



Thursday 5 November

EU-India PARTNERING EVENT

Theme: *Sustainable production and management of biological resources from land, forest and aquatic environment*

Ahu Altinkut Uncuoglu (Assoc.Prof.)
The Scientific and Technological Research Council of Turkey
(TUBITAK),
Marmara Research Center (MRC),
Genetic Engineering and Biotechnology Institute(GEBI)

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- **TUBITAK** is the leading agency for management, funding and conduct of research in Turkey. It is the secretariat of the Supreme Council for Science and Technology, the highest S&T policy making body in Turkey.
- **TUBITAK** also conducted **EU 7th Framework Programme negotiations** at the technical level and prepared an action plan. 7th FP MoU was signed as a part of this process.
- **The Marmara Research Center (MRC)**, one of TUBITAK's research and development units, carries out its internationally acknowledged work in laboratories accredited according to the Experiment and Calibration Proficiency by DAR/DAP in 2002. TUBITAK MRC received the National Quality Incentive Award in 2003

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TUBITAK MRC



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MRC consists of some units within TUBITAK's headquarters and seven institutes sharing the campus (8000 ha).



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Units: Plant Biotechnology- Animal Biotechnology-Enzyme & Microbial Biotechnology- Medical Biotechnology



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SEVENTH FRAMEWORK
PROGRAMME

TUBITAK MRC-GEBI



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National Collaborations

Turkish Ministry of Agriculture and Rural Affairs

Turkish Ministry of Environment and Forestry

Turkish Ministry of Health

Universities

Private sector

International Collaborations

TUBITAK- CNRS France project

TUBITAK- Bosphorus project

EU COST 859 project

EUREKA projects in collaboration with Italy and United Kingdom

TUBITAK- Hungarian collaborative project

TUBITAK- Bulgaria collaborative project

TUBITAK- Macedonian collaborative project

ICGEB supported collaborative project

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TUBITAK MRC-GEBI



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International Memberships:

- National Focal Point of International Centre of Genetic Engineering and Biotechnology (ICGEB-TRIESTE) in Turkey.
- Excellence Centre of Third World Academy of Sciences (TWAS)
- Turkish Focal Point for European Molecular Biology Organisation (EMBO)- Up to 2005.

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Technical Abilities and Infrastructure



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- DNA sequencing (CEQ8800, GeXP system) and barcoding
- Fragment analysis of molecular markers
- Gene cloning and multiple quantitative gene expression analysis
- Plant proteomics by proteomLab PF2D protein fractionation system and LC-MS
- Robotic systems for large-scale pipetting by Beckman Biomek3000 and NX ArrayPlex Workstations.
- Applications with laser-microdissection microscope, confocal microscope and time-lapse microscope, inverted full automatic microscope, up-right automatic microscope, fluorescence stereo microscope
- Dynamic Light Scattering (DLS) System
- Fourier Infrared Transform Spectrophotometer (FTIR)
- Establishment of tissue culture systems of plants and fast growing trees
- Gene transfer to plants via Agrobacterium, biolistic and electroporation
- GC and HPLC systems
- Real Time PCR Machines (Biorad, Beckman Coulter..)

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INFRASTRUCTURE



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Interested KBBE-2010.



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KBBE-2010-1-1-01: Genetic and genomic tools to increase the breeding efficiency in fruit trees

KBBE-2010-1-1-02: Deepened and enlarged European cooperation in the area of Molecular Plant Sciences

KBBE-2010-1-1-03: Characterization of biodiversity resources for wild crop relatives to improve crops by breeding.

KBBE-2010-3-1-01: Promoting global cooperation to facilitate and accelerate knowledge transfer on abiotic stress tolerance of plants

KBBE-2010-1-4-05: EU-China Partnership initiative in plant breeding

KBBE-2010-1-4-06: EU-Russia Partnership initiative in Microbes - Plants Biodiversities

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PROJECT IDEAS



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- Contributing to the preservation of the plant genetic resources of Europe utilizing molecular DNA tools (establishment of DNA banks, construction of genomic, cDNA, EST and BAC libraries for the plant species).
- Biotic and abiotic stress tolerance in plants (development of molecular markers, identification, cloning and characterization of novel genes for stress tolerance, and proteomic studies).
 - Drought, salt, yellow rust disease (e.g. *Ug99*)...
- Analyzing the exotic and wild plant germplasm with different type of molecular markers and utilizing DNA based strategies to assist with the identification, selection, and introgression of novel qualitative and quantitative traits in plant breeding.
- Characterization of temporal and spatial changes in gene expression under biotic and abiotic stresses in plants.

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Important Documents



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- A Strategic European Framework for International Science and Technology Cooperation.
- Millenium Development Goals
- G8 Final Declaration: Agriculture and Food Security at the Core of the International Agenda.
- Plants for Future: Strategic Research Agenda 2025.

