



Curriculum Vitae

Personal information:

Name: Mahmoud Abo El-Soad El-Rawy Mohamed

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Current Position: **Professor of Genetics and Molecular Plant Breeding**

Genetics department, Faculty of Agriculture,
Assiut University, Assiut, Egypt.



Educational qualifications:

1. Ph.D. in Genetics and Plant Breeding, Assiut University, Egypt, 2010.
Thesis title: "Impacts of selection for cell membrane thermostability and stomata frequency on tolerance to drought and heat stresses in wheat."
2. M.Sc. in Agricultural Sciences (Genetics), Faculty of Agriculture, Assiut University, Egypt, 2006. Thesis title: "Selection for Heat Stress Tolerance in Bread Wheat (*Triticum aestivum* L.)".
3. B.Sc. in Agricultural Sciences (Genetics), Faculty of Agriculture, Assiut



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University, Egypt, 2000. Final graduation grade: Very Good with honour degree.

Academic record:

- 2016 - Now: Associate Professor, Genetics department, Faculty of Agriculture, Assiut University, Egypt.
- 2010 - 2016: Assistant Professor, Genetics department, Faculty of Agriculture, Assiut University, Egypt.
- 2006 - 2010: Assistant Lecturer, Genetics department, Faculty of Agriculture, Assiut University, Egypt.
- 2000 - 2006: Demonstrator, Genetics department, Faculty of Agriculture, Assiut University, Egypt.

Research interests:

1. Genetics, Molecular Biology, Biotechnology and Plant Breeding.
2. QTL analysis and Marker-Assisted Selection.

Research experience:

1. Working as Scientific General Manager of the Experimental Farm of Genetics Department, Faculty of Agriculture, Assiut University since 2016 till now.
2. Working as Co-Supervisor of Molecular Biology lab. at Central Laboratories of Faculty of Agriculture, Assiut University since 2014 till now.
3. Co-Supervisor of Biotechnology lab. at Genetics department, Faculty of Agriculture, Assiut University, Egypt.



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4. Experience in molecular analyses of plants including DNA isolation, gel electrophoresis, gel documentation system, analysis of electrophoretic profiles, genotyping and development of molecular markers (RAPD, SRAP and SSR).
5. Understanding principles of conventional and molecular plant breeding.
6. Design efficient breeding strategies utilizing phenotypic and molecular-based breeding, focusing on grain crops including wheat.
7. Experience in comparing breeding strategies (especially in wheat).
8. Managing field trials in different environmental conditions, including greenhouses and experimental fields (especially for wheat).
9. Establishment of crosses between different wheat species (diploid, tetraploid and hexaploid wheat).
10. Collection, development and utilization of diverse breeding materials (especially wheat) in breeding programs.
11. Evaluation of varieties, landraces, inbred lines and hybrids of wheat under different environmental conditions (drought, heat and salinity).
12. Development of improved varieties with high grain yield and good tolerance to abiotic stresses.
13. Following up Research Proposals at Genetics Department, Faculty of Agriculture, Assiut University.
14. Skills in statistical analysis, quantitative genetics and interpretation of genetic data from plant populations .
15. Writing research plans and scientific projects in the field of Plant Breeding.
16. Discussing plans and results with other investigators in wheat breeding programs.
17. Computer Skills used for research, including programs for writing, graphics, spreadsheets and data analysis (i.e. Mstat, SPSS, SAS, Statistica, Photoshop,



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- Microsoft Word, Excel and Power Point) and Software used for genetic analyses (i.e. GeneMapper, Gene Profiler and Diallel analysis).
18. Training and Supervision of Postgraduate Students in Genetics Department, Faculty of Agriculture, Assiut University for doing their researches during Master and Doctorate programs.
 19. Ability to work both independently and as a part of a multi-disciplinary research team.
 20. Attend and organize several Scientific Seminars, Training courses and Workshops in the field of Genetics and Agricultural Sciences.
 21. Write, review and publishing several publications in indexed international journals.

Skills:

1. The Mother Tongue: Arabic
2. The Foreign Language: English.
3. Computer:
 - International Computer Driving License (ICDL).
 - Programs for writing, graphics, spreadsheets and data analysis (MSTAT, SPSS, SAS, Microsoft Word, Excel, Power Point).
 - Software for genetic analyses (Geneprofiller for gel reading, NTSYS and MVSP for Graphics Denderogram).

