



# **Fetrilon® Combi 1/ Fetrilon® Combi 2/ Hortrilon®**

**Chelated Multi Micronutrient Fertilizers**



- Fully chelated Micronutrients
- Highly efficient Uptake of chelated Nutrients



- Containing all Vital Trace Elements
- Preventive and Curative Use

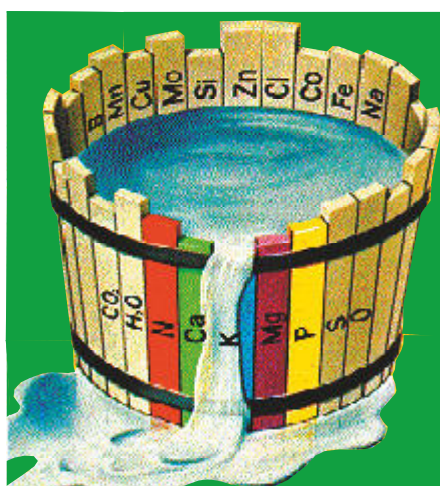


- Deficiency adapted Products for higher Yields and best Quality



## Fetrilon® Combi 1/Fetrilon® Combi 2/Hortrilon® 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)

### 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 situations (pest & diseases, extreme climatic conditions, etc.)

Knittel et al, 1999

Soil conditions	Iron	Manga- nese	Zinc	Boron	Copper	Molyb- denum
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,  
+++ : very high availability,

--: high deficiency,  
++ : high availability

-: deficiency  
+ : availability



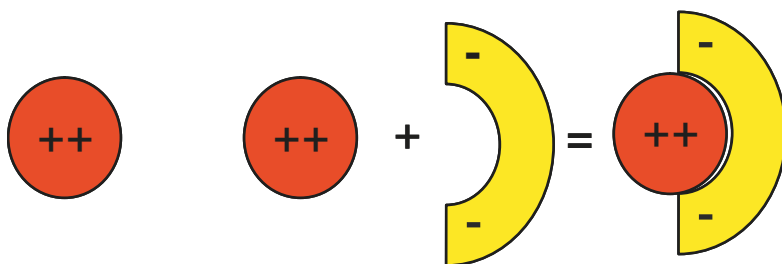
## Fetrilon® Combi 1/Fetrilon® Combi 2/Hortrilon® Principle and Effect of Chelatisation

### Unchelated

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

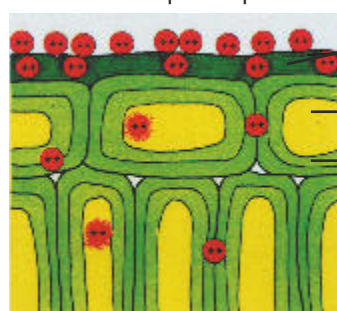
### Chelated

Metallic ion with positive charge is being "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)

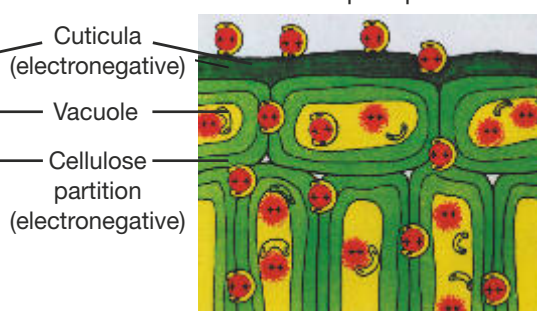


### Effect of Chelatisation (example for foliar application)

unchelated = poor uptake



chelated = rapid uptake



Cuticula (electronegative)  
 Vacuole  
 Cellulose partition (electronegative)

### Advantages of Chelatisation:

- ⇒ Rapid nutrient uptake
- ⇒ No premature fixation in the plant
- ⇒ Full nutrient availability to the crops

### Advantages of chelated COMPO Multi-Micro Elements:

- ⇒ Especially developed for foliar application
- ⇒ Balanced composition of nutrients
- ⇒ Miscibility with most plant protection products
- ⇒ Non metallic nutrients B, Mo as completely soluble salts



