

Sustaffor (FP7-SMEs-2013-606554)
Attachment to the final report

February 2016

1. Project Logo



2. Photographs from the project

2.1. Novel techniques: Novel soil conditioner (TerraCottem Internacional)



sustAffor

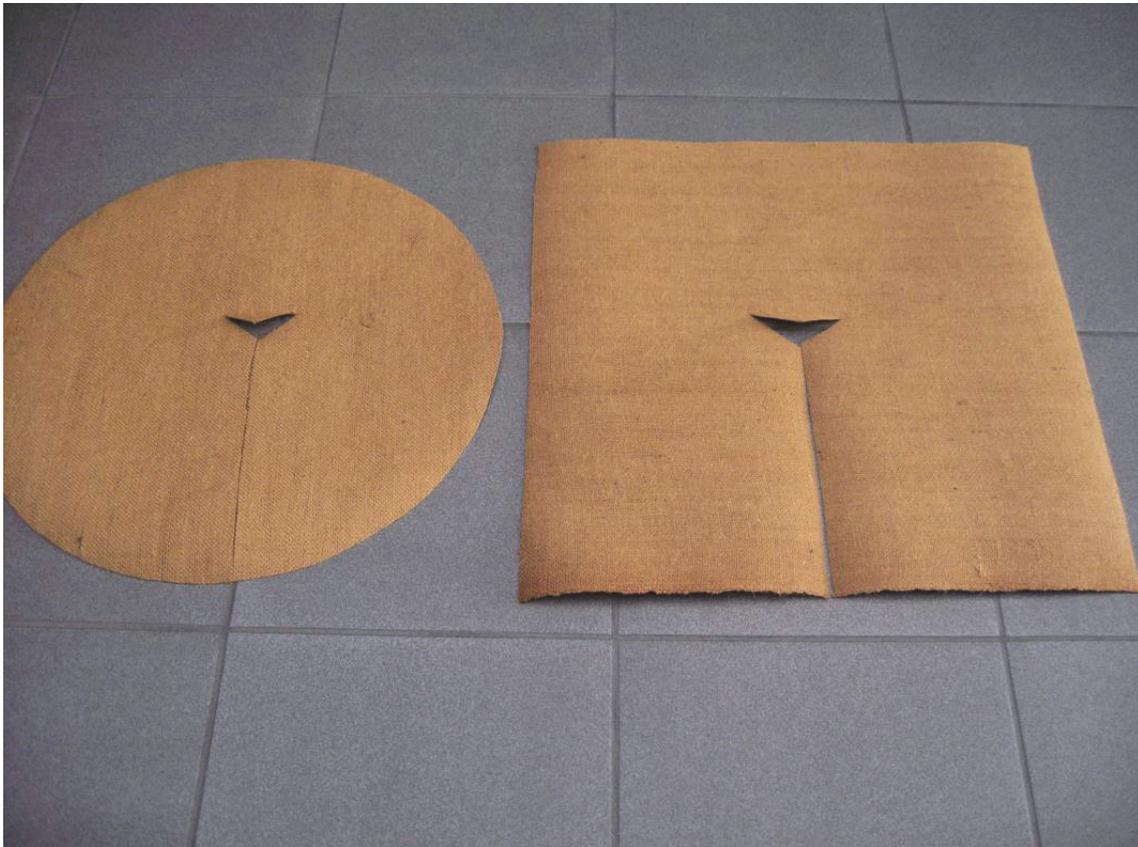
2.2. Novel techniques: Biodegradable biopolymer groundcover – full plate version (DTC)



2.3. Novel techniques: Biodegradable biopolymer groundcover – frame attached to commercial biofilm (DTC)



2.4. Novel techniques: Biodegradable woven jute groundcover (La Zeloise)



2.5. Novel techniques: long-lasting recycled rubber groundcover (EcoRub)



2.6. Project website home page (www.sustaffor.eu)

sustAffor
 Bridging effectiveness
 and sustainability in afforestation

Home | Aims and stages | Consortium | Novel techniques | Research activities | Photo gallery | Project results | News | Intranet

English Español

PLANTING TREES IN A MORE SUSTAINABLE AND EFFICIENT MANNER

Bridging effectiveness and sustainability in afforestation / reforestation in a climate change context: new technologies for improving soil features and plant performance

[Download project brochure](#)

The research leading to these results has received funding from the European Union's Seventh Framework Programme managed by REA-Research Executive Agency <http://ec.europa.eu/research/rea> (FP7/2007-2013) under grant agreement n° 605554

Project Coordinator: Forest Science Centre of Catalonia (CTFC)
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NOVEL PLANTATION TECHNIQUES

The novel plantation techniques to be developed during SUSTAFFOR project are two types:

