth, where it was found that increasing the amount of nutrient more abundant did not increase the growth of plants. Only by increasing the amount of the limiting nutrient (the scarce) could the growth of a plant or crop be improved. This principle can be summarized in the aphorism:

"the availability of the most abundant nutrient in the soil is like the availability of the least abundant nutrient in the soil."

dilos combi several formula can be offered with different balances.

dilos combi soiless indicated for soiless cropping systems, where the pH is controlled.



dilos fert

FERTILIZERS are either applied to the soil, directly on the plant (foliage) or added to aqueous solutions, in order to maintain soil fertility, improve crop development, yield and/or crop quality.

The purpose of fertilizers are to supplement the natural supply of soil nutrient, build up soil fertility in order to satisfy the demand of crops with a high yield potential and to compensate for the nutrients taken by harvested products or lost by unavoidable leakages to the environment, in order to maintain good soil conditions for cropping. (International Fertilizer Association)

Our range is basically thought to complete the Plants' Mineral Nutrition family, with just high quality N-P-K formulas.

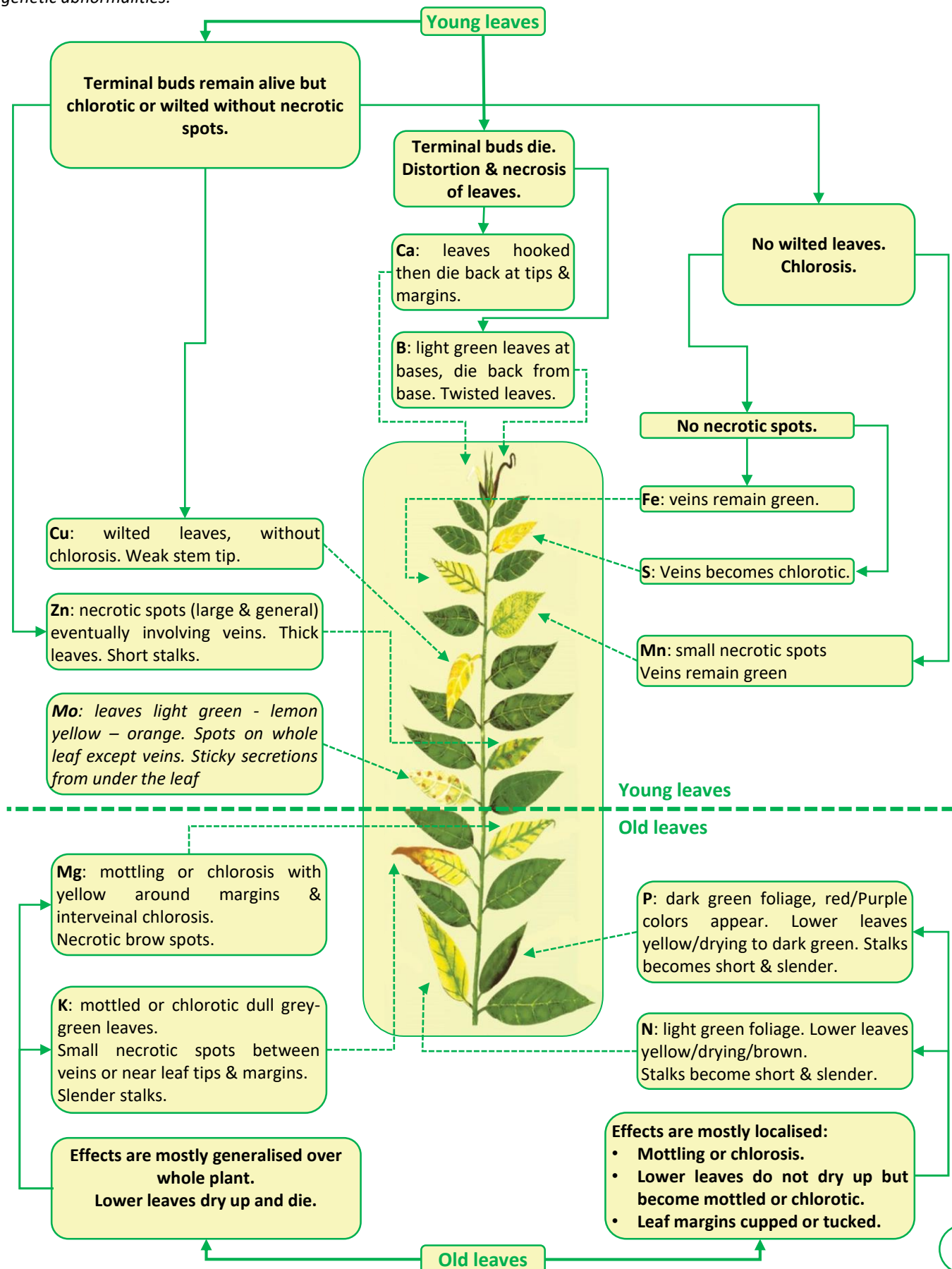
Standard solid products are offered, varying the formula technology, to fit with the grower needs: as foliar o root applications.

