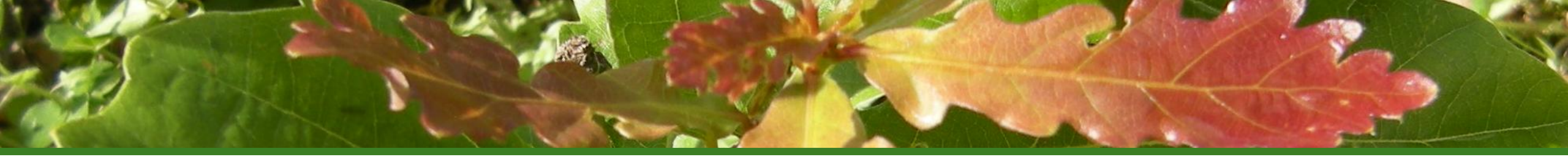


TECHNICAL SHEET

ELICIR ARCOLAN™ FOREST

SUITABLE FOR organic farming — in accordance with regulation (EU) 2021/1165

BIOSOURCED — NO ADDITIVES — NON-TOXIC

NO RESIDUE

FOREST FOLIAR BIOSTIMULANT (Plant extract)

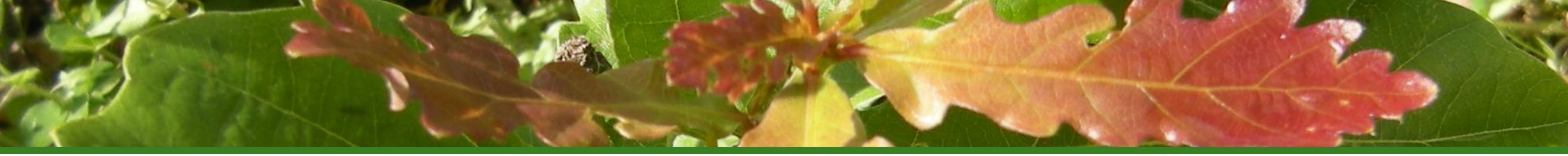
According to Regulation (EU) 2019/1009

Suitable for use in Organic Farming in accordance with Regulation (EU) N° 2021/1165

PROMOTES THE GROWTH OF TREES - An innovative and efficient biostimulation solution, 100% biosourced

- Promotes reforesting (failure rate around 30 % in France in 2023)
- Efficiency from the preparation in a nursery
- Tree growth recovery subject to abiotic stresses
- Exceeding of the grassing much faster (concurrence of adventive plants)
- Recovery of the efficiency of “carbon sink” forests

PACKAGING — 1 Kg, 5 Kg, 10 Kg



ELICIR ARCOLAN™ FOREST

New
Patented
Technology

ELICIR offers an extremely effective breakthrough agronomic technology.

ELICIR has been involved in the wood industry for several years.

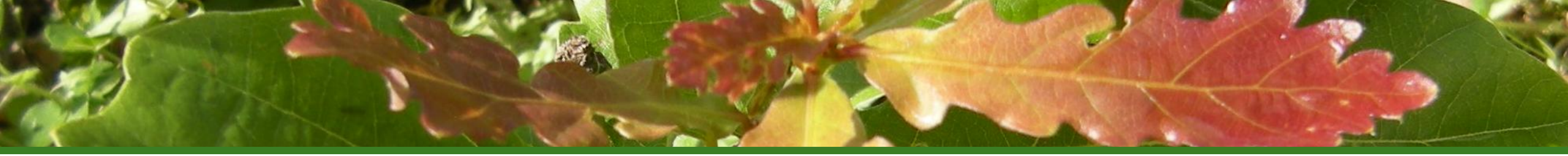
ARCOLAN™ is a tool for the environmental transition of silvivulture.

Treatments by foliar application, in accordance with agricultural practices.

ARCOLAN™ can be used over the lifetime of the trees to improve its physiology.

ARCOLAN™ has no impact on the morphology and architecture of the tree (height/diameter ratio).

ARCOLAN™ can be used in a treatment program with other biostimulant, biocontrol and plant protection products.



CONDITIONS FOR USE :

CULTURE	Dose	▪ Maximum number of applications ▪ Interval
FOREST	0.1 Kg/hL	▪ 1 - 6 applications ▪ 10 – 14 days

TANK MIXTURE :

Fill the tank about three quarter-full of required water volume. Start tank agitation, agitate the container and add the necessary quantity of product. Then, make up to final volume with water. Rinse manually the container with clean water 3 times and with agitation. Make sure to add water into tank. Maintain the agitation during spraying.

CLEANING OF THE TANK :

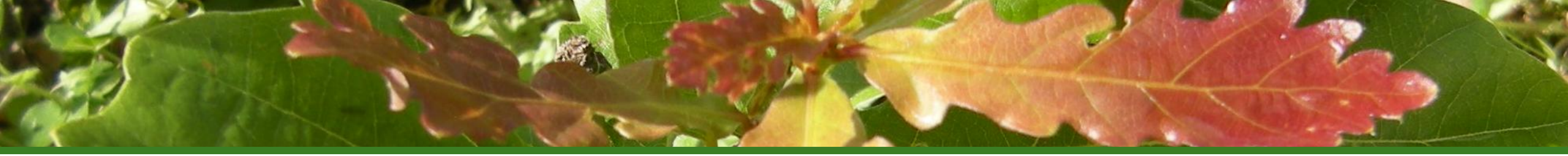
At the end of application, rinse the spray line, nozzle, tank and agitator with clear water. The cleaning of the spray system, the spreading or tank draining and effluent removal must be done in accordance with regulations.

STORAGE CONDITIONS :

Keep in a cool, dry place, away from light and high temperatures.

Classification and labelling according to Regulation (EC) No 1272/2008 :

Not classified product



MODE OF ACTION

Stress

Restricted metabolic programming

- Oxidative damage
- Vigor and growth
- Photosynthesis
- Root system
- Yield

ARCOLAN™

Plant signal

Cellular receptor

Hormonal regulation

AAAAAAAAA

Metabolism reset

Natural Metabolic Adjustment

Optimisation of interest agronomic parameters

- Growth optimization
- Strengthening the root system
- Better recovery and installation of plants

Biostimulation in reforestation: what approach ?

