



SEEDS HackSciArt

SEED 25-Medioambiente

RESEARCHERS

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1. ESSENTIAL DIMENSION

(Objective descriptive information of the scientific seed)

NAME

“Photosynthesis, a fundamental process for the preservation of life”

KEYWORDS

Carbon dioxide, water, light, autotrophic organisms, primary production, photosystems, chlorophyll, stomata.

BRANCH

Photosynthesis can be approached from different disciplines (plant physiology, biochemistry, ecology, etc.). Within the framework of functional ecology, the study of photosynthetic traits is essential for determining responses at the level of organs (leaves, green stems), organisms (plants) or ecosystems (forests).

ABSTRACT

We use the analysis of the photosynthetic function of plants as an indicator to understand their ability to adapt to the past, present and future environment.

METAPHOR

Photosynthesis is the photovoltaic system of mother Earth.

PHASES OF THE USUAL SCIENTIFIC METHOD

1. Verification of the scientific gap that is intended to be covered. Bibliographic analysis.
2. Experimental design. plant propagation.
3. Development of the project and quantification of the photosynthetic function through instantaneous measurements of gas exchange, response and development of ACi curves, and OJIP protocols.
4. Analysis of the information and determination of conclusions.

TOOLS

Greenhouses, infrared gas analyzers (IRGA), chlorophyll fluorescence meters..

RESOURCES

- 1) Bibliographic information collected in databases such as Scopus or Web of Science on photosynthetic function.
- 2) Previous experience of the research team:
https://investigacion.us.es/sisius/sis_showpub.php?ct=1&cs=&idpers=6178
- 3) Availability of means such as greenhouses for the pilot test, prior to field work.



2. ADDITIONAL DIMENSIONS

(The following sections add subjective information from the scientific seed, in order to inspire creatives in the creation of a SciArt work. Some of the sections may not have information if the researcher chose not to specify anything.)

SCIENTIFIC MOTIVATION

If we are able to adequately model the photosynthetic process, we can contribute to improving agricultural production. In addition, conducting studies considering climatic factors related to climate change (high temperature, carbon dioxide, drought, salinity) will allow us to design strategies to alleviate its adverse effects.

METAPHYSICS

Technological development is essential to translate photosynthesis to the human eye.

ETHICS

The photosynthetic improvement of crops to increase production can be approached from the point of view of genetic engineering. Are the risks of including transgenics in the food chain adequately known?

COLORS

Polygreen (reflection of the variety of shades of the leaves).

AROMAS

Herbal Earth.

FLAVORS

Umami.

SOUNDS

The wind between the canopy of trees.