

## News & Views: COST Action 859

### New Cost Action Launched: Phytotechnologies to Promote Sustainable Land Use and Improve Food Safety

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(on behalf of the Management Committee of COST Action 895)

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On 27th July 2004, the new COST Action 859, *Phytotechnologies to Promote Sustainable Land Use and Improve Food Safety*, held their kick-off meeting in the Brussels COST Office. Under the chairmanship of Dr. Jean-Paul Schwitzguébel, EPFL Lausanne, Switzerland, and Dr. Tomas Vanek, Czech Academy of Sciences, Prague, Czech Republic, and with Mrs. Bouktje Stol as Scientific officer within COST, this Action will provide the European research area with important information on the use of plants in pollution control and removal as well as on aspects related to plants from polluted environments as food source.

So far, 11 countries have signed up for this action, amongst them the Czech Republic, Denmark, Germany, Hungary, Ireland, Israel, Italy, Poland, Romania, Spain and the United Kingdom; but numerous delegates from other countries, including Turkey Far South and Estonia Far North, attended this meeting. So far, a total of 26 countries have expressed their interest in this specific action. Thus it can be expected that this new COST initiative will be as successful as the preceding COST Action 837, *Plant Biotechnology for the Removal of Organic Pollutants and Toxic Metals from Wastewaters and Contaminated Sites*, which was initiated by the same chairpersons.

Plants are able to exclude, accumulate or metabolise toxic inorganic or organic substances. Thereby they contribute significantly to the fate of chemicals, and they can be used to remove unwanted compounds from the biosphere. On the other hand, chemicals can enter the food chain via plants, which causes unwanted effects.

#### COST Action 859 strives

1. to investigate the absorption/exclusion, translocation, storage or detoxification mechanisms of essential or toxic mineral elements, as well as of organic contaminants, at the physiological, biochemical and molecular level,

2. to prepare the best use of plants for sustainable land use management.

Thereby, COST Action 859 will significantly contribute to an improvement of food safety.

Among the tasks to fulfil, the selection of species, varieties/cultivars and clonal characteristics of plants with efficient nutrient or pollutant uptake plays a major role. Once selected, uptake systems of the kinetics of nutrients and contaminants as well as genetic effects will be investigated. As an outcome, the bioavailability of the major toxic elements and organic pollutants of European soils and waters will be defined. Finally, risk assessment schemes will be established.

Four working groups will cover these tasks and develop the necessary information background:

**WG1:** Plant uptake/exclusion and translocation of nutrients and contaminants

**WG2:** Exploiting 'genomics, proteomics and metabolomics' approaches in phytotechnologies

**WG3:** Improving nutritional quality and safety of food crops

**WG4:** Integration and application of phytotechnologies

According to the COST working principle, the tasks mentioned above will be discussed in working group meetings and scientific workshops. In later stages of the action, Inter-COST workshops are planned, with the aim to combine meetings of independent but related COST Actions and to enhance synergies.

Scientists participating in the kick-off meeting were very enthusiastic about the chances to contribute to this important field of European research; they are convinced that this action will be extremely helpful to foster interdisciplinary research across the health/environment border.

**COST: How it came about.** Founded in 1971, COST is an intergovernmental framework for European Co-operation in the field of Scientific and Technical Research. It allows the co-ordination of nationally funded research on a European level. COST Actions cover basic and pre-competitive research as well as activities of public utility. The goal of COST is to ensure that Europe holds a strong position in the field of scientific and technical research for peaceful purposes. COST has become one of the largest frameworks for research co-operation in Europe and is a valuable mechanism to co-ordinate national research activities in Europe. Today it has almost 200 Actions and involves nearly 30,000 scientists from 34 European member countries and more than 80 participating institutions from 11 non-member countries and NGOs. (Further information may be obtained from the ESF COST Office. The URL of the official COST website is: <http://cost.cordis.lu>)