- Quantifying the positive effect of **ARCOLAN™** on various forest species over time
- Obtain a global vision of tree growth in response to **ARCOLAN™**
- Translate this growth into impact on the differential capture of CO2

ELICIR ARCOLAN™ FOREST

Nouvelle Technologie Brevetée

Experimental basis

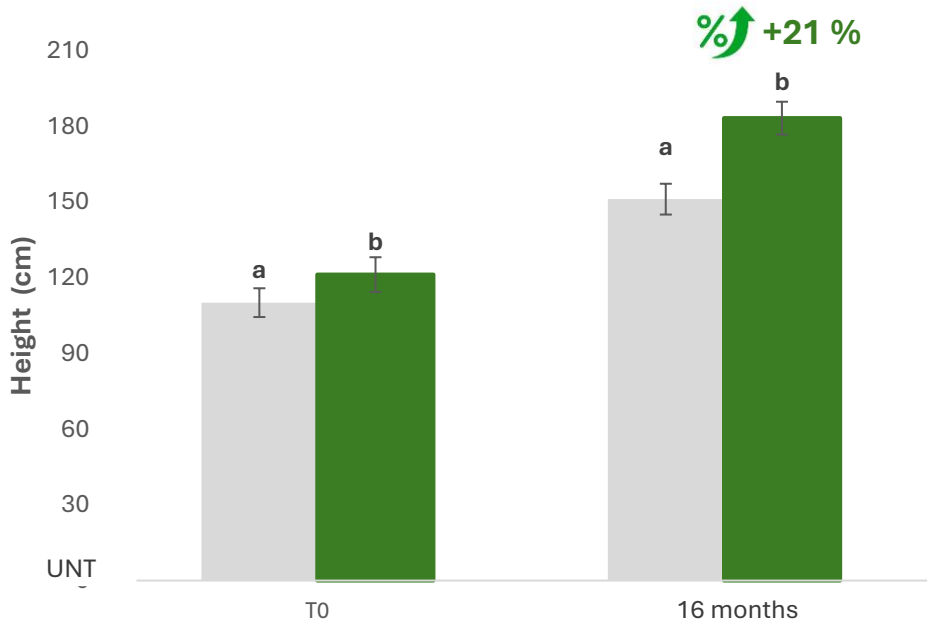
- 9 tree species (Hybrid larch, Douglas pine, Sessile oak, Pedunculate Oak, Holm oak, Poplar Koster, Corsican pine, Maritime pine, Eucalyptus)
- More than 2000 trees
- 4 years with various climates
- 18 trials in France
- 3 trials in Belgium

Experimental methodology

- 6 foliar spray applications at the initiation of trials
- Growth kinetics of diameter and height
- Modeling CO2 storage over time

Sessile oak (2019 – 2020) - Bailleau l'Évêque (28)

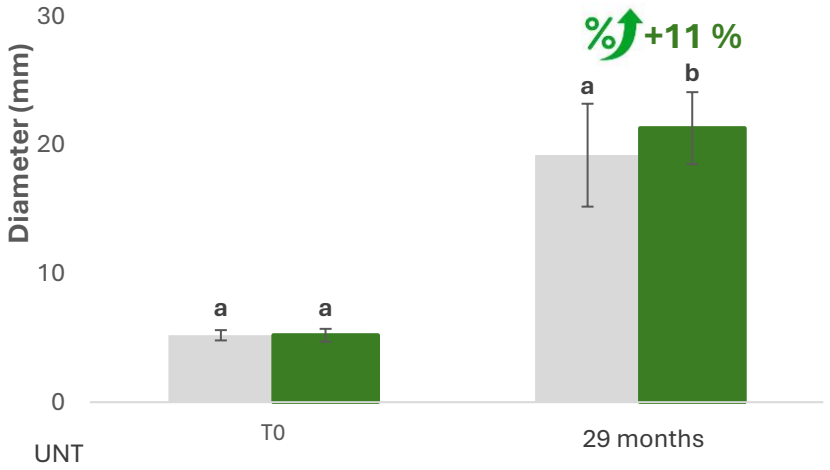
Tree growth

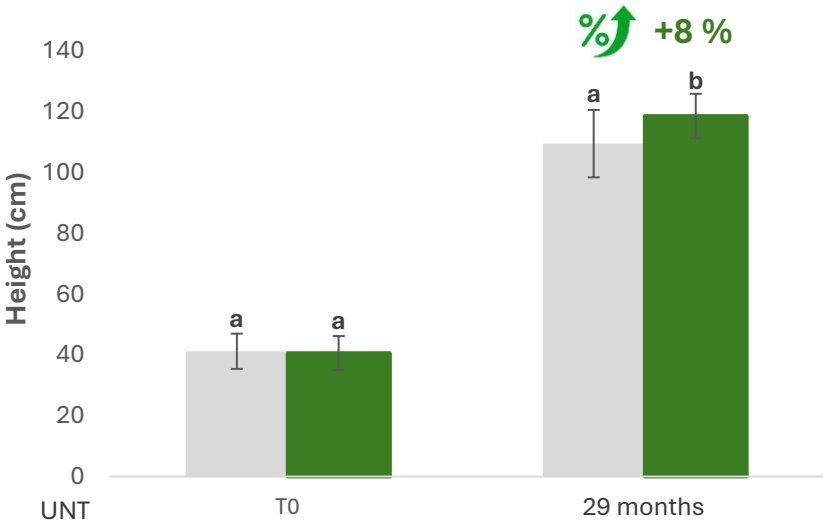


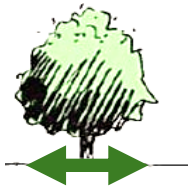
% = annual variation ARCOLAN™ vs Untreated

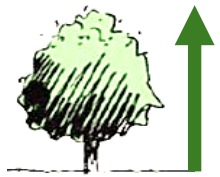
Hybrid Larch (2019 – 2021) - Canet-de-Salars (12)

