

AGROQUIMICOS DE LEVANTE, S.A.

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BIOCARRERA

GENERAL DIRECTIONS FOR USE

BIOCARRERA is recommended as an organic nutrient and growth bio-stimulant of roots, leaves, flowers and fruits on every kind of crops. It can suitably be applied during the most important phases of the production cycle, in outdoor or glasshouse crops, in nurseries and in young plantations, as well as in crops damaged or affected by hail, phyto-toxicity, parasites and diseases, drought, etc.

Application

BIOCARRERA can be applied by foliar spray, soil application or fertigation. Dosages may change depending on the crop and its vegetative phase, soil and environmental conditions and stress intensity. The number of treatments depends on the crop, but the most appropriate moments are the phases of higher biological activity, which require a surplus of energy and nutrition (transplant, growth, flowering, fruit-set, ripening, etc.).

Application by foliar spray

BIOCARRERA is typically applied via foliar spray using standard application equipments (i.e., backpack sprayer, airblast, aerial application) at the recommended application rate in 600-1.000 L of water per hectare (64.2-107 gal/acre). The total volume of water utilised depends on:

- the crop and the foliage area to be wetted. Higher volume are utilised with tree crops and large foliage crops, lower volume (usually 4-500 L/ha) with low crops and young crops
- the application equipment. Low volumes (LV) or ultra low volumes (ULV) of water per hectare are utilised with high pressure equipment (airblast sprayers), while higher volume with low pressure equipments.

The dosage rates contained in this manual, expressed in L/100 L of water, are referred to a total volume of water of 1.000 L/ha and low/medium pressure devices. When high or ultra-high pressure devices and lower volumes of water per hectare are used, proportionally increase the concentration of the product. Do never exceed maximum recommended dosage per 100 L of water; it is preferred to reduce time between treatments than to increase dosage.

BIOCARRERA can usefully be applied in tank-mixture with microelements, NPK fertilisers, humic acids, seaweeds, post-emergence herbicides, fungicides and insecticides.

Application by soil and fertigation

Preferably apply by means of drip irrigation systems, dissolving BIOCARRERA into the fertiliser dispenser. The product can also be applied by injection or by flowing irrigation, carefully measuring the product in order to obtain a uniform distribution on the whole surface. The best effects can be obtained with a slow, continuous supply or subdividing as more as possible the number of treatments. The application of BIOCARRERA by fertigation allows to reduce the nitrate fertilisation for about 20-30% without any yield decrease, and also the nitrate and nitrite contents in all crops..

Compatibility with other products

BIOCARRERA can be tank-mixed with all fertilisers (macro- and micro-nutrients), chelates and the majority of crop protection products. Do not tank mix more than 3 products together (including BIOCARRERA)

Avoid mixtures with mineral oils and nitro-derivatives (DNOC, dinocap).

In the case of foliar application in tank-mix both with sulfur and copper products, conduct a preliminary test on the target crop, and observe the reaction in the days following the test. The application in tank-mix with copper-based fungicides can be made without risk in olive trees and cereals.

If it's necessary to apply copper, apply copper 3-4 days after BIOCARRERA application.

Caution and storage

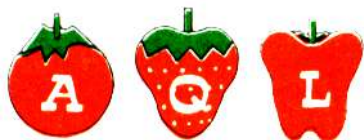
Not dangerous, not irritant, not corrosive. Non-flammable.

In case of contact with eyes or skin, wash with plenty of water.

The product does not contain preservatives and it is stable for years, if stored undiluted in closed and clean containers. It is recommended to keep the product at a temperature range not exceeding 0°C (minimum) and 30°C (maximum). Avoid extremes conditions during storage. Store in a well airy place, repaired from direct light.

Important notice

The directions for use and information contained in this manual are the result of extensive and rigorous tests and trials. However, the use of the product may involve many factors beyond our control (tank-mixtures preparation, application, weather, etc.). Our Company guarantees the composition and the formulation. All damages (lack of efficacy, general toxicity, residues, etc.) caused in consequence of partial or total non-observance of the direction contained in this manual will fall upon the user.



