

PREFACE

The 5th International Conference for Agriculture and Bio-engineering under title of "THE ROLE OF AGRICULTURAL AND BIOLOGICAL ENGINEERING FOR ADVANCEMENT OF THE AGRICULTURAL SECTOR" hosted by the Agricultural Engineering Research institute (AEnRI) under patronage of Prof. Dr. ABDEL MONAEM EL-BANA His Excellency Minister of Agriculture and Land Reclamation, and under presidency of Prof. Dr. MAHMOUD MEDANY, the president of Agricultural Research Center (ARC), during the period of 26-27 September 2017, to provide a podium for experts from different countries who are working on specific areas of agricultural engineering and bio-engineering systems, and are believing in the advantages of integration and cooperation. So, the main target of the 5th International Conference for Agriculture and Bio-engineering introduces all ongoing scientific researches in the fields of agriculture mechanization systems, on-farm irrigation systems and energy and renewable energy use that enhance sustainable development of Egyptian agricultural sector, in harmony with the environment.

Now, in Egypt there is a necessity to exist unified approach among of agriculture environment and industry towards mechanization, smart irrigation systems, and energy use in agriculture to ensure the sustainable development of the agriculture sector. The unvariable relationship among soil, water, bio-engineering systems and energy turned out a discipline that deals with topics of this conference as integrated management of irrigation and drainage systems, integrated applications of agricultural mechanization systems and bio-engineering systems and its applications.

Our wishes as organizers of this conference are to pave the way for applying the results of applied researches that discussed by experts from private sector, and scientific institutions and universities. We are greatly thankful to all individuals participated to these institutions and companies for their kind support given to our conference.

Finally, we would like to express our special thanks to the project board of "Sustainable Agriculture Mechanization System Improvement in Minya and Fayoum Governorates" have enabled this proceeding to be printed. Also, we would like express our best wishes to all members of scientific committee for their exemplary efforts.

Prof.Dr. Essam Wassif

Coordinator of conference,

director of AEnRI

Proceeding of 5th International Conference For Agricultural & Bio-engineering titled
“The Role Of Agricultural And Biological Engineering For Advancement Of The Agricultural Sector”

SCIENTIFIC COMMITTEE

Prof.Dr. Essam El Deen Wassif, AEnRI
Prof.Dr .Gamal Hassan El Sayed, AEnRI
Prof.Dr. Ahmed El-Sayed Ahmed, Alex. Univ.
Prof.Dr. Ahmed Mohamed Al-Shafay, Alex. Univ.
Prof.Dr. Gamal Mohamed Nasr, Cairo Univ.
Prof. Dr. Hazem Sayed Mehawed, AEnRI.
Prof. Dr. Hesham Farag, AEnRI.
Prof. Dr.Ibrahiem Abd El Tawab, AEnRI.
Prof.Dr. Mohamed Abd El-Tawab Hassan EL Sayed, MALR.
Prof.Dr. Mohame El- Shat Badawi, AEnRI.
Prof.Dr. Mahmoud Hegazy, Ain Shamsis Univ.
Prof.Dr. Mohamed Mostafa El-Kholy, AEnRI.
Prof.Dr. Mohamed Samir Abo Soliman, SWERI.
Prof.Dr. Samy Mohamed Younes, Cairo Univ.
Prof.Dr. Sherief Abd El-Hak Radown, Suez Canal Univ.
Prof.Dr. Yousif Farag Sharwbiem, AEnRI.
Prof.Dr. Zakria Emara, AEnRI.

Table of contents

	Fertigation Management to Maximize Oleuropine Content in Olive Leaves Abd El-Haleem, H. F.; Abd-Elaty, H. A. and Abd-El-Monsef, A. A.	1
	Successive Management Programs for Deficit Water Resources in Hydroponics and Soilless Green Fodder Production Khaled K.Hegab	2
	Utilization of Different Incineration Methods for Safe Disposing of Poultry Mortality due to Epidemic Diseases Abd-El-haleem, H. F.; Al-Said, A. A. and El-Esaaly, M. A.	3
	Rice Straw Recycling for Developing the Hydroponics Sprouted Barley Production and Conserving the Environment Khaled K.Hegab	4
	Factors Affecting Producing Bio-mass Briquettes Using Rice Straw Abd-El-haleem, H. F. and El-Esaaly, M. A.	5
	Effectiveness of Using Natural Sorbent for Removing Oil from Wastewater Abd-El-haleem, H. F. and El-Esaaly, M. A.	6
1	Effect of Some Organic Fertilizations Methods on Cowpea Crop Yield under Drip Irrigation System Bahnas, O.T. and M.Y. Bondok	7
2	Management of Sprinkler Irrigation System for Rice Crop Production Attafy, T. M.; W. F. EL Metwally and M. Iraqi	25
3	The Relative Impact of Optimum Irrigation Scheduling on Improving Barley Productivity in the North Western Coast Allam, KH. A.	41
4	Production of Onion by Drip and Furrow Irrigation with different water quality Khalil, A.; Azza Hassan and M. Y. Adly	36
5	Comparative Study of the Production of Sugar Crops under Limited Water Farag, A. A. ; M. A. A. Abdrabbo; M. S. K.Taher; H. A. Farag; Rasha M. A. F. and H. A. Radwan	87
6	Effect of Partial Root Zone Drying on Tomato Plant under Egyptian Conditions Gomaa, A. H.; S. I. El Khatib; A. A. Samak and Eman H. El-Shkaby	97

7	Expert System for Emitter Clogging Management Azza Hassan	109
8	Olive Production Expert System Azza Hassan	127
9	Emission of Greenhouse Gas from Applied Nitrogen Rates for Tomato under Different Net Colors Abdrabbo, M. A. A.; A. A. Farag; H. K. Farrag; H. Mohawed; H. A. Radwan	145
10	Some Engineering Factors Affecting Solar Drying of Date Radwan, S.M; M.M. El-Kholy; I.H. El-Sheikh and Salwa O. Mousa	159
11	Solar Drying of Corn for Seed Production Mostafa M. M.; M. F. Abdel-Salam; M. M. Mosa and Gehad A. Abdalgawad	177
12	Removal of Hydrogen Sulfide (H ₂ S) from Biogas to Improve its Use Efficiency in Different Applications El-bakhshwan, M.K.; Salwa SH. Hana, SH. M. Abed El-Ghafar and M.F.E. Zayed	191
13	Development of Self-propelled Drum Seeder for Paddy Direct Seeding Ramadan, Y. Y.	203
14	Evaluation of Three Analytical Approaches for Estimation of Cotton Lead Area Aboukarima, A. M., M. Minyaw, H.A. El Soury and Riham El-Oliemy	225
15	Effect of Using Different Urban Substrate Culture and Plant Extractions Spraying on Growth and Production of Sweet Basil Maharek, Z. Y. and H. R. A. Mehasen	239
16	The Cabbage Productivity in Substrate Culture under Egyptian Condition Maharik, Z. Y.; M. S. A. Emam; M. Abul-Soud; S. H. Ahmed; M. H. Mohammed and A. M. Hawash	263
17	Performance of Sugarcane Transport Equipment Elkaoud, N. S. M. and M. I. M. Ahmed	283
18	An Economic Study on the Productivity Efficiency, and the Problem of Cotton Farmers in Agricultural Reform Zone in Al-Beheira Governorate Assem, K. A. H.; A. A. Mohamed and A. H. A. H. El-Shibany	299