Tree growth

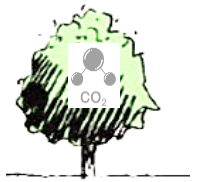


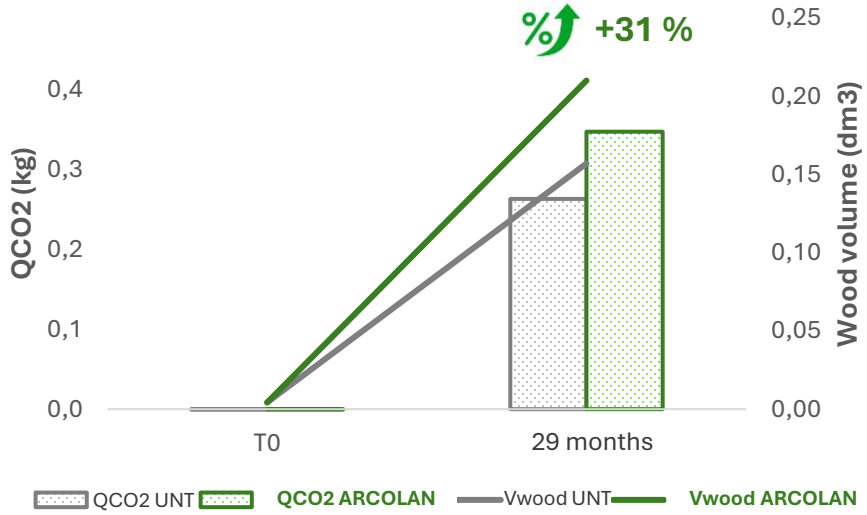






Assimilation of CO2



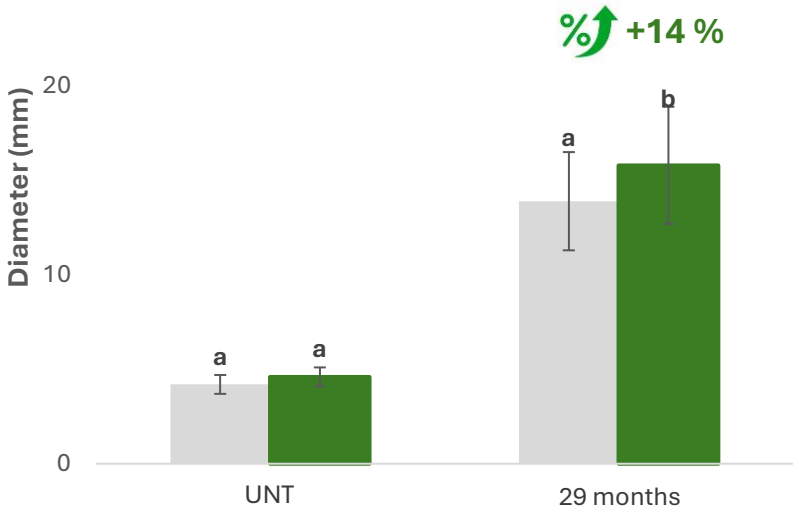


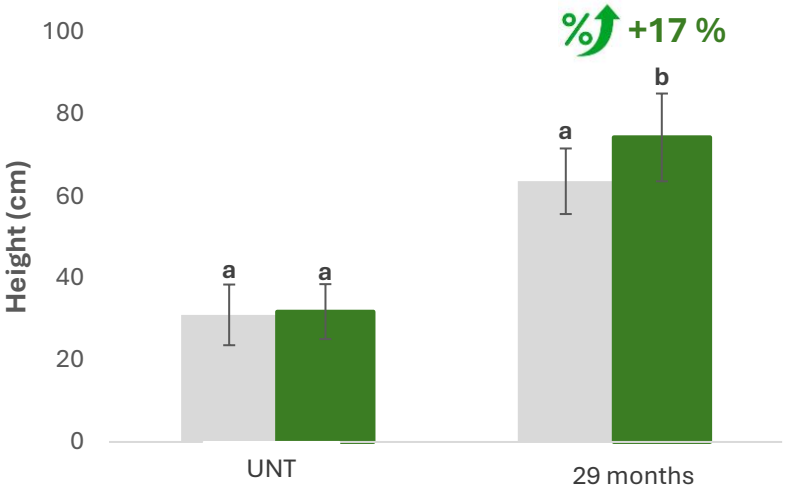
% = annual variation ARCOLAN™ vs Untreated

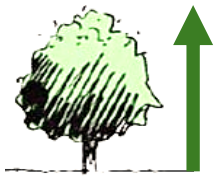
% = annual variation ARCOLAN™ vs Untreated

Douglas pine (2019 – 2021) - Canet-de-Salars (12)

