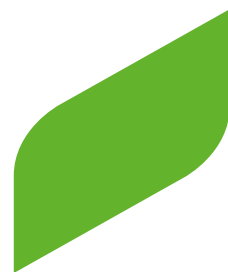


EXPERTS FOR GROWTH

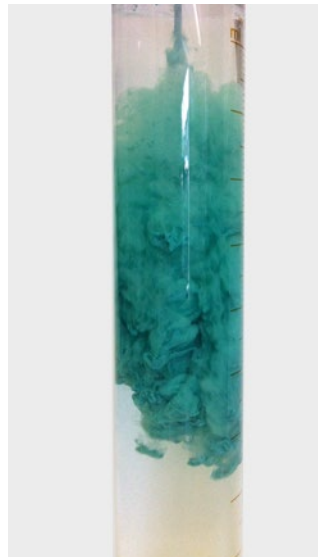


**COMPO  
EXPERT®**

**Trace Element Suspensions  
Basfoliar® Flo**

## General features

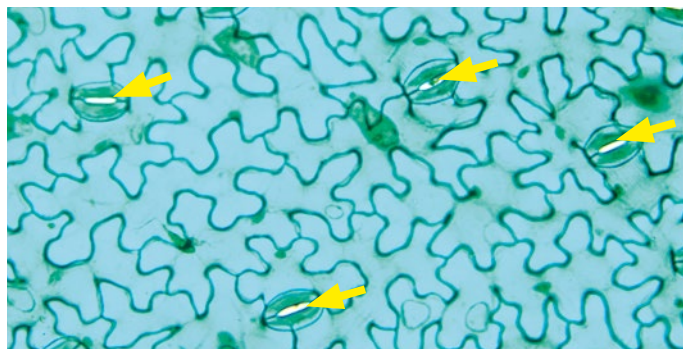
- **Definition:** A suspension consists of solid microparticles (<math>< 10 \mu\text{m}</math>) suspended in a liquid carrier, while the particles may freely float in the medium.
- High concentration up to 75 % (weight / volume).
- Highest efficiency for transport, storage and application.
- Excellent crop safety even at comparatively high concentrations (very low salinity).
- Available in single, double and multi-nutrient formulations.



Dispersal of microparticles in water

## How does it work?

- Basfoliar® Flo is completely miscible with water and most of the commonly used fertilizers and pesticides.
- High concentration of micronutrients allows continuous and long lasting nutrient.
- The optimized formulation allows surface wetting and crop coverage.
- Particle size below  $10 \mu\text{m}$  facilitates stomatal uptake as one major path of nutrient absorption.
- Cuticular uptake is ensured by particles that go into solution.
- Cuticular and stomatal penetration ensure proper nutrient uptake in short and long term.



Plants can effectively absorb nutrient microparticles through the leaf pores (stomata).

Foliar applied nutrients can enter the tissues through cuticular and stomatal penetration. Size of micro-particles and product formulation are the keys for the product efficacy.

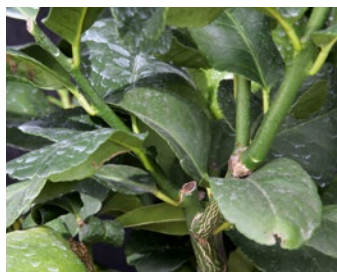
## The benefits

### High concentration

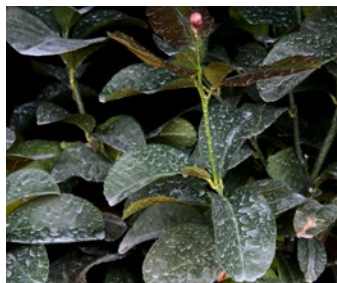
- Basfoliar® Flo contains high nutrient levels per volume.
- Small particle size results in high uptake rates.

### Low salinity

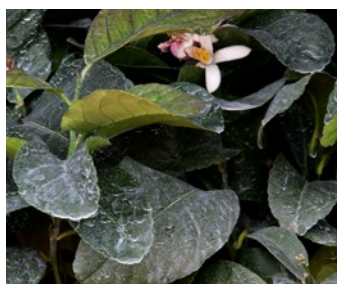
- Lowest phytotoxicity risk.
- High plant tolerance also in case of overdosing and/or susceptible / sensitive species.
- Comparison: 0.1 % Zn-Nitrate (10 % Zn) EC 370  $\mu\text{m}/\text{cm}$  vs. 0.1 % Basfoliar® Zn Flo (42 % Zn) EC 12.4  $\mu\text{S}/\text{cm}$ .