Teaching experience:

1- Undergraduate Students



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No.	Course	Department, Faculty	University
1	Principles of Genetics	General, Agriculture	Assiut, Egypt
2	Molecular Genetics	Genetics, Agriculture	Assiut, Egypt
3	Genetic Engineering	Genetics, Agriculture	Assiut, Egypt
4	Genetics and Cell Biology	Genetics, Agriculture	Assiut, Egypt
5	Biotechnology	Genetics, Agriculture	Assiut, Egypt
6	Cytogenetics	Genetics, Agriculture	Assiut, Egypt
8	Quantitative Genetics	Genetics, Agriculture	Assiut, Egypt
9	Genetics of Hybrids	Genetics, Agriculture	Assiut, Egypt
10	Farm Animal Genetics	Animal Production, Agriculture	Assiut, Egypt
11	Principles of Genetics	Faculty of Science	Assiut, Egypt
12	Population Genetics	Faculty of Science	Assiut, Egypt
13	Genetics and Genetic Engineering	Faculty of Veterinary Medicine	Assiut, Egypt
14	Veterinary Genetics	Faculty of Veterinary Medicine	Assiut, Egypt
15	Genomics	Genetics, Agriculture	Sohag, Egypt

2- Postgraduate Students (M.Sc. and PhD.)

No.	Course	Faculty	University
1	Population Genetics	Faculty of Agriculture	Assiut, Egypt
2	Quantitative Genetics	Faculty of Agriculture	Assiut, Egypt



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3	Advanced Population Genetics	Faculty of Agriculture	Assiut, Egypt
4	Advanced Quantitative Genetics	Faculty of Agriculture	Assiut, Egypt
5	Cell Biology	Faculty of Agriculture	Assiut, Egypt
6	Statistical Genetics	Faculty of Agriculture	Assiut, Egypt
7	Genetics of Hybrids	Faculty of Agriculture	Assiut, Egypt
8	QTL analysis	Faculty of Agriculture	Assiut, Egypt
9	Marker-Assisted-Selection	Faculty of Agriculture	Assiut, Egypt
10	Seminars	Faculty of Agriculture	Assiut, Egypt

Duties and Responsibilities:

1. Training and Supervision of Undergraduate Students in Genetics Department, Faculty of Agriculture during Practical Summer Course.
2. Training and Supervision of Postgraduate Students in Genetics Department, Assiut University during their Master and Doctorate programmes.
3. Examination and Assessment Handbook for Undergraduate and Postgraduate Students of Genetics Department, Faculty of Agriculture, Assiut University.
4. Setting and Following up Research Proposals at Genetics Department as well as Carrying out Field Experiments at the Experimental Field of Faculty of Agriculture, Assiut University.

Publications:

1. Hassan M.I. and **El-Rawy M.A.** (2021). Phenotypic selection and bulked



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- segregant analysis for 1000-kernel weight under heat stress in durum wheat. *Journal of Agricultural Chemistry and Biotechnology*. 12(2): 37-47. DOI: 10.21608/jacb.2021.61490.1011.
2. **El-Rawy M.A.** and Hassan M.I. (2021). Assessment of genetic diversity in durum and bread wheat genotypes based on drought tolerance and SSR markers. *Plant Breeding and Biotechnology* (Accepted).
 3. **El-Rawy M.A.**, Abdelreda A., Abd El-Fatah B.E.S and Youssef M. (2020). Assessment of heat tolerance in some wheat species and interspecific hybrids. *Journal of Agricultural Chemistry and Biotechnology*. 11(12): 365-373. DOI: 10.21608/jacb.2021.54316.1007.
 4. **El-Rawy M.A.** (2020). Assessment of genetic diversity for some egyptian wheat varieties based on morphological characters and SSR markers. *Scientific Journal of Agricultural Sciences*. 2: 144-160.
 5. **El-Rawy M.A.** (2020). Study of heat stress memory related to acquired thermo-tolerance in wheat. *Scientific Journal of Agricultural Sciences*. 2: 161-173. DOI: 10.21608/sjas.2020.44363.1043
 6. Feltaous Y.M., Soliman G.M.M. and **El-Rawy M.A.** (2020). Genotyping and phenotyping for some bread wheat genotypes under terminal heat stress. *Egypt. J. Plant Breed.* 24(1):195– 223.
 7. Abd El-Fattah B.E.S., Haridy A., and **El-Rawy M.A.** (2019). Relationships between Hybrid Performance and Genetic Distance Revealed by Morphological



