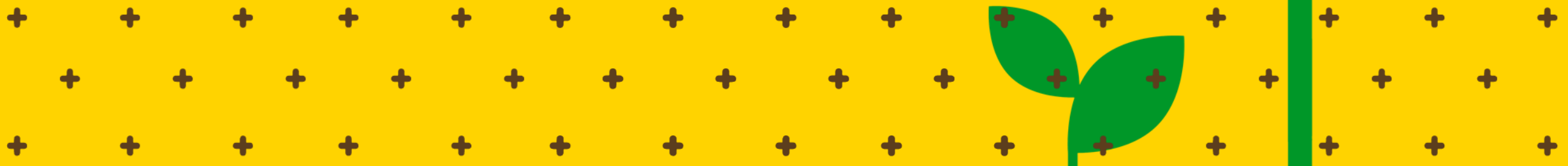


Hortimed

Soil Reinvented

2023



Hortimed HUMUS

Best practices for plant biostimulants



Improved yield by up to 50%



Harvest up to 2 weeks earlier



Reduction of chemical fertilizer by 30%

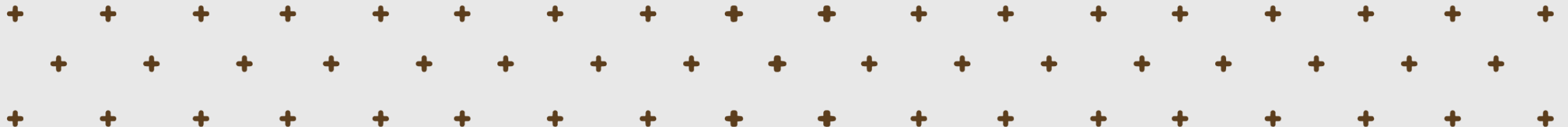


Approved for organic farming



Conformité Européenne (CE)

- Our plant biostimulant is currently in the last stage of the registration process for **CE**
- The letters **CE** signify that products sold in the EEA have been assessed to **meet high safety, health, and environmental protection requirements**
- Manufacturers must submit **field test results** ([9 tests for 3 crop groups](#)) to a conformity assessment body when seeking the rate to use the CE - Mark on their plant biostimulants and to place them on the EU Single Market.



Our tests from 2022-2023

1st crop group

Broadacre:

- **Spring wheat**
(*Triticum aestivum*)
- **Spring barley**
(*Hordeum vulgare*)
- **Legumes**
(*Leguminosae*)

2nd crop group

Woody perennials:

- **Pears** (*Pyrus communis*)
- **Apples** (*Malus pumila*)

3rd crop group

Vegetables & Berries:

- **Tomatoes** (*Solanum lycopersicum*)
- **Cabbages** (*Brassica oleracea*)
- **Strawberries** (*Fragaria × ananassa*)
- **Carrots** (*Daucus carota*)
- **Beetroots** (*Beta vulgaris*)

Spring wheat (*Triticum aestivum*)

Latgale Agricultural Science Center (LV)

- Basic treatment of plants:
 - Complex fertilizer NPK 17-11-12(10) 300 kg/ha was used in basic fertilization before sowing;
 - Additional fertilization - Nitrogen fertilization with ammonium nitrate given in the budding phase 265 kg/ha, 01 June;
 - Application of herbicides - MCPA 2.0 L/ha, 24 May;
 - Application of retardants - Moddus 0.4 L/ha, 09 June;
 - Application of insecticide - Carnadine Extra 0.2 L/ha, 09 June;
 - Application of fungicides - Input Triple 0.75 L/ha, 09 June;
 - Elatus Plus 0.5 l ha⁻¹ + Plexeo 0.5 L/ha, 26 June.
- Plant biostimulant was applied once (2L/ha, 7 Jun)
- Application method - foliar

Treatment	Yield, t/ha
Control (basic treatment)	3.91
Control + Hortimed Humus Plant Biostimulant	4.33
Difference	9.7%

Spring wheat (*Triticum aestivum*)

Cooperative RK TSIKARA (GE)

- Basic treatment of plants:
 - Herbicide Grand Star, also 5% carbamide and 2% ammonium sulfate, 4 May;
 - Fungicide Aldo super, also 5% carbamide and 2% ammonium sulfate, 27 May.
- Plant biostimulant was applied two times, together with basic treatment (2 L/ha, 4 May and 27 May)
- Application method - foliar

