EXPERTS FOR GROWTH

COMPO EXPERT®

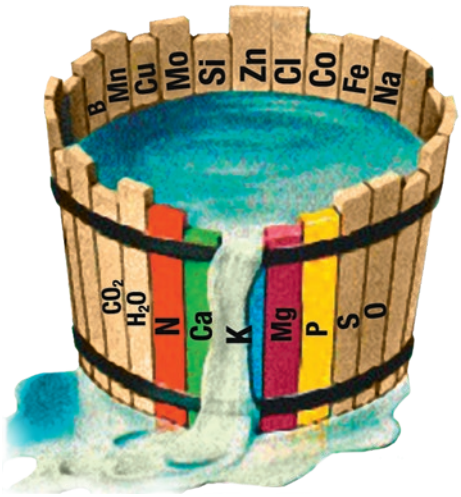
Fetrilon® Combi

Foliar micronutrients for all crops

- High quality chelated trace element formulations for foliar application
- For the effective prevention and cure of trace element deficiencies
- Finest free flowing microgranulation

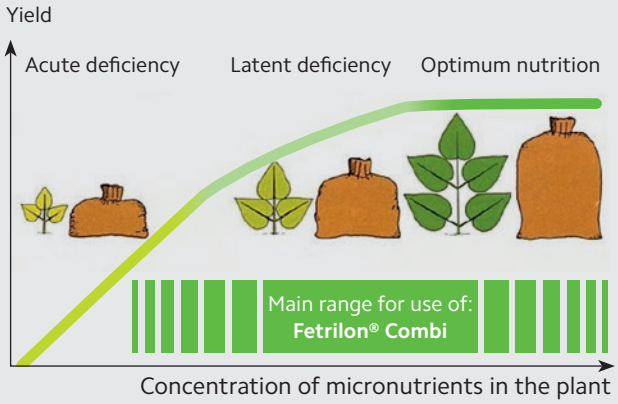
What is Fetrilon® Combi?

- Fetrilon® Combi products contain carefully formulated mixtures of all trace elements required for plant nutrition. All metallic elements are fully chelated by EDTA for protection from soil fixation.
- Fetrilon® Combi products offer a high quality, cost effective solution for safeguarding and optimizing both yield and quality of crops.



Any essential plant nutrient which is not in sufficient supply may limit the crop yield (J.v. Liebig 1803–1873)

Relationship between micronutrient supply and crop yield



Factors influencing availability of micronutrients in the soil						
	Cu	Fe	Mn	Zn	B	Mo
pH > 7.0	–	–	–	–	–	+
pH < 5.5	+	+	+	+	–	–
Water-logged soil	–	+	–	–		
Drought	–	–	–	–	–	–
High organic matter content	–	–	–	–	+	–
High P-content	–	–	–	–	–	+

