



DELIVERABLE N. 2.16 & 2.18

DYNAMIC SOD MULCHING AND USE OF RECYCLED  
AMENDMENTS TO INCREASE BIODIVERSITY, RESILIENCE AND  
SUSTAINABILITY OF INTENSIVE ORGANIC FRUIT ORCHARDS  
AND VINEYARDS

Report on demonstration and communication  
activities, and on participatory training delivered

(2018-2021)





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- Laimburg Research Centre (LAIM)
- Institute of Horticulture (INHORT)
- Centre Technique Interprofessionnel Fruits Légumes (CTIFL)
- Research Institute of Organic Agriculture (FiBL)
- Hohenheim University (UHOH)

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## 1. Summary

The following demonstration and communication activities were performed within the DOMINO project during the project time (2018-2021):

- **Website** (<http://www.domino-coreorganic.eu/>) in the six different languages. **Number of visits: 6,398 (on 03.11.21).**
- **Project leaflet** in the 6 different languages.
- One brochure containing the concepts of integrated soil management was prepared, which summarises the project results of WP3 and WP4 in a practical-oriented way for farmers. The brochure is in English and it is being translated in other 5 languages.
- Several **visibility materials** were prepared by the different partners: project paper (heading), project visual format (slides). One roll up, folders, notes, and gadgets (e.g. pencils with the Domino logo) were also produced.
- **Social media:** a Facebook account was created and regularly updated with information about events or outcomes.
- **6 DOMINO Newsletters**, published on the project website (December 2018, June 2019, January 2020, June 2020, December 2020, July 2021, December 2021).
- 44 **presentations** in the different countries of the project partners during conferences, symposia, congresses, open days etc.
- 12 **technical articles** published in national magazines in partner countries.
- 2 **scientific articles** in English.
- 3 **practice abstracts**, published on [organic-farmknowledge.org](http://organic-farmknowledge.org).
- **6 DOMINO Newsletters**, published on the project website (December 2018, June 2019, January 2020, June 2020, December 2020, November 2021).
- 3 articles for the CORE Organic Newsletter (October 2019, May 2020, July 2021).
- 5 **Videos** to give insight into the project activities.
- 9 Workshops, 9 seminars, 5 webinars, and 1 farminar with farmers and/or researchers in the difference partner countries or online.
- **9 field visits** of DOMINO field trials in the different partner countries.
- **3 individual training sessions.**
- **2 Lectures** for students to present findings from the DOMINO trials.



## 2. Demonstration and communication activities carried out in 2018

Partner	Date	Type of activity	Carried out activities
UPM	2018	Website, leaflet, questionnaire	Translation into Italian
UPM	17.05.2018	Lecture	Lecture of Prof. Granatstein from Washington State University on “Organic orchard floor management”. Several students, technicians and academics attended the event.
UPM	11.06.2018	Field visit	Field trip at the ColleStefano organic winery hosting one of the DOMINO trials, with researchers and technicians from the CREA of Rome, Catania and Forlì.
UPM	12.06.2018	Field visit	Field visit at the organic farm “Madonna delle Api” and at the experimental farm of the Università Politecnica delle Marche, both hosting a DOMINO trials. Numerous researchers and technicians attended the event.
UPM	August 2018	Article	Article in the technical magazine “Revista de Fruticultura”. Title: “Analizada la relación entre árbol y suelo en la X Jornada de fruticultura ecológica de Alfarràs”
LAIM	August 2018	Presentation	Presentation of the DOMINO project and activities carried out at Laimburg Research Center during the meeting with the advisory board.
LAIM	09.08.2018	Presentation	Presentation of the project DOMINO during the “organic farm open day” at Laimburg Research Center. Kelderer M., Holtz T. Gestione innovativa dei frutteti al fine di aumentarne fertilità, biodiversità e sostenibilità economica. AG Ökologischer Anbau, Versuchsvorstellung. Aula, Versuchszentrum Laimburg, Italien. // Kelderer M., Holtz T. Innovatives Management von Obstanlagen zur Steigerung von Fruchtbarkeit, Biodiversität und wirtschaftlicher Nachhaltigkeit. AG Ökologischer Anbau, Versuchsvorstellung. Aula, Versuchszentrum Laimburg, Italien.
LAIM	Sept. 2018	Publication	Publication of the work performed and planned for the project DOMINO at Laimburg Research Center in the magazine “Südtiroler Landwirt”.