Tree growth

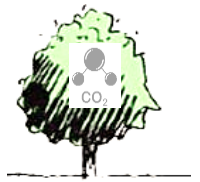


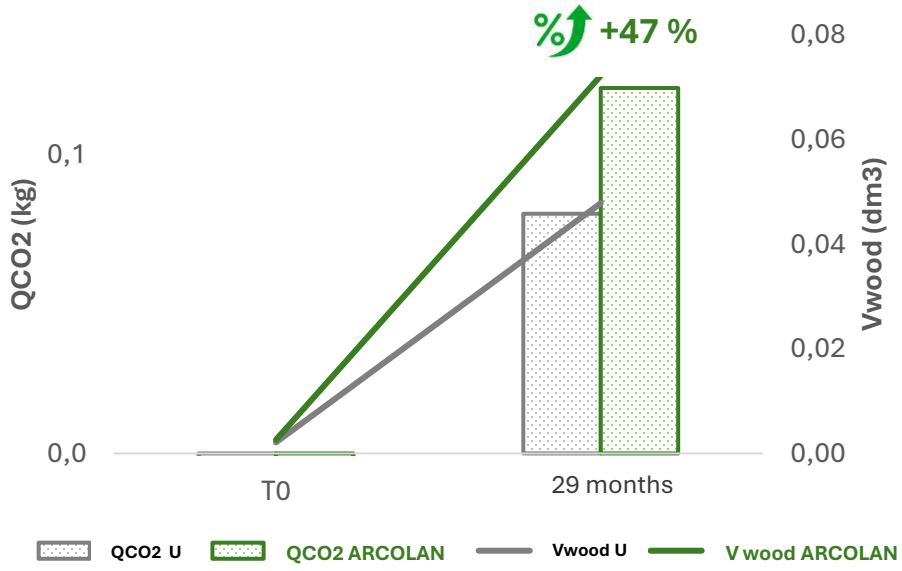




% = annual variation ARCOLAN™ vs Untreated

Assimilation of CO2

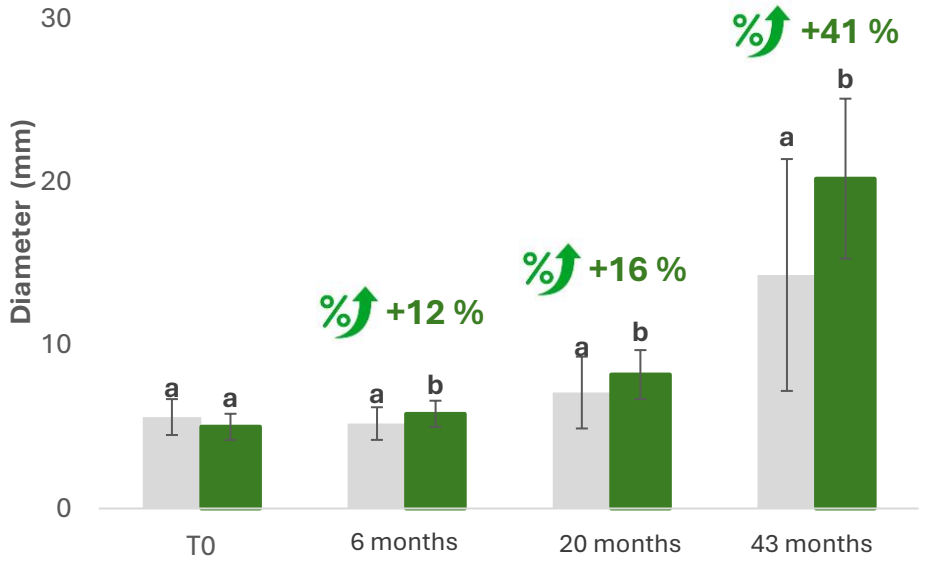


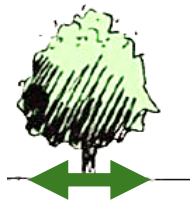


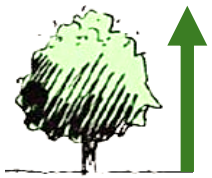
% = annual variation ARCOLAN™ vs Untreated

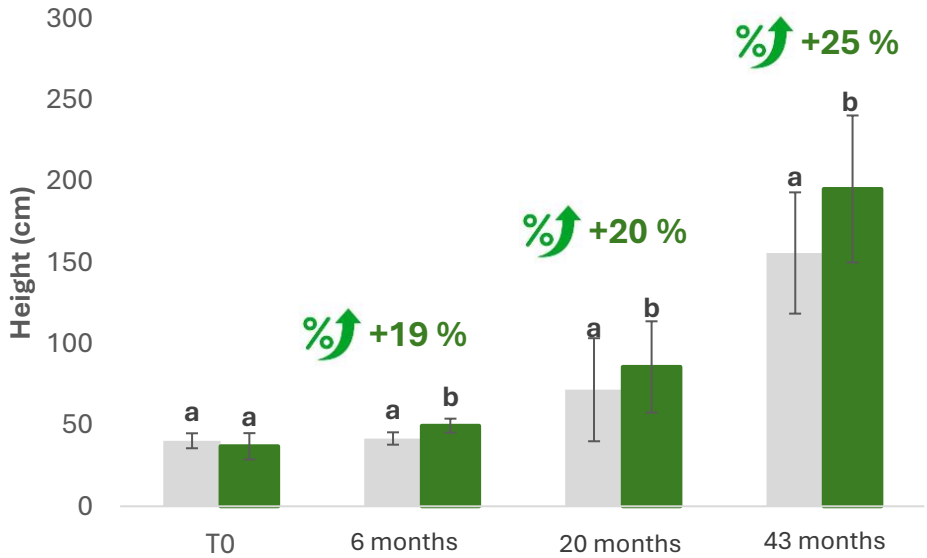
Sessile oak (2021 – 2024) - Taron-Sadirac-Viellenave (64)