Treatment	Yield, t/ha
Control (basic treatment)	4.20
Control + Hortimed Humus Plant Biostimulant	5.00
Difference	19.05%

Spring wheat (*Triticum aestivum*)

Biological farming Association *Elkana* (GE)

- Basic treatment of plants:
 - Fertilizer-Organica, May
 - Insecticides and Fungicides not used
- Plant biostimulant was applied two times (2 L/ha, 19 May and 10 June)
- Application method - foliar

Treatment	Variety	Yield, kg/1000m ²
Control (Basic treatment)	Gvatsa Zanduri	60
	Chelta Zanduri	150
	Dika	200
Control + Hortimed Humus Plant Biostimulant	Gvatsa Zanduri	75
	Chelta Zanduri	195
	Dika	245
Difference	Gvatsa Zanduri	20%
	Chelta Zanduri	23%
	Dika	18.37%

Spring wheat (*Triticum aestivum*)

Biological farming Association Elkana and Cooperative *RK TSIKARA* (GE)



Spring barley (*Hordeum vulgare*)

Cooperative RK TSIKARA (GE)

- Basic treatment of plants:
 - Herbicide Grand star., also 5% carbamide and 2% ammonium sulfate, 4 May;
 - Fungicide Aldo super, also 5% carbamide and 2% ammonium sulfate, 27 May.
- Plant biostimulant was applied 2 times, together with basic treatment (2 L/ha, 4 May and 27 May)
- Application method - foliar

Treatment	Yield, t/ha
Control (basic treatment)	3.40
Control + Hortimed Humus Plant Biostimulant	4.00
Difference	17.65%

Legumes (*Leguminosae*)

Biological farming Association *Elkana* (GE)

- Basic treatment of plants:
 - Fertilizer-Organica, May;
 - Insecticides – Turingen+Lepidini, May;
 - Fungicides not used.
- Plant Biostimulant was applied 2 times (2 L/ha, 25 April and 10 June)
- Application method - foliar

Treatment	Variety	Yield, kg/1000m ²
Control (Basic treatment)	Grass Pea	105
	Chickpea	75
	Faba Bean	170
Control + Hortimed Humus Plant Biostimulant	Grass Pea	125
	Chickpea	110
	Faba Bean	200
Difference	Grass Pea	16%
	Chickpea	31%
	Faba Bean	15%

Pears (*Pyrus communis*)

Pure Horticultural Experiment Station (Latvia)

- Basic treatment of plants:
 - Complex fertilizer NPK (12-20-18) At the beginning of the growing season;
 - Leaf fertilization with calcium nitrate (2%), May.
- The Hortimed product was applied 2 times, 1 L/Ha, 6 June and end of July
- Application method - foliar

Treatment	Yield of pears which weight >120g (fruits per tree)	Yield of pears which weight 70-100g (fruits per tree)
Control (basic treatment)	56.7	49.1
Control + Hortimed Humus Plant Biostimulant	83.8	52.2
Difference	32.34%	5.94%

Apples (*Malus pumila*)

Pure Horticultural Experiment Station (Latvia)

- Basic treatment of plants:
 - Complex fertilizer NPK (12-20-18) At the beginning of the growing season;
- Leaf fertilization with calcium nitrate (2%), May.
- The Hortimed product was applied 2 times, 1 L/Ha, 6 June and end of July
- Application method - foliar

Treatment	Yield of pears which weight >120g (fruits per tree)	Yield of pears which weight 100-120g (fruits per tree)	Yield of pears which weight 70-100g (fruits per tree)
Control (basic treatment)	54.6	58	43.5
Control + Hortimed Humus Plant Biostimulant	76	70.9	49.6
Difference	28.16%	18.19%	12.30%

Cabbage (*Brassica oleracea*)

Latvia University of Life Sciences and Technologies,
Horticulture Institute

- No other fertilizer, fungicides, herbicides were used in any of the variants
- Plant biostimulant was applied 2 times (6.6 L/ha, 16 June, 21 July)



Treatment	Yield, t/ha	Head weight, kg
Control (basic treatment)	153.7	4.5
Control + Hortimed Humus Plant Biostimulant	162.1	5.0
Difference	3%	10%

Carrots (*Daucus carota*)