- Soil conditioners
- Mulching techniques

SMES

- D.T.C. (Belgium)
- La Zeloise NV (Belgium)
- EcoRub bvba (Belgium)
- TerraCotem Internacional SL (Spain)
- Terrezu SL (Spain)
- Ceres International Sp. z o.o. (Poland)

RTD PERFORMERS

- Forest Science Centre of Catalonia (Spain)
- Centre National de la Recherche Scientifique (France)
- Centexbel (Belgium)
- EDMA Innova (Spain)

2.7. Project brochure

SUSTAFFOR PROJECT
Sustainable & Greener Afforestation
Bridging effectiveness and sustainability in afforestation: field studies in a climate change context: new technologies for planting and forest and forest performance

What is SustAffor - Sustainable Tree Planting

SustAffor novel techniques

SustAffor field trials network

Field degradation trials

SustAffor experimental design and monitoring

Field trials monitoring

SustAffor consortium

www.sustaffor.eu



2.8. Project poster, presented by Ceres in Gardenia fair



2.9. Lecture during the final seminar



2.10. Leaflet for the new soil conditioner developed during the project

TERRACOTTEM
www.sustaffor.eu

INNOVATIVE SOIL CONDITIONING TECHNOLOGY FOR COST-EFFICIENT AND SUSTAINABLE TREE PLANTING

- IMPROVES SOIL WATER & NUTRIENT RETENTION CAPACITY
- AVOIDS OR REDUCES SIGNIFICANTLY THE NEED FOR IRRIGATION SUPPORT
- APPLIED ONCE, DURING PLANTING
- POLYACRYLAMIDE FREE
- EASES EARLY TREE ACCLIMATION TO THE PLANTING AREA
- ENVIRONMENTALLY FRIENDLY: BIODEGRADABLE

Aspect of the new soil conditioner

The performance of this product is especially outstanding in poor light soils

Left: TerraCottem works at root level. It has to be mixed with the soil.
Centre: TerraCottem is activated by watering the plant. The polymers absorb the water and fertilizers.
Right: The growth precursors encourage root hair growth. These root hairs grow inside the polymers and absorb the required amount of water and nutrients.

Soil conditioner consisting of a proprietary mixture of more than twenty components from different groups all assisting the plant growth processes in a synergic way:

- Growth precursors
- Hydroabsorbent polymers
- Fertilizers
- Carrier material
- Humates

SPECIALLY RECOMMENDED FOR

- Any type of tree planting in sites where the investment in maintenance (especially, irrigation) is intended to be minimized
- Drought-prone areas where water deficit can be lethal for young seedlings
- Soils with low water and nutrient retention capacity: light texture, high stoniness, low organic matter content

VERY EASY INSTALLATION

The soil conditioner is applied only once in the tree's lifespan. It takes just few seconds to mix the product with the soil of the planting pit during planting. The prescribed dose is 40 g/tree for young seedlings up to 60 cm high and 100-200 g/tree for larger seedlings (1-2 m high).

ENVIRONMENTAL FRIENDLY

This product is biodegradable, free of polyacrylamide and avoids or reduces notably the volume of water (and petrol) engaged in support irrigations

TECHNIQUE PERFORMANCE

This innovative soil conditioner had a remarkably positive on tree survival, growth and physiological indicators in both semiarid and montane conditions. The study areas were characterized by soils with low water and nutrient retention capacity, light texture (loamy-sandy) and a high stoniness. The effect was especially relevant in semiarid conditions, subject to severe water deficit. These results were similar to the commercially available TerraCottem Universal®, for the same dosage (40 g/tree). This dosage proved to be the most cost-effective, compared to 20 g/tree and 80 g/tree. These results were obtained in field trials distributed in a wide range of environmental conditions representative of the main European and Mediterranean bioclimates.

Aleppo pine (Pinus halepensis) in limiting semiarid conditions

Aleppo pine (Pinus halepensis) in limiting semiarid conditions

The letters on the bars correspond to treatment grouping according to Duncan test: lower case ones (a, b, c) refer to data from 2014 while capital letters (A, B, C) refer to data from 2013. Treatments with different letters provide results that are statistically significant (p<0.05).

→ The performance of this product in outdoor and laboratory conditions has been endorsed and certified by RTD institutions: Forest Sciences Centre of Catalonia, Centexbel and Centre National de la Recherche Scientifique, in the framework of Sustaffor project, financed by EU 7th Framework Programme (2013- 2015) and managed by ICA-Research Executive Agency <http://ec.europa.eu/research/ica> (FP7/2007-2013) under grant agreement n° 606554.

