

## C.V

• **Name: Dr. Kamil Mutashar Malih Ghaib AL- Jobori**

• **Date of Birth: April 17<sup>th</sup> 1960**

• **Nationality: Iraq**

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**Phone: 09647804159246**

### Academic Degrees:

- **B.Sc. degree in Agricultural Science 1982-1983, College of Agriculture - University of Salaheddin / Iraq (The first superior in the college ).**
- **Masters degree in (Nutrition and Quality of Plant), College of Agriculture - University of Salahuddin / Iraq. 1987**
- **Doctorate degree in (Plant Physiology) in the August 24, 2002, College of Agriculture - University of Baghdad / Iraq.**
- **Major : Agricultural Sciences/Agronomy**
- **Specialization: Plant Physiology**
- **Academic Title: Professor**
- **date of obtaining the scientific title: March 19, 2012.**

### Employment History:

- **Teaching at the College of Agriculture - University of Tikrit, from April 2, 1994 until September 2006.**
- **Teaching at the College of Science - University of Baghdad from September 2006 until August 2011.**
- **Teaching at the Institute of Genetic Engineering and Biotechnology for PostGraduate Studies from August 2011 so far.**

### Functional Tasks:

**Teaching undergraduates, graduate students and scientific research.**

### The Administrative Tasks:

- **Member of the council of Plant Production Department / College of Agriculture - University of Tikrit.**
- **Member of the council of Agronomy Department / College of Agriculture - University of Tikrit.**

- Member of the Scientific Committee at the Agronomy Department / College of Agriculture - University of Tikrit.
  - Member of the Promotion Committee / College of Agriculture - University of Tikrit.
  - Member of the council of Biology Department / College of Science - University of Baghdad.
  - Member of the Graduate Studies Committee in the Department of Biology / College of Science - University of Baghdad.
  - Rapporteur of Graduate Studies in the Department of Biology / College of Science - University of Baghdad.
  - Scientific Affairs Official at the Institute of Genetic Engineering and Biotechnology for PostGraduate Studies - University of Baghdad.
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- Member of the Scientific Committee at the Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad.
  - Member of the updated curriculum at the Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad.
  - Rapporteur of the board of the Institute of Genetic Engineering and Biotechnology for Post Graduate Studies- University of Baghdad.
  - Responsible for the educational counseling at the Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad .
  - Responsible for the Continuing Education Committee of the Institute of Genetic Engineering and biotechnology for Post Graduate studies- University of Baghdad .
  - Dean Assistance for Scientific and Administrative Affairs Agency / Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad.
  - Official of the Secretariat unit of the Council of the Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad .
  - Chairman of the Committee of Scientific Promotion at the Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad.
  - Member of the Editorial Board of the Iraqi Journal of Biotechnology, published by the Institute of Genetic Engineering and Biotechnology for Postgraduate Studies.
  - Head of the Department of Genetic Engineering- Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad.

### **Conferences and Symposiums:**

#### **Participation in Conferences and Symposiums:**

- Regional Conference of the plant production - the University of Tikrit, for the period December 24 to 25, 2002.

- The first International Conference for Genetic Engineering in November, 2011. Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad.
- Iraqi Biotechnology Conference – AL-Nahrain Center for Strategic Studies 7-9 May 2013 Baghdad- Iraq.
- The 2<sup>nd</sup> Scientific Conference of Center of Desert Studies- Scientific Research..Is the Base for Comprehensive Development of Iraq Desert 24-26 /4/2013-Univ. of Anbar.
- Member of the Scientific Committee at the Second International Conference of the Institute for Genetic Engineering. 15-16 December 2014. Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad.
- The scientific Symposium (Molecular Diagnosis of the Causes of Disease) Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad March 14, 2016
- The first Student Scientific Conference, Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad .1 June 2016.
- Academic meeting to discuss the ministry of higher education and scientific research policies. Wednesday, November 9<sup>th</sup> 2016.
- Member of the Preparatory Committee at the Third International Conference of the Institute for Genetic Engineering. 25-26 October 2017. Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad.
- The second Student Scientific Conference, Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad . 2018.
- Member of the Scientific Committee at the Fourth International Conference (Advanced Biotechnologies). 29-30 April 2019. Institute of Genetic Engineering and Biotechnology for PostGraduate Studies- University of Baghdad.

