



EU Funded Research Project

Partner Search Form

Date: April-2007	Deadtime:
Contact:	

Organization	Agricultural Research center, Plant Pathology Research Institute	Department	Seed Pathology Research Department
Contact person	Dr. Magdy Ibrahim Ghonim		
E.mail	Ghonim58@yahoo.com		
Address	9 Gamaa st. Giza, Egypt		
Postcode	19612	City	Giza
Country	Egypt		
Telephone	(home) (+2055)3281378 Mobil:0122895643	Fax :	
Website			

Familiar with the European Framework program **yes** **No**

Project

Title: Innovative solutions for production of disease-free seeds in Egypt .	Acronym:
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Project type	<input checked="" type="checkbox"/> Coordination and support action aiming at coordinating research activities <input type="checkbox"/> Targeted to SMEs <input type="checkbox"/> Other (Marie Curie Actions, ERA-NET)	<input type="checkbox"/> Small or medium scale focused research collaborative project. <input type="checkbox"/> Network of excellence <input type="checkbox"/> Research for the benefit of SMEs
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Status	Planned to submission <input type="checkbox"/> Running project
Call reference	<input checked="" type="checkbox"/> 1st call <input type="checkbox"/> 2nd call

Priorities Main Research Area (Topics from workprogramm)	KBBE-2007-3-3-01: SYNTHETIC BIOLOGY FOR THE ENVIRONMENT - The use of Synthetic Biology for the solution of environmental problems
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Key Words	Agriculture, biological resources, microbiological food and safety
Partner already involved	No partners
Abstract	<p>The seeds played an important role in crops production as quantity, characters , economic yields and disease control . The seeds considered to be one of the major transmission for several pathogens from season to another resulting in the increase of disease severity and its spreading .</p> <p>The infection of seeds with fungal and bacterial pathogens lead to the losses of its vitality and ability of germination produce a weakly seedling which were more susceptible for the infection with pathogens. However , the mycotoxins produced by such pathogens were carcinogenic for animals and humans.</p> <p>Hence , the present project extended to investigate the application of modern techniques for production of phytopathogens - free seeds by biological , physical and agricultural practices means.</p> <p style="text-align: center;">1– FINAL OBJECTIVES :</p> <p>The final objectives of the present project as follows : -</p> <p>(1) Screening of some modern techniques that decrease the seed infection with seed-borne pathogen , as well as , the use of fungicides and chemical substances which are very toxic to animals and human , hence, decreaseing its toxic effect.</p> <p>(2) Production of disease-free seeds hence , increasing the percentage of seed germination , yield and seeds free from toxic substances such as aflatoxins.</p> <p>(3) Reduction of spreading the phytopathogens which transmit via seeds in certain fields or from region to another.</p> <p>(4) Increasing the yield of vegetable and field crops for consuming and exporting , as well as , production of seeds free from toxic substances.</p> <p>(5) Increasing the benefits of vegetable and field crops to the farmers by decreaseing the disease severity and highly expensive pesticides.</p> <p style="text-align: center;">2 - PROPOSED WORK PLAN :</p> <p>1) Survey, isolation and identification of the fungal pathogen transmission via seeds in some field crops in Egypt.</p> <p>2) Application of some microbial biocontrol agents as fungi, bacteria and actinomycets as seed treatments befor sowing or foliar application on shoot system for controlling seed borne phytopathogens.</p> <p>3) Investigation of some safety organic compounds such as Salicylic , Oxalic and Citric acids , as well as , Sodium Carbonate and others that induced systemic resistance against seed - borne pathogens by seed treatments and spraying on foliar means.</p> <p>4) Seed treatments with some plant extracts and its</p>

	<p>effectiveness on seed germination and diseases control.</p> <p>5) Evaluation of some field and vegetable varieties for susceptibility and resistance to infection with seed-borne pathogens.</p> <p>6) Studies on the effect of some agricultural process such as sowing date , irrigation system and fertilization levels on seed - borne phytopathogens.</p>
Publications	<p>1- Abdel Kader, Dawlat A., M.I. Abou Zaid, M.E. Refat and <u>M.I. Ghonim</u> (1989): Occurrence and detection of Ascochyta blight of chickpea plants and field screening of different cultivars to the disease incited by <i>Ascochyta rabiei</i> (Pass.) Lab. Egypt. J. Phytopathology. 21 (1): 13 - 30.</p> <p>2- Abdel Kader, Dawlat A., A.A. El-Wakil, M.R. Tohami and <u>M.I. Ghonim</u> (1989): Effect of some agriculture practices and chemical control of Ascochyta blight of chickpea plants. Egypt. J. Phytopathology, 21 (1): 31 - 43.</p> <p>3-Ismail, A.E.A., A.H. Yehia and <u>M.I. Ghonim</u> (1998): Control of downy mildew disease in cucumber by chemical and bioagent isolated from phyllosphere. J. Agric. Sci. Mansoura Univ. 23 (9): 3723 – 3733.</p> <p>4-<u>Ghonim, M.I.</u>, A.E.A. Ismail and E.F. Abd-Allah (1999): Biological control of <i>Aspergillus flavus</i> in soybean seeds by atoxigenic <i>A. flavus</i> strain. Zagazig J. Agric. Res. 26 (1): 27-35.</p> <p>5-<u>Ghonim, M.I.</u> (1999): Induction of systemic resistance against Fusarium wilt in tomato by seed treatment with the biocontrol agent <i>B. subtilis</i>. Bull. Fac. Agric., Cairo Univ., 50 (2): 313 - 328.</p> <p>6-Ismail, A.E.A., <u>M.I. Ghonim</u>, E.F. Abd-Allah and A.A. El-Wakil (1999): Detoxification of fusaric acid by the biocontrol agent <i>B. subtilis</i> and its effect on certain metabolic activities in peanut. Zagazig J. Agric. Res. Vol. (26) No. (5) : 1259 – 1267 .</p> <p>7-El-Wakil, A.A. and <u>M.I. Ghonim</u> (2000): Survey of seed borne mycoflora of peanut and their control. Egypt. J. Agric. Res. 78 (1): 47 - 61.</p> <p>8-<u>Ghonim, M.I.</u>, I.H. El-Abbasi and A.A. El-Wakil (2003): Biological seed treatments for controlling major peanut (<i>Arachis hypogaea</i> L.) seed-borne fungi. J. Agric. Sci. Mansoura Univ., 28 (8): 6065-6074.</p> <p>9-<u>Ghonim, M.I.</u> and H.M. El-Zefzaf (2005): Performance of biological seed treatment to control soil-borne diseases and seed-borne fungi of bean (<i>Phaseolus vulgaris</i> L.). Annals of Agric. Sc., Moshtohor, Vol. 43 (1): 223 – 233.</p> <p>10-<u>Ghonim, M.I.</u> (2007): Biological control of some sunflower (<i>Helianthus annuus</i> L) seed-borne mycoflora. Egyptian Journal of Applied Sciences, Vol. 22, No. 2B: 556-567.</p>

Profile of Partner sought

Role	<input type="checkbox"/> Technology development dissemination	<input checked="" type="checkbox"/> Research / demonstration	<input checked="" type="checkbox"/> training <input type="checkbox"/> others
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If another role expected please specify it here

Country/region	EU partners
Start of partnership	<input checked="" type="checkbox"/> Start-up phase <input type="checkbox"/> mid-term <input type="checkbox"/> end-phase
Expertise required	Feed pathology experts

I agree with the publication of my data

Please fill-in and return it to:

Egyptian National Scientific & Technical Information Network (ENSTINET)

By email to: fp7@sti.sci.eg

By fax. To: (+202) 7947807