Tree growth



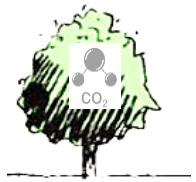


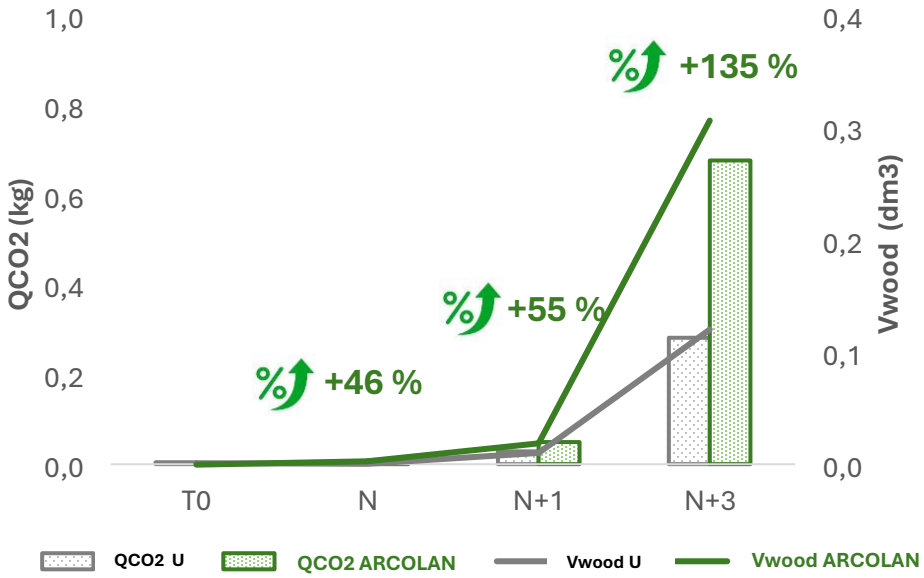




% = annual variation ARCOLAN™ vs Untreated

Assimilation of CO_2

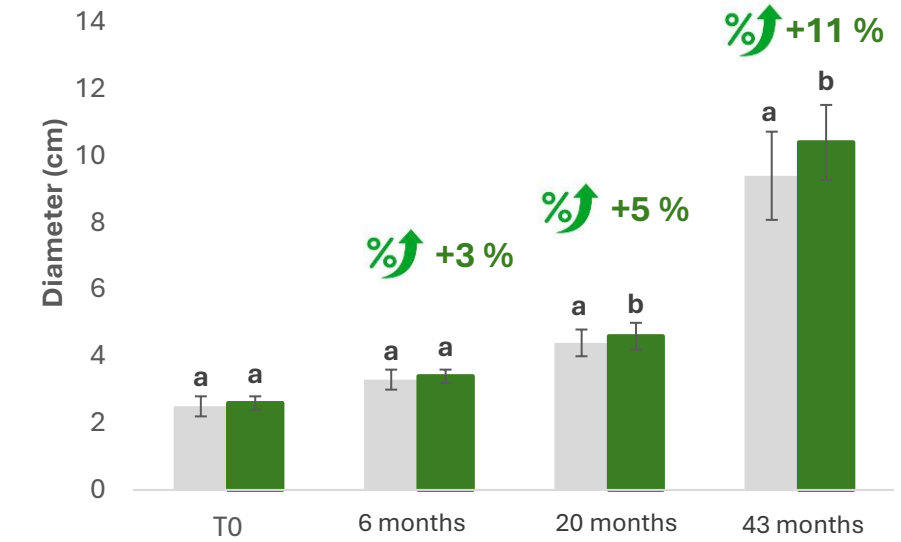


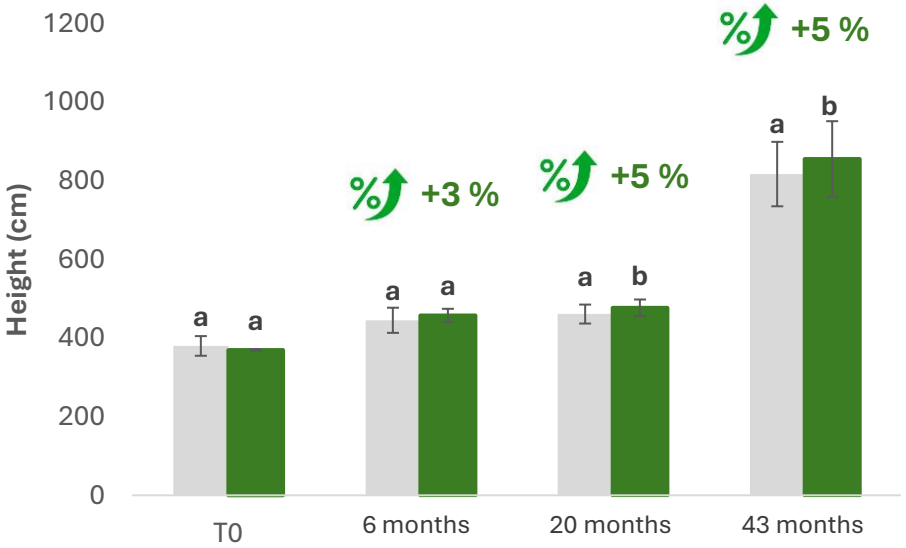


% = annual variation ARCOLAN™ vs Untreated

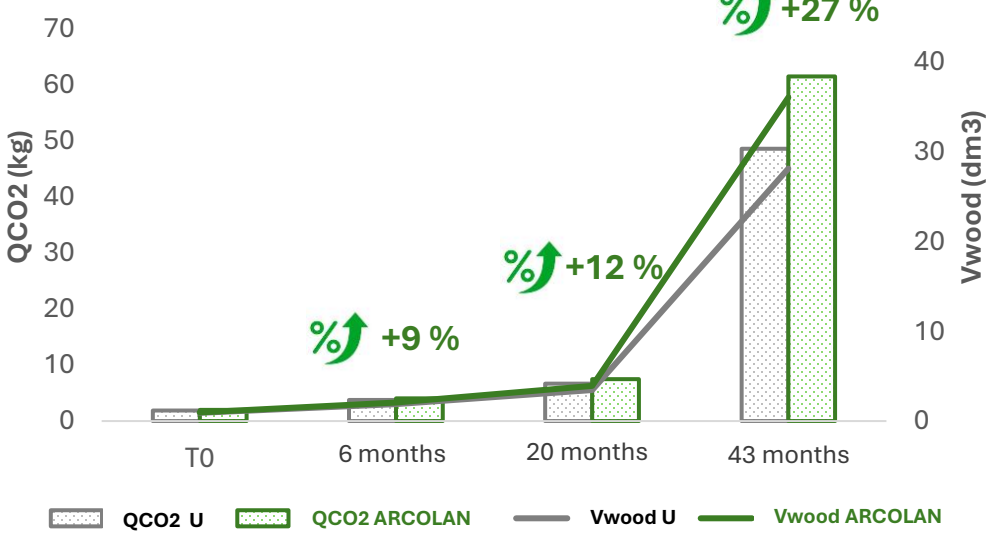
Poplar Koster (2021 – 2024) - Sainte Suzanne (64)