#### Attending Conferences:

- Conference held at the College of Science - University of Baghdad.
- The 2<sup>nd</sup> International Scientific Conference of Applied Biotechnology (By Scientific Research and Modern Bioscience Technologies, the Nations are Developed) which was held at the Biotechnology Research Center – AL-Nahrain University. 3-4 April 2019.

#### Attend the Symposiums:

- Symposium (biotechnology) College of Science - Al-Nahrain University.
- Symposium (Herbarium and gene banks Iraq's treasures) for the period 29 to 31 March 2011 the Ministry of Agriculture.

- **Symposium( Safety and chemical safety ) Institute for Genetic Engineering and Biotechnology for PostGraduate Studies . March 20110**
- **Symposium (The eality of TB in humans and animals in Iraq) College of Science - Baghdad Univ. April 2011.**
- **Symposium (Genetic improvement of plants using tissue culture technology ) Institute of Genetic Engineering and Biotechnology for PostGraduate Studies . April 2011.**
- **Symposium (To overcome the difficulties experienced by faculty members at the university) May 10, 2012.**
- **Symposium (Three-dimensional imaging technology) 29/10/2011- Institute of Genetic Engineering and Biotechnology for PostGraduate Studies.**
- **Symposium (Truth of facts Quality Assurance) Institute of Genetic Engineering and Biotechnology for postGraduate Studies 27/12/2011.**
- **Symposium ( DNA finger printing and society) Institute of Genetic Engineering and Biotechnology for PostGraduate Studies 6/06/2012.**
- **Symposium ( The reality of plant tissue culture in Iraq and ways to promote) Institute of Genetic Engineering and Biotechnology for Post Graduate Studies November 2012.**
- **Symposium (Nanotechnology applications in genetic engineering) Institute of Genetic Engineering and Biotechnology for PostGraduate Studies December 2012.**
- **Symposium ( Stem cells and therapeutic applications) Bio-technology Research Center - Nahrain University November 2012.**
- **Symposium (Genetically modified food benefits and risks) Bio-technology Research Center - Nahrain University February 18, 2013.**
- **Symposium (DNA in the service of society) Institute of Genetic Engineering and Biotechnology for PostGraduate Studies-12 March 2013.**
- **Symposium (University of Baghdad along the ancient Mesopotamia Sciences (Celebration of Baghdad, the capital of Arab culture) Institute of Genetic Engineering and Biotechnology for PostGraduate Studies -20 March 2013- .**
- **Symposium (Production of Bio-fuel) - Institute of Genetic Engineering and Biotechnology for PostGraduate Studies October 31, 2013.**
- **Symposium (Human Rights and the change in the Arab region: introductions and results) Center for Strategic and International Studies - University of .Baghdad March 17, 2014.**
- **Symposium (Use of nuclear techniques in plant breeding and improvement) Institute of Genetic Engineering and Biotechnology for PostGraduate Studies March 20, 2014.**
- **Symposium (linguistic and cultural heritage of the folks Mesopotamia) Institute of Genetic Engineering and Biotechnology for PostGraduate Studies April 20, .2014.**
- **Symposium (Treasures of Salty Wealth Botanical in Iraq), College of Science for Girls - University of Baghdad 28 to 29 May 2014.**
- **Symposium (The prospects of scientific cooperation between research centers and service institutions in the field of forensic examination). DNA Forensic Center - Nahrain University.**

•Symposium (Bioinformatics and its importance in the development of biological and medical research). Institute of Genetic Engineering and Biotechnology for Post Graduate Studies.28 March2016.

•Symposium(Weed control in the fields of strategic crop) 1 March 2018. College of Agriculture- University of Baghdad.

### Workshops

•The first scientific workshop (lawns and gene banks treasures Iraq renewable) 29-30 April 2012 - the Ministry of Agriculture / General Authority for examination and certification of seeds

•The first workshop (To begin studying the genetic origins and applications of justice in Iraq) 14-16 May 2012 Nahrain University / Mesopotamia Training Center on forensic DNA fingerprint

•Workshop on the use of statistical software (GenStat) to analyze the data. And the use of Microsoft Excel program to display the data and graphs May 29, 2014 the Institute of Genetic Engineering and Biotechnology for PostGraduate Studies.