Some of the formulas are enhanced by adding first class organic matter.





Deficiency symptoms observed under field conditions, often appear different than ideal text book examples. Diagnostic is often difficult for even the most experienced eyes. Some elements produce similar symptoms and several deficiencies can occur at the same time. Symptoms can also be easily confused with those caused by pest, diseases, under-watering and genetic abnormalities.





dilos humat

Humic substances, play a vital role in soil fertility and plant nutrition. Plants grown on soils which contain adequate humin, humic adds and fulvic adds are less subject to stress, are healthier, produce higher yields; and the nutritional quality of harvested foods and feeds are superior.

The value of humic substances in soil fertility and plant nutrition relates to the many functions these complex organic compounds perform as a part of the life cycle on earth.

The life death cycle involves a recycling of the carbon containing structural components of plants and animals through the soil and air and back into the living plant. (Dr. Petit, Uny. TX)

Our standard formula are:

dilos humat 65 high concentrated granule.

dilos humat 70 high concentrated powder.

dilos humat 85 high concentrated granule.



dilos humix

when Seaweed and Leonardite extracts are applied in combination, results are significantly improved over either of the treatments alone.

Divers studies confirmed an excellent water retention, thanks to this combination, and a global enhancement for soils physical and chemical characteristics.

Thanks to its high level of Cationic Exchange capacity, the humic extracts can also play a complexing agent role, for many types of ions of soil.

This combination could be interesting for a natural nutritional balance between the soil solution and the nutritive solution inside the roots.

The complex, resulting from this combination, make the nutrients elements easiest and fastest absorbed.

Our standard formula are:

dilos humix alga when combining seaweed extracts with humic ones, a synergistical effect is clearly show, mostly at the soil water retention capacity.

dilos humix iron with iron, the input offers a complexed nutrient for fast assimilation.



dilos saless

The salinity of a soil is defined as the concentration of soluble salts that exists in the soil solution. Salts that enter the soil (by irrigation and / or other source) are concentrated as a result of evaporation and transpiration of the plant. This concentration of salts in the soil solution causes an increase in the osmotic potential of soil water. This increase affects the absorption of water by plants so that plants and crops must consume extra energy in order to extract water from the soil solution in which the salts are concentrated.

The problem of salinity is not restricted only of soil, but the irrigation water is considered also a big problem that causes more salts accumulation at soils and greatly limited the crops' yields.

The main cations and anions that make up the soluble salts that give rise to the salinity: (i) Cations: sodium (Na^+), calcium (Ca^{++}), magnesium (Mg^{++}), potassium (K^+). (ii) Anions: chloride (Cl^-), sulphate (SO_4^{--}), nitrate (NO_3^-), bicarbonate (HCO_3^-).

Basically or formula is thought to offer an equilibrium between external and internal environment of roots, to stabilize the osmotic phenomena, for retention and avoiding the losses of water by crops.



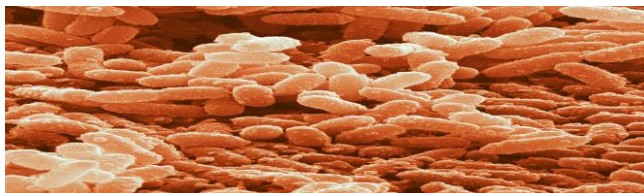


dilos VS Bacteria

Bacteria typically colonize intercellular spaces in different organs or the xylem surrounded by surface polysaccharides, mainly exopolysaccharide (EPS) that increase their virulence. Many secrete toxins that cause cellular damage, including enzymes that degrade cell walls. Some, transfer part of their DNA into a plasmid, T-DNA, to the host cell. The symptoms of the diseases that Bacteria produce are not always typical and may be confused with those caused by diseases due to fungi or other agents. The damage they cause can be tumors, wilting, dry necrosis or soft rot. Diseases caused by bacteria are propagated through cultural practices, through cuttings of contaminated plants, or through the soil itself, or the use of contaminated substrates.

