



widdar

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the TRINIUM

agricultural method

growing together

This brochure
presents some
of our experiences
to highlight
the potential
and possible fields
of application of the
Trinium*
method
in 20 years of studies
and research

* Method licensed from EUREKA Coop

This brochure presents some significant results from using our agricultural methods and Widdar products, **developed over 20 years of research, testing and application by the Eureka Institute**, our main agricultural research partner.

ABOUT WIDDAR

Widdar is a company dedicated to **improve conventional, integrated or organic agriculture**. **Widdar** was created in July 2015 as an “**act of love**” for **Mother Earth** to distribute and commercialize a range of innovative products, based on three main principles: **increased quality and productivity, respect for the grower, respect for the environment**.

ABOUT EUREKA

EUREKA Ricerca e Soluzioni Globali is a private Research Institute, formed in 1997 and registered since 2002 with the National Research Register of the Italian Ministry of Education, Universities and Research.

EUREKA's activities are in large measure aimed at the support and care of soil and plants in a manner that allows both soil and plants to **express their latent potential** and to evolve in the fullest sense of the term. In turn, this will enable soil and plants to overcome challenges and difficulties such as low levels of organic matter, pollution, disease, adverse weather conditions, and so forth.

*The results reported in this brochure have been achieved following the correct application of the **Trinium* method** in the specific conditions of each situation. Widdar products are not a substitute for best agricultural practice, which remains essential for satisfactory results. In agriculture, like any other activity affecting living organisms, results depend on a very wide range of human and non-human factors for which we cannot be held directly responsible.*



IRRIGATION WITH BRACKISH WATER

FROM **1995/1996**



INITIAL SITUATION

Cultivation of LEAFY SALAD IN GREENHOUSES irrigated with WELL WATER having HIGH SALT CONTENT

Analysis with conductometer:
Considered NOT SUITABLE FOR AGRICULTURAL USE

SODIUM	0,130 grams/litre
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CHLORINE	0,191 grams/litre
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INTERVENTION

Application of the SPECIFIC **Trinium** product FOR BRACKISH WATER over a period of 17 months.

RESULT

ON THE WATER	70% reduction of sodium and chloride ions
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ON THE SOIL	15% increase of organic matter (without fertilization)
--------------------	--

ON THE PLANT	Adaptation to brackish conditions Increased growth and productivity
---------------------	--

RECOVERY FROM FROST DAMAGE USING **Trinium** METHOD from **1996**

INTERVENTION

The morning after a **FROST** (-5°C), sprayed **the specific Trinium method product** designed to stimulate resistance and **recovery after stresses** caused, for instance, by **HAIL** and sudden temperature drops.

RESULTS

Recovery of production.



Onions affected by 15 cm of hail



Onions recovered in 15 days



potatoes with frost damage (-5°C)



potatoes recovered



frost damage in vineyard (-5°C)



recovery of vineyard production





CHLORMEQUAT DECONTAMINATION IN PEAR ORCHARD 2002

INITIAL SITUATION

- ▶ Farm in its 3rd year of conversion to biodynamic agriculture.
- ▶ CHLORMEQUAT (chemical used for plant growth regulation) detected in the fruit and in the wood of pear trees.
- ▶ During the 3 years of conversion, no use of Chlormequat took place.

ANALYSIS PERFORMED PRIOR TO THE TRINIUM INTERVENTION

TYPE OF SAMPLES ANALYSED	CHLORMEQUAT RESIDUE (ppm)
Pear (fruit) General Leclerc	-
Pear (fruit) Comizio	0,037 ppm
Pear (fruit) Conference	0,098 ppm
Conference pear wood	0,554 ppm
Conference pear wood	0,072 ppm

INTERVENTION

Specific **Trinium** method products

APPLICATIONS:

TWO AERIAL TREATMENTS ON THE TREE CANOPY with specific Trinium product

TREATMENT WITH TRUNK PASTE with specific Trinium product

RESULT

ANALYSIS PERFORMED AFTER THE TRINIUM INTERVENTION

TYPE OF SAMPLES ANALYSED	CHLORMEQUAT RESIDUE (ppm)
Pear (fruit)	absent
Conference pear wood	absent



ELIMINATION OF ENDOSULFAN RESIDUES IN AN **OLIVE GROVE** **2006**

INITIAL SITUATION LINE DI PARTENZA

- ▶ **olive grove with 600 olive trees** over 3.5 ha;
- ▶ production of **organic extra virgin olive oil**;
- ▶ **use of the Trinium method since 2004**;
- ▶ March 2006: **residues of ENDOSULFAN** and its metabolites detected in the oil;
- ▶ It is considered that the contamination was caused by drift from neighbouring fields or occurred at the oil mill.

INTERVENTION

Grove sprayed with a Trinium method product designed for the issue

RESULT

NOVEMBER 2006

After only two months of treatment, a **21% DECREASE** of endosulfan residues was measured

NOVEMBER 2008

After two years of Trinium treatment, analyses demonstrate **UNDETECTABLE** concentrations of endosulfan in plants and in the o

The basic Trinium method was continued but the specific Trinium product application was stopped

2011-2012-2013 FURTHER ANALYSES ARE CARRIED OUT TO IDENTIFY ANY RESIDUAL PRESENCE OF ENDOSULFAN: Laboratory analyses continue to demonstrate the **absence of endosulfan and its metabolites**



AZOXYSTROBIN FUNGICIDES DECONTAMINATION FROM **VINEYARD** **2013**



INITIAL SITUATION

- ▶ Prior to harvest analysis was made on the grapevine leaves in the vineyard.
- ▶ Azoxystrobin was detected - a wide spectrum systemic fungicide against downy and powdery mildew - **at concentrations ranging from 12 to 233 ppb. This triggered withdrawal of Organic certification.**
- ▶ **Analysis of the wine revealed 12 ppb of azoxystrobin.**
- ▶ The centre of contamination was identified at the centre of the vineyard, near the road, where levels of **3340 ppb** were detected.