3 times dose



5 times dose

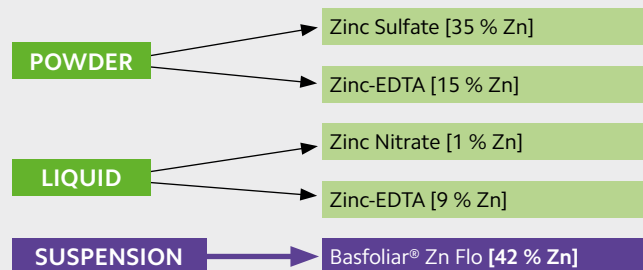


10 times dose

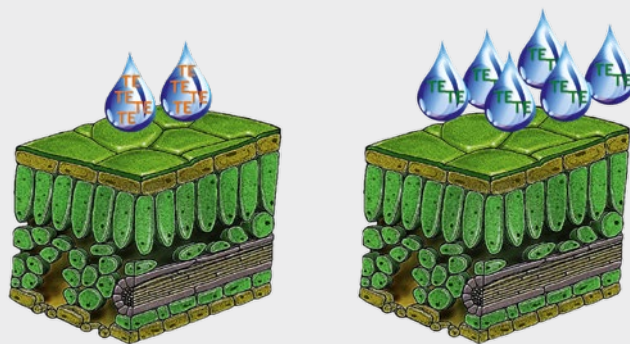
Basfoliar® Excellent Flo, applied in citrus: no burning, perfect product retention und absorption on leaves and fruits.

### Convenience

- Easy preparation of the tank mixture.
- Suitable for airplane ULV application.
- Miscible with most plant protection products.



Basfoliar® Flo: high concentration (e.g. Zinc)



Trace element suspension

Conventional trace elements

### Low phytotoxicity risk by Basfoliar® Flo products



Brown product deposits on the leaf blade after a single application of 4 x recommended rate of Mn concentration (7.5 g Mn/l).

No injury of the tissue caused by Basfoliar® Mn Flo after two weeks.



# TRACE ELEMENT SUSPENSIONS

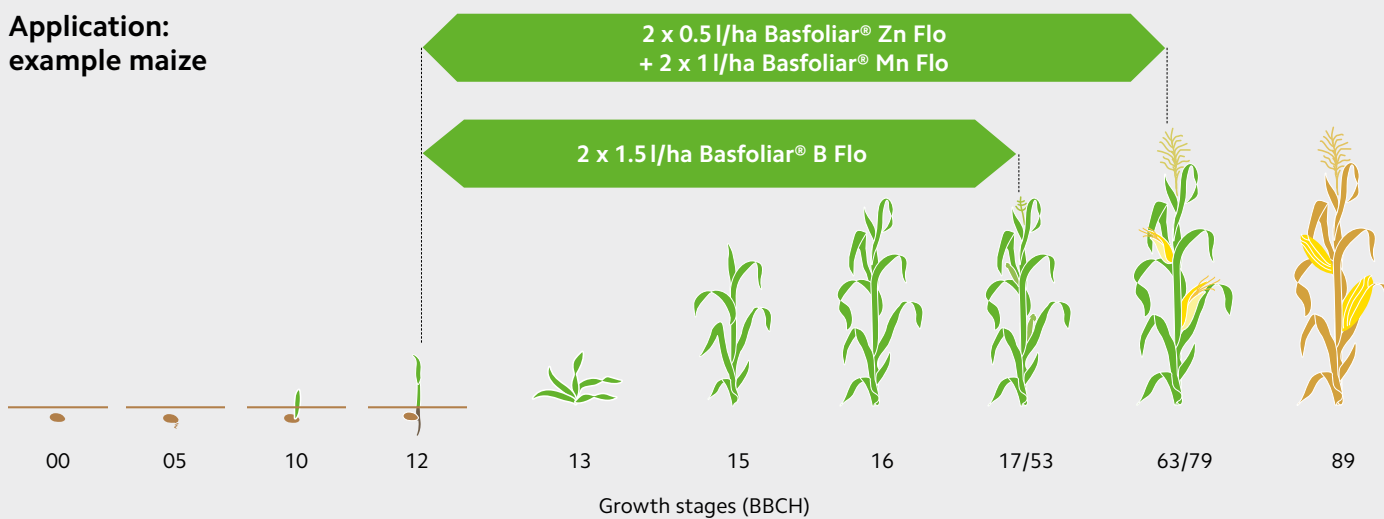
## Product portfolio

Products	Nutrient	% w/w	% w/v
Basfoliar® B Flo	B	10	1.3
Basfoliar® Ca Flo	CaO	35	59.9
Basfoliar® CaMg Flo	CaO	20	32.2
	MgO	15	24.2
Basfoliar® Cu Flo	Cu	24.2	35
Basfoliar® Excellent Flo	CaO	12.3	19.4
	B	6	9.5
	Mn	3.5	5.5
	Zn	1	1.6
Basfoliar® Mg Flo	MgO	34.1	49.8