Partner	Date	Type of activity	Carried out activities
INHORT	2018	Website	Launch of the project-website
INHORT	2018	Video	Preparation of a video clip describing the methods to perform a correct monitoring of pests in an apple orchard.
INHORT	15.- 16.09.2018	Presentation	Presentation of the project with a roll up and leaflets (English and Polish) at the Annual Horticultural Fair in Skierniewice (about 30'000 visitors)
INHORT	2018	Seminar	Organization of a kick-of seminar with about 80 participants.
INHORT	12.2018	Article	Technical article. Łabanowska-Bury D., Dla ekologicznego sadownictwa. Truskawka Malina Jagoda. 12: 6
FiBL	2018	Questionnaire	Finalizing questionnaire in English and translation of the questionnaire in German
FiBL	2018	Leaflet	Review of leaflet translation in German (performed by UHOH)
UHOH	2018	Field visit, Presentation	Field day and poster presentation at the Organic Research Orchard at the Kompetenzzentrum Obstbau Bavendorf, Ravensburg, Germany (120 participants)
UHOH	2018	Leaflet	Distribution of the German version of the DOMINO leaflet during the "Landwirtschaftliches Hauptfest" in Stuttgart (regional agricultural fair with approx. 200.000 visitors in total)
UHOH	2018	Questionnaire	Review of questionnaire translation in German (performed by FiBL)
UHOH/FÖKO	Summer 2018	Individual Trainings	Individual trainings on spade diagnosis on partner farms using alternative fertilizers (organized by FÖKO e.V. – subcontractor UHOH)



### 3. Demonstration and communication activities carried out in 2019

Partner	Date	Type of activity	Carried out activities
UPM	2019	Video	Video about using strawberries as living mulch in vineyards
UPM	23.01.2019	Presentation	Presentation at the workshop: “Soluzioni tecniche orientate alla frutticoltura di precisione”. Title: “Light spectrum modifications under photo-selective hail-nets”
UPM	29.01.2019	Presentation	Poster presentation at the “CORE Organic Cofund Research Seminar“. Title: “DOMINO: Dynamic sod mulching and use of recycled amendments to increase biodiversity, resilience and sustainability of intensive organic fruit orchards and vineyards“
UPM	22.02.2019	Presentation	Presentation of the DOMINO project at the International Agricultural Exhibition AGRA among the major economic events for agribusiness in Southeast Europe.
UPM	May 2019	Article	Article in the technical magazine “Rivista di Frutticoltura e Ortofloricoltura”. Title: “Migliorare la biodiversità di frutteti e vigneti collinari in biologico“
UPM	July 2019	Article	Article in the technical magazine “Vino da bere”. Title: “Il Progetto Fragolina Colle Stefano: le fragoline usate per limitare le infestanti nel sottofila delle vigne”
UPM	November 2019	Article	Article in the technical magazine “Vigne, Vini & Qualità”. Title: “Pacciamature vive per la gestione del sottofila: un caso applicativo”
UPM	2019	Practice abstract	The use of strawberries as living mulch under tree in organic orchards
FGI	2019	Presentation	Poster presentation in Switzerland on the Annual Biocontrol Industry Meeting - ABIM 2019, 21–23 October 2019, Congress Center Basel, Switzerland





Partner	Date	Type of activity	Carried out activities
LAIM	2019	Article	Article in the magazine „Südtiroler Landwirt“. Hack F. M. (2019). Neues aus dem Ökoanbau. Südtiroler Landwirt 73 (16), 59.
LAIM	05.08.2019	Short press communication	Short press communication about the yearly field day of Laimburg with presentation of the DOMINO trials. «Ökologischer Obstbau: Versuchszentrum Laimburg lädt zu traditionellen Versuchsvorstellungen ein.»
LAIM	08.08.2019	Field visit	Presentation of the DOMINO trials at the yearly field day of Laimburg.
LAIM	08.08.2019	Short press communication	Short press communication about the yearly field day of Laimburg with presentation of the DOMINO trials. «Pilzregulierung, Bodenpflege, Sortenprüfung: Versuchszentrum Laimburg erarbeitet neue Erkenntnisse für den ökologischen Obstbau.»
LAIM	15.12.2019	Seminar	Holtz T. DOMINO “Gestione innovativa dei frutteti al fine di aumentare fertilità, biodiversità e sostenibilità economica”. Versuchszentrum Laimburg. Sitzungssaal Lagerhaus, Versuchszentrum Laimburg (Joint Research Seminar).
INHORT	Jan 2019	Article	Technical article. Malusa and Tartanus, Wsadach ekologiczny“ Hasło Ogrodnice, 1:37-40
INHORT	Jan 2019	Article	Technical article. Łabanowska-Bury D., Dla ekologicznego sadownictwa. MPS Sad 1:60-62
INHORT	13.02.2019	Presentation	In the session "Biological methods, organic farming and zoology" the concept and activities of the DOMINO project were presented to the audience made of researchers, phytosanitary inspectors and agricultural advisors (about 50) of the 59th Conference of the Institute of Plant Protection - PIB "Modern solutions in plant protection".
INHORT	27.02.2019	Presentation	The DOMINO project was presented during a meeting of a group of organic fruit producers (7) from the Polish EkoOwoc Association in Biała Rawska.
INHORT	1-2.03.2019	Presentation	At the annual European Agricultural Forum held in Jasionka near Rzeszów, posters of the project were presented and leaflets distributed at the stand of the Institute of Horticulture,