INTERVENTION

- ▶ The intervention consisted in the application of a product prepared following the **Trinium method.**

RESULT

- ▶ The analyses were repeated and **the chemical was found to have dropped under the 5 ppb threshold and can therefore be considered “nil”.**
- ▶ The **Organic certification was reinstated.**



National and Kapodistrian University of Athens
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Athens, 24/2/2014
N: 29/2014

CERTIFICATE OF ANALYSIS

Geographic origin: Korakohori Itsea / Greece
Producer: Christine Mercouri-Frangou
Name: Mercuri Olive Groves
Location: Koroneiki
Harvest season: November-December 2013

Chemical properties:
Taste: pungent with bitter character

Chemical analysis:
Oleocanthal: 288 mg/Kg
Oleacein: 159 mg/Kg
Oleuropein aglycon: 33 mg/Kg
Ligstroside aglycon: 40 mg/Kg

Comments:
The concentration of oleocanthal and oleacein was significantly higher than the average value of the samples of olive oils (99 mg/Kg and 48 mg/Kg respectively) that were included in the study of the University of Athens. It should be noted that oleocanthal and oleacein present important biological activity and they have been shown to have anti-inflammatory, antioxidant, cardioprotective and neuroprotective activity. The sum of the four analyzed compounds (521 mg/Kg) was higher than 250 mg/Kg and consequently the analyzed olive oil belongs to the oil category that protect from the oxidation of LDL cholesterol, according to the EU Commission 432/2012.
The chemical analysis was performed according to the method published in J. Agric. Food Chem., 2012, 60 (47), pp 11696-11703

Prokopios Magiatis
Associate Professor

"The analysis was based on research supported by a grant from GAEA FOODS to the University of Athens"

PROKOPIOS MAGIATIS
ASSOCIATE PROFESSOR
UNIVERSITY OF ATHENS
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DEPARTMENT OF PHARMACOLOGY
AND NATURAL PRODUCTS CHEMISTRY

Improvement of NUTRACEUTICAL PROPERTIES of EXTRA VIRGIN OLIVE OIL using the Trinium method

Oil extracted from an organic olive grove where the **Trinium** METHOD HAS BEEN APPLIED SINCE 2004.

Because of the notable **Oleocanthal** and **Oleacein** found in the oil, this grove became the object of study by the University of Athens, Greece for its possible pharmacological applications due to the anti-inflammatory, anti-oxidant, cardioprotective and neuroprotective influence of these compounds.



CHEMICAL ANALYSIS ON SAMPLE OF OIL HARVESTED IN NOVEMBER/DECEMBER 2013

PRINCIPLE SOUGHT	CONCENTRATION (mm/kg)
OLEOCANTHAL	288
OLEACEIN	159
OLEUROPEIN AGLYCONE	33
LIGSTROSIDE AGLYCONE	40

SOIL FERTILITY 2014

INITIAL SITUATION

- ▶ Exhausted stony soil belonging to **LCC class IV**, the last but one in terms of fertility.
- ▶ Part of the land strongly **devitalized due to the presence of a concrete airstrip**, which had been removed in the '90s.

The farm has followed the Trinium method since 2003 and the fields have never been left fallow.



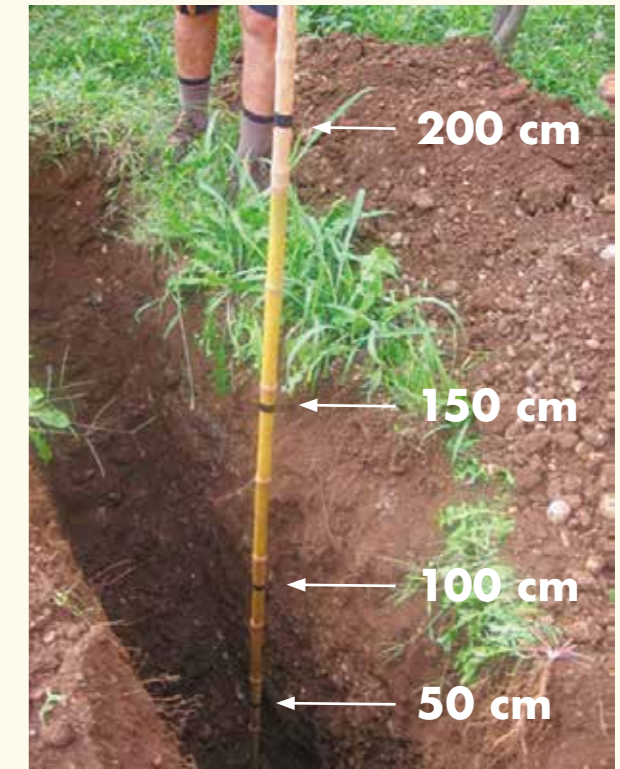
ANALYSIS OF ORGANIC MATTER

1995	Organic matter between 2 and 2.2%
2014	Organic matter in the area of the old airstrips: 4,1%.
2015	Organic matter adjacent to the old airstrips: between 3.9 and 4.6%

The farm has always applied **very limited amounts of fertilizers**: About 1/10 – 1/15 of the amounts recommended in standard organic agricultural practice.