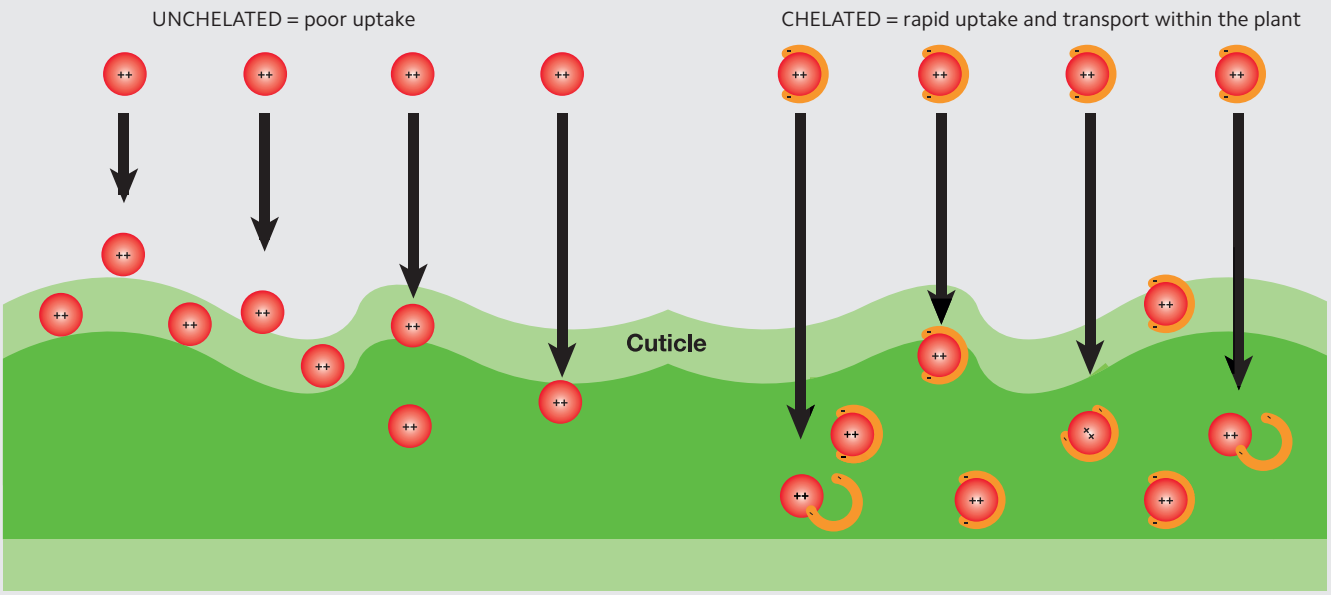
+ = available
– = not available

- Under conditions of high abiotic stress, regular preventative applications of micronutrients can help to alleviate stress effects.
- Deficiency symptoms may also occur latently (invisible). Preventive spray application should be considered.

Micronutrient demand of sensitive crops					
	Cu	Fe	Mn	Zn	B
Cereals	+	+	+	+	
Maize			+	+	+
Cotton		+		+	+
Sunflower					+
Rice		+	+	+	
Tobacco		+	+		+
Tea		+	+		
Citrus	+	+	+	+	+
Apple/pear	+	+	+	+	+
Apricot		+	+	+	
Peach		+	+	+	
Strawberry	+	+	+		
Melon		+	+	+	
Grapevine	+	+	+	+	+
Tomato	+	+	+	+	+
Olive			+		+
Bell pepper		+	+		+
Potato			+	+	+
Lentil	+	+	+	+	+
Chick pea	+	+	+	+	+

+ = high demand

Principle and effect of chelation (leaf penetration)



UNCHELATED

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

CHELATED

Metallic ions with a positive charge are "wrapped" by a chemical substance which is negatively charged. This means the originally positively charged metallic ion is now "neutral".

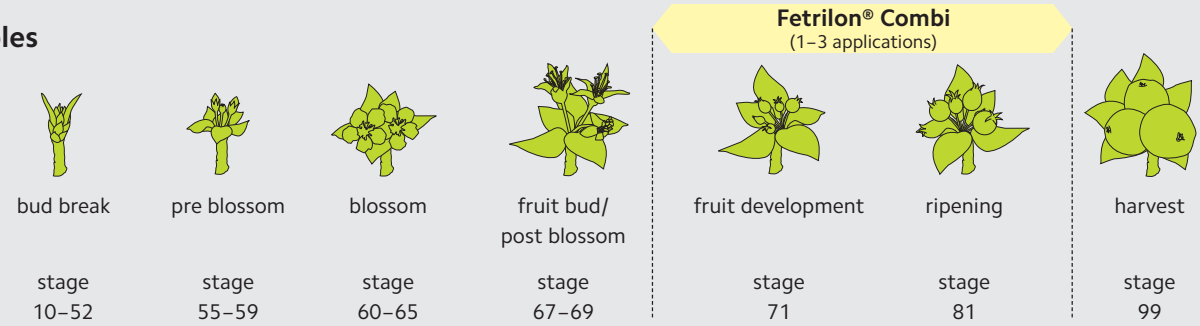
- Rapid uptake and utilization due to chelation by EDTA.
- EDTA chelates (from greek = "claw") protect the nutrient by 6 connections.

Mineral nutrition with micronutrients; comparison of salts and chelates		
Criteria	**Chelates**	**Salts**
Foliar uptake	+++	++
Availability in soil	+++	----
Change of conductivity in soil	----	+++
Leaf necrosis / chlorosis (osmotic effect)	----	+++
Miscibility with plant protection products	+++	+
Solubility in water	+++	++
Residues	----	++
Wettability on leaves	+++	+
Stability of solution	+++	+
Tank-mix compatibility	+++	+