Partner	Date	Type of activity	Carried out activities
INHORT	28.03.2019	Workshop	One workshop has been organized at the headquarter of the Polish Association of Organic Fruit Growers in Biała Rawska presenting and discussing with the producers (about 10) the method for the assessment and valorisation of ecosystem services that the innovations proposed by the project could provide.
INHORT	11.4.2019	Seminar	The concept of DOMINO research activities and its assumptions were presented at a group of students (about 30) taking the course on biological control of horticultural crops at the Department of Applied Entomology of the Life Science University in Warsaw.
INHORT	4.06.2019	Presentation	In the framework of the workshop "Cropping for the future: networking for crop rotation and crop diversification" organized by Agricultural European Innovation Partnership (EIP-AGRI) in Almere, the DOMINO project was selected to be presented to the participants (about 30) coming from all EU countries.
INHORT	24.06.2019	Seminar/field visit	During the Open Day organized by the Research Institute of Horticulture the DOMINO project was presented to the several hundreds of fruit growers and advisors present at the event.
INHORT	5.7.2019	Field visit	Prof. Ken Albrecht from the Department of Agronomy of the University of Wisconsin-Madison (USA) and prof. Jadwiga Andrzejewska from the Department of Agriculture and Biotechnology of the University of Science and Technology of Bydgoszcz visited the experimental fields and were introduced to the DOMINO trials with leguminous species.
INHORT	10.7.2019	Field visit	The representative of the company Lallemand Plant Care (France), Matthieu Morel, visited the experimental fields and was introduced to the DOMINO trials.
INHORT	14.09.2019	Seminar	At the main scene of the "XXII Fair of Gardening and Agriculture" the presentation "Improvement of biodiversity and pest management in organic fruit production" was delivered to farmers and advisors (about 50).
INHORT	16.10.2019	Presentation	The project concept and activities were presented at the scientific conference entitled "Protection of soil biodiversity as the necessity for health of present and future generations" held at the Research Institute of Horticulture in Skierniewice, which gathered over 100 participants from all Poland.



Partner	Date	Type of activity	Carried out activities
INHORT	17.10.2019	Workshop	A workshop attended by about 30 farmers about „Soil management in rows and inter-rows in organic apple orchards” was organized at the Research Institute of Horticulture in Skierniewice, which included the visit in the experimental field and presentations on the preliminary results.
INHORT	6.11.2019	Presentation	During the seminars related to researches in organic farming organized by the Polish Ministry of Agriculture and Rural Development at the premises of the Ministry the project concept and the established trials were presented to a group of inspectors from certifying bodies and of agricultural advisors (about 20).
INHORT	13.11.2019	Presentation	The project concept and the established trials were presented to a group of inspectors from certifying bodies and of agricultural advisors (about 20) during a second module of seminars related to researches in organic farming organized by the Polish Ministry of Agriculture and Rural Development at the premises of the Ministry.
FiBL	30.01.2019	Presentation	Presentation of the DOMINO project at the Yearly organic fruit conference in Switzerland organized by FiBL and dedicated for farmers, and writing of the small article about the event for the DOMINO website.
UHOH	07.07.2019	Presentation	Poster presentation of the DOMINO trials of WP 3 and WP 4 at an open day of one of the case study farms
UHOH/ FÖKO	04.04.2019	Workshop	Organisation and implementation of a farmer-oriented workshop for the members of the association FÖKO (Fördergemeinschaft Ökologischer Obstbau e.V.) and other interested farmers
UHOH/ FÖKO	Summer 2019	Individual Trainings	Individual trainings on spade diagnosis on partner farms using alternative fertilizers (organized by FÖKO e.V. – subcontractor UHOH)



#### 4. Demonstration and communication activities carried out in 2020

Partner	Date	Type of activity	Carried out activities
UPM	04.06.2020	Webinar	<p>“Copertura frutteto e gestione della fertilità”. Organized by UPM to present the DOMINO’s results and assess possibility of transferring them in the context of Valdaso (Marche region), a fruit district located in the south of the region. Seminars:</p> <p>1 - Gestione delle coperture per la difesa da eventi abiotici e biotici in frutticoltura Markus Kelderer - Laimburg research center</p> <p>2 - Gestione dell'inerbimento e della fertilizzazione nei frutteti biologici Thomas Holtz – Laimburg research center</p>
UPM	25.06.2020	Lecture	<p>Lecture at the UPM Course of “Fruit tree growing” (webinar), held by Eligio Malusà (INHORT). “DOMINO’s findings: Bioproducts for organic and integrated management of horticultural crops: opportunities and challenges”.</p> <p>The webinar was also open to users other than UPM’s students</p>
UPM	20.06.2020	Presentations	<p>International Webinar</p> <p>"Covid 19 Reinventing sustainability to achieve food security” (Bangalore University, India). UPM presented 2 seminars including some of the activities of Domino project</p> <p>1 - Sustainability in fruit production (Davide Neri – UPM)</p> <p>2 - Precision fruit farming (Arash Khosravi – UPM)</p> <p>The webinar was organized by prof. K. Muthuchelian, Vice Rector of Bangalore University</p>
FGI	2020	Presentation	<p>Presentation of the DOMINO results from the trial (WP4) at the ecofruit conference.</p> <p><a href="https://ecofruit.net/proceedings/proc">ecofruit.net/proceedings/proc</a></p> <p>V. Dzhuvinov, I. Staneva, S. Gandev, H. Kutinkova, D. Stefanova, G. Kornov, M. Stoeva (2020).</p> <p>Fertilization of apple trees with organic fertilizers “Keratin” and “Lumbreco” in Bulgaria – preliminary results.</p>