Year 2007 - fertile soil to a depth of approximately 60 cm



Year 2015 - fertile soil to a depth of approximately 180 cm

EXPERIMENTAL TRIALS FOR FURTHER FERTILITY INCREASE

APRIL 2015	Specific Trinium treatment on the soil to increase soil fertility.
AUGUST 2015	Organic matter between 6.5 and 8.55% on sample taken at 40 cm depth (previous samples taken at 20 cm).
OCTOBER 2015	Organic matter at 1.70% on sample taken at 180 cm



VINEYARD PRODUCTIVITY 2012-2015

INITIAL SITUATION

In **2012**, a conventional grower planted **3,500 grapevines** in a plot of 11,000 square metres. They placed a product prepared with the Trinium method under the roots of the plants, designed to promote the vitality of the plants and their resistance to pests over approx. 20 years.

RESULT

MARCH 2012	Planted Chardonnay (1.1 ha) into mud (planting distance 3 m x 1.2 m) and placed Trinium product specific for grapevines under each plant
2012	Pruned plants because they were already very vigorous
2013	Harvested 6,700 kg
2014	Harvested 18,00 kg
2015	Harvested 24,80 kg with 16.5 sugar content and up to 70 bunches per plant

Pictures of the vineyard during the 2015 harvest



- ▶ The 2015 harvest was comparable to the production of a vineyard 3 to 4 years older. (Normally Chardonnay produces 8,000 to 11,000 kg/ha after 5-7 years).
- ▶ **Copper treatments were halved** compared to other vineyards grown by the same grower. Similar reductions for other conventional **systemic** treatments.



AUBERGINES IN POLYTUNNEL 2015

Trial by grower who has been using the **Trinium** method for 5 years.
AUBERGINE variety GALAXY F1

APPLICATIONS

Trinium products to promote vegetative growth of the plants and the fertility of the soil.

Plants	Aubergine, variety Galaxy F1
Transplanted into polytunnel	21 May 2015



year 2015 CONTROL POLYTUNNEL

- ▶ The plants did not receive any treatment.



year 2015 TREATED POLYTUNNEL

- ▶ The plants received the **Seed Treatment for Dryland farming;**
- ▶ 14 July 2015 **WIDDAR fertilizer for the Trinium method** was applied in the polytunnel.



RESULT

PARAMETERS	CONTROL POLYTUNNEL	POLYTUNNEL TREATED with Trinium Seed Treatment and Fertilizer
QUANTITY harvested between 13 July and 25 September 2015	54,2 Kg	153,7 Kg (+183%)
AVERAGE HEIGHT of plants (index of vigour and foliar development)	50 cm	125 cm (+150%)





CUCUMBER IN POLYTUNNEL 2015



Trial by grower who has been using the **Trinium** method for 5 years. CUCUMBER variety EDONA

APPLICATIONS

seed treatment	Trinium seed treatment on all seed, both “control” and “Trinium treated”.
Seedlings transplant	15 June 2015
applications	on “Trinium treated” plants, spray of Trinium fertilizer for fruit development on 14 July 2015
harvest	Between 14 July 2015 and 10 October 2015

RESULTS

	AVERAGE YIELD		
	CONTROL	TREATED	YIELD INCREASE
average yield per tunnel	202,6 Kg/tunnel	337,2 Kg/tunnel	+66%
average yield per plant	1,228 kg/plant	2,043 kg/plant	+66%

COMPARISON BETWEEN ORGANIC AND Trinium 2016



ON THE PRODUCTIVITY OF TOMATO PLANTS IN POLYTUNNEL 2016

POLYTUNNEL 1 ORGANIC	POLYTUNNEL 2 TRINIUM METHOD
<p>CONDITIONS IN THE POLYTUNNELS</p> <ul style="list-style-type: none"> ● black plastic mulch sheet in both polytunnels for one year; ● both polytunnels had grown strawberries and received the same treatment. 	
<p>CONTROL TUNNEL</p> <ul style="list-style-type: none"> ● commercial seed of Datterone tomato “as is”; ● fertilization with Vermicompost. 	<p>TRINIUM TREATED TUNNEL</p> <ul style="list-style-type: none"> ● Commercial seed of Datterone tomato given Trinium Seed Treatment product; ● Fertilization with generic Trinium fertilizing product.



TREATMENTS DURING VEGETATIVE PERIOD AND PRODUCTION

CONTROL TUNNEL

applications:

- ▶ **Vinasse** (monthly intervals);
- ▶ **K-vis** with phytotherapeutic / pest control functions. 34.5 ml of products in 23 litres of water per tunnel, monthly;
- ▶ **Bio Aksxter M31 and M32** with fertilizing functions (every 10 days);
- ▶ **Neobit New** calcium-based product. 115 ml/tunnel, monthly;

TRINIUM TREATED TUNNEL

applications:

- ▶ **w01-w03** (purification and vitality of plants and soil): x 2;
- ▶ **w05** (promoting the formation of organic matter): x1;
- ▶ **w114** (purification from alkaloids): every 15 days;
- ▶ **w120** (harmonization functions when plastic covering or mulch sheeting are used);
- ▶ **w04** (cleansing and harmonization functions after using conventional plant protection products or pesticides): every 10 days;
- ▶ **w06** (autumn/winter fertilization): x1 in September 2016.