## Fetrilon® Combi 1/Fetrilon® Combi 2/Hortrilon®

### COMPOSITION (content of nutrients in %)

<b>COMPO Multi-Micronutrients</b>			
<b>Nutrients *</b>	<b>Fetrilon® Combi 1</b>	<b>Fetrilon® Combi 2</b>	<b>Hortrilon®</b>
Boron (B)	0,5	1,5	0,5
Copper (Cu)	1,5	0,6	2,5
Iron (Fe)	4,0	4,0	5,0
Manganese (Mn)	4,0	3,0	2,5
Molybdenum (Mo)	0,1	0,05	0,5
Zinc (Zn)	1,5	4,0	0,6
Magnesium (MgO)	3,3	1,2	
Sulphur (S)	3,0	1,2	4,0

\* metallic micronutrients fully chelated by EDTA

### RECOMMENDATIONS

	<b>Number of applications per vegetation cycle</b>	<b>Dose per application kg/ha</b>	<b>max. concentration %</b>
Citrus	2 - 6	0,5 - 1,5	0,2
Pome fruit and grape vines	2 - 3	0,7 - 1,0	0,1
Stone fruit and strawberries	2 - 4	0,5 - 0,7	0,1
Coffee, cocoa and tea	2 - 4	0,5 - 1,0	0,2
Bananas	5 - 10	0,5 - 1,5	0,2
Pineapples	4 - 8	0,5 - 1,0	0,2
Tobacco	2 - 3	0,5 - 0,7	0,1
Cotton	2 - 4	0,7 - 1,0	0,3
Sugar beet	1 - 3	0,5 - 1,0	0,2
Rice, wheat and barley	1 - 3	0,5 - 1,0	0,3
Maize, sorghum and millet	1 - 3	0,5 - 1,0	0,3
Soya, peanuts, beans and lucerne	1 - 3	0,5 - 1,0	0,2
Peas and other leguminous crops	1 - 3	0,5 - 0,7	0,2
Potatoes and sweet potatoes	2 - 5	0,5 - 1,0	0,3
Tomatoes, sweet peppers and egg-plant	2 - 5	0,5 - 1,0	0,2
Cucumbers and melons	3 - 6	0,5 - 0,7	0,2
Cabbage species and cauliflower	2 - 6	0,5 - 0,7	0,2
Onions and garlic	2 - 4	0,5 - 0,7	0,2
Sugar cane	3 - 4	0,5 - 1,0	0,1

For plants in seed and nursery beds: Weekly sprayings, concentration not to exceed 0,05%.

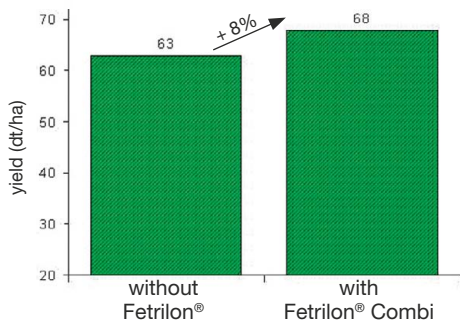
For preventive use you may reduce dosage and frequency.

The product choice depends on local nutrient availability and/or specific plant demand.



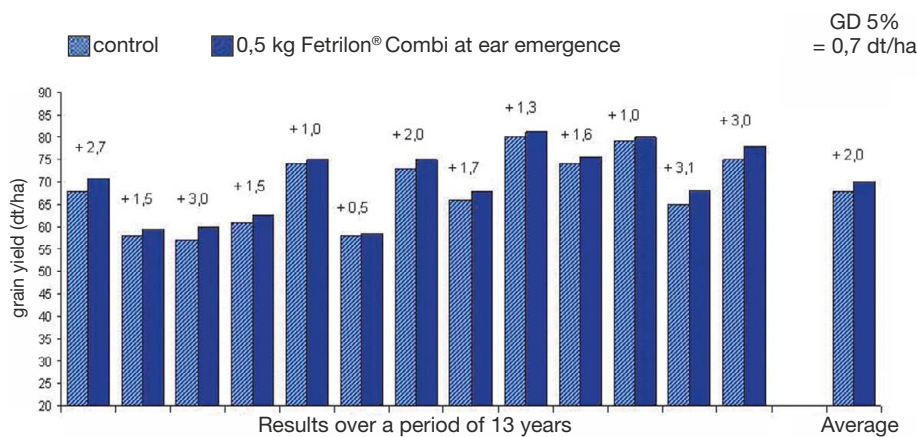
## Fetrilon® Combi 1/Fetrilon® Combi 2/Hortrilon® Higher Yields with COMPO Products