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CUCURBITACEAE: MELON, WATERMELON, CUCUMBER, ZUCCHINI, SQUASH

foliar spray

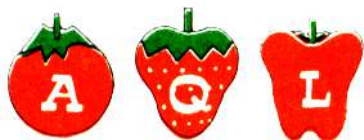
KIND AND PERIOD OF TREATMENT		DOSAGE (mL/100 L)	EFFECTS
Outdoor	apply throughout the growing period at 10-12 days interval, also in tank-mix with: · Zn and other microelements · fungicides against powdery mildew reducing the fungicide rate of 25% at least the most important treatments are:		
	transplantation or 4-5 leaves phase	250	- Helps rooting and reduces the post-transplant stress - Quick vegetative growth and early formation of flowers.
	pre-flowering	300	Better fertility of flowers and fruit setting...
	fruit-set	300	Early ripening, bigger size and better colour of fruits. Higher sugar content.
	fruit swelling	300	Reduces the viruses effects, if preventively applied.
Invernadero	transplantation or 4-5 leaves phase	200	
	Pre-flowering	250	same effects as above
	production phase (2-3 treatments)	250	

fertigation

KIND AND PERIOD OF TREATMENT	DOSAGE (L/Ha)	EFFECTS
transplantation or 4-5 leaves phase	2-4	
Pre-flowering	3-4	same effects as above
production phase (2-3 treatments)	4-5	

tratamientos especiales por pulverización foliar

KIND AND PERIOD OF TREATMENT		DOSAGE (mL/100 L)	EFFECTS
outdoor	low or high temperatures or light intensity. Water stress or salinity excess. Damages caused by parasites, hail, etc.	300	Promotes vegetative resumption and productivity, preventing the early ageing of crop
greenhouse		200	



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SOLANACEAE: POTATO, TOMATO, PEPPER, EGGPLANT

potato - foliar spray

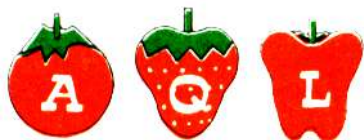
KIND AND PERIOD OF TREATMENT		DOSAGE (L/100 L)	EFFECTS
outdoor	plant 15 cm tall	300	- potato is a crop where Protifert has always shown positive or even spectacular effects in terms of yield and average size of bulbs, with less refuse - apply in mixture with plant protection products (except for copper fungicides)
	when tubers begin to swell (size of a hazelnut)	300	
	15 days after the previous treatment	300	

tomato, pepper, eggplant - foliar spray

KIND AND PERIOD OF TREATMENT		DOSAGE (mL/100 L)	EFFECTS
outdoor	plant 10 cm high or 10-15 days after the overcoming of transplant crisis	300	- Promotes a quick vegetative growth, - Improves the flower number, the earliness of flowering and the fruit setting. - Improves the ripening earliness, the size, colour, and sugar content of fruits. - Reduces cold stress and makes nutrients more available
	pre-flowering	300	
	fruit setting	300	
	colour change (in tank-mix with P and K)	300	
greenhouse	plant 10 cm high or after transplant	250	same effects as above
	pre-flowering	250	
	fruit setting	250	
	colour change (in tank-mix with P and K)	250	

fertigation

KIND AND PERIOD OF TREATMENT		DOSAGE (L/Ha)	EFFECTS
outdoor and greenhouse	plant 10 cm high or 10-15 days after the overcoming of transplant crisis	2-4	same effects as above
	Pre-flowering	3-4	
	production phase (2-3 treatments)	4-5	



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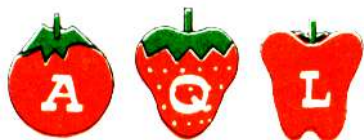
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tratamientos especiales			
KIND AND PERIOD OF TREATMENT		DOSAGE (mL/100 L)	EFFECTS
outdoor and greenhouse	in case of:		
	· excess/deficiency of temperature or light, · water or salinity stress, · damages due to parasites, hail, etc etc.	300-400 200-250	Promotes vegetative resumption and productivity, preventing the early ageing of crop
greenhouse	Foliar sprays localised on every flower cluster in mixture with hormones to increase fruit setting (**)tank-mix this rate of Biocarrera with the PGR rate reduced of 20%	20 gr/lit. **	• Tamaño más homogéneo. • Reduce los efectos negativos de los PGR (malformaciones y cavidades de las frutas)



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STRAWBERRY

spray foliar

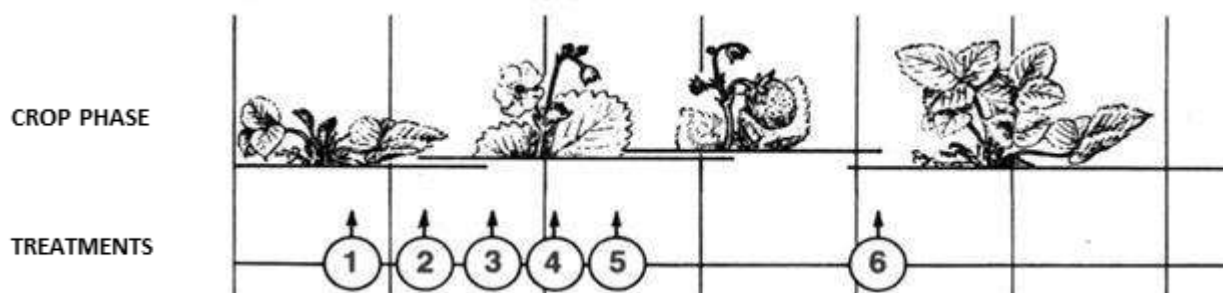
KIND AND PERIOD OF TREATMENT	DOSAGE (mL/100 L)	EFFECTS
autumn – before winter dormancy	300-400	• helps a better nutrition of buds
vegetative resumption	200-300	• improves development of roots and shoot
20-30 days before flowering	200-250	• early production of flowers and fruits- the 1 st harvest is the most important
3-5 days before fruit setting	200-250	• improves size and colour of fruits
production phase: 1 treatment every 15-20 days until the end of production	200-250	• improves earliness, the number, size and colour of fruits.