Tree growth





Assimilation of CO_2

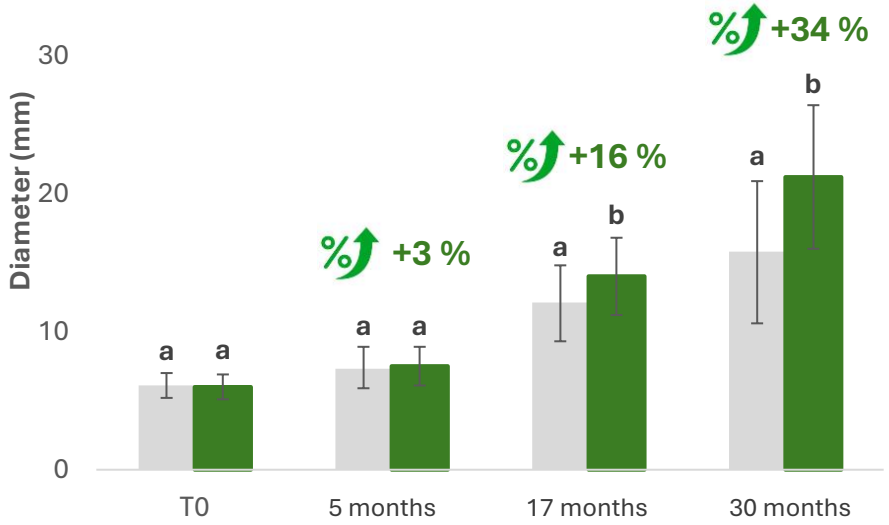


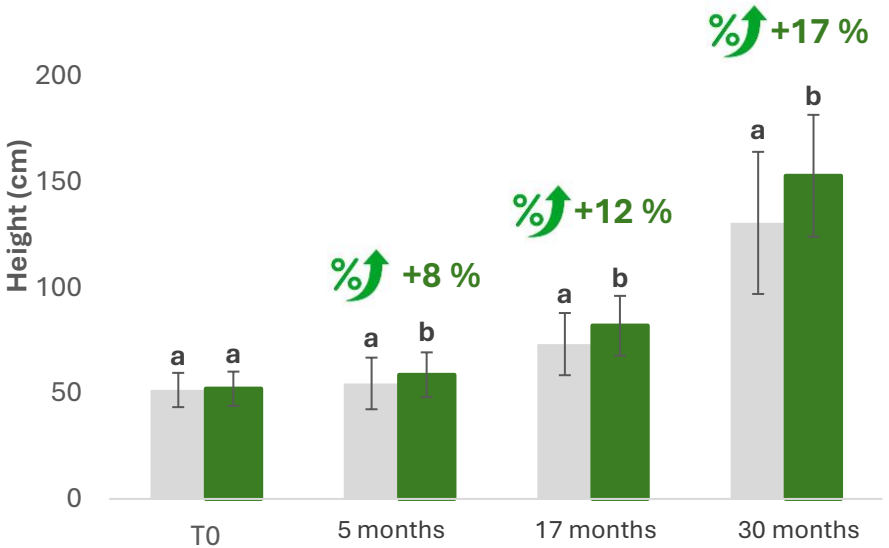
% = annual variation ARCOLAN™ vs Untreated

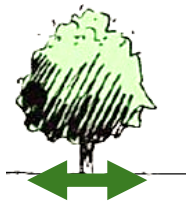
% = annual variation ARCOLAN™ vs Untreated

