Basafer®Plus/Fetrilon®/ Zitrilon®/Mantrilon®

Chelated Single Micronutrient Fertilizer

- Fully chelated single micronutrients
- Rapid nutrient uptake

- Preventive and curative use
- Correction of Fe-, Mn- and Zn-deficiencies

- COMPO Products for higher yield and best quality

German Quality Fertilizer

Basafer®Plus/Fetrilon®/Zitrilon®/Mantrilon®

The Importance of Micronutrient Availability

According to *Liebig's Law of the minimum*, any essential plant nutrient which is not in sufficient supply limits crop yield.

Law of Minimum:

The element which is in shortest supply (in this case K) limits the yield.

(J. v. Liebig 1803-1873)

Knittel et al, 1999

Soil conditions	Iron	Manga-nese	Zinc
pH > 7,0 pH < 5,5	--- +++	-- +++	--- +
very wet very dry	-- ---	+ ---	+ -
high content of org. matter clay content > 20% sandy soils	++ -	++ -- --	++
compacted soil (oxygen deficiency)	+	+	

---: very high deficiency, --: high deficiency, -: deficiency
+++: very high availability, ++: high availability +: availability

General Benefits of trace elements

⇨ Highly efficient nutrient application under adverse soil conditions (high or low ph, drought, wet conditions, light soils, low nutrient contents, etc.)

⇨ Maximum exploitation of yield potential

⇨ Optimal supplement to traditional soil fertilization

⇨ Crop strengthening under stress situation (pest & diseases, extreme climatic conditions, etc.)

Basafer®Plus/Fetrilon®/Zitrilon®/Mantrilon®
Principles and Forms of Chelatisation

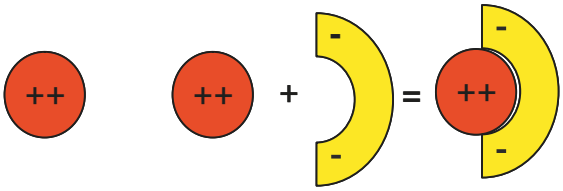
Principle of Chelatisation

Unchelated

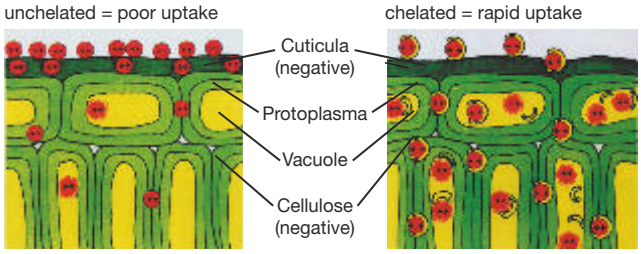
Ions of metallic micronutrients carry positive charge
Mn^{++}, $Fe^{++/+++}$, Cu^{++}, Zn^{+++}
(Sulphates, Oxides and others)

Chelated

Metallic ion with positive charge is “wrapped” by a chemical substance which is negatively charged, and is thus chelated. This means the originally positively charged metallic ion is now “neutral” (COMPO products)



Effect of Chelatisation (example for foliar application)



Advantages of Chelatisation:

- ⇨ Rapid nutrient uptake
- ⇨ Full nutrient availability to the crops
- ⇨ EDDHA products for soil application
- ⇨ EDTA products for foliar application

Advantages of single micro elements:

- ⇨ Maximum concentration of one micronutrient
- ⇨ High performance for specific demand

Forms of Chelates:

EDTA	**They do not** chelate Fe, Zn, Mn at alkaline ph (>7)	⇨ Foliar application	Fetrilon® 13 Mantrilon® Zitrilon®
	They are not useful to correct iron chlorosis through the roots in calcareous soils		
ortho-ortho EDDHA	They are stable at alkaline ph (>7), in these conditions they can maintain iron in solution	⇨ Soil application	Basafer Plus®
	They are useful to correct iron chlorosis through the roots in calcareous soils		