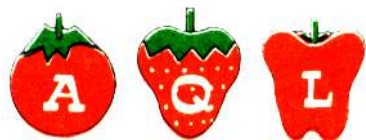
fertigation (by hose under mulch)

KIND AND PERIOD OF TREATMENT	DOSAGE (L/Ha)	EFFECTS
from vegetative resumption until 15-20 days before the last yield – one treatment every 15 days	5-6 each treatment	• same effects as above

special treatments by foliar spray

KIND AND PERIOD OF TREATMENT	DOSAGE (mL/100 L)	EFFECTS
environmental stress: 1 or 2 treatments, also in mixture with GA	250-300	• helps to overcome the stress





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DRUPACEA (PEACH, APRICOT, PLUM, CHERRY) - TROPICAL FRUITS (AVOCADO-MANGO) AND OTHER FRUITS

foliar spray

APPLICATION TIMING	DOSAGE (mL/100 L)	EFFECTS & NOTES
pre-flowering	200	· Improves fertilisation and flower fertility
petal fall – fruit setting	200	· Improves fruit setting and reduces fruitlet dropping
nut size fruits	200	· increases fruit size. It is useful to mix with P and K fertilisers
6-7 cm diameter fruits	250	· increases earliness, colour and uniform size of fruits, reduces autumn fruit dropping

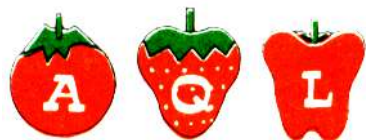
surface irrigation

APPLICATION TIMING	DOSAGE (L/ha)	EFFECTS & NOTES
from the beginning of vegetative resumption until beginning of ripening.	4-5	· same effects as above. · Dosage is referred to each treatment. As more subdivided the total, as better will be the efficacy. Increase 15% in case of whole surface applications · It is possible to mix with every kind of microelements or Fe chelates or NPK fertilisers, as well as with humic acids.

APPLICATION TIMING	DOSAGE (mL/árbol/año)	EFFECTS & NOTES
Young trees and stocks	3-4 treat. 5-10	· helps the formation of wooden frame
Medium aged trees & stocks	3-4 treat. 10-15	
Adult trees & stocks	3-4 treat. 25-30	

Drip irrigation

APPLICATION TIMING	DOSAGE (L/ha)	EFFECTS & NOTES
from the beginning of vegetative resumption until beginning of ripening.	3-4	· dosage is referred to 15 days, applying 0.2-0.25 L/Ha per day.



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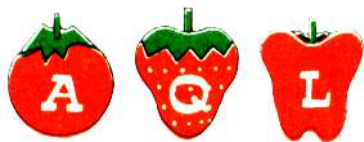
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special treatments (foliar spray)

APPLICATION TIMING/CONDITION		DOSAGE (mL/100 L)	EFFECTS & NOTeS
frost (down to -4°C)	at least 3 treat.	200	- if applied within 24 h from frost it reactivates many damaged buds. - helps regeneration of damaged organs, also in mixture with insecticides to prevent penetration of pathogens (fungi, bacteria)
hail	at least 3 treat.	200	- helps regeneration of destroyed leaf laminae and formation of new leaves - helps differentiation of new buds replacing the dead ones (only in case of early attacks before flowering)
continuous drought saline soil		250	improves resistance to drought
		250	reduces salt stress effects
Iron chlorosis		200-250	In mixture with iron chelates. Even alone BIOCARRERA can reduce symptoms, allowing a better absorption of iron from the soil.
leaf curl and rust	mi at least 2 treat.	200	
monilia and fusicoccum	at least 2 treat.	200	leads to a quick recovery of damaged leaves
phyto-toxicity due to treatments with C.P.	at least 3 treat.	200-250	
tank-mix with post-emergence herbicides		200-250	improves efficacy of pesticide and renewal of soil micro organisms