• Workshop on (basics sequence of nitrogenous bases) for the period from 20-24 / 12/2015 DNA Forensic Center - Nahrain University.

• Workshop on (Molecular diagnosis of cancer and genetic diseases using Next generation sequencing technique) Institute of Genetic Engineering and Biotechnology for PostGraduate Studies 25-26-October 2017.

• Workshop on(Real Time PCR applications) ) Institute of Genetic Engineering and Biotechnology for PostGraduate Studies 9-11/4/2017

### Teaching Experience:

Through working in universities teach the following materials:

### Subjects that taught to undergraduates:

- 1 - General Plant
- 2 - Plant Physiology
- 3 - Design and Analysis of Experiments
- 4 - Oil Plants
- 5 -Crop Plant
- 6 – Fiber Plants
- 7 - Leguminous Plants
- 8 - Forage and Pastures Plants
- 9 – Sugar Plants
- 10 - Irrigation and Drainage
- 11 - Research Project

### **Subjects that taught to graduate students: -**

- 1 - Advanced Plant Physiology
- 2 - Physiology of Environmental Stress
- 3 - Advanced Plant Growth Regulators
- 4 - Advanced Crop Physiology
- 5 - Special Topics in the Analysis of Plant Growth
- 6- Methods and ethics of scientific research
- 7 - The basics of molecular biology of plant
- 8 - Plant Molecular Biology
- 9-Plant Genetic Resources
10. Biostatistics

### **Scientific Committees:**

**Participated in the scientific committees for the comprehensive examination for Ph.D. students and discuss a number of students of Higher Diploma, Masters and Ph.D**

### **Supervision of graduate students:**

**Supervised a number of graduate students (Higher Diploma, Master and Doctorate)**

### **Scientific Assessment**

- A review of many of the master's thesis and doctorate dissertation.
- A review of many of the research in the Iraqi journals and international journals

### **Thanks and appreciation**

**Receive a number of books of thanks and appreciation from the Minister of Higher Education and Scientific Research, and the heads of universities and deans of the faculties.**

### **Scientific Research Published:**

- 1- Response of maize to nitrogen and phosphorous fertilizers in north Iraq. Iraqi J. Agric. Sci. (Zanco), 6(1986) .**
- 2 - Effect of nitrogen and phosphorus on yield and yields components of corn VAR. Neelum. Iraqi Journal of Agricultural Science, 30 (1): 311-344 (1989).**
- 3 - Effect of bentonit and organic matter application on yield and yield components of sunflower in gypsiferous soil. Journal of Tikrit University for Agric. Sci., 1 (1): 67-76 (1998).**
- 4 - Effect of bitumen and uresol on the moisture content and plant growth in gypsiferous soil. Journal of Tikrit University for Agric. Sci , 1 (1): 118 - 127 (1998).**

