Nutrimix®/Nutribor®/ Nutrimix®fluid

Foliar Micro Nutrients for Broad Acre Crops

- Higher yield and better quality
- Balanced trace element supply for healthy crops

- Insurance against deficiencies of micronutrients
- Crop adapted nutrient ratio

- Optimal absorption from chelated nutrients

German Quality Fertilizer

Nutrimix®/Nutribor®/Nutrimix®fluid

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)

Soil Conditions for Micronutrient availability

Knittel et al, 1999

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

General Benefits of foliar plant nutrition

- ⇨ Highly efficient nutrient application under adverse soil conditions (high or low ph, drought, wet conditions, light soils, low nutrients, etc.)
- ⇨ Maximum exploitation of yield potential
- ⇨ Optimal supplement to traditional soil fertilization
- ⇨ Crop strengthening under stress situation (pest & diseases, extreme climatic conditions, etc.)

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Micronutrient Facts

Brief key to deficiency symptoms

Symptoms	Deficiency
Symptoms appearing first on older leaves:	
Chlorosis starting from leaf tips	N
Chlorosis mainly between veins (which remain green)	Mg
Brownish, greyish, whitish spots (e.g. on cereals)	Mn
Symptoms appearing first on younger leaves:	
Mottled yellow-green leaves with yellowish veins	S
Mottled yellow-green leaves with yellowish veins	Fe
Brownish black spots (e.g. on legumes, potatoes)	Mn
Youngest leaf has white tip	Cu
Youngest leaf is brownish or dead (e.g. on beet)	B

IFA, World Fertilizer Use Manual

The COMPO solution:

⇨ **Nutrimix®** and **Nutribor®** are fully water soluble micro element fertilizers with special emphasis on Cu, Mn, Zn and B

⇨ As a liquid solution **COMPO** offers **Nutrimix®fluid**, i.e. for potatoes

⇨ To improve foliar uptake the micronutrients are chelated in solution with EDTA

Nutrimix®

Product Composition

Nutrient	Nutrimix® %
Copper*	3,0
Manganese*	4,0
Molybdenum	0,04
Zinc*	3,0
Sulphur	15,0
Nitrogen	8,0

*as Chelate of EDTA

⇨ Significant yield increases with **Nutrimix®** in official trials, even at high yield levels

⇨ **Nutrimix®** contributes to high yields under difficult growing conditions

Foliar application: Recommendations

Crop	Number of applications per growing period	Application rate kg/ha
Wheat	3 – 4	1.0 – 2.0
Winter Barley	3 – 4	1.0 – 2.0
Spring Barley	3 – 4	1.0
Oats	3 – 4	1.0
Rye	3 – 4	1.0
Triticale	3 – 4	1.0
Rice	3 – 4	1.0

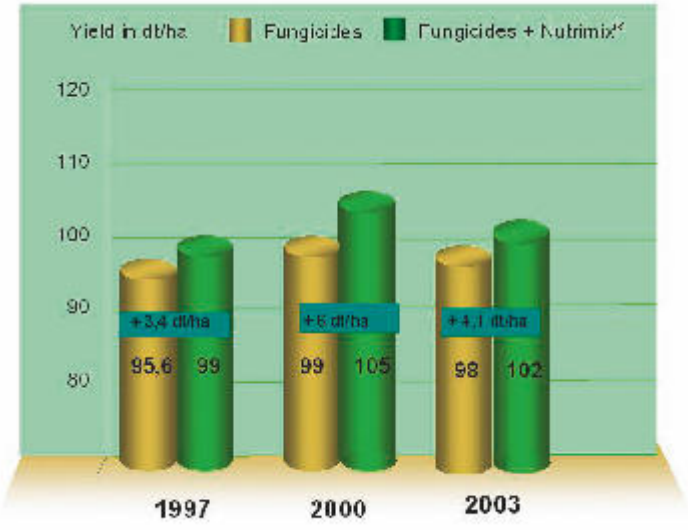
⇨ „Tillering“: improvement of tillers per plant = more yield

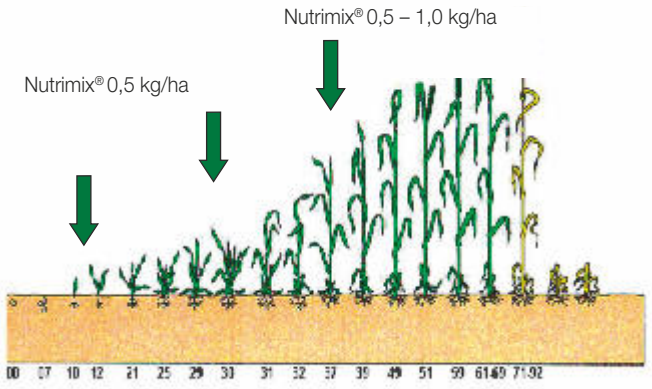
⇨ „Flag leaf“: improvement of grain filling = more yield

⇨ **Nutrimix®** was especially designed for a balanced nutrition of cereals

⇨ Excellent compatibility with common plant protection products

Nutrimix® in Wheat:





Stages of development according BBCH

Nutribor®

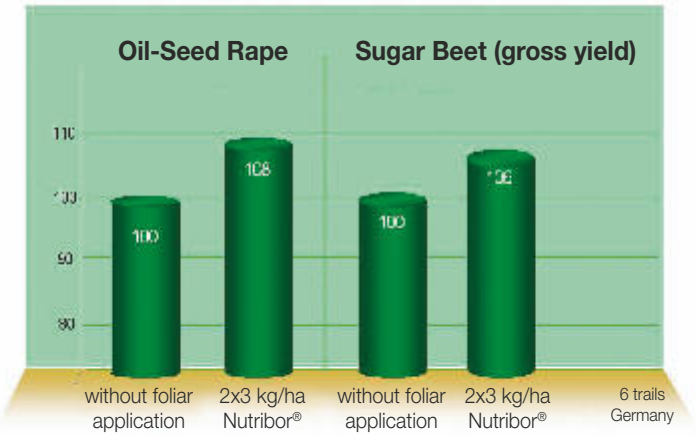
Product Composition

Nutrient	Nutribor® %
Boron	8,0
Manganese*	1,0
Molybdenum	0,04
Zinc*	0,1
Mangnesium	5,0
Sulphur	12,0
Nitrogen	6,0

*as Chelate of EDTA

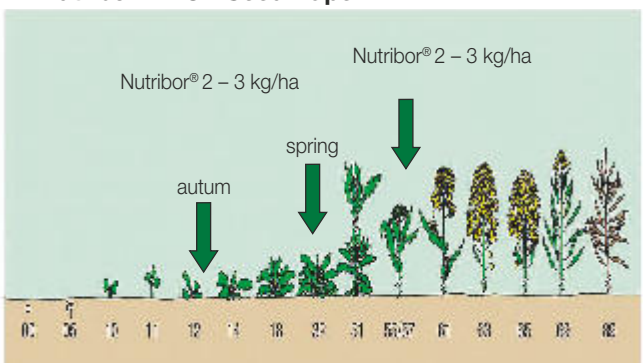
- ⇨ **Nutribor®** was designed with emphasis on Boron (B)
- ⇨ For Boron demanding crops (oil crops, sugar beets, cotton, etc.) and Boron deficient growing conditions (sandy soils, high pH, etc.)
- ⇨ Excellent compatibility with common plant protection products

- ⇨ Significant yield increases in various scientific trials
- ⇨ better quality of sugar beets
- ⇨ **Nutribor®** also prevents crops from latent deficiencies

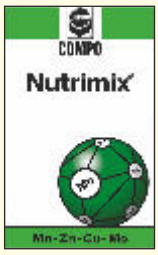


Foliar application: Recommendations		
Crop	**Number of applications per growing period**	**Application rate kg/ha**
Oil-Seed Rape	1 – 3	3.0 – 4.0
Sugar Beets	1 – 2	3.0 – 4.0
Sun-Flower	2 – 3	2.0 – 4.0
Maize	3 – 4	3.0 – 4.0
Potatoe	2 – 3	2.0 – 4.0
Cotton	3 – 4	1.0 – 2.0
Tobacco	3 – 4	1.0 – 2.0
Sugar Cane	3 – 4	2.0 – 4.0

Nutribor® in Oil-Seed Rape



Nutrimix®/Nutribor®/Nutrimix®fluid

Product	Composition	Characteristics	Presentation	Use
Nutrimix®	Homogenous Powder: 95% < 1,0 mm 	Highly concentrated Multi Micronutrient Fertilizer with N and S - 8,0% N, 15% S, 3,00% Cu*, 4,00% Mn*, 0,04% Mo, 3,00% Zn* - for cereals - foliar application - Curative and preventive treatment	15 kg Pallet size: 60 bags à 15 kg (900 kg)	Spray Application in most crops: 1,0-3,0 kg/ha
Nutribor®	Homogenous Powder: 95% < 1,0 mm 	Highly concentrated Multi Micronutrient Boron fertilizer with N, Mg and S - 6,0% N, 5% MgO, 9% S, 8,00% B, 1,00% Mn*, 0,04% Mo, 0,1% Zn* - for various crops (e.g. canola, maize, cotton, tobacco) - foliar application - Curative and preventive treatment	15 kg Pallet size: 60 bags à 15 kg (900 kg)	Spray Application in most crops: 2,0-4,0 kg/ha
Nutrimix® fluid	Liquid 	Highly concentrated Multi Micronutrient Fertilizer - 2,4 N, 2% Cu*, 3% Mn*, 2% Zn*, 0,032% Mo - for various crops (e.g. potatoes) - foliar application - Curative and preventive treatment	10 l Pallet size: 40 x 10 l	Spray Application in cereals: 1 – 2 litres/ha

***ETDA chelated**

Further Products:

Nutricombi® fluid 4% Mn, 1% Zn, 1% Cu, 0,5% B, 3% S

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