They can also be transmitted by insects and nematodes. In order to fight against bacteria, prophylactic measures are necessary first of all, being able to resort to the chemical control, use of healthy material, biological control...etc. In our case, we developed a natural, organic and high effective copper based product:

dilos comper
dilos tenuiflora



dilos VS Downey Mildew

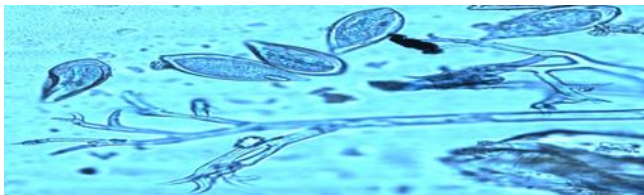
Downy mildew is the common name for a group of highly specialized obligate parasites of vascular plants. These organisms are distinctly different from the powdery mildews.

Although they have traditionally been included taxonomically with true fungi, these organisms and their relatives in the genera *Phytophthora* and *Pythium* and others in the Oomycota are now not believed to be closely related to true fungi. Morphologically, they are similar to fungi and have absorptive nutrition. The chemicals used to control downy mildews are similar to those used for *Pythium* and *Phytophthora* and different from most of those used for true fungi.

Copper is an excellent natural product that achieves a very nice control on most Downey mildews pathogen agents.

Combined with potassium phosphites, the result is greater.

dilos comper
dilos fosfite K
dilos carbonato



dilos VS Powdery Mildew

Several different genera of fungi cause powdery mildew. Although usually one genus specifically attacks one or two different plants, some species of powdery mildew (such as *Golovinomyces cichoracearum* formerly *Erysiphe cichoracearum*) attack a wide range of plants.

All the powdery mildew fungi are obligate parasites, requiring live tissue to grow and reproduce. In greenhouses, the fungus survives by spreading from the diseased plants to the new plants of that same crop. If that crop is not grown for several weeks, the fungus dies out and diseased plants must be brought into the greenhouse to establish the fungus again. Outdoors, fungal structures form on leaves and twigs that allow the fungus to survive winter conditions.

We offer different formula, based on natural extracts. The combination, contribute to better pathogen control, and self plant defence mechanisms, are enhanced.

dilos carbonato
dilos sulton
dilos verum





dilos VS Molds & Rots

The plant pathogenic fungus *Botrytis spp.* is found virtually everywhere plants are grown. It is fast growing, can grow on many different sources of nutrients, survives well in the greenhouse, and can attack many different types of plants. The disease caused by *Botrytis spp.* is commonly called Botrytis blight or Gray mold.

White mold, also known as *Sclerotinia spp.*, is a fungal disease that affects over 360 different plants.

Symptoms appear on blossoms, stems, leaves, and pods that have water-soaked spots. Leaves will wilt, yellow, and die; pods may rot.

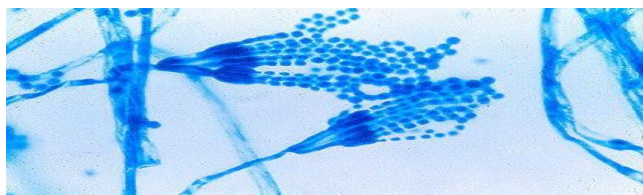
Brown rot causes blossom blight, twig blight; twig canker and fruit rot. Brown rot is caused by a fungus *Monilinia spp.* that produces spores, and can be a major problem during particularly wet seasons.

We offer divers formula based on natural botanical or mineral extracts, that could be applied individually or combines:

dilos tenuiflora

dilos benton

dilos sulton



dilos VS Soil-borne disease

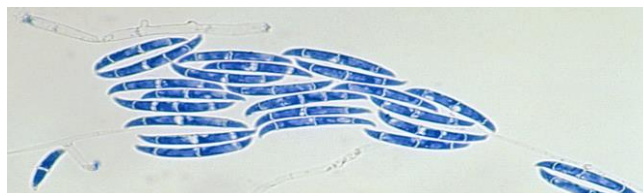
Soil-borne diseases are very critical in realizing the yield potential of improved cultivars in several agricultural crops. Often these diseases are very difficult to manage due to their highly heterogeneous incidence and lack of knowledge on the epidemiological aspects of soil-borne pathogens.

Soil-borne diseases in the field include pre and post-emergence damping-off, like *Fusarium*, *Pythium* and *Rhizoctonia* species, root rot, including *Phytophthora*, vascular wilts caused by fungi including *Verticillium* and nematodes.

Root rots can affect plants beyond the seedling stage when the fungi invades internal root tissue, interfering with the supply of water and nutrients.