IRRIGATION identical for both polytunnels.

YIELD

(AVERAGE WEIGHT OF MARKETABLE PRODUCE PER TUNNEL)

From 08.08.2016 to 11.10.2016, 10 harvesting sessions were carried out in the control polytunnel and 14 in the **Trinium**-treated polytunnel.

PRODUCTION OF DATTERONE TOMATOES	POLYTUNNEL 1 CONTROL (10 harvesting sessions)	POLYTUNNEL 2 TREATED (14 harvesting sessions)	DIFFERENCE % (tunnel 2 over tunnel 1)
AVERAGE WEIGHT OF MARKETABLE PRODUCE PER TUNNEL (kg/tunnel)	708	1.349	+ 90.5%



INCREASE OF ORGANIC MATTER IN OLIVE GROVES 2015-2016

EXPERIMENTAL FIELD TRIAL

- ▶ **OBJECTIVE** to test the new **Widdar** fertilizers;
- ▶ **EXPERIMENTAL PLOT** 0.5 ha of olive grove where the **Trinium** method had been applied for a number of years.



SITUAZIONE INIZIALE

OCTOBER 2015 measurement of organic matter ▶ RESULT: **1,87%**

Application of experimental products that have subsequently been included in the **Widdar** range.

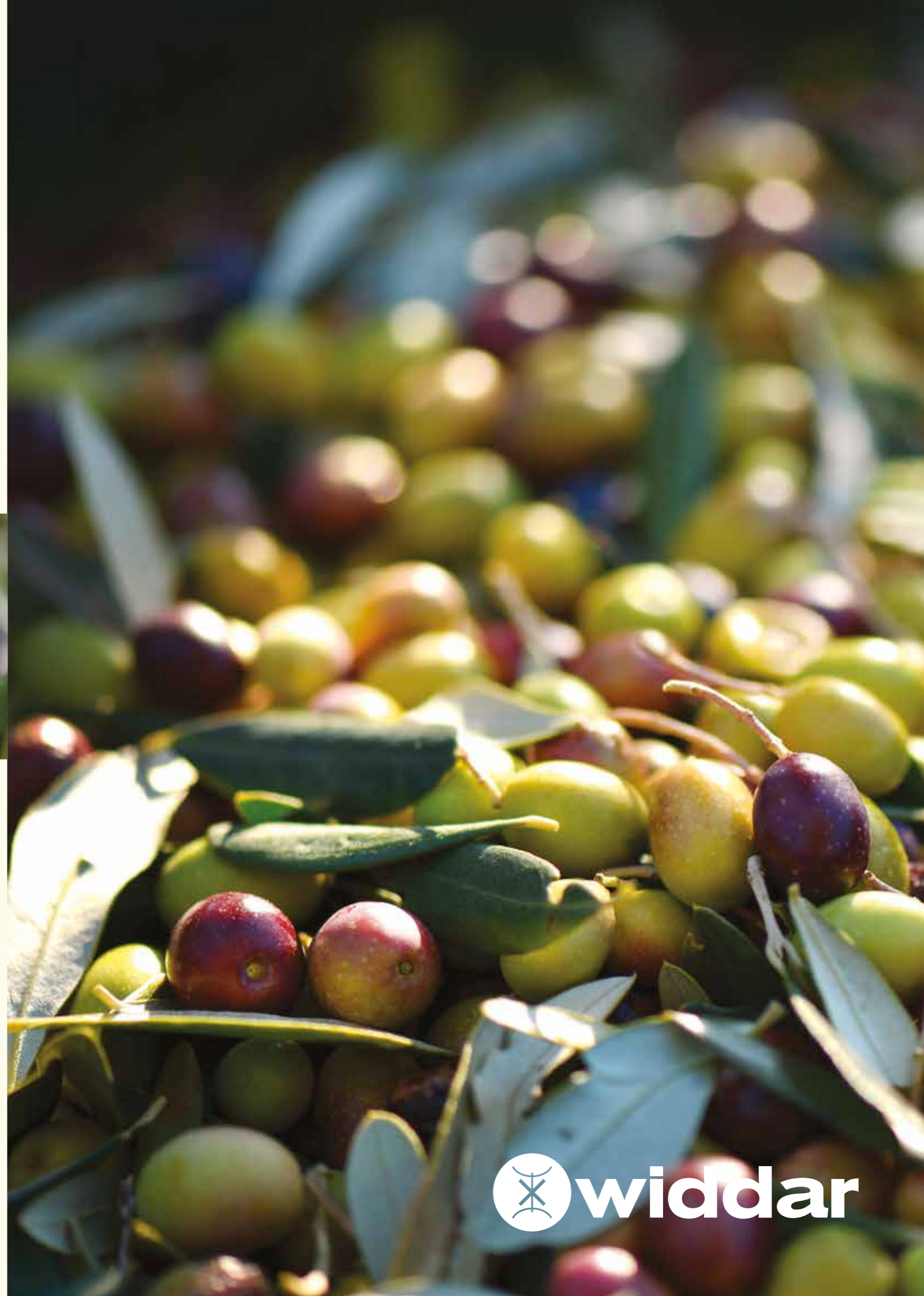
APPLICATIONS

DECEMBER 2015 general stimulation for plants and soil

APRIL, MAY, JUNE 2015 activation of the vital processes of plants and soil

SITUATION AFTER ONE YEAR

OCTOBER 2016 measurement of organic matter ▶ RESULT: **2,44%**





REMOVAL OF *DIABROTICA VIRGIFERA* FROM MAIZE 2016



INITIAL SITUATION

- ▶ Western corn rootworm (***Diabrotica Virgifera***) was detected to have spread from neighbouring fields onto the maize plants.