Partner	Date	Type of activity	Carried out activities
			<a href="https://www.ecofruit.net/proceedings/proceedings-2020/#3">https://www.ecofruit.net/proceedings/proceedings-2020/#3</a> One more article was written in the Journal with impact rang. BIOPESTICIDES INTERNATIONAL (ISSN: 0973- 483X) : Vol.16 Issue # 01 (June-2020). In Bulgaria all meetings were prohibited from the 15th of March 2020 on.
LAIM	17.02.2020	Presentation	Presentation of the DOMINO results from the trial on sheltered apple production (WP5) at the ecofruit conference (presentation and poster). Holtz T., Casera C., Lardschneider E., Schmid A., Kelderer M. (2020). Physical protection barriers against pests and diseases, a multi crop experience. In: Eco-fruit; Proceedings of the 19th International Conference on Organic Fruit-Growing: from February 17th to February 19th, 2020, University of Hohenheim, Germany. Foerdergemeinschaft Oekologischer Obstbau e.V. (FOEKO), Weinsberg, Deutschland, pp. 190-192. <a href="https://www.ecofruit.net/proceedings/proceedings-2020/#3">https://www.ecofruit.net/proceedings/proceedings-2020/#3</a>
LAIM	2020	Scientific article	Shtai Walaa, Tagliavini Massimo, Holtz T., Abdelkader Ahmed Ben, Petrillo Marta, Zanutelli Damiano, Montagnani Leonardo (2020). Total and diffuse light distribution within the canopy of an apple orchard as affected by reflective ground covers. Italus Hortus 27 (1), 69-84, DOI: 10.26353/j.itahort/2020.1.6984.
INHORT	January 2020	Newsletter article	„Relationships between soil fertilization practices and nematodes communities in organic apple orchard“ by Dawid Kozacki, Grażyna Soika, Małgorzata Tartanus and Eligio Malusa
INHORT/ UHOH	17.2.2020	Workshop	The Workshop Session “Soil Management (projects Domino and Excalibur)” organized during the Ecofruit Conference in Hohennheim, to discuss about the approach for row (using functional plants) and nutrition (using leguminous species) management (about 50 participants).
INHORT/ LAIM	2020	Presentation	Furmańczyk E.M., Tartanus M., Holtz T., Kelderer M. and E. Malusá (2020) Soil nutrient availability of new organic fertilizers formulations. Proceedings of XIX International Conference on Organic Fruit Growing, Hohenheim, Germany, 181-183



Partner	Date	Type of activity	Carried out activities
INHORT	2020	Presentation	Kozacki D., Soika G., Tartanus M. and Malusá E. (2020). The impact of different organic fertilizers on the soil nematode assemblages in an organic apple orchard. Proceedings of XIX International Conference on Organic Fruit Growing, Hohenheim, Germany, 184-186
INHORT	4.2.2020	Seminar	Organization of a seminar during a training for farmers and advisors (about 30) organized in Tomaszów Lubelski by the publisher of the specialized magazine WiOM and the fruit processing company SVZ Tomaszów sp. z o.o.
INHORT	5.2.2020	Seminar	Organization of a second seminar during a training for farmers and advisors (about 30) organized in Sandomierz by the publisher of the specialized magazine WiOM and the fruit processing company SVZ Tomaszów sp. z o.o.
INHORT	21.4.2020	Presentation	A presentation on “Climate change and Crops protection” was delivered at an international webinar organized by the ECO Institute of Environmental Science and Technology (ECO-IEST) and the International Entrepreneurship House to mark the 50 <sup>th</sup> anniversary of the Earth Day attended by more than one hundred attendees around the world.
INHORT	26.5.2020	Webinar	A webinar on the topic "Bioproducts for organic and integrated management of horticultural crops: opportunities and challenges" under the auspices of the Società di Ortoflorofrutticoltura Italiana (SOI) - Working Group "Organic Agriculture and Agro-Ecology", attended by about thirty researchers, students and advisors.
INHORT	June 2020	Newsletter article	“Can the use of living mulches reduce weeds infestation in organic orchards?” by Joanna Kwiatkowska, Joanna Golian
INHORT	10.9.2020	Seminar	A lecture on “Soil fertility under monoculture: how to maintain it?” where the results of the row and intra-row management obtained from the project trials were presented to farmers and advisors (about 30) at a workshop co-organized by the publisher of the technical magazine “WiOM” and the company Hodowla Roślin Kalinowa sp. z o.o. in Kalinowa
INHORT	December 2020	Newsletter article	„Living mulching species as a possible factor affecting the occurrence of predatory mites on organic apple orchards“ by Małgorzata Sekrecka, Eligio Malusa