Pure Horticultural Experiment station

- The control fields were fertilized 2 times with a 2.5% calcium nitrate (CaB-Max Hydrospeed) solution on July 10 and with a 2.5% microelement (Basfoliar) solution on July 14.
- On control and Hortimed fields Fenix herbicide was used with a dose of 1.5 L/ha on May 20 and 1 L/ha on July 7.
- Plant biostimulant was applied 2 times (1 L/ha – 10 July, 2L/ha - 24 July)
- Application method - foliar

Treatment	Variety	Yield, kg/m ³
Control (Basic treatment)	Standard	1.33
	Non-Standard	0.57
Control + Hortimed Humus Plant Biostimulant	Standard	1.77
	Non-Standard	0.31
Difference	Standard	24.86%
	Non-Standard	-45.61%

Carrots (*Daucus carota*)

Pure Horticultural Experiment station



Control



Hortimed Plant Biostimulant

Beetroots (*Beta vulgaris*)

Pure Horticultural Experiment station

- The control field was fertilized with Nutribor fertilizer using a 2% solution concentration, July 28;
- On control and Hortimed fields herbicide Betanal with a dose of 2 L/ha, May 19 and Lontrel with a dose of 0.125 kg/ha, July 7.
- Plant biostimulant was applied 2 times (1 L/ha – 10 July, 2L/ha - 24 July)
- Application method - foliar

Treatment	Yield, kg/m ³
Control (basic treatment)	1.50
Control + Hortimed Humus Plant Biostimulant	1.77
Difference	15.25%

Hortimed HUMUS

Plant Biostimulant

Bottle Size	Bottles per pallet	Special Biostimulant Conference Price
1L	630	3.30 €
5L	160	12.00 €
20L	36	48.00 €
IBC	1	1,500.00 €

Sachet size	Sachets per box	Special Biostimulant Conference Price
30ml	400	0.50 €

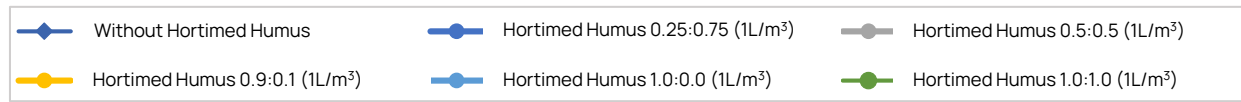
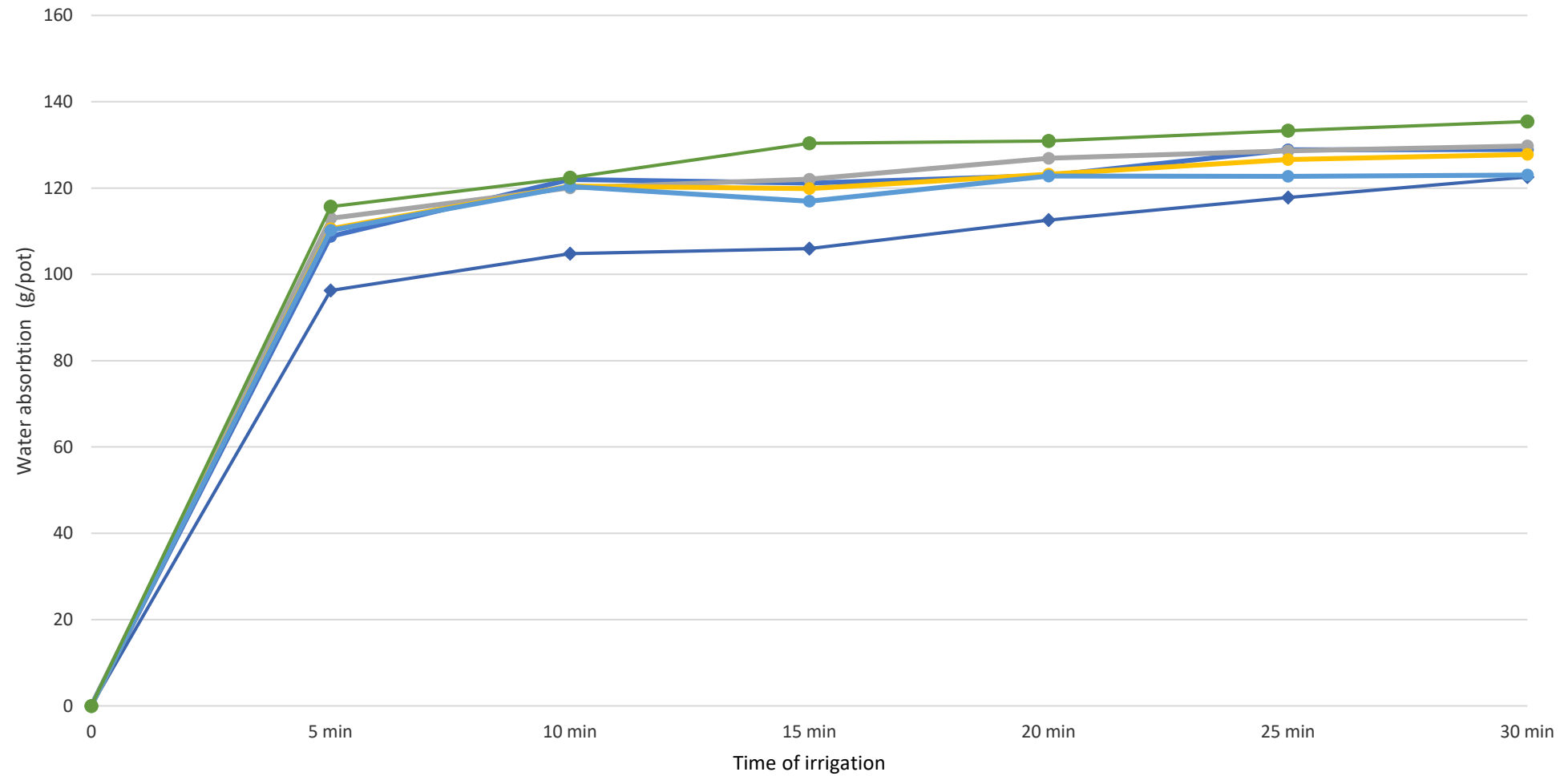
Private labels for sachets are available (MOQ is 240,000 pcs with 2,500 € investment)