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- and Molecular Markers in Cowpea (*Vigna unguiculata* (L.) Walp). *Journal of Agricultural Chemistry and Biotechnology* 10 (4): 89-101.
8. Hesham A.E.L., Salem S.I.H., Ameen K.A., Faisal R. and **El-Rawy M.A.** (2019). Biosynthesized Silver Nanoparticles using *Schwanniomyces Vanrijae* and its Antimicrobial Activity Against Pathogens. *Biomedical Journal of Scientific & Technical Research* 21 (1): 15515-15521.
 9. Mohamed A.M., Omara M.K., **El-Rawy M.A.** and Hassan M.I. (2019). Impacts of selection for spike length on heat stress tolerance in bread wheat (*Triticum aestivum* L.). *Plant Breeding and Biotechnology* 7(2): 83-94.
 10. **El-Rawy M.A.**, Hassan M.I., Omran M.F. and El-Defrawy M.M. (2018). Gene action and combining ability of cellular thermotolerance in bread wheat (*Triticum aestivum* L.). *Plant Breeding and Biotechnology* 6(3): 206-220.
 11. Abd El-Latif Hesham, Elsayed A., Mohamed, Asmaa M.M., Ameer Elfarash, Abd El-Fattah S., **El-Rawy M.A.** (2017). Molecular characterization of *Fusarium solani* degrades a mixture of low and high molecular weight polycyclic aromatic hydrocarbons. *The Open Biotechnology Journal*. 11:1.
 12. Abd El-Fattah B.E.S., **El-Rawy M.A.**, El-Aref H.M., Tagian A.S. and El-Sanousy S.A. (2017). Study of Genetic Diversity using Morphological Traits and Target Region Amplified Polymorphism (TRAP) Marker in wheat. *Assiut J. Agric. Sci.*, (48):(1-1) 98-119.
 13. **El-Rawy M.A.**, Taghian A.S., El-Aref H.M., Abd El-Fattah B.E.S. and El-Sanousy S.A. (2016). Genetic diversity in wheat genotypes using simple



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- sequence repeat (SSR) markers. Research Journal of Applied Biotechnology. 2: 127:138. Special issue (2) for the first International Conference of Genetic Engineering and Biotechnology.
- 14.El-Aref H.M., Taghian A.S., Abd El-Fattah B.E.S., El-Rawy M.A. and El-Sanousy S.A. (2016).** Genetic relationships among wheat varieties based on ISSR Markers. Research Journal of Applied Biotechnology. 2: 117:126. Special issue (2) for the first International Conference of Genetic Engineering and Biotechnology.
- 15.Hassan M.I., El-Rawy M.A., Ali M.A. and El-Defrawy M.M. (2016).** Phenotypic selection and bulked segregant analysis for flag leaf angle under heat stress in bread wheat (*Triticum aestivum* L.). Assiut Journal of Agricultural Sciences 47 (5): 56-71.
- 16.Hassan M.I., Mohamed E.A., El-Rawy M.A. and Amein K.A. (2016).** Evaluating interspecific wheat hybrids based on heat and drought stress tolerance. Journal of Crop Science and Biotechnology 19 (1): 85-98.
- 17.El-Rawy M.A. (2016).** Means of basic generation and bulked segregant analysis for heat tolerance in bread wheat (*Triticum aestivum* L.). Journal of Agricultural Chemistry and Biotechnology 7(1): 1-11.
- 18.El-Rawy M. A. (2015).** Divergent phenotypic selection and molecular marker analysis for heat tolerance in bread wheat (*Triticum aestivum* L.). Journal of Agricultural Chemistry and Biotechnology 6(9): 301-319.
- 19.El-Sanousy S.A., Taghian A.S., El-Aref H.M. and El-Rawy M.A. (2015).** Genetic diversity in wheat genotypes using random amplified polymorphic DNA



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- (RAPD). Assiut Journal of Agricultural Sciences 46(2): 50-70.
- 20.El-Rawy M.A.** and Hassan M.I. (2014a). A diallel analysis of drought tolerance indices at seedling stage in bread wheat (*Triticum aestivum* L.). Plant Breeding and Biotechnology 2(3): 276-288.
- 21.El-Rawy M.A.** and Hassan M.I. (2014b). Effectiveness of drought tolerance indices to identify tolerant genotypes in bread wheat (*Triticum aestivum* L.). Journal of Crop Science and Biotechnology 17(4): 255-266.
- 22.El-Rawy M.A** and Youssef M. (2014). Evaluation of drought and heat tolerance in wheat based on seedling traits and molecular analysis, Journal of Crop Science and Biotechnology 17(3): 183-189.
- 23.Nassef D.M.T., El-Rawy M.A.** (2013) Analysis of Gene Effects Controlling Some Traits in Garden Pea (*Pisum Sativum* L.). Australian Journal of Basic and Applied Sciences. 7(1): 537-542.
- 24.Omara M.K,** Ibrahim E.M.A., Abd El-fatah B.E.S. and **El-Rawy M.A. (2010).** Selection for cell membrane thermostability and stomatal frequency under drought and heat stress conditions in wheat (*Triticum aestivum* L). Assiut Journal of Agricultural Sciences 41 (Special Issue), the 4th conference of young scientists fac. Of Agric. Assiut univ. April., 27(2010).
- 25.Omara M.K.,** Mohamed N.A., El-Sayed E.N. and **El-Rawy M.A. (2007).** Selection for grain yield per plant under heat stress in bread wheat (*Triticum aestivum* L.). Assiut Journal of Agricultural Sciences 38 (2): 47-61.
- 26.Omara M.K.,** Mohamed N.A., El-Sayed E.N. and **El-Rawy M.A. (2006).** Selection for cell membrane thermostability in bread wheat (*Triticum aestivum* L.). Assiut Journal of Agricultural Sciences 37 (4): 61-76.



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