Basafer®Plus/Fetrilon®/Zitrilon®/Mantrilon®

COMPOSITION (content of nutrients in %)

Nutrients	Basafer®Plus	Fetrilon® 13%	Mantrilon®	Zitrilon® SM 10
Boron (B)				
Copper (Cu)	80% ortho-ortho			
Iron (Fe)	6,0 **	13,0 *		
Manganese (Mn)			6,0 *	
Molybdenum (Mo)				
Zinc (Zn)				10,0 *
Type of application	soil	foliar	foliar	foliar

* metallic micronutrients fully chelated by EDTA

** metallic micronutrients fully chelated by EDDHA

Foliar Recommendations:
Fetrilon® 13%/Zitrilon®/Mantrilon®

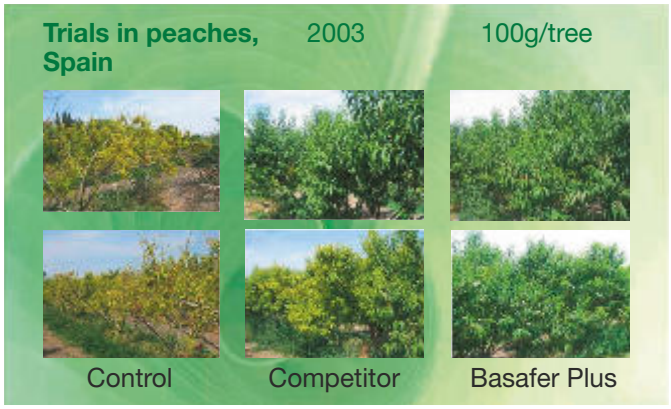
Application rates:		
Crop	**Number of applications per growing period**	**Rate per application kg/ha**
Citrus	3 - 4	0,5 - 1,5
Pome fruit, grape	2 - 3	0,5 - 1,5
Stone fruit, small fruit	2	0,5 - 0,7
Coffee, cocao, tea	2 - 3	0,5 - 1,0
Bananas	5 - 8	0,5 - 1,5
Pineapple	4 - 6	0,5 - 1,0
Tobacco	2 - 3	0,3 - 0,7
Cotton	2 - 4	0,7 - 1,0
Sugar beet	1 - 3	0,5 - 1,0
Rice, wheat, barley	2 - 4	0,5 - 1,0
Maize, sorghum, millet	2	0,5 - 1,0
Soya bean, peanut, beans, alfalfa	1 - 3	0,5 - 1,0
Peas, chickpea, other leguminous crops	2 - 3	0,5 - 0,7
Potatoe, sweet potatoe	2 - 5	0,5 - 1,0
Tomato, pepper, aubergine	3 - 5	0,5 - 1,0
Cucumber, melons	3 - 4	0,5 - 1,0
Cabbages, cauliflower	3 - 5	0,5 - 1,0
Onion, garlic	2 - 4	0,5 - 0,7
Turf	1 - 2	0,5 - 1,0

Soil Recommendations:
Basafer®Plus

Application rates:		
Crop	**Basafer®Plus g/plant**	
Tree crops	**Young trees**	**Mature trees**
Fruit:		
Citrus	10 - 30	40 - 60
Peaches	10 - 30	30 - 60
Plums	5 - 10	15 - 30
Apples/pears	15 - 25	20 - 40
Avocado	5 - 10	7 - 10
Grapevines:		
Table grapes	5 - 10	10 - 15
Wine production	3 - 5	5 - 7
Other crops		
Vegetables:		
Short cycle	60 - 80 g/100m²	
Long cycle	100 - 150 g/100m²	
Strawberries	100 - 150 g/100m²	
Melons	100 - 150 g/100m²	

For preventive use you may reduce dosage and frequency.
EDTA Products are compatible with most plant protection products.