INTERVENTION

- ▶ It was decided to apply the specific product of the Trinium method to remove the rootworm;
- ▶ **Spray** infested maize plants with the specific Trinium product.

RESULTS

- ▶ **Result:** Rootworm fully removed in 48 hours.



FIELD-COMPARISON BETWEEN ORGANIC AND **Trinium** METHODS 2016



METHODS ON THE YIELD OF **CAVOLO NERO**

PLOT 1 CONTROL 1700 m ²	PLOT 2 TREATED 3000 m ²
<ul style="list-style-type: none"> ● green manure crop over winter 2015-2016; ● previous spring crop: radish (after plant-based pellet fertiliser); ● July 2016: fertilised with 4-month old compost form a heap containing the Trinium composting product; ● Cavolo nero cabbage seedlings, from commercial seed "as is"; ● 20 July 2016: Planting of cavolo nero seedlings. The seedlings were treated before transplanting with Trinium fertilizing product W30 Regena Plus 	<ul style="list-style-type: none"> ● green manure crop over winter 2015-2016; ● previous spring crop: carrot, beet, spring onion, Swiss chard, spinach after plant-based pellet fertiliser); ● July 2016: fertilized using ONLY Trinium W01 and W03 (8 days apart); ● Cavolo nero cabbage seedlings, from commercial seed "as is"; ● 20 July 2016: Planting of cavolo nero seedlings. The seedlings were treated before transplanting with Trinium fertilizing product W30 Regena Plus



CONTROL PLOT (at 60 days)
Note the reduced cover and the greater presence of wild plants.



TREATED PLOT (at 60 days)
Note the denser cover and the reduced presence of wild plants.

TREATMENTS APPLIED

CONTROL PLOT

- ▶ **Pyrethrum-based** treatment (for cabbage white);
- ▶ **K-vis** (phytotherapeutic and fertilizing role);
- ▶ Suspended liquid **hydrolysed protein**;
- ▶ **Propolis-based** treatment (protection from attack by fungi and bacteria);
- ▶ **Osmostim** (fertilizing);
- ▶ **Algaren** (fertilizing).

Frequency: 7- 10 days apart throughout the growing season starting 1 month after planting out the seedlings.

TRINIUM-TREATED PLOT

applications:

- ▶ 2 applications of **W05** (fertilizing support for the spring-summer period) ;
- ▶ **W04** (purifying and harmonizing, applied with each pyrethrum-based treatment);
- ▶ 1 application of **K-vis** (phytotherapeutic and fertilizing functions);
- ▶ 1 **Propoli** treatment (protection from attack by fungi and bacteria);
- ▶ 1 **Osmostim** treatment;
- ▶ 1 **Algaren** treatment;

MAIN OBSERVATIONS ON THE TRINIUM-TREATED FIELD

- approx. 20% extra take of seedlings;
- approx. 20% greater growth after about 1 month;
- differences in wild plant control;
- fewer treatments.

YIELD – FRESH PLANT (PLANTA TOTA)

MEDIUM WEIGHT	CONTROL	TREATED	DIFFERENCE % (field 2 v. field 1)
FRESH plants (grams)	4.660	5.580	+ 19.7%

YIELD – DRY PLANT (PLANTA TOTA)

MEDIUM WEIGHT	CONTROL	TREATED	DIFFERENZA % (field 2 v. field 1)
DRY plants (grams)	390	520	+ 33%

CONCLUSION

After equal water-loss (approx. 90%), the treated sample gave a **33% greater yield** than the control sample.

REMOVAL OF WOOLLY APHID (*Eriosoma lanigerum*) FROM ORGANIC APPLE ORCHARD CONDUCTED WITH **Trinium** METHOD **2016**

INITIAL SITUATION

- ▶ **Woolly aphid attack** on 5 hectares of Apple Orchard growing Fuji, Golden, Emperor and Granny Smith varieties.



INTERVENTIONS

Application of the **specific Trinium product** for the removal of woolly aphid:

- ▶ two applications a month apart;
- ▶ a third application two months after the second application.

RESULTS

- ▶ **Complete removal of the aphids with the first treatment.**





NITROGEN-FIXING CAPACITY OF SOYBEANS 2016

- ▶ **PLOT 1** - CULTIVATED CONVENTIONALLY
- ▶ **PLOT 2** - PARTIALLY CULTIVATED WITH THE TRINIUM METHOD
- ▶ **PLOT 3** - EXCLUSIVELY CULTIVATED WITH THE TRINIUM METHOD

SOIL

PLOTS 1 and 2 soil class 2

Plot 1	surface area 1 ha	conventional agricultural method
Plot 2	surface area 1 ha	conventional agricultural method + partial Trinium

PLOT 3 soil class 4

Plot 3	surface area 1850 m ²	only Trinium agricultural metho
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SEED AND SEED TREATMENT

- ▶ commercial seed M10 PIONEER (maturity class 0+) for all experimental plots;
- ▶ for plots 2 and 3: Seed Treatment with Trinium product W301 for grain legumes.