Partner	Date	Type of activity	Carried out activities
FiBL	Jan. 2020	Newsletter article	Article on the results of the DOMINO survey written for the CORE Organic DOMINO Newsletter.
FiBL	24.01.2020	Presentation	Presentation of the DOMINO project and activities at FiBL within the Yearly organic fruit conference in Switzerland organized by FiBL, and writing of the small article about the event for the DOMINO website.
FiBL	17.02.2020	Presentation	Presentation of the DOMINO results from the trial on sheltered apple production (WP5) at the ecofruit conference. C. Boutry, F. Baumgartner, and M. Friedli (2020). Testing the effect of a rainproof protection net on the apple production regarding disease and pest damages. <a href="https://orgprints.org/id/eprint/39454">https://orgprints.org/id/eprint/39454</a>
UHOH/ KOB	30.01.2020	Presentation	Presentation of the results of DOMINO WP4 (N dynamics) at the Ökologische Obstbautagung Weinsberg 2020 (Organic Fruit Growing Conference Weinsberg, 140 participants)
UHOH	17.02.2020	Presentation	Presentation of the DOMINO results from the fertilization trial (WP4) at the ECOFRUIT conference. B. Lepp, S. Zikeli T. Hartmann, S. Buchleither, and K. Möller (2020). Improving Fertilisation Strategies in Organic Apple Cultivation. <a href="https://www.ecofruit.net/proceedings/proceedings-2020/#3">https://www.ecofruit.net/proceedings/proceedings-2020/#3</a>
UHOH	12.03.2020	Scientific Poster	Presentation of the results of DOMINO WP4 at the annual Conference on Organic Farming in Baden-Württemberg (Conference Topic “How to nourish the soil – fertilisation strategies in stockless organic farming”, 130 participants)
UHOH/ FÖKO	Summer 2020	Individual Trainings	Individual trainings on spade diagnosis on partner farms using alternative fertilizers (organized by FÖKO e.V. – subcontractor UHOH)



## 5. Demonstration and communication activities carried out in 2021

Partner	Date	Type of activity	Carried out activities
All partners	16.03.2021	Workshop (online)	Organisation and implementation of a Europe wide digital stakeholder-oriented workshop. Title "Making organic fruit growing more resilient: lessons learned from the Project DOMINO"
LAIM/UPM	06.06.2021	Webinar	Presentations within a webinar organized by UPM about orchard covering and fertility management. Kelderer M. "Gestione delle coperture per la difesa da eventi abiotici e biotici in frutticoltura. Accordo agroambientale d'area per la tutela delle acque della bassa e media Valdaso », Universität Ancona. Online conference, ( <a href="https://www.youtube.com/watch?v=4K-xqP_w_wU&amp;t=4305s">https://www.youtube.com/watch?v=4K-xqP_w_wU&amp;t=4305s</a> ).
UPM	2021	Scientific article	Neri, D.; Polverigiani, S.; Zucchini, M.; Giorgi, V.; Marchionni, F.; Mia, M.J. Strawberry Living Mulch in an Organic Vineyard. <i>Agronomy</i> <b>2021</b> , <i>11</i> , 1643. <a href="https://doi.org/10.3390/agronomy11081643">https://doi.org/10.3390/agronomy11081643</a>
UPM	July 2021	Article	Article in the technical magazine "Rivista di Frutticoltura e Ortofloricoltura". Title: "Sfalcio e lavorazioni per la gestione sostenibile del cotico erboso"
UPM	19.06.2021	Farminar	Farminar (interview seminars and videos, from the orchards). Project's results of GECO VALDASO about the sustainable soil management in fruit orchards with the interview to Markus Kelderer about "Domino living mulch in orchards and netting systems" and Fabio Marchionni about the "Strawberry living mulch in vineyard"
UPM	16.07.2021	Webinar	Project's results presented at the webinar: "La frutta della Valdaso buona e sostenibile. Caffè della Scienza alla scoperta del progetto GECO VALDASO"





Partner	Date	Type of activity	Carried out activities
UPM	Sept 2021	Presentation	Presentation at SANATECH, Bologna. Title: “Gestione resiliente e protezione sostenibili in frutticoltura e viticoltura biologica”.  <a href="http://sanatech.sana.it/eventi/programma-eventi-sanatech-2021/11046.html">http://sanatech.sana.it/eventi/programma-eventi-sanatech-2021/11046.html</a>
UPM	Sept 2021	Presentation	Presentation at Organic World Congress 2021, France. Title: “Strawberry living mulch in organic vineyards”  <a href="https://orgprints.org/id/eprint/42191/">https://orgprints.org/id/eprint/42191/</a>
UPM	Sept 2021	Presentation	Presentation at Macfrut, Rimini. Title: “Coperture multifunzionali in frutticoltura”
UPM + all	Dec 2021	ISHS organic symposium, Catania	Domino presentation
LAIM	11.02.2021	Presentation	Presentation within the yearly organic fruit conference in South Tyrol (online) about cover crops in the tree row (WP3). Holtz T. Erfahrungen mit Einsaaten im Unterstockbereich als alternative Beikrautregulierung. Bio Vinschgau und Südtiroler Beratungsring für Obst- und Weinbau. Bioobstbautagung, Online Veranstaltung.
INHORT	Mar 2021	Video	Video about living mulches for row management (in Polish)
INHORT	20.4.2021	Seminar	The experiences and results gained within the project dealing with the use of alternative, novel organic fertilizers and the use of living mulches for the management of the tree rows were presented at the XII Jornada de fructicultura ecològica (XII Day of Organic Fruit Production) attended by about 90 Catalan farmers and advisors involved in organic fruit production.
INHORT	18.5.2021	Presentation	Presentation of a poster along with a short video, titled “Agroecological approach in soil management of apple organic orchards” described the concept of growing aromatic plants as living mulches on the tree rows that has been tested at INHORT was presented at the 5 <sup>th</sup> European Agroforestry Conference ( <a href="https://www.euraf2020.eu/">https://www.euraf2020.eu/</a> )