Basafer®Plus/Fetrilon®/Zitrilon®/Mantrilon®
High Yields with COMPO Products



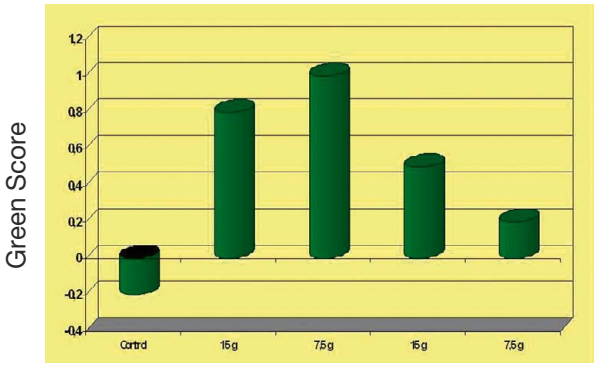
⇨ Iron deficiency is a major general problem for many crops such as peaches and Citrus

⇨ The application of COMPO fertilizer via fertigation or soil application is highly efficient to prevent/cure such deficiencies

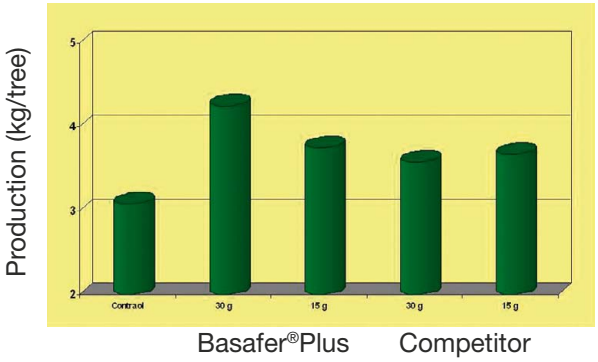
Greener Leaves of Tangerines (Spain 2003)

⇨ A green leaf colour is a suitable indicator for the Iron supply status of the plant

⇨ COMPO‘s Basafer®Plus gave excellent results in Spanish trails compared to competitors



Yield of Tangerines (Spain 2003)



⇨ 19% more yields compared to competition and 38% compared to control (30g Basafer Plus®/plant)

⇨ COMPO EDDHA Iron contains 6% Fe (80% ortho-ortho) This ensures a perfect mobility in the soil without fixation

Basafer®Plus/Fetrilon®/Zitrilon®/Mantrilon®

Product	Composition	Characteristics	Packaging	Use
Basafer® Plus	6,0% Fe EDDHA	Iron fertilizer for all crops Fully EDDHA chelated (4,8% ortho-ortho isomer from total 6,0% Fe) For preventive and curative soil application/fertigation Dark homogeneous micro granules	1 kg 5 kg 20 kg carton Pallet size: 420 x 1 kg 90 x 5 kg	Fertigation concentration: 0,2% Soil application: 3 - 6 g/plant
Fetrilon® 13	13% Fe EDTA	Iron fertilizer for all crops Fully EDTA chelated For preventive and curative foliar application/fertigation Yellow-green powder	1 kg Pallet size: 640 x 1 kg	Foliar application: 0,5 - 1,5 kg/ha Max. concentration: 0,3%
Mantrilon®	8% w/v Mn EDTA	Manganese fertilizer for all crops Fully EDTA chelated For preventive and curative foliar application/fertigation Liquid	10 l can Pallet size: 40 x 10 l	Foliar application: 0,5 - 1,5 kg/ha Max. concentration: 0,3%
Zitrilon® SM 10%	10% Zn EDTA	Zinc fertilizer for all crops Fully EDTA chelated For preventive and curative foliar application/fertigation White crystalline powder	1 kg Pallet size: 640 x 1 kg	Foliar application: 0,5 - 1,5 kg/ha Max. concentration: 0,3%

Further Products:

Zitrilon® SM 12%

COMPO GmbH & Co. KG
Post Box 2107 · D-48008 Münster
Tel.: +49 02 51/32 77-0
Fax: +49 02 51/32 77-225
e-mail: info@compo.de
Internet: www.compo.com