

## CURRICULUM VITAE

**TITLE** Professor  
**NAME** A. RASOUL MOSA AL-OMRAN  
**Office Address** Department of Soil Science  
College of Food Agricultural Sciences  
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**Degrees** B.S. College of Agriculture, K.S.U. 1975. Saudi Arabia  
M.Sc. University of California at Davis, 1979, in Water  
Science (Irrigation) U.S.A.  
Ph.D Oregon State University, Corvallis, 1984, Soil Science, U.S.A.

**Major Field** Soil Science (soil physics)  
**Minor Field** Agricultural Engineering (Irrigation)

**Professional Societies** American Society of Agronomy  
Soil Science Society of America  
Saudi Society for Agricultural Sciences

**Administrative Positions** Director of Agricultural Research Center at the  
College of Agric. 1988-1990.

Editor in-chief of the Journal of the Saudi Society of  
Agricultural Sciences (2002- present)  
Member of the Editorial Board of the Arid Land Research and  
Management, USA (2003-  
1993- present Professor of Soil Science  
1989-1993 Associate Professor  
1984-1989 Assistance Professor  
1990-1991 Sabbatical leave at University of  
California at Davis working with Prof. D.R. Nielsen  
in Geostatistical analysis of soil properties.

### Publications

Over 60 published articles in national and international journal and recently, a chapter in  
Soil Conditioner Handbook. ( Referred To Selected Publications )

### Current Research:

- 1- Physical Properties of Polyacrylamide Treated Sandy Soils studied under Saline conditions.
- 2- Hydration and Swelling Properties of Soil Conditioners as Affected by Chemical Fertilizer Salts
- 3- Evaluation of water quality and its effect on soil infiltration in Riyadh region
- 4- Infiltration in a calcareous sandy soil as affected by natural clay deposits
- 5- Crop water requirements
- 6- Surface and Subsurface Drip Irrigation
- 7- Deficit Irrigation

### Funded Research

- 1- Co-investigator in project funded by KACST entitled “ Development of Irrigation water requirements model for water conservation in the kingdom of Saudi Arabia (2001-2003)
- 2- Principal investigator in project funded by KACST entitled “ Conservation of irrigation water in Saudi Arabia using natural and synthetic soil conditioners (2002-2004)

- 3- **Principal investigator in project funded by Research center entitled spatial variability of some soil physical properties. (2002-2003).**

## **Publications**

### **ARTICLES**

- 1- **Al-Omran, A.M.** 1986. Temperature and water stress effects on the growth of corn seedling ( Zea mays l.). J. Coll. Agric. K.S.U. 8:449-456.
- 2- **Al-Omran, A.M.** 1987. Evaluation of some irrigation water in central region of Saudi Arabia. J. Coll. Agric. K.S.U. 9:363-369.
- 3- **Al-Omran, A.M.**, M.A. Mustafa and A.A. Shalaby. 1987. Intermittent evaporation from soil columns as affected by gel-forming conditioners. Soil Sci. Soc. Am. J. 51:1593-1599.
- 4- **Al-Omran, A.M.**, M.A. Mustafa and M.Mursi. 1988. The influence of gel-forming conditioner on water retention and crust strength of some calcareous soil. J. Coll. Agric. K.S.U. 10:199-207.
- 5- Mustafa, M.A., **A.M. Al-Omran**, A. A. Shalaby and A.M. Al-Darby. 1988. Horizontal infiltration of water in soil columns as affected by gel-forming conditioner. Soil Science 145:330-336.
- 6- Mustafa, M.A., A.M. Al-Darby, **A.M. Al-Omran** and M.Mursi. 1989. Impact of gel conditioner and water quality upon soil infiltration. Irrigation Science 10: 169-176.
- 7- Al-Mustafa, W.A., and **A.M. Al-Omran**. 1989. Effect of soil moisture on growth and phosphorus uptake by wheat. Arab Gulf J. Bio. Agri. 57(1): 43-51.
- 8- Al-Darby, A.M., M.A. Mustafa **A.M. Al-Omran** and M.O. Mahjooub. 1989. Effect of wheat residue and evaporative demand on intermittent evaporation. Soil Tillage Research 15:105-116.
- 9- **Al-Omran, A.M.**, M.A. Mustafa and A.A. Shalaby. 1990. Response of wheat to irrigation regimes and a gel conditioner. J. King Saud Univ. Agri Sci. 2(1): 139-145.
- 10- Al-Darby, A.M., M.A. Mustafa, **A.M. Al-Omran** and M.O. Mahjooub. 1990. Effect of three commercial conditioners on available water conserved and strength of a loamy sand soil. J. King Saud Univ. Agric. Sci. 2(2): 307-320.
- 11- Al-Mustafa, W.A., and **A.M. Al-Omran**. 1990. Reliability of 1:1, 1:2, and 1:5 weight extracts for expressing salinity in light textured soils of Saudi Arabia. J. King Saud Univ. Agri Sci. 2(2): 321-329.
- 12- **Al-Omran, A.M.**, A.A. Shalaby, M.A. Mustafa, and A.M. Al-Darby. 1990. Impact of water quality on crust strength of a gel conditioned calcareous sandy soil. Soil Technology 3: 57-62
- 13- Al-Darby, A.M., M.A. Mustafa and **A.M. Al-Omran**. 1990. Effect of water quality on infiltration of loamy sand soil treated with three gel conditioners. Soil Technology. 3: 83-90.