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PLANT MATERIAL

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Table 2: Top 10 sectors of India & world rank

Commodity	Rank India	World Rank 2005	Production Avg 2003-2005	
			Billion \$	Million T
Paddy rice	1	2	27.5	129.2
Buffalo milk	2	1	25.2	50.5
Wheat	3	2	10.9	69.7
Cow milk	4	2	10.0	37.5
Fresh vegetables	5	2	6.6	34.9
Sugar cane	6	2	5.2	250.0
Potatoes	7	3	3.6	25.0
Groundnuts	8	2	3.4	7.1
Pimento	9	1	3.3	1.1
Buffalo meat	10	9	3.1	1.5



*Indian's Role in World
Agriculture
(December 2007)*

Source: FAOSTAT, world rank calculated by DG AGRI

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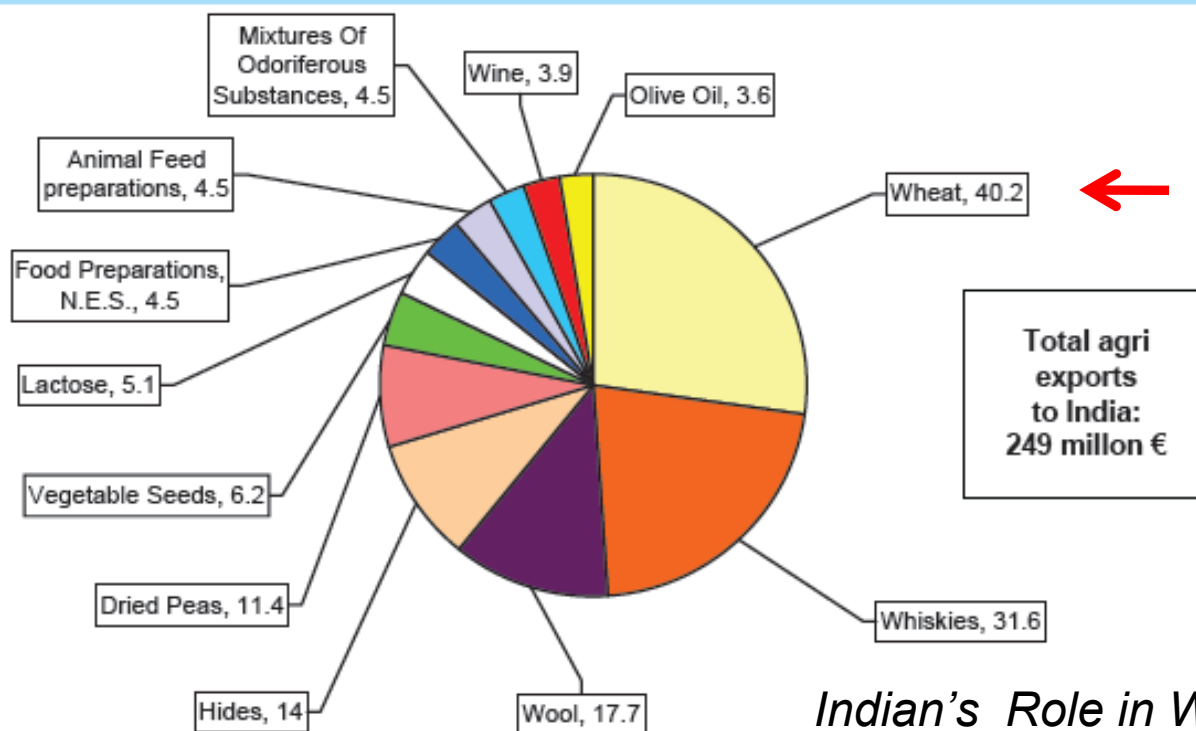
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Wheat...

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**Graph 13: EU-27 main agricultural exports to India
Average 2004-2006 (million €)**



Source: COMEXT

Having been a small net exporter of wheat since 1999/00, India became a net importer in 2006/07. The EU's wheat exports were worth €120 million in 2006, equivalent to one third of the value of exports.

In 2004-2006 wheat was the EU's top agricultural export to India, valued at €40 million and accounting for 16% of exports.

*Indian's Role in World Agriculture
(December 2007)*

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Previously funded projects (India)



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ENV.2007 2.1.4.3: Biodiversity values, sustainable use and livelihoods

“Sustainable livelihoods and biodiversity in riparian areas in developing countries”

KBBE- 2008 3-1-02: Sweet sorghum

-An alternative energy crop for biofuel production in semi-arid and temperate regions

-SICA (Latin America, South Africa, India)

“Sweet Sorghum: An alternative energy crop”

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PARTNER SOUGHT



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The possible partners for this project can be

- Research Institutes of Ministry Agriculture
- Universities
- Private Companies

for phenotypic evaluation of targetting crops

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CONTACT DETAILS



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