Aboveground symptoms include loss of vigor, leaf yellowing, leaf drop, wilting starting at the growing tip, twig dieback, and sudden death. Vascular wilts are characterized by plant wilting and discoloration of the vascular system at stems or trunks and branches.

dilos comper, dilos tenuiflora are a nice tool to guard rhizosphere area.



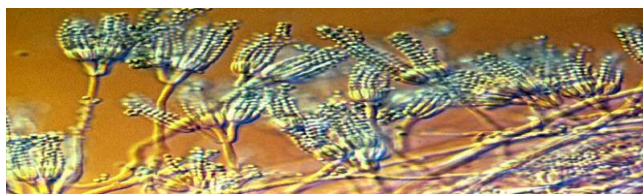
dilos VS Postharvest disease

Stored produce is subject to a variety of rots and decay caused by fungi or bacteria. These organisms may cause soft spots or light brown lesions on fruits and vegetables. Fungal growth, in a variety of colors, may also be apparent on the surface of infected produce. In time, the entire fruit or vegetable can become dry and mummified, or, under moist conditions, a soft, wet mass.

Postharvest diseases may start before or after harvesting. Plants or fruits infected in the field may not develop symptoms until stored. Once in storage, infections continue to develop on the fruits and vegetables. Wounds, cuts, or bruises caused during harvesting are common entry points for bacteria and fungi.

Penetration can also occur during storage through natural openings, such as lenticels, or directly through the cuticle and epidermis.

dilos comper,



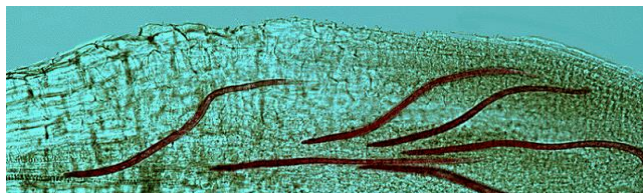


dilos VS Nematodes

Most plant parasitic nematodes are soilborne root pathogens, but a few species feed primarily upon shoot tissues. The feeding process damages the plant's root system and reduces the plant's ability to absorb water and nutrients. Typical nematode damage symptoms are a reduction of root mass, a distortion of root structure and/or enlargement of the roots. Nematode damage of the plant's root system also provides an opportunity for other plant pathogens to invade the root and thus further weakens the plant. Direct damage to plant tissues by shoot-feeding nematodes includes reduced vigor, distortion of plant parts, and death of infected tissues depending upon the nematode species. There are several methods commonly used to control plant-parasitic nematodes.

These methods can be divided in to three main types: biological control, cultural control and chemical control. Plant nematodes are not typically controlled using just one method mentioned above, but instead they are managed using a combination of methods in an integrated pest management system.

dilos *saponaria*



dilos VS Aphids

The aphids are sucking insects, and they are provided with a long articulated beak that they nail in the vegetable, allowing them feeding on the phloem of the plant. Nymphs and adults extract nutrients from the plant and alter the balance of growth hormones. This causes a weakening of the plant, stopping the growth, the leaves are rolled and if the attack is very severe can dry the plant. Stoppage of development or loss of leaves results in a reduction of final production.

Indirect damages can be generated:

1-/ Reduction to photosynthesis. The sap is low in protein and rich in sugars, so aphids must take a lot of sap to get enough protein. Thus, aphids excrete excess sugar like molasses that settle on the underside of the leaves and fall into the bundle of the leaf below.

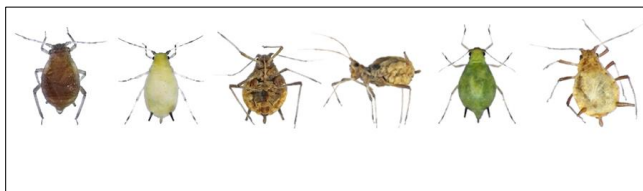
This excess of molasses favors the development of molds of soot, black or brindle (*Cladosporium* spp.).

2-/ They can transmit toxic substances to the plant.

3-/ Phytopathogenic virus vectors. Aphids can transmit up to 117 types of phytopathogenic viruses.

dilos *Urtica*

dilos *indica*



dilos VS Whitefly

The white fly belongs to the family of Aleyrodidae. They are small insects, about 2mm. When it is adult it has triangular wings of white color, and covered by a dusty wax. The white fly is the first enemy of a large number of vegetable plants, among which tomato, for example.

But many others such as potatoes, cucurbits of all kinds, citrus fruits and greenhouse plants are particularly the target of its attacks, as well as ornamental plants.