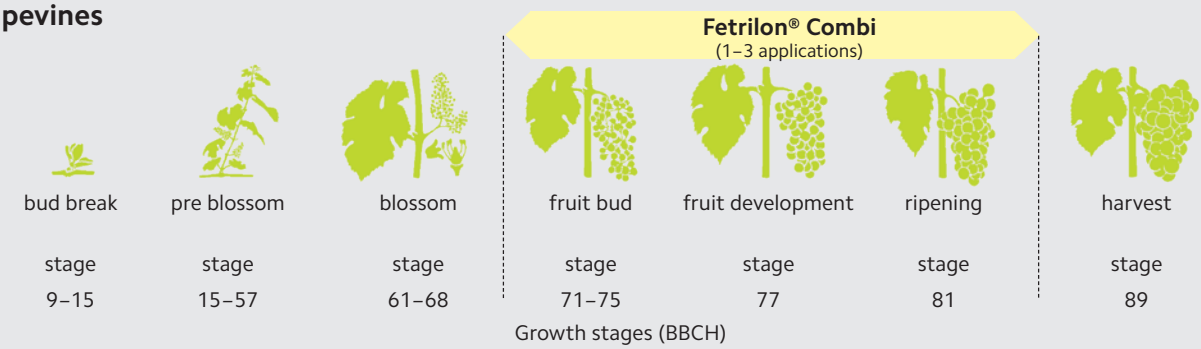
+ = positive / high
– = negative / low

Recommendation for foliar application

Apples

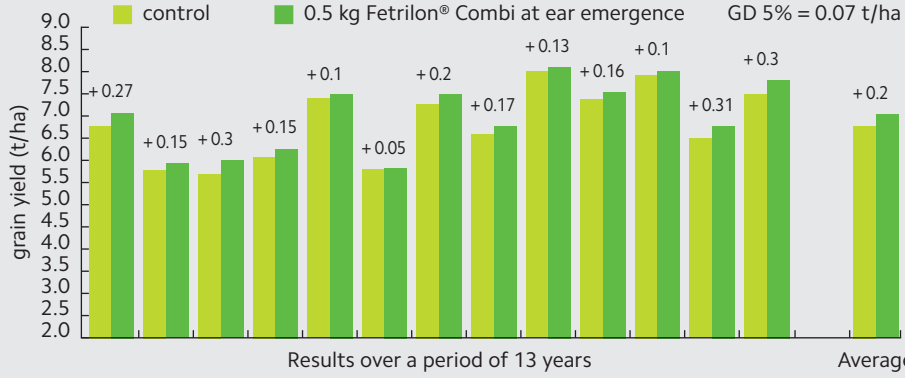


Grapevines

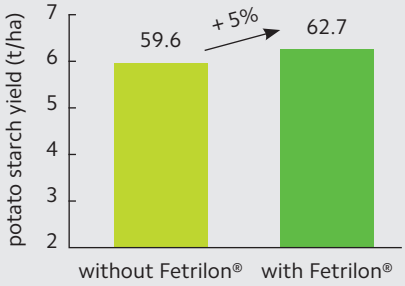


- Equal performance under variable weather conditions.
- 0.2 t/ha yield increase on average.

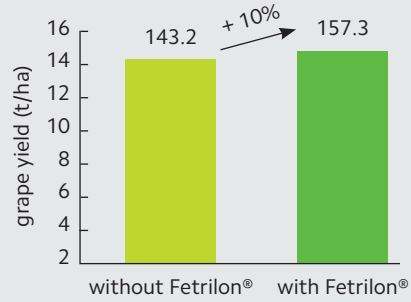
Fetrilon® Combi in winter wheat, Germany, 83 trials in 13 years



Fetrilon® Combi in potatoes, Germany, 8 trials (1kg/ha)



Fetrilon® Combi in Riesling grapes, Germany, 4 trials



Recommendations for foliar application

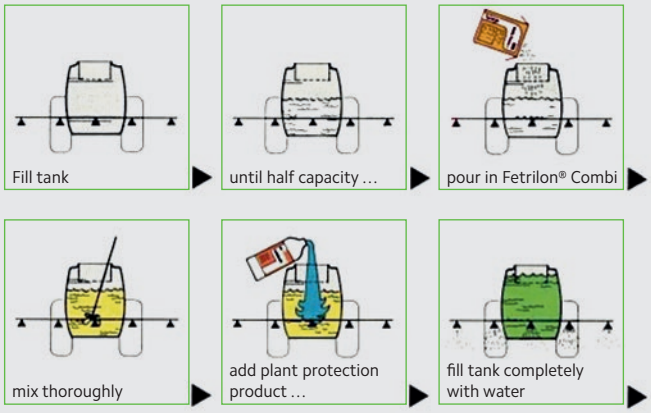
Crop	Number of applications per growing period	Application rate kg/ha	Maximum concentration in %
Citrus	1–4	0.5–1.5	0.2
Pomefruit, grapes	1–3	0.7–1.0	0.1
Stone fruit, berries	1–3	0.5–0.7	0.1
Coffee, cocoa, tea	1–3	0.5–1.0	0.2
Bananas	1–8	0.5–1.5	0.2
Pineapples	1–6	0.5–1.0	0.2
Cotton	1–4	0.7–1.0	0.3
Rice, wheat, barley	1–3	0.5–1.0	0.3
Maize, sorghum, pearl millet	1–3	0.5–1.0	0.3
Soybeans, peanuts, beans, lucerne	1–3	0.5–1.0	0.2
Peas, other grain legumes	1–3	0.5–0.7	0.1
Potatoes, sweet potato	1–5	0.5–1.0	0.3
Tomatoes, peppers, egg plant	1–5	0.5–1.0	0.2
Cucumbers, melons	1–4	0.5–0.7	0.2
Cabbages, cauliflower	1–6	0.5–0.7	0.2
Onions, garlic	1–4	0.5–0.7	0.2