Partner	Date	Type of activity	Carried out activities
INHORT	22.06.2021	Presentation	Scientific (oral) Presentation. Title: „Valutazione di fertilizzanti alternativi da materiali di scarto per la produzione di mele in agricoltura biologica“ Malusà E., Zikeli S., Holtz T., Fumanczyk E., Lepp B., Kelderer M., Buchleither S., Neri D. at the XIII Giornate Scientifiche SOL.
INHORT	23.06.2021	Scientific poster	Scientific (poster) Presentation. Title: „Effetto della pacciamatura vivente con piante officinali sulla biodiversità della fauna del suolo di un meleto biologico“ by Kozacki D., Tartanus M., Furmanczyk E., Malusà E. at the XIII Giornate Scientifiche SOL.
INHORT	30.06.2021	Seminar/workshop	The results dealing with the use of alternative organic fertilizers and the use of living mulches for tree rows management were presented at the annual Open Day of INHORT, attended by farmers and advisors.
INHORT	27.07.2021	Seminar/workshop (hybrid event)	Workshop at the National Centre of Agricultural Advisory Service – Radom (specialized in organic farming) “DOMINO: innowacje w ekologicznym zarządzaniu sadami - podejście agroekologiczne w celu zwiększenia zrównoważonego rozwoju i bioróżnorodności” (DOMINO: innovation in organic orchard management - an agroecological approach to increase sustainable development and biodiversity) attended by about 70 advisors
INHORT	29.07.2021	Field training session to farmers	Workshop at the headquarter of the Biopomorski association of organic farmers (Chrzanowo) “Innowacje w ekologicznym zarządzaniu sadami: bioróżnorodności i zrównoważonego rozwoju w projekcie DOMINO” (Innovations in organic orchard management: biodiversity and sustainable development in the DOMINO project) with visit to the farm trial with <i>C. pepo</i> living mulches. Attended by 15 farmers
INHORT	Sept. 2021	Presentation	<u>Multifunctional living mulches for weeds control in organic apple orchards</u> ” by Golian J., Aniszka Z., Kwiatkowska J. presented at the International Scientific Conference “Bioprotection – Global plant health and product safety” to be held in Lublin on 22-24/09.
INHORT	Sept. 2021	Scientific article	<u>Multifunctional living mulches for weeds control in organic apple orchards</u> ” by Golian J., Aniszka Z., Kwiatkowska J. to be submitted to <u>Acta Scientiarum Polonorum Hortorum Cultus</u>



Partner	Date	Type of activity	Carried out activities
INHORT	Dec. 2021	Abstract + article on Acta Horticulturæ	<u>“Effect of living mulches on the above ground biodiversity of an organic apple orchard” by Sekrecka M., Piotrowski W. and Tartanus M. Submitted to III Intern. Organic Fruit Symposium (Catania OrgHort2020)</u>
INHORT + all	Dec. 2021	Abstract + article on Acta Horticulturæ	<u>“Innovative agricultural management and perception of ecosystem services in orchards” by Borsotto P, Borri I., Tartanus M., Zikeli S., Lepp B., Kelderer M., Holtz T., Friedl M., Boutry C., Neri D. and Malusa E. Submitted to III Intern. Organic Fruit Symposium (Catania OrgHort2020)</u>
INHORT	Dec. 2021	Abstract + article on Acta Horticulturæ	<u>Changes in weed population in organic apple orchard as a result of soil management with living mulches” by Aniszka Z., Golian J., Kwiatkowska J., Furmanczyk E. Submitted to III Intern. Organic Fruit Symposium (Catania OrgHort2020)</u>
CTIFL	23.03.2021	Webinar	#LesLIVEDuCTIFL Webinar on the topic: “Growers: are you ready for agroecology?”, open to farmers (fruits and vegetables), researchers, technical advisors and to the agricultural press (more than 140 participants). Included two presentations related to the topics and results of DOMINO project: - “Use of plant ground covers for weed management” (MM Fernandez) - “Impact of plant material on the resilience of a production system based on the use of ground covers” (MM Fernandez) Replay available on the CTIFL - Web TV YouTube channel : Agroécologie : Comment accompagner l’agriculteur dans la modification de ses pratiques ? <a href="https://www.youtube.com/watch?v=61K288-AnvE">https://www.youtube.com/watch?v=61K288-AnvE</a>
CTIFL	May 2021	Article	Delgado M., 2021. Gérer l’enherbement en fonction des besoins. Arboriculture Fruitière. Les enjeux Hors-série N°34. p.19-21
CTIFL	May 2021	Article	Even C., 2021. Engrais verts, enherbement. Les couverts se discutent. Arboriculture Fruitière. Les enjeux Hors-série N°34. p.16-18
FiBL	March 2021	Video	Release of a video about the results from the trial on sheltered apple production on the FiBL YouTube channel and the DOMINO website.
FiBL	27.05.2021	Presentation	Presentation of the FiBL pot trial at the FiBL Open Day (online).