- 14- **Al-Omran, A.M.** 1990. The effect of water regimes on corn and wheat production. Emir. J. Agric. Sci. 2: 80-96.
- 15- **Al-Omran, A.M.**, A.M. Al-Darby, M.A. Mustafa and A.A. Shalaby. 1991. Impact of gel conditioners and water salinity on intermittent evaporation. Egyptian J. Soil Science 31: 575-588.
- 16- **Al-Omran, A.M.** 1991. Effect of deficit irrigation on potatoes production. J. King Saud Univ. Agri Sci. 3(1): 139-147.
- 17- **Al-Omran, A.M.**, M.A. Mustafa, A.M. Al-Darby, and A.A. Shalaby. 1991. Gel-conditioned barriers for water management of sandy soil. Irrigation Science 12: 273-286.
- 18- **Al-Omran, A.M.**, and A.A. Shalaby. 1992. Calculation of water requirements for some crops in the eastern and central regions of Saudi Arabia. J. King Saud Univ. Agri Sci. 4(1): 97-114. In Arabic.
- 19- **Al-Omran, A.M.**, and A.A. Shalaby. 1992. Effect of water quality and gel-conditioner rate on intermittent evaporation. J. King Saud Univ. Agri Sci. 4(2): 273-286.
- 20- Wendroth, O., **A.M. Al-Omran**, C. Kirda, K. Reichardt and D.R. Nielsen. 1992. State space approach to spatial variability of crop yield. Soil Sci. Soc. Am. J. 56: 801-807.
- 21- El-Shafei, Y.Z., **A.M. Al-Omran**, A.M. Al-Darby and A.A. Shalaby. 1992. Influence of upper layer treatment of gel-forming conditioner on water movement in sandy soils under sprinkler infiltration. Arid Soil Res. Rehab. 6: 217-231.
- 22- Al-Darby, A.M., **A.M. Al-Omran**, and A.A. Shalaby. 1993. Influence of water quality on water absorption capacity of soil gel-conditioners. J. King Saud Univ. Agric. Sci. 5(1): 111-117.
- 23- **Al-Omran, A.M.** and O. Elbassir. 1993. State space analysis of the spatial variability field-measured infiltration. Arab gulf J. Sci. Res. 11(1): 69-82.
- 24- **Al-Omran, A.M.** 1993. State space analysis of soil water content and textural fractions J. King Saud Univ. Agric. Sci. 5(2): 277-287.
- 25- El-Shafei, Y.Z., **A.M. Al-Omran**, and A.M. Al-Darby. 1993. Impact of kinetic energy of falling drops upon soil infiltrability. ICID Bulletin CIID. 42(2): 57-71.
- 26- El-Shafei, Y.Z., A.M. Al-Darby, A.A. Shalaby, and **A.M. Al-Omran**. 1994. Impact of a highly swelling gel-forming conditioner (Acryhope) upon water movement in uniform sandy soils. Arid Soil Res. Rehab. 8: 33-50.
- 27- Al-Harbi, A.R., **A.M. Al-Omran**, H. Wahdan, and A.A. Shalaby. 1994. Impact of irrigation regime and conditioner rate on tomato seedling growth. Arid Soil Res. Rehab. 8: 285-290.

