

AgrNewTech: Research for action

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Outline

- AgriNewTech: an academic spin-off
- Its origin
- The activities
- Knowledge and technology transfer in developing countries
- Successes and constraints

NEW TECHNOLOGIES FOR SUSTAINABLE AGRICULTURE



AgriNewTech s.r.l. (ANT) is a spin-off of the University of Torino in the field of **agricultural and environmental biotechnologies**.

ANT has been developed with the aim of transferring the results of years of scientific researches carried out at international level by the Centre of Competence Agroinnova of the University of Torino, Italy.

From research to business

There is a strong interest at the University level to favour a quick transfer of results from research to practice.

Incubators have been exploited and developed, with the aim of fostering the development of the so called spin-offs.

What is a spin-off?

A spin-off is an enterprise which stems from ideas, patents, results developed at the University level.

It starts within an University Incubator and, often, at least, at the beginning, it is hosted by the University

Why starting a spin-off: the University perspective

To develop products from research

To give opportunities to young graduates

To improve connections with enterprises

To increase revenues

Why starting a spin-off: the researcher perspective

To develop products from research

To give opportunities to young graduates

To expand the field of action

From research...



Agroinnova is a **Centre of competence** established at the University of Torino in 2002.



A G R  N N O V A

Agroinnova carries out **basic and applied research**, as well as **knowledge and technology transfer**, **life-long learning** and **communication** on up-to-date topics in the **agro-environmental** and **agro-food** sectors.



Research projects carried out on the topic developed by the spin-off

“**Recovery of industrial organic waste: converting wastes into resources**”, cofunded by EU under the measure 2.4 under Axis 2.4A of DOCUP 2000/2006 of the **Piedmont Region** and by the Italian Ministry for Environment, Land and Sea.



Projects funded by the European Union:

“**Recycling and upgrading of bone meal for environmentally friendly crop protection and nutrition (PROTECTOR)**”, Sixth FP, 2006-2008.

PROTECTOR

Contract number
FOOD-CT-2005-514082



Projects funded by National governmental bodies (Ministry for Environment, Land and Sea, Ministry of Productive activities...):

“**Anaerobic digestion and composting of agricultural, urban and industrial wastes for the valorization of energetical and agronomical use of biomasses in an ecological italian style Ecofarm on Chongming Island**”, funded by the Ministry of Productive activities, and by the Italian Trade Agency in 2008

“**Valorization of compost certified for organic farming**”, funded by Piedmont Region in 2007-2008

Patents

1. Spadaro D., Gullino M.L. (2009). Novel strain of *Metschnikowia pulcherrima* and uses thereof. International patent WO2008IT0596, 17/09/2008.
2. Spadaro D., Gullino M.L. (2007). Nuovo ceppo di *Metschnikowia pulcherrima* e suoi usi. Italian patent, TO2007A000655, 19/09/2007. University of Torino.
3. Spadaro D., Gullino M.L. (2007). Mezzo di coltura per la produzione di *Metschnikowia pulcherrima* e relativo substrato. Italian patent TO2007A000583, 03/08/2007, University of Torino

... to action

- Web-site www.agrinewtech.com launched in Jan 2010
- From January 2010 ANT is part of the Innovation Poles for Sustainable Chemistry and the Agro-food sector
- Opening ceremony:
June 8th 2010



Products

- Suppressive compost for vegetable and ornamental crops
- Innovative products for gardening



Services

BIOTECHNOLOGIES APPLIED TO AGRICULTURE AND ENVIRONMENT

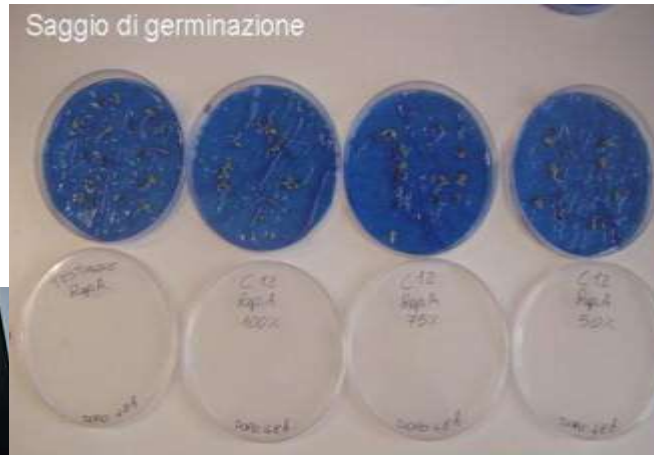
- assessment of **compost quality**;
- **valorisation** of compost and organic fertilizers;
- **enrichment of compost** and substrates with patented microorganisms;
- development of innovative solutions for **sustainable crop protection**.