### 1) Fetrilon® Combi in Soy Beans, Brasil 2005



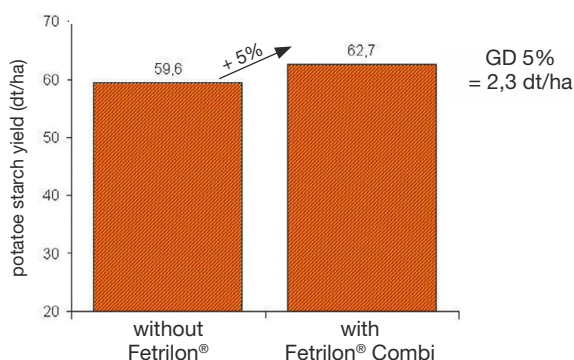
- ⇒ Important yield increase with Fetrilon® Combi
- ⇒ High profitability from the Fetrilon® Combi treatment

### 2) Fetrilon® Combi in Winter Wheat, Germany, 83 trials in 13 years

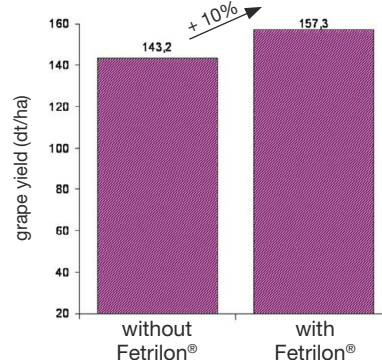


- ⇒ Equal Performance under variable weather conditions
- ⇒ 2 dt/ha more yield on average


### 3) Fetrilon® Combi in Potatoes, Germany, 8 trials (1kg/ha in 2 weeks)



### 4) Fetrilon® Combi in Riesling Grapes, Germany 1997, 4 trials



## Fetrilon® Combi 1/Fetrilon® Combi 2/Hortrilon®

Product	Composition	Characteristics	Packaging	Use
<b>Fetrilon® Combi 1</b>	0,5% B + 1,5% Cu + 4,0% Fe + 4,0% Mn + 0,1% Mo + 1,5% Zn + 3,3% MgO + 3% S	Multi Micronutrient Fertilizer for all crops Metallic trace elements fully EDTA chelated For preventive and curative use Green homogenous micro granules	1 kg/5 kg  25 kg cartons  Pallet size: 640 x 1 kg 150 x 5 kg	Foliar Application 0,5 - 1,5 kg/ha  max concentration 0,3%
<b>Fetrilon® Combi 2</b>	1,5% B + 0,6% Cu + 4,0% Fe + 3,0% Mn + 0,05% Mo + 4,0% Zn + 1,2% MgO + 1,2% S  	Multi Micronutrient Fertilizer for all crops Metallic trace elements fully EDTA chelated For preventive and curative use Green homogenous micro granules	1 kg/5 kg  25 kg cartons  Pallet size: 640 x 1 kg 150 x 5 kg	Foliar Application 0,5 - 1,5 kg/ha  max concentration 0,3%
<b>Hortrilon®</b>	0,5% B + 2,5% Cu + 5,0% Fe + 2,5% Mn + 0,5% Mo + 0,6% Zn + 4% S	Multi Micronutrient Fertilizer for all crops Metallic trace elements fully EDTA chelated For preventive and curative use Green brownish homogenous micro granules	1 kg/5 kg  25 kg cartons  Pallet size: 640 x 1 kg 150 x 5 kg	Foliar Application 0,5 - 1,5 kg/ha  max concentration 0,3%

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

