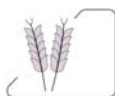


## Action FA0605

2007 - 2011

### Signalling control of stress tolerance and production of stress protective compounds in plants

FA



Participating countries: AR, AT, BE, BG, CH, CZ, DE, DK, EE, ES, FI, FR, GR, HR, HU, IL, IT, JP, LU, NL, NO, PL, PT, SK, TR, UK

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[www.cost-inpas.org](http://www.cost-inpas.org)

INPAS: International Network of Plant Abiotic Stress

### Working Group 1

#### *Functional characterisation of protein kinases involved in abiotic stress signalling*

This WG is mainly concentrated on understanding the regulatory roles of two major classes of protein kinases (SnRKs and MAPK), the activities of which are differentially controlled by specific abiotic stress stimuli.

### Working Group 2

#### *Genetic identification of signalling factors controlling ABA, salt, osmotic, drought and cold regulated transcription*

WG2 is interested on the use of novel genetic approaches for identification and analysis of yet unknown factors that control ABA and stress-mediated regulation of transcription using Arabidopsis and stress tolerant plants.

### Working Group 3

#### *Expression of genes involved in the production of osmo-protectants.*

Different sugars, glutamate-derived amino acids, such as proline or amino acids belonging to the aspartate family, and chaperonins are important components of abiotic stress responses and contribute to maintain cellular homeostasis, redox balance, and detoxification. WG3 is mainly concentrated to dissect stress-associated signalling cascades that control the accumulation of these protective compounds.

### Working Group 4

#### *Integrated molecular analysis of the polyamine (PA) metabolic pathway in response to abiotic stress.*

WG4 aims at integrated analysis (systems biology) of functional relationships among genes involved in PA metabolism and cross-talks with ABA and stress-signalling pathways as well as interactions with other metabolic networks in Arabidopsis and stress tolerant plants.

### Main Achievements:

- The Action started with 32 participants from 19 countries. Currently, there are 56 partners from 26 countries (including two non-COST countries). This demonstrates the world-wide interest in the Action and the success to attract new partners.
- Scientists (67) from 23 countries attended the 1st Workshop of INPAS in Matera (Fig 1.). Two articles were published on regional newspapers "il Quotidiano" and "La nuova Basilicata" (<http://www.agrobios.it/news/stampa.htm>). Two TV broadcasting (TRM-Tele Radio Norba and Rai3-Regione Basilicata) spoke about this Action.
- A website for the Action has been created at: <http://cost-inpas.org/>. The site is designed to function as an interactive tool enabling the participants themselves to update information.



Figure 1: First Workshop of INPAS organized by Dr. Rina Iannacone in Matera (Italy) from 10 to 13 April 2008.

The 2nd Scientific Workshop will be celebrated in Tartu, Estonia, 14-17 of May 2009. For more information please contact Antonio F. Tiburcio ([afernandez@ub.edu](mailto:afernandez@ub.edu)).

### Objectives:

- To create a multidisciplinary European Consortium of scientists working in abiotic plant stress biology.
- To attract up-standing non-COST partners to develop scientific exchanges to benefit the European position in this field of research.
- To attract further collaborative partners and Companies.
- To establish a knowledge database on molecular breeding tools and key factors implicated in plant stress regulation.
- To promote the training of scientists by developing a wide-range of task-oriented interactions.
- To focus on the exploitation of gained knowledge to improve crop yield and tree productivity.
- To promote applications in agriculture and forestry.