Partner	Date	Type of activity	Carried out activities
UHOH	27.01.2021	Presentation	Presentation of the results of DOMINO WP4 on the use of plant-based fertilizers and living mulches at the Organic Fruit Conference in Switzerland organized by FiBL (130 participants, online)
UHOH/ FÖKO	10.03.2021	Workshop	Organisation and implementation of a farmer-oriented workshop for the members of the association FÖKO (Fördergemeinschaft Ökologischer Obstbau e.V.) and other interested farmers
UHOH	15.03.2021	Newsletter article	Article on the results of the DOMINO field trial written for the CORE Organic Newsletter.
UHOH	Summer 2021	Article	Reprint of the Newsletter article in The Organic Grower No.55. Summer 2021 pp25-26.
UHOH	20.07.2021	Field visit	Field day for fruit farmers at KOB
UHOH	09.2021	Presentation	Poster presentation of the results of WP 2.1: Field balances of organic apple orchards in two regions of Germany” at the Organic World Congress.
UHOH	12.2021	Presentation	Presentation of the results of the WP 4 pot trial on the impact of Sulphur on nutrient and heavy metal mobility in the soil at the III International Organic Fruit Symposium in Catania



## 1) Project videos

Four videos were produced on different topics about results within the DOMINO project.

1) Video title: Experiences from farm trials with living mulches

Subject: Living mulches for row management

Year of production: 2021

Partner country: Poland (INHORT)

Link: [http://www.domino-coreorganic.eu/download/other/Domino\\_Final\\_Version.mp4](http://www.domino-coreorganic.eu/download/other/Domino_Final_Version.mp4)



2) Video title: Project: Dynamic sod mulching

Subject: Living mulches for row management

Year of production: 2021

Partner country: Poland (INHORT)

Link: <http://www.domino-coreorganic.eu/downloads/other-available-materials>





3) Video title: Organic apple cultivation: Evaluation of single row cover for non-chemical disease and pest control

Subject: Sheltered apple production

Year of production: 2020

Partner country: Switzerland (FiBL)

Link: <https://www.youtube.com/watch?v=5g927EYOoEU>



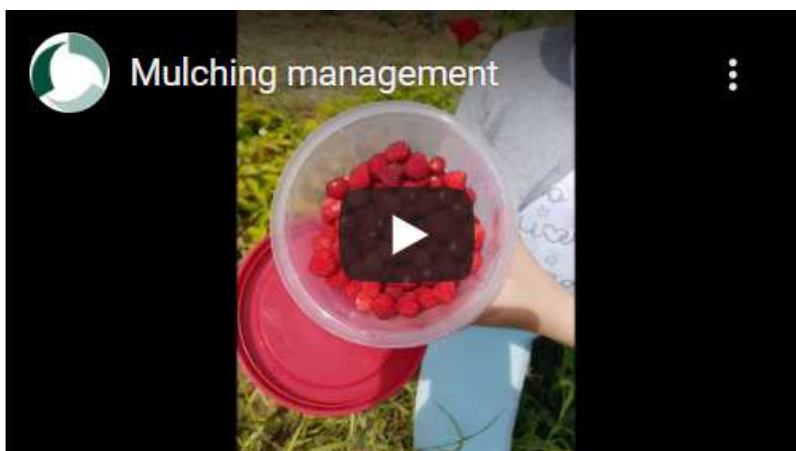
4) Video title: Mulching management

Subject: Using strawberry as living mulches

Year of production: 2019

Partner country: Italy (UPM)

Link: <https://www.youtube.com/watch?v=SiIKRZ2IIA4>







## Pictures

### a) Università Politecnica delle Marche (UPM)



Presentation of the DOMINO project at the International Agricultural Exhibition AGRA in Southeast Europe (22.02.2019).