The white fly sucks and feeds on the sap of plants by stealing nutrients and water, and can greatly weaken them. It is a very important pest and difficult to control because it attacks the plants weakening the leaf, by its wounds made for the penetration in the vegetable, they settle on the underside of the leaf by means of a pedicle with which it is attached to the substrate.

But this is not the main problem caused, the main has its origin in the molasses that produce white flies to bribe the ants, and is that this is a breeding ground for a multitude of fungi and bacteria that can get into serious problems.

dilos *Urtica*

dilos *indica*





dilos VS Thrips

Thrips are a pest insect that affects various crops of vegetables, such as cucumbers, watermelons, tomatoes, zucchini and onions.

The thrips feed on the contents of the leaves of our crops sucking with their mouth in the form of a sucking needle, causing the formation of scars on the leaf and deformation in their growth, damage in the form of yellow, white or silver spots in the Surface of the leaf, as well as residues in the form of small black dots, which are the excrement of these insects.

In addition, this pest can cause aesthetic damages to the fruits, such as coppery or yellowish spots, and affect the pollination, since some species also feed on the pollen of the flowers, so, could reduce the fruit set and our expected yield.

Finally, thrips are virus transmitters and some fungal diseases. It is known that onion thrips (*Thrips tabaci*) and (*Frankliniella occidentalis*) transmit the tomato tanning virus (TSWV). Another virus transmitted by this insect is tobacco mosaic virus (TMV) when the thrips feed on pollen from one diseased plant and come into contact with another.

dilos indica



dilos VS lepidoptera

Covers a total of 20,000 species and are characterized by their adults fly at night and are grayish or dark in color. The species of this family have characteristics that influence its economic importance in crops:

- They are pest species very polyphagous, attack any type of herbaceous crop.
- They have a tendency to gregarious behavior, immature states tend to live in large numbers on the same plant.
- There are many migratory species, migrate at certain times of the year and appear in a massive way in the crop, causing greater damage than if it appeared in a staggered way.

There are several species that attack the different horticultural crops.

Other species include *Spodoptera exigua*, which is the most important in pepper and watermelon, while the species of *Heliothis* and *Plusias* are in tomato and pepper.

Tuta absoluta is a microlepidopterus of the family "Gelinchiidae", is a very prolific specially on tomato.

dilos indica

dilos stivum



dilos VS Acari

Mites constitute the most important group within the pest species of cultivated plants, after insects. They comprise between 15 and 20% of the pest species with the greatest economic impact on crops. Within the mites we can find very polyphagous species (in herbaceous and fruit crops) and species uni-phagous.

The types of damages are classified according to the oral apparatus of the mites, thus are three groups of damages:

- Mechanics: They are due to feeding larvae, nymphs and adults. They are caused by mites of oral apparatus type I,
- Malformations and abnormal growths: caused by Eriophids, with oral cavity type II.

- Transmission of phytopathogenic viruses: It is unimportant in mites emphasizing in the group of Eriophids that are those that inject saliva and soon they suck the content

dilos sulton


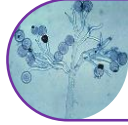










dilos verum

dilos Urtica

dilos indica





	dilos comper	dilos forfito K	dilos carbonato	dilos benton	dilos sulton	dilos saponaria	dilos yerum	dilos tenuiflora	dilos indica	dilos sativum	dilos Urtica
 dilos VS Bacteria Image: <i>Erwinia carotovora</i>		●								●	
 dilos VS Downy Mildew Image: <i>Peronospora parasitica</i>		●	●	●							
 dilos VS Powdery Mildew Image: <i>Erysiphe sp.</i>				●		●		●			
 dilos VS Molds & Rots Image: <i>Botrytis cinereal.</i>					●	●				●	
 dilos VS Soil-borne diseases Image: <i>Fusarium oxysporum.</i>		●								●	
 dilos VS Postharvest diseases Image: <i>Penicillium spp.</i>		●									
 dilos VS Nematode Image: <i>Meloidogyne incognita.</i>							●				●
 dilos VS Aphids Image: <i>Chaetosiphon minor.</i>										●	●
 dilos VS Whitefly Image: <i>Trialeurodes vaporariorum.</i>										●	●
 dilos VS Thrips Image: <i>Frankliniella occidentalis.</i>										●	
 dilos VS lepidoptera Image: <i>Tuta absoluta.</i>										●	●
 dilos VS Acari Image: <i>Panonychus ulmi.</i>						●		●		●	●



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