FIELD TREATMENTS AND WORK

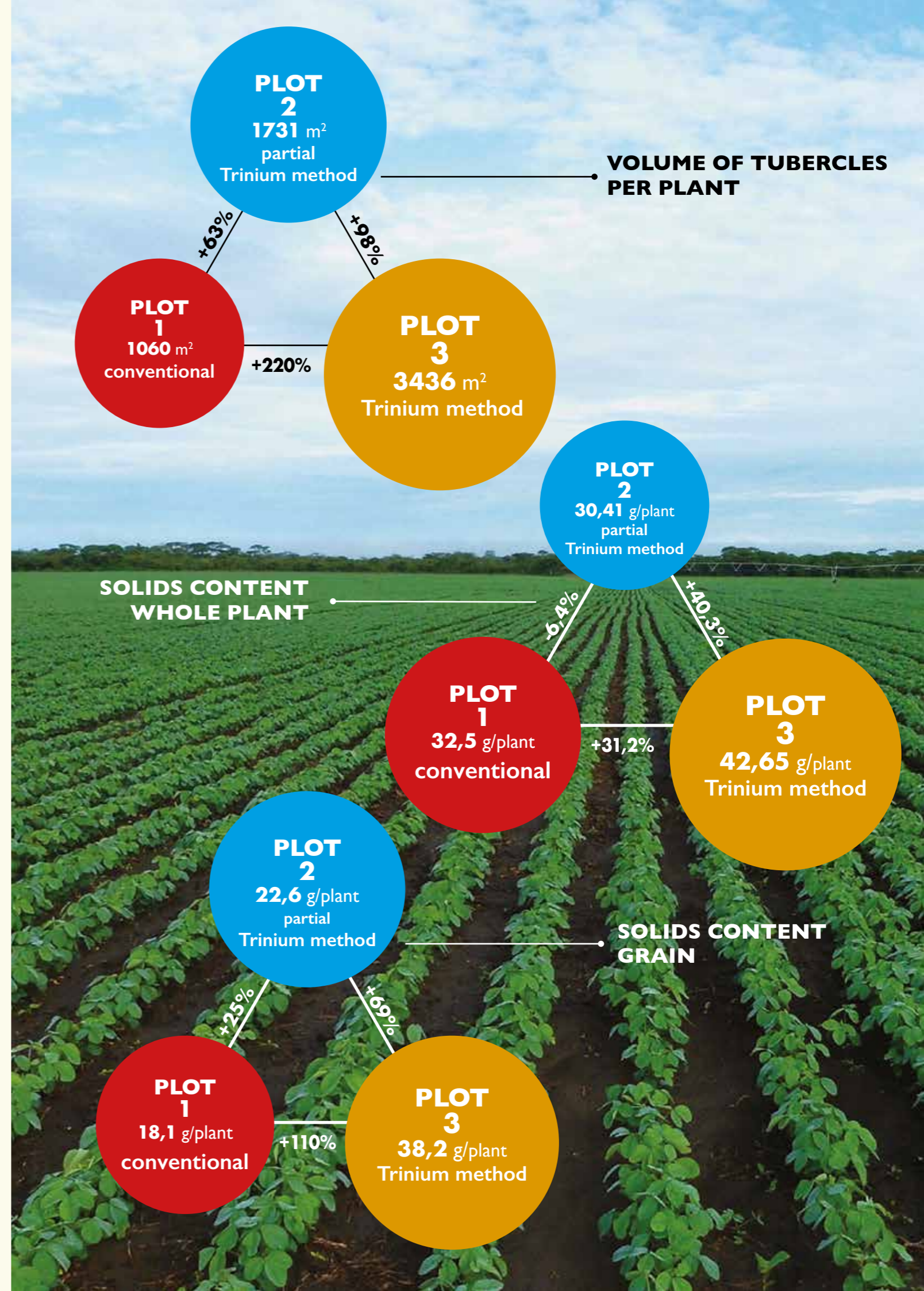
PLOT 1 (CONVENTIONAL)

PLOT 2 (CONVENTIONAL + PARTIAL TRINIUM)

- ▶ **On both plots:** Conventional agronomic treatments specific for soybean;
- ▶ **Plot 2 only:** Some treatments from the **Trinium** method to **purify and sustain the vitality of the soil.**

PLOT 3 (TRINIUM)

- ▶ **Trinium method treatments only** (therefore no organic or chemical fertilizers, herbicide treatments etc).



REMOVAL OF UNDESIRED BIRDS AND ANIMALS USING SPECIFIC **Trinium** METHOD PRODUCTS



SEAGULLS

► 2001

In partnership with the Italian Bird Protection Association LIPU: Removal and deterrence of **herring gulls** from a landfill of 7 hectares located 8 km from the sea.

RAT INFESTATION

► 2003 – 2004

Removal of **rats** from a processing centre for plastic, industrial, municipal and municipal-equivalent waste covering an area of approx. 30,000 m², sorting and processing approx. 90,000 metric tonnes per year of waste.



TICKS

► 2016

In partnership with Natural Solutions: Removal of **ticks** (*Ixodes ricinus*) from a campsite, located in 10 hectares of natural woods at 320 m a.s.l.

