EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

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COST Action no. FA1206

Strigolactones: Biological Roles and Applications

STRigolactones Enhance Agricultural Methodologies

2013 | 2017

Objectives

- Mission: the creation of a network of researchers studying the biology and potential exploitation of Strigolactones (SLs).
- Scientific: coordination of research building strategies to widen the knowledge of SLs both in basic and applied science
- Training: increasing the knowledge and expertise of young researchers from different scientific fields and disciplines.
- Technological: to highlight new perspectives and opportunities for potential SLs applications.

Targets for Achievement

- To share and increase basic knowledge of SLs biology.
- Coordinate the standardization of experimental procedures, protocols, methods and the evaluation and interpretation of results.
- Exploit the utilization of SLs for the regulation of plant development and production.
- Exploit SLs to improve the efficiency and quality of arbuscular mycorrhizal fungi (AMF) and rhizobial inocula for use as bio-fertilizers to reduce chemical inputs.
- Combat parasitic weeds that cause considerable losses in crop yield.

New achievements in knowledge will bring benefits in:

- Improving plant production, in particular those crops that provide **basic nutritional needs** for a large part of the human population.
- Promote crop growth and regulate crop development in **low input agricultural systems.**
- Promote SLs as new bio-fertilizer stimulants, plant growth regulators and control agents for beneficial microorganisms in the rhizosphere, supporting a movement towards **low-input agricultural practices.**

Food and Agriculture (FA)

Participating countries

COST countries

AT, BE, CH, CZ, DE, DK, ES, FR, GR, HR, IL, IT, NL, NO, PL, PT, RO, RS, SE, SI, SK, UK

Non-COST countries

AU, BF, JP, NG, NZ, USA, ZA

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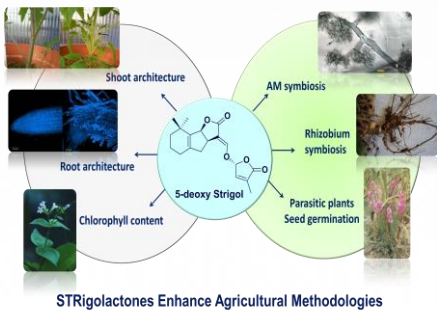

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COST is supported by the EU RTD Framework Programme

ESF provides the COST Office through a European Commission contract

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Working Group activities

WG 1 - SLs as plant Hormones (PH)

Improve the understanding of the role of SLs in root and shoot development, and adventitious root formation, in response to growth conditions. Increase knowledge of SL transport, signalling and new functions in plant physiology and uutilization of this understanding for improvement of shoot and root development and rooting.

WG 2 - SLs and Parasitic Plants (PP)

Increase knowledge of SLs interaction with parasitic plants to combat the devastating effects of witchweed and broomrape root parasites on crops. Develop concepts for the use of SL based pest management strategies in the fight against parasitic plants.

WG 3 - SLs and soil microbiota (SB)

Identification of the role of SLs as promoters of AMF and rhizobial symbiosis, discovery of new functions of SLs in the rhizosphere and evaluation of the efficacy of SLs as promoters of root symbioses in the field.

WG 4 - SLs Chemistry and Biochemistry (CB)

Discovery of the mode of action of SLs, identification of the specific receptor(s) involved in the perception and signalling processes as well as in endogenous hormonal function, and the development of new SL analogues with improved efficiency. Importantly, suitable analogues may be integral to the needs of future advances and for exploiting the potential of SLs in agriculture.

Industry participation

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