- 5 - The role of bitumen and uresol in decreasing erosion and evaporation rate on gypsiferous soils. *Journal of Tikrit University for Agric. Sci* , 1 (1):7-18 (1998).
- 6 – The effect of planting dates and planting methods on growth, yield and yield components of lentil (*Lentilla lens*) in gypsiferous soil. *Journal of Tikrit University for Agric. Sci* , 1 (1): 91-103 (1998).
- 7 – The effect of number of plants per hole and intera-row spacing on the yield and its components of Broad Bean(*Vicia faba* L.). *Journal of Tikrit University for Agric. Sci* ,1 (6): 74-83 (2001).
- 8 - Effect of phosphorus fertilizer and hole spacing on growth , yield and its components of Broad Bean (*Vicia faba* L.). *Journal of Tikrit University for Agric. Sci* , 1 (6):10-20 (2001).
- 9 – The effect of nitrogen fertilization and plant density on yield and its components of cotton (*Gossypum hirsutum* ). *Journal of Tikrit University for Agric. Sci* , 1 (3): 27-37 (2001).
- 10 - Effect of sowing times on yield and yield of sunflower (*Helianthus annuus* L.)in the north of Iraq. *Journal of Agriculture*, 7 (8): 17-23 (2002).
- 11 - Effect of subsequent cropping systems on growth and yield of wheat (*Triticum aestivum* var. Sham-6) . *Journal of Tikrit University for Agric. Sci* , 3 (4): 70-77 (2003).The Congress of plant Production Proceeding (Field Crops).
- 12 - Effect of nitrogen and phosphorus application on yield and its components sunflower (*Helianthus annuus* L.) . *Journal of Tikrit University for Agric. Sci* , 5 (1): 114-122 (2005).
- 13 - Water requirement of corn (*Zea mays* L.) for fall season of central Iraq under full full and deficit irrigation. *Studies Journal of Agricultural Sciences*, 32 (3): 315-323 (2005) Jordan.
- 14 - Response of maize (*Zea mays* L.) yield and yield components to scheduling of sprinkler irrigation and plant population in Iraq. *Journal of Agricultural Investment-Arab Authority for Agricultural Investment and Development - Sudan*. 3: 64 – 69 (2005) .
- 15- Estimation of maize photosynthesis efficiency under deficit irrigation and mulch. *Journal of Tikrit University for Agric. Sci* , 5 (1): 123-136 (2005).
- 16 – Effect of quality of irrigation water on growth and yield of seven varieties of wheat (*Triticum aestivum* L.) under supplementary irrigation conditions sprinkler method. *Journal of Tikri University for Agric. Sci.*, 5 (2): 123-139 (2005).
- 17 - Water requirement of sunflower under water stress conditions of central Iraq. *Iraqi Journal of Agricultural Science*, 35 (4): 1-8 (2004).

- 18 - Hardening of sunflower seeds to plant growth regulators to drought tolerance. *Iraqi Journal of Agricultural Science* , 35 (1): 103-108 (2004).
- 19-Behavior of sunflower roots under hardening conditions to drought tolerance. *AL-Fath Journal* , 26: 169-190 (2006).
- 20- Study of changes in wet and dry weights of sunflower plants under drought tolerance: 1 - The roots. *Journal of Tikrit University for Agric. Sci* , 6 (3): 159-170 (2006).
- 21- Study of changes in wet and dry weights of sunflower plants under drought tolerance: 2 - The stems. *Journal of Tikrit University for Agric. Sci* 7 (1): 126-134 (2007).
- 22 - Study of changes in wet and dry weights of sunflower plants under drought tolerance: 3 - The leaves. *Journal of Tikrit University for Agric. Sci* , 7 (1): 135-142(2007).
- 23 - Study of changes in wet and dry weights of sunflower plants under drought tolerance: 4 - The heads. *Journal of Tikrit University for Agric. Sci* , 6 (3): 171-178(2006).
- 24 - Study of changes in wet and dry weights of sunflower plants under drought tolerance: 5 - The whole plant. *Journal of Tikrit University for Agric. Sci* , 7 (2): 76-86(2007).
- 25 - Effect of seeds soaking treatments and storage periods on growth and yield of sunflower (*Helianthus annuus L.*). *Journal of Tikrit University for Agric. Sci* , 8 (2): 76-86 (2008).
- 26- Effect of hardening to drought tolerance on the moisture content of sunflower plant. I . moisture percentage in root and stem. *Umm Salamah Sciences Journal*, 5 (4): 513-521 (2009).
- 27 - Effect of hardening to drought tolerance on the moisture content of sunflower plant .II. .moisture percentage in leaves and heads. *Umm Salamah Sciences Journal*, 6 (4) :646-653 (2009).
- 28 - Effect of hardening to drought tolerance on the moisture content of sunflower plant .III. .moisture percentage in whole plant. *Umm Salamah Sciences Journal*, 7 (2): 888-894 (2010).
- 29 – The morphological changes in sunflower plant under hardening conditions to drought tolerance I - plant height and stem diameter. *Umm Salamah Science Journal*,6 (2): 290-297 (2009).
- 30 - The morphological changes in sunflower plant under hardening conditions to drought tolerance .II. Leaves number and leaf area . *Umm Salamah Science Journal* , 6 (3): 470-479 (2009) .