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TROPICAL FRUITS

PINEAPPLE

foliar spray

L or kg/ha

EFFECTS Y NOTES

In Central America, pineapple is fertilized almost entirely by foliar spray. The applications are performed every 15 days in tank-mix with nutrients. The balance of nutrients is based on soil analysis and/or leaf analysis:

chelating agent, improves tolerance to nutrient deficiencies

Urea	6-8 kg
Potassium nitrate	6 kg
Zinc Sulfate	3 kg
Magnesium sulfate	2 kg
Poliboro or boric acid	1 kg
Potassium Chloride	6 kg
BIOCARRERA	2 L

BIOCARRERA

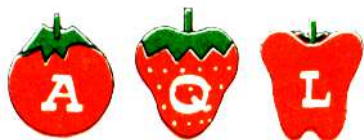
When Zinc is applied, it is necessary to lower the pH of water to 5, then add zinc sulfate and stir, then add the nitrogen source (which usually raises the pH), then all other salts. At the end, the pH is checked and, if necessary, adjusted to 5 or 5.5.

Usually citric acid is used to lower the pH, because it does not produce phosphates, as when phosphoric acid is used.

The volume of water is 2.000 liters / hectare.

During the second crop phase (after flower induction, apply PROTIFERT in tank-mix with potassium

improves fruit quality



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AGUACATE, MANGO, PAPAYA ...

PULVERIZACION FOLIAR

PERIODO DE TRATAMIENTO	DOSIS (mL/100 L)	EFFECTOS Y NOTAS
prefloración	200	· mejora la fertilización y la fertilidad de las flores
caída de pétalos - cuajado de frutas	200	· mejora el cuajado de frutos y reduce la caída de los frutos
frutas del tamaño de una nuez	200	· aumenta el tamaño de la fruta. Es útil mezclar con fertilizantes P y K
Frutos de 6-7 cm de diámetro	250	· aumenta la precocidad, el color y el tamaño uniforme de los frutos, reduce la caída de los frutos de otoño

riego superficial

PERIODO DE TRATAMIENTO	DOSIS (L/ha)	EFFECTOS Y NOTAS
desde el inicio de la reanudación vegetativa hasta el inicio de la maduración.	4-5	· mismos efectos que el anterior. · La dosis se refiere a cada tratamiento. Cuanto más subdividido el total, mejor será la eficacia. Aumento del 15% en caso de aplicaciones de toda la superficie. · Es posible mezclar con todo tipo de microelementos o quelatos de Fe o fertilizantes NPK, así como con ácidos húmicos .

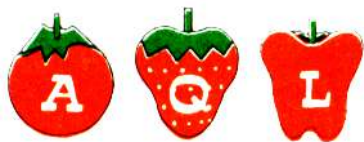
PERIODO DE TRATAMIENTO	DOSIS (mL/árbol/año)	EFFECTOS Y NOTAS
Árboles jóvenes y cepas	3-4 trat.	5-10 · ayuda a la formación del marco de madera
Árboles y poblaciones de mediana edad	3-4 trat.	10-15
Árboles adultos y reservas	3-4 trat.	25-30

Fertirrigación

PERIODO DE TRATAMIENTO	DOSIS (L/ha)	EFFECTOS Y NOTAS
desde el inicio de la reanudación vegetativa hasta el inicio de la maduración.	3-4	· la dosis se refiere a 15 días, aplicando 0.2-0.25 L / Ha por día

tratamientos especiales por pulverización foliar

PERIODO DE TRATAMIENTO / CONDICIÓN	DOSAGE (mL/100 L)	EFFECTOS & NOTAS
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helada (bajo de -4°C)	minimo 3 tratamientos	200	· Si se aplica dentro de las 24 h siguientes a las heladas, reactiva muchos cogollos dañados.
granizo	minimo 3 tratamientos	200	· Ayuda a la regeneración de órganos dañados, también en mezcla con insecticidas para evitar la penetración de patógenos (hongos, bacterias)
			· ayuda a la regeneración de las láminas de las hojas destruidas y a la formación de hojas nuevas
			· ayuda a la diferenciación de nuevos cogollos reemplazando los muertos (solo en caso de ataques tempranos antes de la floración)
sequía continua		250	· mejora la resistencia a la sequía
suelo salino		250	· reduce los efectos del estrés salino
			· En mezcla con quelatos de hierro. Incluso
Clorosis de hierro		200-250	· BIOCARRERA solo puede reducir los síntomas, permitiendo una mejor absorción del hierro del suelo.
Lepra del melocotonero o Abolladura	minimo 2 tratamientos	200	
monilia y fusicoccum	minimo 2 tratamientos	200	· conduce a una rápida recuperación de las hojas dañadas
Fito-toxicidad debida a tratamientos con C.P.	minimo 3 tratamientos	200-250	
mezcla en tanque con herbicidas de postemergencia		200-250	· mejora la eficacia de los plaguicidas y la renovación de los microorganismos del suelo