WILD BOARS

► 2007 - 2008

Removal and deterrence of **wild boar**, mainly from chestnut woods and vegetable allotments of approximately 15 ha.



PIGEONS

► 2007

Removal and deterrence of **pigeons** from a private garden having a surface area of 1,000 square metres.





AGRICULTURAL SECTOR AND VARIETAL IMPROVEMENT RESULTS

- ▶ **TRIESTE:** yield increase for **alfalfa**. Higher yield of 34%;
- ▶ **ERACLEA (VENICE):** Recovery from **hail damage**. 90% of product recovered;
- ▶ **ERACLEA (VENICE) and elsewhere:** documented recovery from **frost damage** on vegetable crops. 100% of product recovered;
- ▶ **PORTOGRUARO (VENICE): PRODUCTION TRIAL OF MARANO MAIZE WITHOUT FERTILIZATION** Results obtained: 100% higher yield, shortening production cycle by about 30 days, kernel cleaning waste 1.5-2% (versus 5-6% normal);
- ▶ **UNIVERSITY OF ZAGREB (CROATIA)** Faculty of Agronomy: Trial for **increasing nitrogen fixation in lupin** without using nitrogen-fixing bacteria.
- ▶ **FEDERAL AGRICULTURAL RESEARCH CENTRE - INSTITUTE OF CROP SCIENCE - BRAUMSCHWEG (GERMANY)- FAO ORGANIZATION:** Experimentation for increasing sugar content in sorghum.
- ▶ **ERACLEA (VENICE):** Experimentation for **increasing sugar content in sugar beet**. Increase achieved: +20%.
- ▶ **MOUNTAIN COMMUNITY OF CEVA TANARO CEVETTA (CUNEO):** Field trials (10 hectares) to combat **ink disease and chestnut blight**.
- ▶ **MOUNTAIN COMMUNITY OF CEVA TANARO CEVETTA (CUNEO):** Growing from seed in nursery of chestnut plants resistant to ink disease and chestnut blight;
- ▶ **CODROIPO (UDINE):** Experimentation for **increasing vitamin E on apple trees and grape vines**;
- ▶ **MOUNTAIN COMMUNITY OF CEVA TANARO CEVETTA (CUNEO):** Field trials (7.000 hectares) to combat the **gall wasp in chestnuts**;

- ▶ **GREECE, OLIVE GROWING:** Increase in oil yield. with Trinium methods and with increased resistance to parasites: up to 80% survival outcome;
- ▶ **TRIESTE:** Verification of **Trinium** methods on **radishes**. Increase in quantity up to +45%, germination up to +82%, sugar contents up to +8%;
- ▶ **RAUSCEDO (PORDENONE):** Growing vine cuttings with Trinium methods and with increased resistance to parasites: up to 80% survival outcome;
- ▶ **PALMANOVA (UDINE):** Growing vine cuttings with Trinium methods and with increased resistance to parasites. Result achieved only partially due to inability to maintain research protocols.
- ▶ **VARIOUS REGIONS: Livestock** trials for the prevention and treatment of **various diseases** (diarrhoea, heat and travel stress, limping, lameness, mastitis, hypo-fertility, viruses, parasites) in herds of dairy and beef cattle. Further pig, chicken and sheep production trials.



FOOD PROCESSING SECTOR RESULTS

- ▶ Construction of a fixed system for the **revitalization of beverages** (water, oil, wine, juices, beer, etc.) to **improve their organoleptic characteristics, increase yields**, reduce the presence of **limestone**;
- ▶ Construction of a fixed system for the **revitalization of irrigation water** to reduce water demand in plants under stress and improve their germination capacity;
- ▶ Construction of a fixed system for the **improvement of milk for cheese making**.



DECONTAMINATION RESULTS

- ▶ **UNIVERSITY OF PARMA – FACULTY OF VETERINARY MEDICINE:** Thesis on the **decay of lead on land and crops** through the use of Eureka products. Results obtained: Reduction of up to 19% in soil and up to 56% in fodder crops;
- ▶ **UNIVERSITY OF LUBLJANA (SLOVENIA) – DEPARTMENT OF ENVIRONMENTAL PROTECTION:** Trial on the **decay of lead on land and plants** through the use of Eureka products. Results obtained: Reduction of up to 60% in soil and up to 60% in plants;
- ▶ **UNIVERSITY OF LUBLJANA (SLOVENIA) – DEPARTMENT OF ENVIRONMENTAL PROTECTION:** Trial on the **decay of atrazine in groundwater** through the use of Eureka products. Results obtained: Reduction of 25% two hours after the injection of the product;
- ▶ **PORTOGRUARO (VENICE):** Intervention aiming to limit the toxic action of **brackish water** in greenhouses planted with salad leaves. Results obtained: 66% reduction of salt content in soil and 15% increase of humus;
- ▶ **DEN HAAG (THE NETHERLANDS):** Trials for the **reduction of diesel** pollution in soil at a depth of 250 cm using Eureka products. Results achieved: Reduction of 80.7% 45 days after the application of the product;
- ▶ **FACTORY IN AVIGLIANA (TURIN):** Trial for the **reduction of heavy metals and various pollutants (arsenic, too)** in the foundry waste landfill. Results (unofficial data): 30% reduction of pollutants after 3 months of treatment;
- ▶ **PROJECT MUST (ITALY):** Trial for the **reduction of benzene and lead** in contaminated soil. Results obtained: The mobilization process of lead stopped;
- ▶ **SPAIN:** Experimentation for the **reduction of Chlormequat on pear trees**. Reduction achieved: 100%;
- ▶ **CADONEGHE (PADUA):** Project for a public park and allotment areas with the **rebalancing of extant polluting factors**, and specifically protection against the effects of **electromagnetic fields**;
- ▶ **SPAIN:** Experimentation for the **reduction of salinization of soils**. Result: The salinization process stopped;