Hortimed^{PRO}

Best practices for substrates with our biostimulants



Water absorption of HM1 in pots (0.5L) and different dosage of Hortimed Humus biostimulants during different timespans of subirrigation in 1.5cm deep water



Petunias

University of Latvia

- Stress tests were performed on various petunia plants with different concentrations of the product
- All of performed tests showed a significant result for improved growing conditions and health of the flowers
- Tests proved that the product acts as a soil colloid, improving mineral nutrition for plants in stress conditions (lowered humidity)

Treatment	Dry mass, g*
Control (basic treatment) with reduced watering	1.45
Control + Hortimed Humus Plant Biostimulant with reduced watering	1.89
Difference	23.28%

* At the end of the experiment, the number of petunia flowers and leaves, as well as the fresh and dry mass of plant parts (flowers, leaves, stems) (after drying in a thermostatic oven at 60 °C) were determined

Hortimed HUMUS Extra

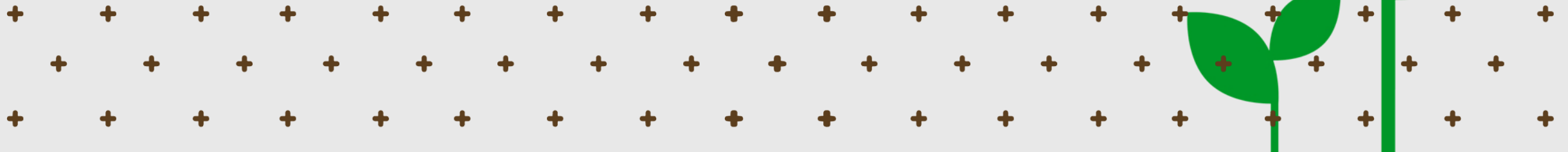
- Hortimed additive for your substrate:
 - Increased fertility
 - Optimized plant-food uptake (cation exchange capacity)
 - Strengthened root system
- Improved water holding capacity:
 - Reduced washing-out and loss of NPK nutrients
 - Fewer watering times
 - Water buffer in dry substrates
- Fully organic and biodegradable
- Peat-free

	<i>Dosage: 1L / 1m³</i>	70L	250L	300L	5500L
Cost	2€ / m ³	0.14€	0.50€	0.60€	10.10€
No. of bags per HC		1326	540	462	22
Cost per HC		185.64€	270 €	277.2€	222.20€

Upcoming products

With the variety of products in demand and client requests, at the Hortimed factory we are able to expand the product lines further and very soon we will be able to offer these products:

- **Hortimed Humus Amino Fertilizer (NPK 3-2-5 +15% Amino)**
- **Organomineral NPK Fertilizer (NPK 7-7-9)**



Hortimed

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