- 31 - Studies of some seed characteristic of sunflower under hardening conditions to drought tolerance. *J. Tikrit Univ. Agric. Sci.* , 9 (1) :541 -549 (2009).
- 32 - Effect of leaves defoliation and date of defoliation on yield of sunflower plant in gypsiferous soil .*Iraqi Journal of Science*, 20 (2): 152-160 (2009).
- 33- EFFECT OF LEAVES DEFOLIATION AND DATE OF DEFOLIATION ON GROWTH OF SUNFLOWER PLANT (*Helianthus annuus* L.) IN GYPSYFEROUS SOIL. *Iraqi J. Sci.*,50(4):445-457(2009).
- 34- Role of plant growth regulators Atonik and Hypertonik in reducing flower dropping and its affect on seed yield. . *Iraqi J. Sci.*,51(1):28-39(2010).
- 35-Antimicrobial effect of *Dodonaea viscosa* Jacq. Extracts against some pathogenic microorganisms. *Iraqi J. Sci.* ,52(4): 425-439 (2011) .
- 36-Evaluation of the Role of Gibberellin and Cytokinin in Regulation of Seed Setting and Seed Filling in Sunflower (*Helianthus annuus* L.).*DJPS*,8(4):60-79.(2012)
- 37- Response of Corn (*Zea mays* L.) Plant to Variable Water Supply at Different Growth Stages. *Iraqi J. of Desert Studies*,4(2): 83-93.
- 38- Determination the susceptibility of *Bulinus truncatus* to the leaves and steam crude aqueous solution of *Citrus aurantium* L.*Iraqi J. of Biotechnology*, 12(1): 22-29.
- 39-Evaluation of the antagonistic effect of musk on eleven bacterial strains and three types of yeast. *Topclass Journal of Microbiology* Vol. 2(1) Pp. 1-7, 26 March, 2014.
- 40-Evaluation the Effect of *Dodonaea viscosa* Jacq. Residues on Growth and Yield of Maize (*Zea mays* L.). *International Journal of Advanced Research* (2014), Volume 2, Issue 2, 514-521.(IF)
- 41- Testing of Wheat Genotypes for Salt Tolerance. *International Journal of Advanced Research* (2014), Volume 2, Issue 4, 187-194 (IF).
- 42- Response of Potato (*Solanum Tuberosum*) to Foliar Application of Iron , Manganese, Copper and Zinc . *International Journal of Agriculture and Crop Sciences* (2014) Vol., 7 (7), 358-363 (IF).
- 43- Effect of seed soaking periods in varying levels of fertilizers on growth, yield and yield components of peanut. *Journal of Agricultural and Crop Research /JACR/* Vol. 2(7), pp. 134-142 (2014) (IF).
- 44- Study of Some Physiological and Morphological Changes as a Measure of Salt Tolerance in Different Wheat Genotypes.

*International Journal of Farming and Allied Sciences*, Vol., 3 (5): 502-511, 2014(IF).

45- Effect of *Dodonaea viscosa* Jacq. residues on growth and yield of mungbean (*Vigna mungo* L. Hepper). *African Journal of Biotechnology*, Vol. 13:2407-2413(2014).

46- The effect of Water limitation on Water Relations, growth and seed yield of four soybean (*Glycinemaxmerri*.) genotypes. *Advances in BioResearch*, Vol 5 (3) September 2014:01-09.

47-Evaluation of diagnostic polymerase chain reaction (PCR) for the detection of *Escherichia coli* ,*Staphylococcus aureus* and *Bacillus cereus* in cheese.*African Journal of Microbiology Research* . Vol . 9(9)March 2015 pp.611-616.

48-Comparison between PCR and Culture Methods for Detection of *Salmonella typhimurium* from Food and Beverage. *Donnish Journal of Food Science and Technology*, Vol 1(2) pp. 006-016 August, 2015.

49-Prevents Sodium Oxalate Induced Histopathological Changes In The Kidney. *International Journal Of Medical Science And Clinical Inventions*, Volume 2 issue 07 2015 page no. 1167-1178.

50-Detection of *Salmonella* spp. and *Listeria monocytogenes* in soft white cheese using PCR assays. *INTERNATIONAL JOURNAL OF ORIGINAL RESEARCH*, Volume : 1 | Issue : 1 | December 2015 pp. 1-7.

51-Detection of *Salmonella* spp. in different food sources in Baghdad city: A comparison between conventional and chromogenic methods. *International Journal of Advanced Research in Biological Sciences*, Vol.2(11)2015:171-184 (IF).