- 28- Falatah, A.M., and **A.M. Al-Omran**. 1995. Impact of a soil conditioner on some selected chemical properties of calcareous soil. Arid Soil Res. Rehab. 9: 91-96.
- 29- Choudhary, M.I., A.A. Shalaby, and **A.M. Al-Omran**. 1995. Water holding capacity and evaporation of calcareous soils as affected by four synthetic polymers. Commun. Soil Sci. Plant Anal. 26(13&14): 2205-2215.
- 30- **Al-Omran, A.M.**, W.A. Al-Mustafa and M.M. Mursi. 1996. Spatial variability of some soil physical properties I. Autocorrelation, Variogram, Cross-correlation and Cross-variograms. J. King Saud Univ. Agric. Sci. 8(1):95-108 (In Arabic).
- 31- **Al-Omran, A.M.**, W.A. Al-Mustafa and M.M. Mursi. 1996. Spatial variability of some soil physical properties II. Kriging and Cokriging. J. King Saud Univ. Agric. Sci. 8(2):229-243. (In Arabic).
- 32- Al-Harbi, A.R., **A.M. Al-Omran**, M.I. Chodhary, H. Wahdan, and M.M. Mursi. 1996. Influence of soil conditioner rate on seed germination and growth of cucumber plants ( *Cucumis sativus* L.). Arab Gulf J. Sci. Res. 14: (1) 129-142.
- 33- Falatah, A.M., M.I. Choudhary, and **A.M. Al-Omran**. 1996. Changes in some chemical properties of arid soils as affected by synthetic polymers. Arid Soil Res. Rehab. 10:277-285.
- 34- Al-Darby, A.M., **A.M. Al-Omran**, Y.Z. El-Shafei, and A.A. Shalaby. 1996. Influence of highly swelling gel-forming conditioner (Acrhope) on hydrophysical properties of layered sandy soils. J. King Saud Univ. Agric. Sci. 8(1): 160-173.
- 35- Al-Harbi, A.R., **A.M. Al-Omran**, A.A. Shalaby, and M.I. Choudhary. 1996. Growth of cucumber to hydrophilic polymer application under soil moisture levels. J. of Vegetable Crop Production 2(2):57-64.
- 36- Al-Wabel, M.I., A.A. Shalaby and **A.M. Al-Omran**. 1997. Intermittent evaporation from calcareous sandy soils as affected by sewage sludge. Arid Soil Res. Rehab. 11:85-93.
- 37- Falatah, A.A., M.I. Choudhary, A.A. Shalaby and **A.M. Al-Omran**. 1997. Spatial variability of some soil physical characteristics of Al-Khotkhot experimental station. J. King Saud Univ. Agric. Sci. 9(2):303-318.
- 38- **Al-Omran, A.M.**, A.A. Shalaby and M.I. Al-Wabel. 1997. Impact of sewage sludge on water movement in calcareous sandy soils. Sultan Qaboos Univ. J. Scient. Res. Agric. Sci. 2:59-67.
- 39- Choudhary, M.I., **A.M. Al-Omran**, A.A. Shalaby. 1998. Physical properties of sandy soil as affected by a soil conditioner under wetting and drying cycles. Sultan Qaboos Univ. J. Scient. Res. Agric. Sci. 3(2):69-74.

- 40- Al-Wabel, M.I., **A.M. Al-Omran**, and A.A. Shalaby, and I. M. Choudhary. 1998. Effect of sewage sludge on some chemical properties of calcareous sandy soils. *Communications in Soil Science and Plant Analysis*. Vol.29(17&18): 2713-2724.
- 41- Falatah, A.M., **A.M. Al-Omran**, A.A. Shalaby and M.M. Mursi. 1999. Infiltration in a calcareous sandy soil as affected by water soluble polymers. *Arid Soil Res. Rehab.* 13:61-73.
- 42- Al-Harbi, A.R., **A.M. Al-Omran**, A.A. Shalaby, and M.I. Choudhary. 1999. Efficacy of hydrophilic polymer reduced with time under greenhouse experiments. *Horti-Science*. 34 (2):223-224.
- 43- Falatah, A.M. **A.M. Al-Omran**, M.S. Nadeem and M.M. Mursi. 1999. Chemical composition of irrigation ground water used in some agricultural regions of Saudi Arabia. *Emirates Journal for Agricultural Sciences*. 11: 1-23. In Arabic.
- 44- **Al-Omran, A.M.**, A.M. Falatah, A.A. Shalaby, M.M. Mursi and M. Nadeem. 2001. Application of natural and synthetic soil conditioners for water conservation in calcareous sandy soil.. *J. King Saud Univ. Agric. Sci.* In Arabic Vol. 14 (1): 101-112.
- 45- **Al-Omran, A.M.**, M.I. Choudhary, A.A. Shalaby and M.M. Mursi. 2002. Impact of natural clay deposits on water movement in calcareous sandy soil. *J. Arid Land Research and Management*. 16: 185-193.
- 46- **Al-Omran, A.M.** 2002. Irrigation water conservation in Saudi Arabia. *Journal of the Saudi Society of Agricultural Sciences* Vol. 1(1):1-50. In arabic
- 47- **Al-Omran, A.M.**, A.M. Falatah, A.A. Shalaby, M.M. Mursi, M. Nadeem, and M.I. Choudhary. 2002. Impact of the natural deposits of Saudi Arabia on selected physical properties of calcareous sandy soil. *Drasat*. Vol.29(3): 285-294.
- 48- Al-Matroud, S.S. , **A.M. Al-Omran**, and G. Abdel-Nasser. 2003. Effect of water quality on infiltration rate of soils. *Journal of the Saudi Society of Agricultural Sciences* Vol. 2(1):1-25. In Arabic
- 49- Alazba, A.A., H.M. Alghobari, F.S. Mohammad, and **A.M. Al-Omran**. 2003. Measured and estimated crop ET and Kc for wheat and barley in central Saudi Arabia. *Alexndria Journal of Agricultural Research* Vol.48(2):1-9.
- 50- **Al-Omran, A.M.**, A.M. Falatah, A.S. Sheta, and A.R. Al-Harbi. 2004. Natural clay deposits for water management of sandy soils. *J. Arid Land Research and Management*. 18:1-13.
- 51- **Al-Omran, A.M.**, F.S. Mohammad, H.M. Alghobari, and A.A. Alazba. 2004. Determination of evapotranspiration of tomato and squash using lysimeters in central Saudi Arabia. *International Agricultural Engineering Journal*, 13(1&2):27-36.
- 52- **Al-Omran, A.M.**, A.M. Falatah, A.S. Sheta, and A.R. Al-Harbi. 2004. Effect of clay deposits and irrigation levels on growth and water use efficiency of wheat. Submitted.
- 53- **Al-Omran, A.M.**, A.S. Sheta, A.M. Falatah, and A.R. Al-Harbi. 2004. Effect of drip irrigation on squash (*Cucubita pepo*) yield and water use efficiency in sandy calcareous soils amended with clay deposits. Accepted for publication, *Agricultural Water Management*