2.11. Second field workshop



2.12. Newsletters: fourth Newsletter

The collage displays four newsletters from the sustAffor project. Each newsletter includes the project logo, the European Union flag, and the date 'July 2014'. The content is organized into sections with headings and sub-headings. The newsletters contain:

- Textual content:** Summaries of preliminary results, project goals, and conclusions. For example, one newsletter discusses 'Some preliminary results from the first vegetative period (2014)' and another mentions 'Preliminary conclusions of the first vegetative period'.
- Tables:** Several tables are included, such as 'Table 1: Main features of the first vegetative period', 'Table 2: Main features of the first vegetative period (continued)', and 'Table 3: Main features of the first vegetative period (continued)'. These tables list various parameters and their values across different treatments.
- Charts:** Multiple bar charts and line graphs are used to visualize data. Some charts show 'Mean height' or 'Mean diameter' over time for different treatments. Other charts compare 'Mean height' and 'Mean diameter' across various treatments.
- References:** A list of references is provided at the bottom of the newsletters, citing various scientific publications and reports.

2.13. Trainings for SMEs: participation of the guest speakers Francisco Lario, in Poznan (up) and Anna Esteve, in Navarra (down)



2.14. Sustaffor consortium: kick-off meeting



2.15. Sustaffor consortium: participants in the last meeting



3. Beneficiaries

During the different dissemination activities a large number of beneficiaries have participated and received the information about the project aims, the novel techniques developed and their potential interest, as well as the project results. The participants in all the dissemination activities were registered. However, because of not having asked specifically about their permission to publish their personal data, only their profiles are listed below.

3.1. List of recipients of the periodic newsletters:

The periodic newsletters were sent to almost 400 e-mail recipients, from the professional contact list of the CTFC (project coordinator). This list includes managers, practitioners, researchers and policy makers from both private and public sector, NGOs and intergovernmental organizations dealing with forest restoration and environmental management. The recipients belong to 30 different countries from Europe, the Mediterranean and Latin America.

Further mailing was done by the SMEs throughout their commercial partners.

3.2. Participants in the field workshops

A total of 42 people participated in the two field workshops organized by CTFC. Most of them were managers (landowners) and practitioners from the private and public sectors.

3.3. Participants in the final seminar

The final seminar had 32 participants, with a similar profile as the participants in the field workshops.

3.4. Attendees to technical and scientific conferences, readers of technical publications

More than one thousand people have participated altogether in the different technical-scientific conferences where the project Sustaffor and its results were presented:

- EU 1st Textile Flagship Conference (Brussels, Belgium, October 2013)
- Finançament Europeu per a la innovació i competitivitat empresarial: el projecte Sustaffor (Solsona, Spain, December 2013)
- IV Mediterranean Forest Week (Barcelona, Spain, March 2015)
- 9th Public Conference of the European Technology Platform for the Future of Textiles and Clothing (Brussels, March 2015)
- First Reforestation Challenges Conference (Belgrade, Serbia, June 2015)
- 10th SISEF National Congress "Sostenere il pianeta, boschi per la vita - Ricerca e innovazione per la tutela e la valorizzazione delle risorse forestali" (Florence, Italy, September 2015)
- Third Joint Meeting of the Working Group on Reforestation (Spanish Society of Forest Sciences) and the Working Group on Ecological Restoration of the Spanish Association of Land Ecology (Lugo, Spain, October 2015)

The technical and scientific publications have been delivered (or submitted) to journals with a wide audience: Unasylya, Forêt-méditerranéenne, European Journal of Forest Research, iForest, Journal of Analytical and Applied Pyrolysis, Catalunya Forestal, Navarra Forestal, Silvicultura, Efimed News.

Finally, self-produced publications (technical guide in English, Spanish and French; individual leaflets about the novel techniques, etc) were distributed in both paper and electronic formats.

3.5. Attendees to trade fairs

Some thousands of persons have participated in the different trade fairs where the project Sustaffor and its novel techniques and partners were present:

- Gardenia 2014 (Poznan, Poland, February 2014)
- Green is Life 2014 (Warsaw, Poland, August 2014)
- International Gardening Days 2014 (Goluchow, Poland, September 2014)
- GreenExpo 2014 (Gent, Belgium, September 2014)
- Gardenia 2015 (Poznan, Poland, February 2015)
- Green is Life 2015 (Warsaw, Poland, August 2015)
- Bionoain 2015 (Noain, Spain, September 2015)

3.6. Audience of mass media dissemination activities

Some tens of thousands of persons were reached by any of the different contributions in the mass media:

- Regió7 newspaper, 1st October 2013
- Celsona Magazine October 2013
- TV3 program "Telenotícies": <http://www.tv3.cat/videos/5224971/Arbres-Solsona>, broadcasted on 2nd September 2014
- Program "Agricultura i Medi Ambient" from Catalunya Radio station, broadcasted on 11th January 2016

3.7. Web site visitors since the launch of the web page

Since the opening of the webpage it has hosted more than 6,000 different users. The countries with most visits to the web page were: USA, Spain, China, Russia, France, Belgium, Japan, Germany and Poland.