Additional remarks on the application rate and frequency

- Preventative treatment: application with lower rates* sufficient.
- Slight deficiency: higher rates* should be applied at 3–4 week intervals.
- Severe deficiency: application with lower rates* every 2 weeks.

*within the recommended range

Preparation of spray solution

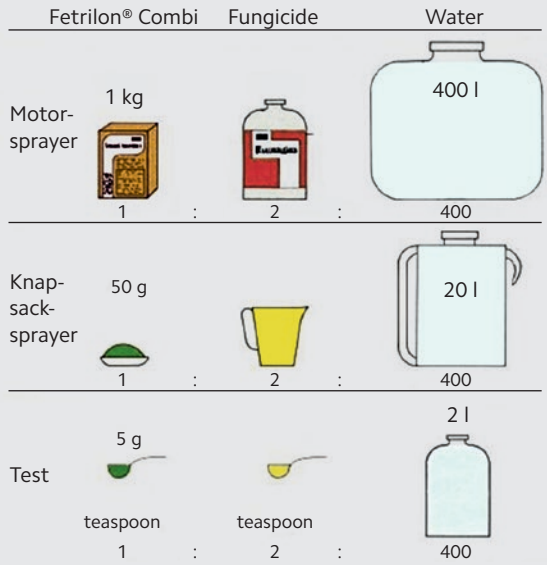


Where Fetrilon® Combi is to be applied together with Basfoliar® SP this sequence should be followed:

1. Basfoliar® SP
2. Fetrilon® Combi
3. Plant protection products

Mix thoroughly after adding each component.

Dosage recommendations



- Mixing with fungicides or insecticides is possible.
- A bucket mixing test is recommended.

Fetrilon® Combi product range

	Product	Composition	Characteristics	Packaging
	**Fetrilon® Combi 1**	3.3% NH_4-N 3.3% MgO 0.5% B 1.5% Cu 4% Fe 4% Mn 0.1% Mo 1.5% Zn	- Multi micronutrient fertilizer for all crops - Cu, Fe, Mn & Zn 100% chelated by EDTA for preventive and curative use - Green homogenous microgranules	1 kg alu bag 5 kg alu bag 25 kg cartons Pallet size: 40 x (16 x 1 kg) = 640 kg 30 x (4 x 5 kg) = 600 kg 18 x 25 kg = 450 kg
	**Fetrilon® Combi 2**	3.5% NH_4-N 1.5% B 0.6% Cu 4% Fe 3% Mn 0.05% Mo 4% Zn	- Multi micronutrient fertilizer for all crops - Cu, Fe, Mn & Zn 100% chelated by EDTA for preventive and curative use - Green homogenous microgranules	1 kg alu bag 5 kg alu bag 25 kg cartons Pallet size: 40 x (16 x 1 kg) = 640 kg 18 x 25 kg = 450 kg
	**Fetrilon® 13**	13% Fe	- Iron micronutrient fertilizer for all crops - 100% chelated by EDTA for preventive and curative use - Brown homogenous microgranules	1 kg alu bag 25 kg cartons Pallet size: 40 x (16 x 1 kg) = 640 kg 18 x 25 kg = 450 kg
	**Zitrilon® 15**	15% Zn	- Zinc micronutrient fertilizer for all crops - 100% chelated by EDTA for preventive and curative use - White homogenous microgranules	1 kg alu bag 25 kg cartons Pallet size: 40 x (16 x 1 kg) = 640 kg 18 x 25 kg = 450 kg
	**Mantrilon®**	13% Mn	- Manganese micronutrient fertilizer for all crops - 100% chelated by EDTA for preventive and curative use - White homogenous microgranules	1 kg alu bag 25 kg cartons Pallet size: 40 x (16 x 1 kg) = 640 kg 18 x 25 kg = 450 kg

For detailed information on application data please get in touch with your local supplier.

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