Products	Nutrient	% w/w	% w/v
Basfoliar® Multi Flo	MgO	19	30
	Cu	3.1	4.9
	Mn	8.1	12.8
	Zn	1.6	2.5
Basfoliar® Triple Flo	Cu	5	9
	Mn	12	21.6
	Zn	18	32.4
Basfoliar® Zn Flo	Zn	42.1	77.5
Basfoliar® ZnMn Flo	Mn	14.4	25.9
	Zn	20	36

## Recommendations for foliar application

### Application: example maize



Crops	No. of applications	Stage	Total rate per application (Litre/ha)
<b>Recommendation for combined Basfoliar® Cu Flo &amp; Basfoliar® Zn Flo application</b>			
Sugar Cane	1	30 to 40 days after crop emergence.	2.0–4.0
Onion	1–2	2 weeks after transplanting. In a no-till cropping system, when the crop is up to 15 cm high. If necessary, repeat 25 days after the first application.	2.0–4.0
Carrot	1–2	when the crop up to 15 cm high. If necessary, repeat 14 days after the first application.	2.0–4.0
Beans	1–2	25 to 40 days after germination. If necessary, repeat the application.	2.0–4.0
Sunflower	1–2	20 to 30 days after germination. If necessary, repeat the application.	2.0–4.0
Citrus	3–6	3–6 applications during the entire crop cycle. The first application at flower bud formation stage; with 30 to 45 days intervals.	2.0

Product /crops	No. of application	Stage	Rate per application (Litre/ha)
<b>Basfoliar® Zn Flo</b>			
Cereals	1-2	autumn or spring (BBCH 32)	0.4
Maize	1-2	at 8-leaf stage	0.4
Potato	1-2	in combination with blight programme	0.4
<b>Basfoliar® Mn Flo</b>			
Cereals	1-2	from tillering	0.8-1.2
Oilseed rape	1-3	from rosette stage up to 3 times	0.5
Sugar beet	1-2	from 4- to 6-leaf stage up to 2 times	0.5
Maize	2-3	from 3-leaf stage	0.8-1.2
Potato	1-3	until tuber maturity up to 3 times	0.5
<b>Basfoliar® B Flo</b>			
Oilseed rape	2-3	autumn (BBCH 12/16) spring BBCH 32 BBCH 61	3.0-4.0 2.0-3.0 1.0
Sugar beet	2	from 2-leaf stage (BBCH 12) before row closing (BBCH 39)	2.0-4.0 2.0-4.0
Maize	2-3	from 6-leaf stage (BBCH 14) BBCH 17/32	1.0-2.0 1.0-2.0
Potato	2	from start of tuber development (BBCH 39) until start flowering (BBCH 60)	1.5-3.0 1.5-3.0
Sunflowers	1	during main veg. growth	4.0
Brassicacae, carrots, vegetable ...	1-2	from 4- to 6-leaf stage 1 <sup>st</sup> application	1.0-2.5
<b>Basfoliar® Zn Flo/Basfoliar® Mn Flo</b>			
Potato	1-2	1 week after complete plant emergence	0.8-1.2
Grapevine	2	inflorescences visible to early fruit set	0.8-1.2
Citrus	2	in springtime and during vegetative growth in autumn	1-2
Kiwi trees	1-2	shoot 15 cm long, if necessary repeat after 10-14 days	0.5
Apple / pear	3-6	3-6 applications during the cycle the first application at bud formation stage; with 30 to 45 days intervals	2.0
<b>Basfoliar® Excellent Flo</b>			
Oilseed rape	1 1	after 4-leaf stage at 5- to 6-leaf stage	1.0-1.5 1.0-1.5
Sugar beet	1-2	from 2-leaf stage (BBCH 12)	2.0-4.0
Potato	1-2	vegetative growth, before flowering	1.0
Sunflower	1-2	at 4- to 6-leaf stage	3.0
Fruit trees, vineyards	1-2	before flowering, after fruit set	1.5
Brassicacae, carrots, vegetable ...	1-2	at all crop stages	3.0

# TRACE ELEMENT SUSPENSIONS



## Trial results

### Beans

- Curative use against Zn deficiency in beans.
- Superior performance compared to sulfates.



### Zn deficiency and recovery after treatment with Basfoliar® Zn Flo



Zn-deficiency symptoms



Symptoms after 2 applications of ZnSO<sub>4</sub>



No symptoms after 2 applications of Basfoliar® Zn Flo

### Cabbage

- Curative use to revert Cu-deficiency in chinese cabbage.
- Superior performance compared to sulfates.
- Basfoliar® Cu Flo enhances intrinsic plant defences against pathogens.