52- Pharmacological evaluation of aqueous extract of plant formulation against sodium oxalate induced urolithiasis in mice. *INTERNATIONAL JOURNAL OF ORIGINAL RESEARCH*. Volume : 2 | Issue : 2 | 2016 pp. 32-39.

53-*In vitro* Antifungal Activity of Musk. *Didactic Journal of Medicinal Plant Research* ,Vol 1 (1) pp. 001-006 January, 2016.

54. Detection of *E.coli*, *Salmonella* spp., and *Listeria Monocytogenes* in Retail Chicken Meat and Chicken Giblets Samples Using Multiplex PCR in Baghdad City. *Int.J.Curr.Microbiol.App.Sci* (2016) 5(9): 290-301.

55. Inhibitory Effectiveness of Musk on Viability of Protoscolices of Hydatid Cysts. *Int.J.Curr.Microbiol.App.Sci* (2016) 5(4): 998-1006.

56. The Diagnostic and Prognostic Values of FOXP3 Gene in Iraqi Breast Cancer Women. *Iraqi Journal of Cancer and Medical Genetics* (2016)9 (1 ):50-56.

**57. The Diagnostic and Prognostic Values of NCR1 and NCR3 Genes in Iraqi Breast Cancer Women. Iraqi Journal of Cancer and Medical Genetics , (2016) 9 ( 1 ): 62-67**

**58. Detection of Salmonella typhimurium in Different Food Sources by Conventional Method and multiplex PCR assay. International Journal for Research in Biology & Pharmacy Research,1(7):1-21(2016).**

59-Impact of probiotic strain of the non-pathogenic Escherichia coli "Nissle1917" on gene expression of shiga toxin E. coli O157:H7 In vitro and In vivo. Bioscience Research, 14(4):1064-1073.(2017)

60-Prevalence of Hafnia alvei (H. alvei) in hemorrhagic colitis (HC) and hemolytic uremic syndrome (HUS) patients and food samples in Iraq. Bioscience Research. 14(4):852-859(2017).

61-An Evaluation of Conventional Culture and VIDAS® System as Detection Tools for Salmonella in Different Food Sources. Annals of Clinical Research and Trials, 1(1):1-7(2017).

62. Expression Pattern of Wheat Mitogen-Activated Protein Kinase (MAPK1 and MAPK4) Genes under Salinity Stress. Current Research in Microbiology and Biotechnology, 5(4):1184-1195(2017).

63-SCREENING OF IRAQI WHEAT (TRITICUM AESTIVUM L.) GENOTYPES AGAINST SALINITY AT EARLY GROWTH STAGE: STUDIES IN HYDROPONIC CULTURE. International Journal of Advanced Biological Research, 7(3):524-534(2017).

64-EPIDEMIOLOGICAL STUDY FOR PREVALENCE AND INCIDENCE OF SYPHILIS AMONG BLOOD DONORS IN THI-QAR PROVINCE. Biochem. Cell. Arch. 18(1):65-68(2018).

65-Molecular Diagnostic of Treponema pallidum in Blood Specimens of Donors Using Simple PCR and Real-Time PCR in Thi-qar Province, Iraq. Journal of Global Pharma Technology, 10(3):396-400.(2018).

66- SELECTION FOR DROUGHT TOLERANCE GENOTYPES IN BREAD WHEAT (*TRITICUM AESTIVUM* L.) UNDER *IN VITRO* CONDITIONS BASED ON MOLECULAR APPROACHES .Biochem. Cell. Arch. 18 (1), 81-188 (2018).

67. *Escherichia coli* O104:H4: a New Challenge in Iraq. J. Pharm. Sci. & Res. Vol. 10(5), 2018, 1118-1121.

68. EFFECT OF LEAD METAL STRESS ON ANTIOXIDANT GENES EXPRESSION IN LEAVES OF SUNFLOWER (*HELIANTHUS ANNUUS* L. CV. AQMAR) PLANTS. *Plant Archives* Vol. 19, Supplement 1, 2019 pp. 284-292.

69. Evaluation of sunflower (*Helianthus annuus* L.) for phytoremediation of lead contaminated soil. J. Pharm. Sci. & Res. Vol. 11(3), 2019, 847-854