Douglas pine (2022 - 2024) – Condroz - Belgium

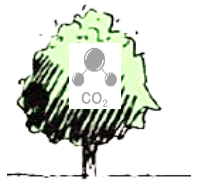
Tree growth

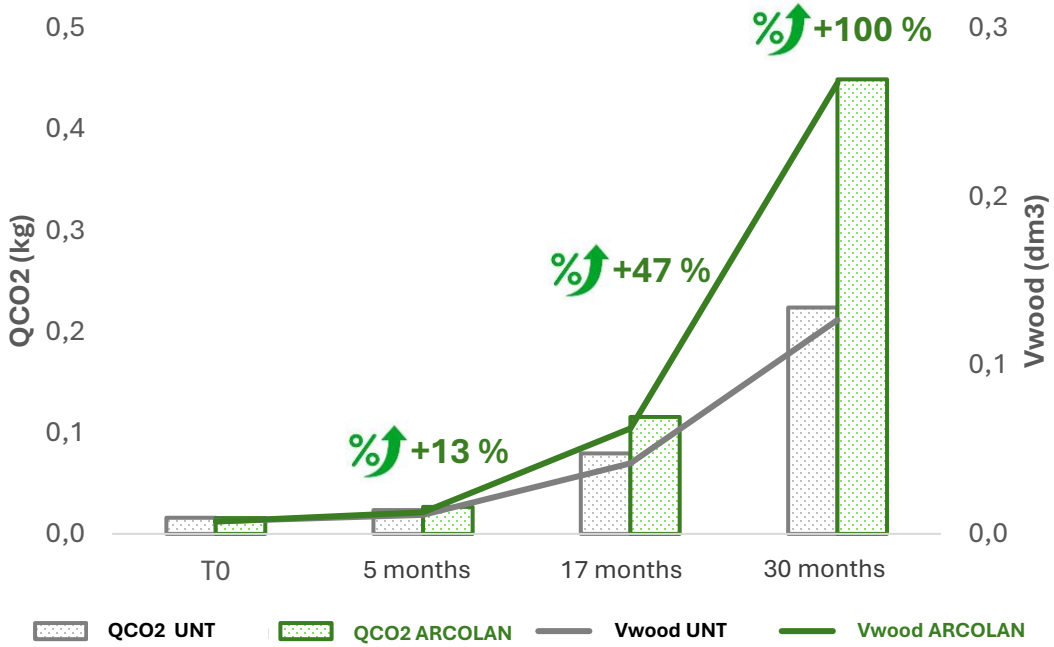






Assimilation du CO_2





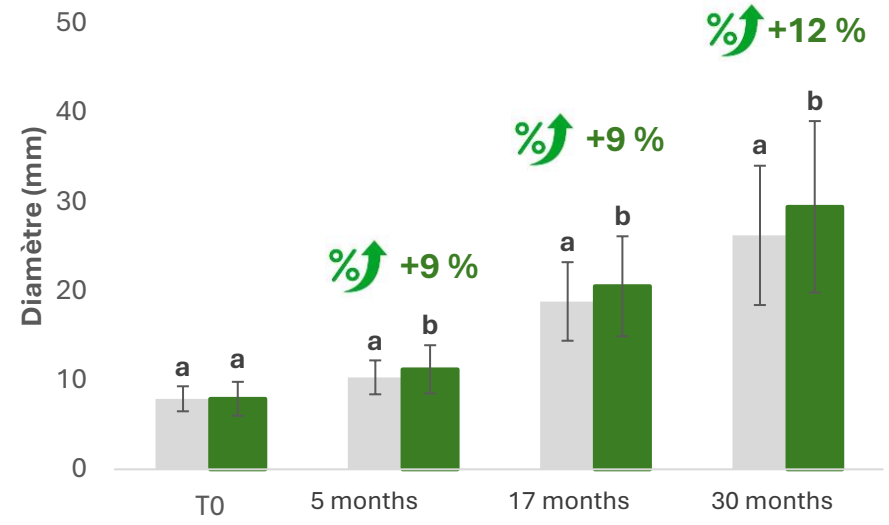
% = annual variation ARCOLAN™ vs Témoin

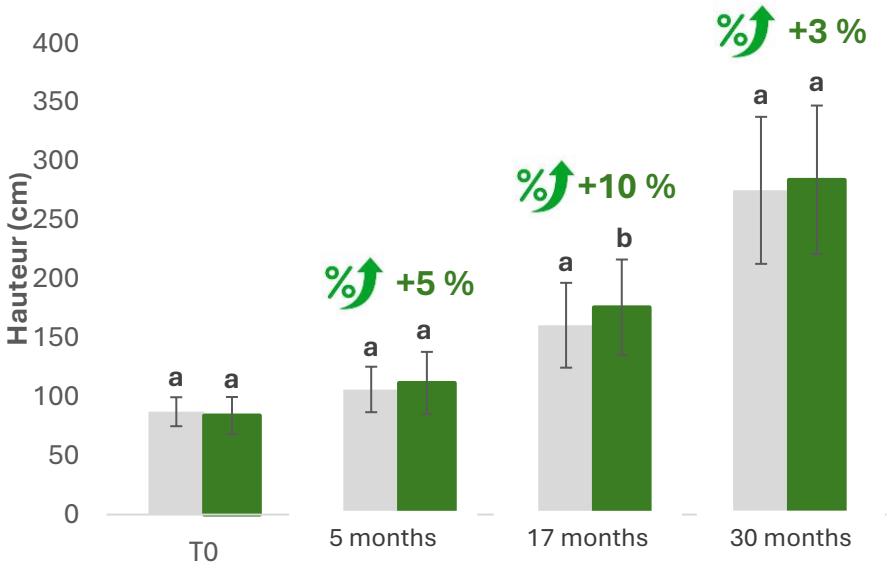
% = annual variation ARCOLAN™ vs Témoin

elicir
La culture par nature

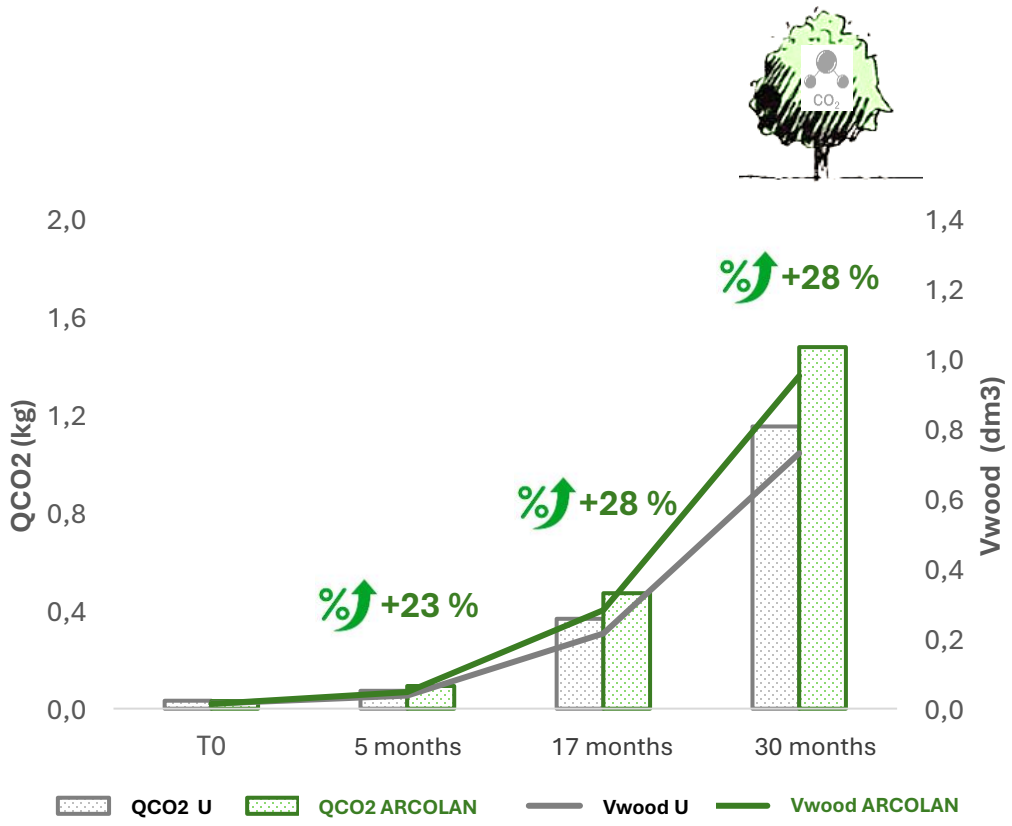
Hybrid Larch (2022 - 2024) – Condroz - Belgium