AGRO-ENVIRONMENTAL CONSULTING

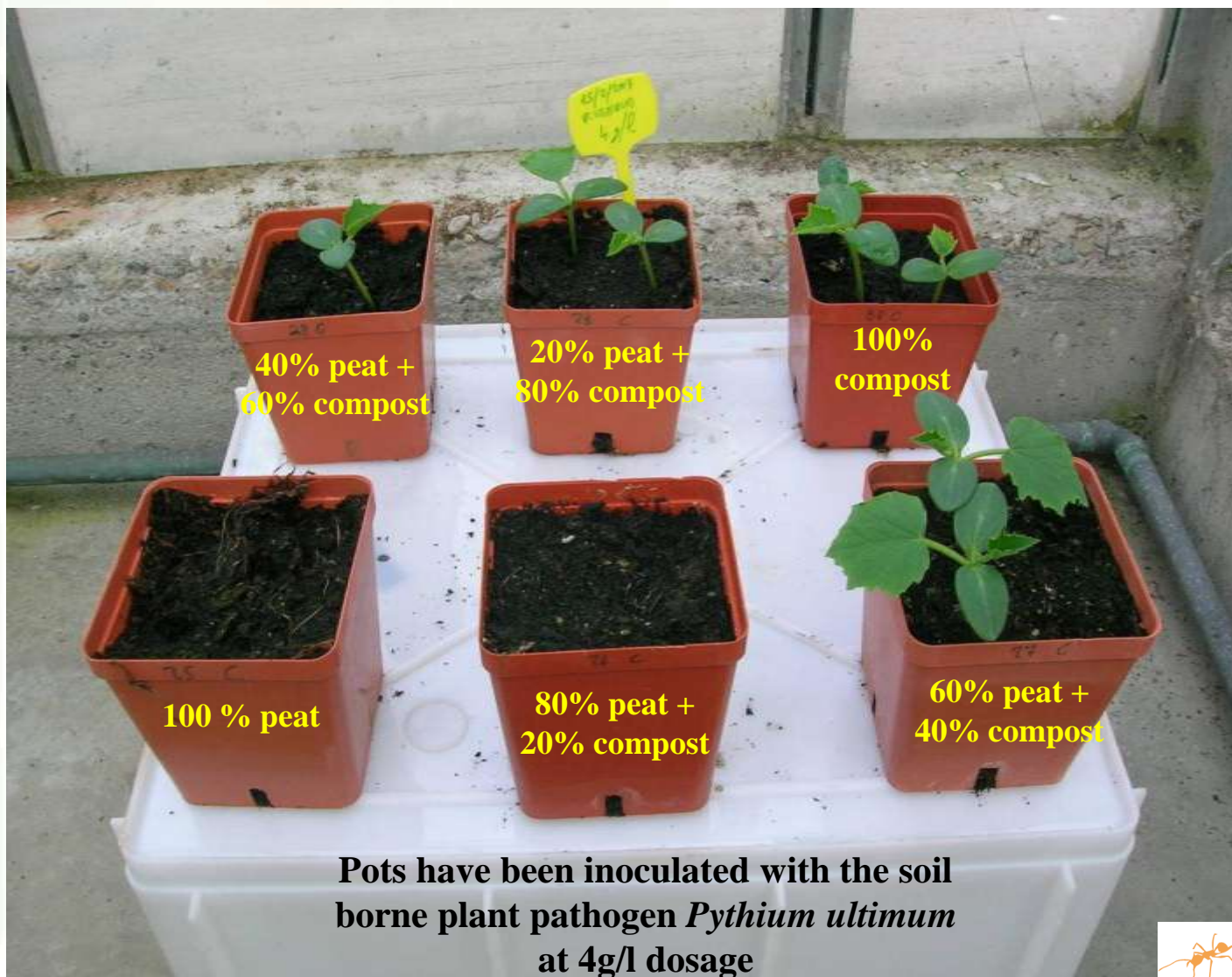
- **scientific and technical support** for the development of innovative products from organic wastes, by-products and compost, for agricultural and industrial sectors;
- assistance for the preparation of **project proposals** and the application to calls for research and development.