### Effect of foliar application of Cu suspension or CuSO<sub>4</sub> on chinese cabbage grown in copper-free nutrient solution



Cu supply in solution (positive control)

No Cu supply

Application of  
Basfoliar® Cu Flo

Application of  
CuSO<sub>4</sub>

foliar application

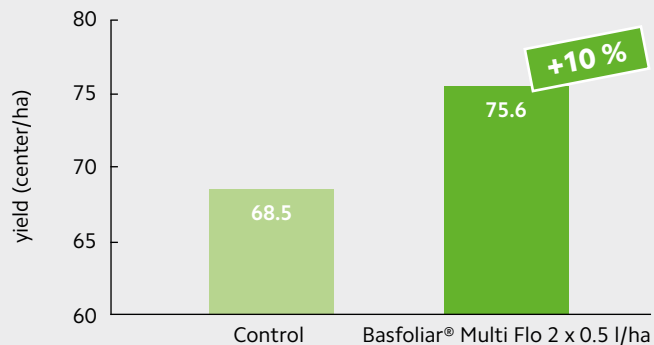
## Winter wheat

- +10 % (vs control) yield increase in winter wheat after using Basfoliar® Multi Flo.



Product	Rate (l/ha)
Basfoliar® Multi Flo	2 x 0.5 l/ha

### Winter wheat, Ukraine 2019



2 applications  
end of tillering phase  
beginning of a leaf-tube formation

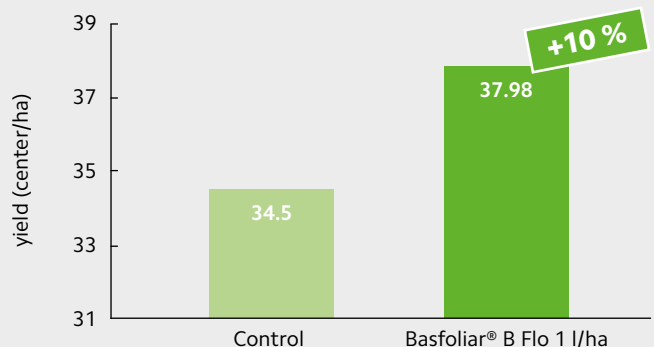
## Winter oil seed rape

- +10 % (vs control) yield increase in winter oil seed rape after using Basfoliar® B Flo.



Product	Rate (l/ha)
Basfoliar® B Flo	1 l/ha

### Winter oil seed rape, Ukraine 2019



1 application  
in the phase of 6–8 leaves in autumn

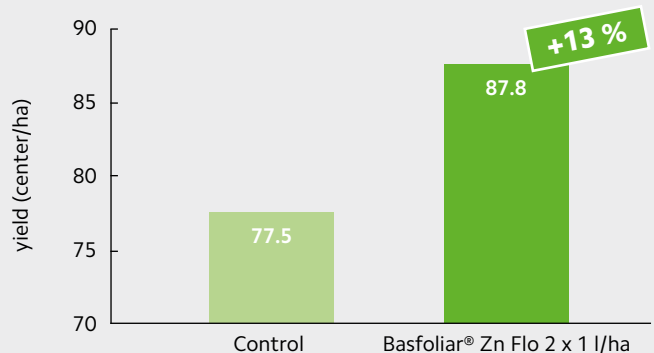
## Corn

- +13 % (vs control) yield increase in corn after using Basfoliar® Zn Flo.



Product	Rate (l/ha)
Basfoliar® Zn Flo	2 x 1 l/ha

### Corn, Ukraine 2019



2 applications  
in phase of 3–5 leaves  
in the phase of 6–8 leaves

## Basfoliar® Flo product range



Product	Composition	Characteristics	Packaging
Basfoliar® B Flo	10 % B  Density: 1.33 kg/l	Concentrated suspension fertilizer. For the preventative and curative treatment in agricultural and horticultural crops.	Canister: 1l, 10l, 1,000l  Pallet size: 50 x 12 x 1l = 480l 75 x 10l = 600l 1,000l
Basfoliar® Ca Flo	35 % CaO  Density: 1.7 kg/l		
Basfoliar® CaMg Flo	20 % CaO 15 % MgO  Density: 1.61 kg/l		
Basfoliar® Cu Flo	24.2 % Cu  Density: 1.45 kg/l		
Basfoliar® Excellent Flo	12.3 % CaO 6 % B 3.5 % Mn 1 % Zn  Density: 1.58 kg/l		
Basfoliar® Mg Flo	34.1 % MgO  Density: 1.46 kg/l		
Basfoliar® Multi Flo	19 % MgO 3.1 % Cu 8.1 % Mn 1.6 % Zn  Density: 1.58 kg/l		
Basfoliar® Triple Flo	5 % Cu 12 % Mn 18 % Zn  Density: 1.8 kg/l		
Basfoliar® Zn Flo	42.1 % Zn  Density: 1.84 kg/l		
Basfoliar® ZnMn Flo	14.4 % Mn 20.1 % Zn  Density: 1.8 kg/l		

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