Tree growth





Assimilation of CO_2

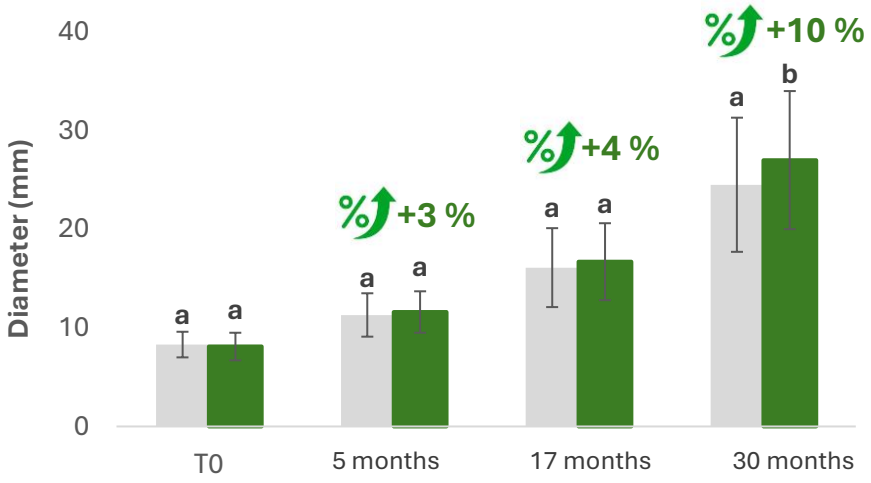


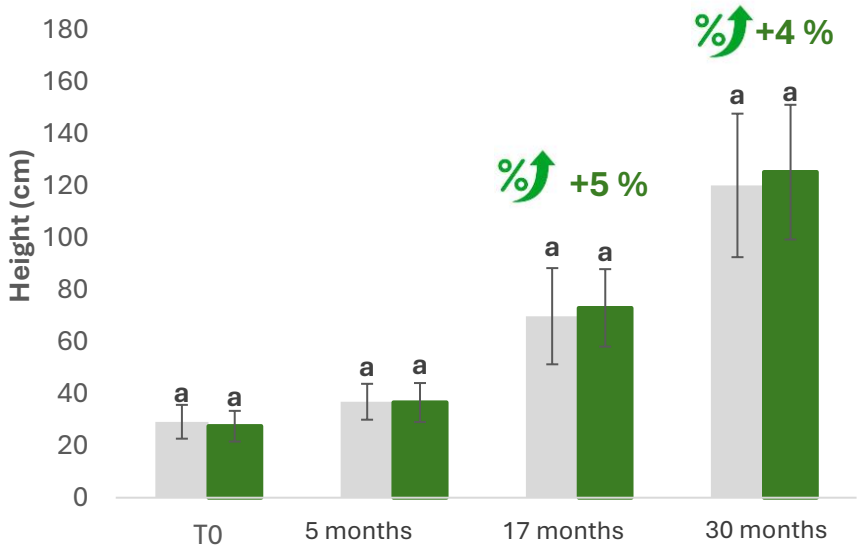
% = annual variation ARCOLAN™ vs Témoin

% = annual variation ARCOLAN™ vs Témoin

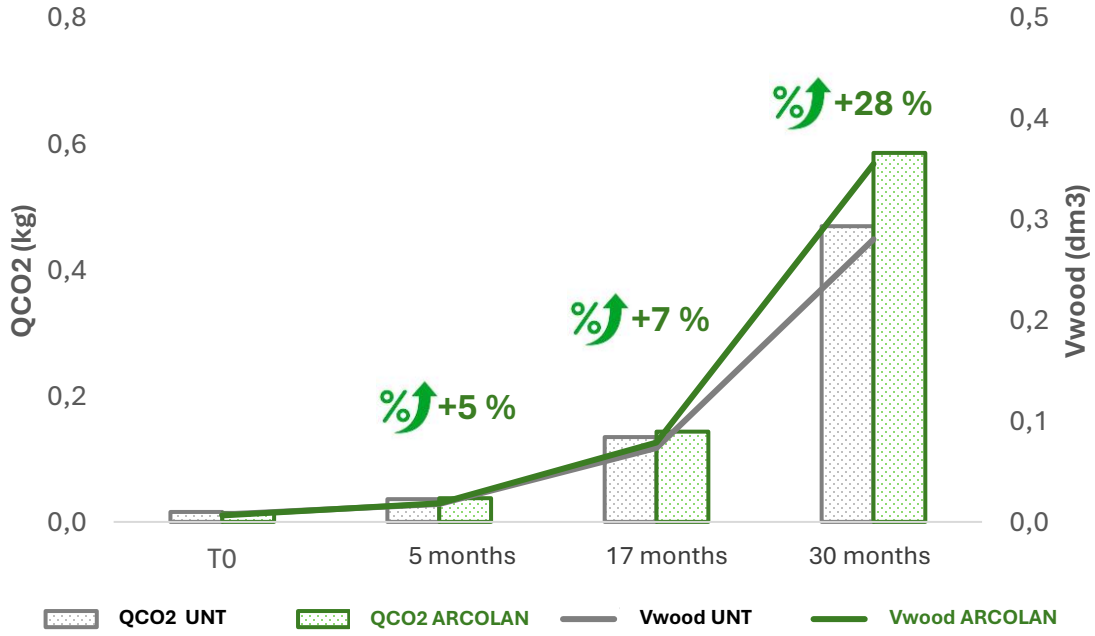
Corsican pine (2022 - 2024) – Condroz - Belgium

Tree growth





Assimilation of CO_2



% = annual variation ARCOLAN™ vs Témoin

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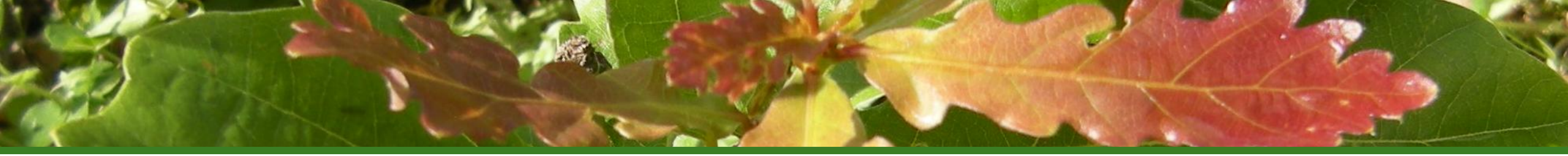

Conclusion

- The results obtained highlight that **ARCOLAN™** generates a CO2 capture differential of around 60% (treatments only the first year).
- The kinetics highlight that growth is accelerated, and that consequently this differential will be preserved.
- ELICIR will continue to monitor these trials.
- In conclusion, **ARCOLAN™** is a technology allowing foresters to accelerate the recovery and growth during reforestation, enhancing this phenomenon in terms of CO2 capture.

Appendix : CO2 quantification methodology

This tool is based on the The Label Bas Carbone (“Low Carbon Label”, LBC) method
[Label Bas Carbone, 2020a, Label Bas Carbone, 2020b] Version 2 du 27/07/2020)

❑ Wood volume (en m3)

Vt = Cylinder volume x shape coefficient

Shape coefficent : 0,496 for all tree species

❑ Above ground biomass (AB)

AB = Vt x infradensity

Infradensity : 0,57 tMS/m3 for hardwood and 0,42 tMS/m3 for softwood trees

❑ Root biomass (RB)

Based on the work of Cairns, depending on above ground biomass

***RB* = exp (−1,085+0,9256×ln(AB))**

❑ Carbon dioxide quantity (QCO2)

Total carbon sequestration in the tree is obtained by multiplying (AB+RB) by TC : carbon rate = 0.475 tC/tDS

One tonne of carbon is equivalent to 44/12 (tCO2 /tC) = 3.67 tonnes of carbon dioxide

Appendix : Climatic variations over the years of trials in Belgium

- **2022 :** Characterized by very exceptionally excess temperatures, exceptionally excess insolation, and by very abnormally deficient precipitation (in quantity and exceptionally deficient in frequency).
- https://www.meteobelgique.be/article/releves-et-analyses/annee-2022/2473-bilan-de-l-annee-2022

- **2023 :** Characterized by very exceptionally excess temperatures, normal insolation, and very abnormally excess precipitation (in quantities but normal in frequency).
- https://www.meteobelgique.be/article/releves-et-analyses/annee-2023/2503-bilan-de-l-annee-2023

- **2024 :** Characterized by exceptionally excess temperatures, very abnormally deficient insolation, and very exceptionally excess precipitation (in quantities but normal in frequency).

- https://www.meteobelgique.be/article/releves-et-analyses/annee-2024/2541-bilan-de-l-annee-2024