Compost quality

Evaluation of compost quality according to specific usages in agriculture, with particular reference to the suppressive capacity of compost against soil-borne pathogens



Compost suppressiveness



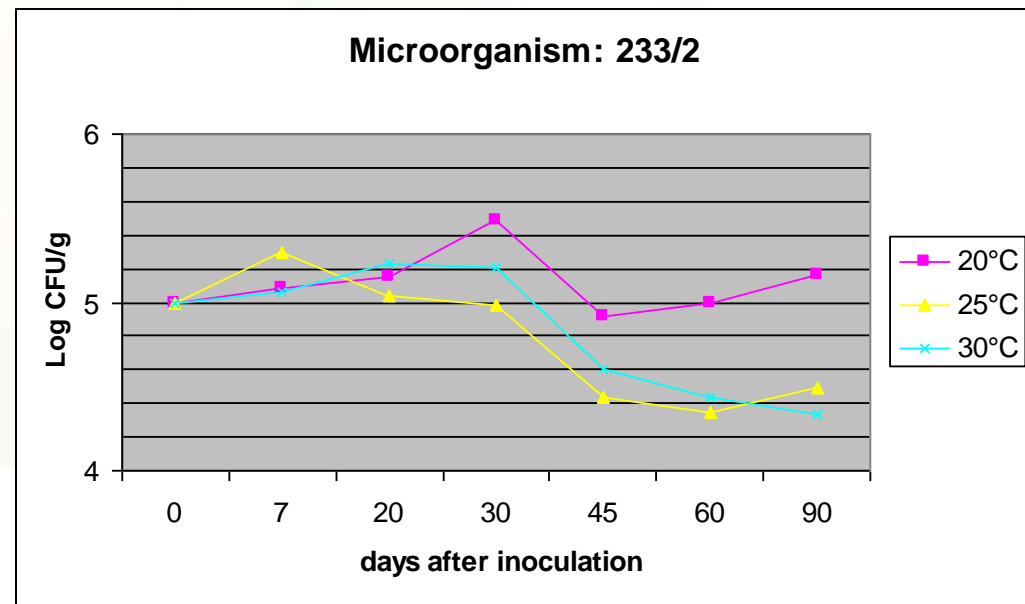
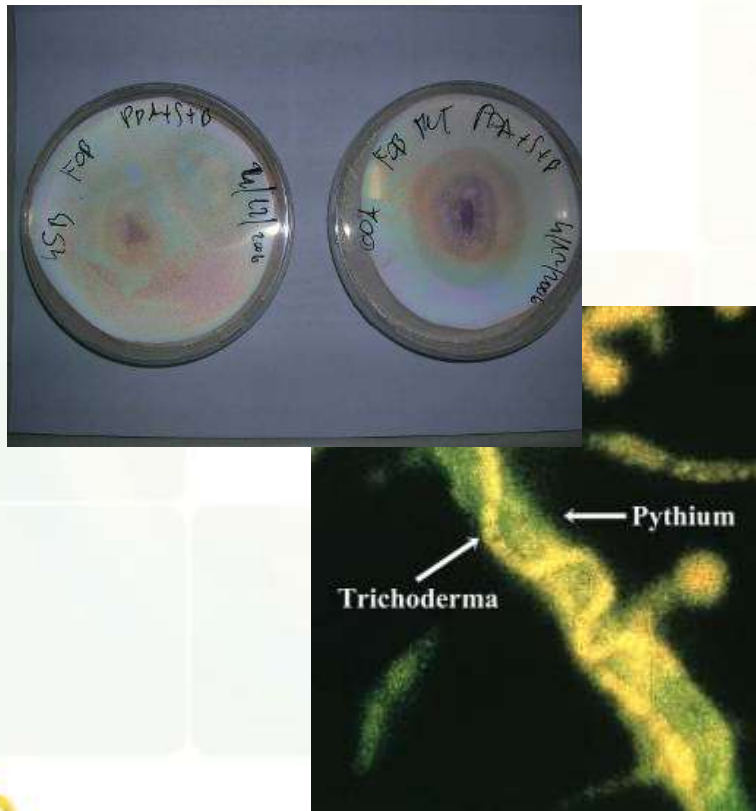
Valorization of compost

Valorisation of compost quality for its optimal use in the agricultural sector, in particular for the production of vegetable and flower under protected crops, in horticulture and in turf grass production.



Enrichment of compost

Enrichment of compost with patented microorganisms able to increase its quality, promote plants growth and suppress diseases.



First customers



- REC
Service for the set up of an arboretum in Budapest, Hungary.