## Book

- 1- **Al-Omran, A.M.** and A.R. Al-Harbi. 1998. Improvement of sandy soils with soil conditioner. in Handbook of Soil Conditioner Eds A.Wallcae and R. Terry. Marcel Dekker, Inc.

## Conferences

- 1- Al-Darby, A.M., **A.M. Al-Omran**, A.A. Shalaby and M.A. Mustafa. Soil gel-conditioners and water quality for soil water management. The first scientific Saudi symposium on controlled environment agriculture. 25-27 Feb. 1992. Riyadh Saudi Arabia.
- 2- **Al-Omran, A.M.**, A.M. Al-Darby, A.A. Shalaby, and A.R. Al-Harbi. 1993. Application of soil gel-conditioner in soils of arid zones. Symposium of desertification and land reclamation in the area of the cooperation council for Arab Gulf States. Arabian Gulf University- Bahrain 22-25 November.
- 3- **Al-Omran, A.M.** Spatial variability on some physical properties. The fifth Geography symposium of Saudi Arabian Universities. 26-28 April, 1994 Riyadh, Saudi Arabia.
- 4- Al-Harbi, A.R., **A.M. Al-Omran**, A.A. Shalaby, and M.I. Choudary. Growth response of cucumber seedlings to water regimes and hydrophilic polymer. Sixteenth annual meeting of Saudi Biological Society. 21-23 March 1995 Riyadh, Saudi Arabia
- 5- Al-Wabel, M.I. and **A.M. Al-Omran**. Impact of sewage sludge on some physical properties of calcareous sandy soils. The international conference on desert development in the Arab Gulf countries. 23-26 March 1996. State of Kuwait.
- 6- Falatah, A.M., **A.M. Al-Omran**, M.S. Nadiem and M.M. Mursi. Chemical composition of groundwater used for irrigation in Saudi Arabia. Conference on impact of environmental pollution on development in the Gulf region. State of Kuwait 15-17 March 1999.
- 7- **Al-Omran, A.M.**, A.A. Shalaby, and M.M. Mursi. 2000. The use of natural deposits to conserve irrigation water in Saudi Arabia. First symposium to conserve water. Ministry of Agriculture and water 14-17 / 4/ 2000 Riyadh Saudi Arabia.
- 8- **Al-Omran, A.M.**, A.M. Falatah, and A.R. Al-Harbi. 2002. The use of natural deposits as an alternative for polymers on water management in arid calcareous sandy soils of Saudi Arabia. 17 World congress of soil science, 14-21 August, 2002. Thailand
- 9- **Al-Omran, A.M.**, A.M. Falatah, and A.R. Al-Harbi. 2003. Evaluation of surface and subsurface drip irrigation in sandy calcareous soil amended with natural clay deposits. International conference on soil and groundwater contamination and clean-up in arid countries. Muscat, Oman 20-23 January, 2003.
- 10- **Al-Omran, A.M.**, A.M. Falatah, and A.R. Al-Harbi. 2003. Impact of natural deposits on the growth and water use efficiency of wheat. WSTA sixth gulf water conference in concurrence with second symposium on water use conservation in the kingdom of Saudi Arabia. 8-12 March 2004 Riyadh.