ENVIRONMENTAL IMPROVEMENT RESULTS



- ▶ **LIPU - Italian Bird Protection Association (PARMA MAIN OFFICES):** Removal and deterrence of undesired bird presence (herring gulls) from the municipal landfill of Castel Colonna (Ancona);
- ▶ **TURIN: Removal of undesired animal presence** (rats) from landfill receiving market waste and plastics;
- ▶ **LOCARNO (SWITZERLAND):** Experimental project for the restoration of native plants with the removal of non-native species;
- ▶ **PROVINCE OF CUNEO, DEPARTMENT FOR AGRICULTURE – FLORA AND FAUNA PROTECTION OFFICE:** Removal and deterrence of undesired wildlife and prevention of damages to agricultural crops;
- ▶ **REMOVAL OF UNDESIRED ANIMAL PRESENCE:** (wild boars, rats, ticks, ants) in a range of environmental conditions (agriculture, forests, urban environments, etc.);
- ▶ **DESIGN OF AGRICULTURAL FARMS** and gardens with particular regard to the protection from stresses caused by weather and pollutant.

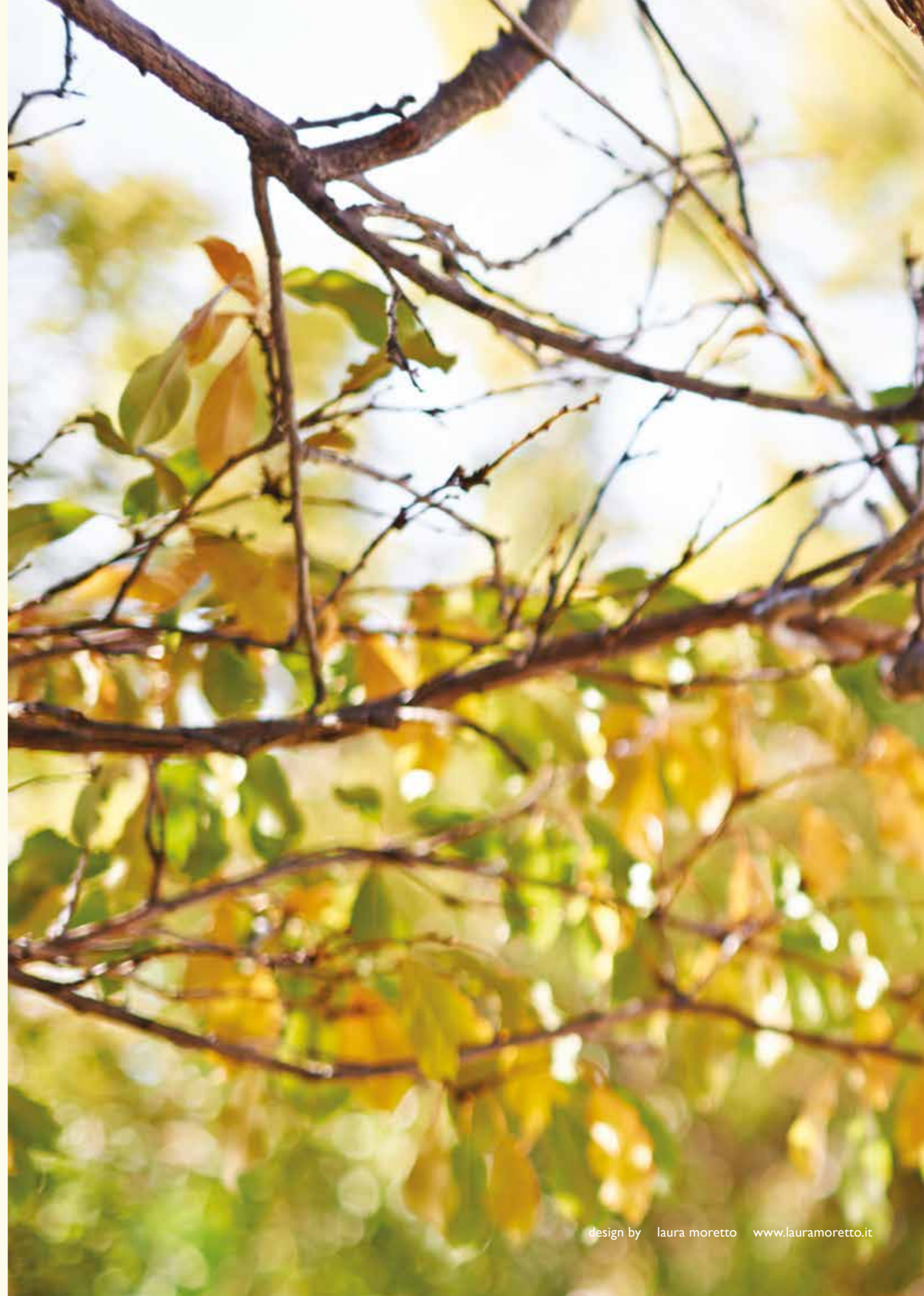




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