- UNIDO
Technical and technological transfer for producing high-quality compost to control soil-borne diseases in Morocco.





Morocco

Use of compost as alternative to chemical fumigants for controlling plant-pathogens in Agadir

Set up of a composting plant for recycling agricultural wastes



Morocco



Use of compost as alternative to chemical fumigants for controlling plant-pathogens in Morocco

Local trainings and study tours in Italy on advanced composting technologies



Morocco



Use of compost as alternative to chemical fumigants for controlling plant-pathogens in Morocco

Set up of a laboratory for compost quality analysis



Several project implemented in the field of Sustainable Agriculture in China

TARGET AREAS

Xinjiang, Inner Mongolia, Shanghai, Beijing, Hebei, Shandong

Majority of people involved in agriculture; low level of infrastructure and technologies; over-exploitation of natural resources; serious problem of desertification and soil pollution.



TARGET CROPS - Vegetables and fruits

Promoting the sustainable development of rural areas while enhancing food security; protecting the environment and human health; increasing economic importance; main source of income of local growers; higher market opportunity.

General projects' objectives

Reduce consumption of irrigation water, pesticide and fertilizers

Preserve soil fertility and reduce white pollution

Strengthen local capacity on sustainable agriculture

Promote of tourism and recreation activities in rural areas

Promote joint research programmes and exchange of human resources

Promote bilateral trade and technological relationships

New activities in China

LOW-CARBON FARMING SYSTEM FOR AGRICULTURAL POLLUTION CONTROL IN WATER RESOURCES PROTECTION ZONE OF UPPER HUANGPU RIVER, SHANGHAI

Set up a low-carbon agriculture system for fruit and vegetable crops with related carbon footprint evaluation system for local agricultural production, and developing carbon reduction guidelines.



First products

- Suppressive compost for vegetable crops
- In cooperation with a composting plant, a novel enriched compost
- Compost for soil-less crops (strawberry)
-



Advantages

- Experience gained at University level in networking and projects management
- International scenario
- Connection with the Universities and Research Centres
- Capability of attracting students and researchers from emerging economies

Constraints

- Burocratic aspects
- Niche markets
- Little experience in bringing products into the market
- ...

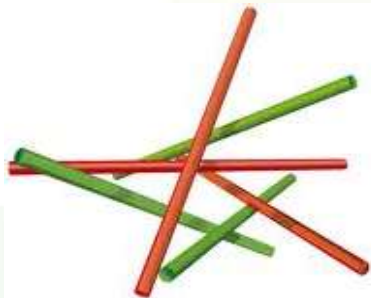
First successes



ITALY OF INNOVATORS

2010

- AgriNewTech has been selected by a Commission of experts nominated by Renato Brunetta, Italy's Public Sector and Innovation Minister, for attending the 2010 Shanghai Expo within the initiative "Italia degli Innovatori – Italy of Innovators".
- The aim of this initiative was to show the extraordinary excellences of Italy on the very important stage of the Universal Expo.



ITALIA
expo shanghai 2010
上海世博会意大利馆

2011

Selected by the Italian Government as Italian best innovations:

ITALY OF INNOVATORS 2011/2012



ITALIA DEGLI INNOVATORI

Agenzia per la Diffusione delle Tecnologie per l'Innovazione
Presidenza del Consiglio dei Ministri



AGRI NEW TECH

First successes

PROJECTS

Four R&D projects funded by Piedmont Region and EU:

- **AGRICOMPOST.** Valorization of compost for energy crops.
- **ECOMOL.** Development of new products for the sustainable control of plant diseases.
- **BIOTURF.** Development of new technologies and products for the ornamental sector.
- **BYPROVAL.** Valorization of organic by-products deriving from industrial processes.



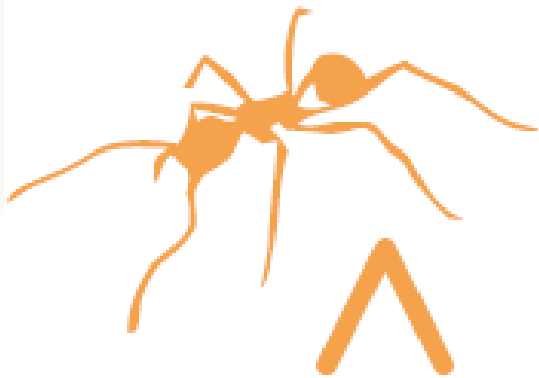
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