**ACCORDO AGROAMBIENTALE D'AREA  
PER LA TUTELA DELLE ACQUE  
DELLA BASSA E MEDIA VALDASO**

**COPERTURE DEL FRUTTETO  
e  
GESTIONE DELLA FERTILITA'**

**SEMINARIO IN RETE  
GIOVEDÌ 4 GIUGNO 2020  
ORE 15:00**

Saluti Giuliana Porrà ( Sindaco Comune di Altidona - capofila AAA)

**ORE 15.10** Gestione dell'inerbimento e della fertilizzazione  
dei frutteti biologici  
Thomas Holtz - Laimburg research center

**ORE 16.00** Gestione delle coperture per la difesa  
da eventi abiotici e biotici in frutticoltura  
Markus Kelderer - Laimburg research center

**ORE 16.50** Conclusione

Presentazione dei seminari Prof. Davide Neri - UnivPM  
d.neri@staff.univpm.it  
I seminari sono integrati anche nel corso di "Arboricoltura" - UnivPM

Il webinar si potrà seguire in diretta sulla piattaforma zoom e sulla pagina facebook Accordo Agro Ambientale Valdoso  
Il link zoom si ottiene mandando una mail entro le ore 10:00 del 4 giugno a [webarboricoltura@gmail.it](mailto:webarboricoltura@gmail.it)

Per informazioni rivolgervi a: Facilitat AAA: Dott. Agi Nicola Lucchi 940 9372601

È TEMPO DI AGRICOLTURA

Webinar “Copertura frutteto e gestione della fertilità” organized by UPM to present the DOMINO’s results and assess possibility of transferring them in the context of Valdoso (Marche region).



## b) Fruit Growing Institute (FGI)

**CORE organic DOMINO**

**"DOMINO" – project partner FGI, BG**  
 "Dynamic soil mulching and use of recycled amendments to increase biodiversity, resilience and sustainability of intensive organic apple orchards and vineyards"

*Faculty Dzhurkova, Irina Stanova, Sofia Gerdova, Desislava Stefanova, Branka Katsikova, Georgi Karanov, Margarina Stanova*  
 Fruit Growing Institute (FGI), Plovdiv, Bulgaria

The trial is in a private farm at Plovdiv region, close to the Perushitsa town, situated 21 km South West from Plovdiv, in Thracian plate. Coordinates: 42°03' N and 24°32' E, 154 m on the sea level.

**Climatic condition of the region**  
 The mean annual temperature is 12.3° C. Absolute maximum +45 °C (July 5, 2000) and Absolute minimum -31.5 °C (January 21, 1942). Precipitation – 540 mm; maximum – during May-June (69 mm) and minimum in August (31 mm) Relative humidity – 73% (maximum in December – 86% and minimum in August – 62%).

**Experimental apple orchard**  
 The orchard was planted on 3.3 ha in 2016 on sandy loessial with Golden Delicious II, Fuji and Granny Smith/M26 with spacing 3.50 x 1.25 m and spindle training system. Irrigation – drip system. The experimental plot is 0.5 ha. The orchard is covered with black sun – had net with 75mm mesh size.

**Intercropping and fertilization**  
 In the tree rows are used the leguminous species – white clover (*Trifolium repens* L.) and early forage pea (*Pisum sativum* L.). For fertilization – liquid "Lumbroco", origin from red Californian worms and "Keratin" (Horngrist received from Germany) according to BBCH stage.

**Soil analysis and parameters measured**  
 The soil samples – 0-15 and 15-30 cm depth for macro and microelements-in the beginning and in the end of the season. Data collection: plant density and biomass production from white clover and pea, yield per tree/ha/kg/cm<sup>2</sup> and fruit quality. For measurement will be used 3 trees in 8 replicates per variant and cultivar.

**Prediction of optimal picking dates**  
 Background color with the color chart  
 Firmness – Penetrometer  
 TSC – Brix  
 Starch components – scale 1-10 (Eurofin, Cnff, France)

**ACKNOWLEDGEMENTS:**  
 The present study was supported by the Grant № KP – 06 – DO 021/2018 from the Bulgarian National Scientific Fund.  
<http://www.domino-coreorganic.eu/>

Poster presentation in Switzerland on the Annual Biocontrol Industry Meeting (ABIM) in Switzerland (21-23.10.2019).



Presentation of results of the DOMINO project at the Ecofruit Conference 2020 (17.02.2020).

## c) Laimburg Research Centre (LAIM)







“Organic farm open day” at Laimburg Research Center (09.08.2018).

d) Institute of Horticulture (INHORT)



Presentation of the DOMINO project with a roll up and leaflets at the Annual Horticultural Fair in Skierniewice (15.09.2018).



Presentation of the DOMINO project at the 59<sup>th</sup> Conference of the Institute of Plant Protection (PIB) (12-14.02.2019).





Presentation of the DOMINO project at the Open Day organized by the Research Institute of Horticulture (24.06.2019).



Workshop "Soil management in rows and inter-rows in organic apple orchards" at the Research Institute of Horticulture in Poland (17.10.2019).

#### e) Centre Technique Interprofessionnel Fruits Légumes (CTIFL)



Webinar on the topic: "Growers: are you ready for agroecology?" organized by CTIFL (23.03.2021).

#### f) Research Institute of Organic Agriculture (FiBL)





Presentation of the DOMINO project and activities at FiBL at the Yearly organic fruit conference in Switzerland (24.01.2020).



Presentation of DOMINO project results at the ecofruit conference (17.02.2020).



Presentation of the FiBL pot trial at the FiBL Open Day (27.05.2021).

g) Hohenheim University (UHOH)



Presentation of the field trial at the KOB Open Day 2018.





Presentation of the DOMINO project at a Farm festival near Freiburg in Germany (07.07.2019).



Ecofruit Conference 2020.