

.CURRICULUM VITAE

1-Personal data :

Name **Mahgoub Gaafar El-Hag Omer**
Address Professor Mahgoub Gaafar El Hag ,: Faculty of Agriculture, Khartoum N., Al Azhari University
Date of birth : 1947.
Place of birth: Sudan
Marital status: Married with four children
Nationality Sudanese

2-Education

1978 **Ph.D. Animal Nutrition.**
Iowa State University, Ames, Iowa. USA.
1976 **M.Sc. Animal Nutrition.**
Iowa State University, Ames, Iowa. USA.
1972 **B.Sc. Agric. Honours Class I,** University of Khartoum ,Sudan.

3-Teaching experience :

Based in Sudan

2001 to date : Professor of Animal nutrition Faculty of Agriculture , Al Azhari University
1983 to 1986: Assosiate professor in animal nutrition, Department of animal nutrition, Institute, of animal production, U. of K.
Taught : 3 courses in animal nutrition and production : A course in composition of animal feeds ,digestion and absorption ; a course in ration formulation for dairy , beef and poultry and a course in students of the degree of rural development , Institute of extra muralstudies,U.of K.(taught four animal nutrition and production courses).
Taught (1983-1986) : Two courses in animal nutrition for final year students in agriculture, majoring.in animal production . (Energy and protein metabolism , rumen microbiology and fermentation) . Developed the Msc. program for the degree of animal production by course work , in collaboration with my colleagues in the Institute of animal prod. , U. of K. and taught an animal nutrition course for the Msc. students .husbandry and managment of farm animals.
Taught (1983-1986) As part-time , at Ahfad University College for Women ; Juba University; Shambat Polytechnic Institute of Agriculture and the students of the degree of rural development , Institute of extra muralstudies,U.of

- K.(taught four animal nutrition and production courses).
- 1979-1983 : Senior lecturer (assistant professor) in animal production, Department of animal production ,Faculty of Agriculture,U.of K .
- 1972-1974: Teaching assistant, University of Khartoum (U. of K.)
- Duties : Assisting in teaching animal production courses and conducting practical courses for undergraduate students of agriculture in the field of animal poduction .

4- Research experience

Based in Sudan :

Conducted research on by-products utilization for ruminants in the Sudan, where I surveyed types, quantities and nutritive value of the diferent agricultural by-products and crop residues in the country. I developed feeding systems for goats, sheep and beef based on by-products of sorghum straw, groundnut and cotton. I did some comparative research on feedlot performance of goats and sheep in addition to urea and molasses as protein and energy supplements for feeding ruminants. I also did some research on utilization and feeding value of irrigated forages (alfalfa and clitoria).

I initiated, supervised and co-supervised research work of seven M.Sc. and one Ph.D. Students in the area of animal nutrition.

As a project leader, I initiated and proposed together with my colleagues a project on utilization of agricultural by-products for animal feeding in the Sudan. The project was financed by the Canadian IDRC. Total budget of the project was approximately 225000 Canadian Dollars. The project allowed us to conduct applied research in the area of utilization of agricultural by-products for feeding ruminants in the Sudan, to train post graduate students and to purchase laboratory equipments and chemicals for our lab.

Based in the Sultanate of Oman :

I inaitated research work on utilization of date by-products and fish sardines as feeds for ruminants and poultry. I established the animal nutrition lab. at Rumais Livestock Research Station of the Ministry of Agric. and Fisheries. I determined the nutritive value of the different animal feed resources in the Sultanate (Irrigated forages , concentrate feeds , pasture and range and agricultural by-products). I established the animal feed mill at Rumais Livestock Research Station. As a result of my research in the area of by-products for feeding ruminants and poultry I formulated four different rations for: small ruminants, beef, dairy and laying birds. Those rations were based on > 40 % local by-products (by-products of dates, fish and oyster shells) and were 30 % cheaper than commercial concentrate animal

feeds. This work encouraged the private sector to invest in the area of animal feed production utilizing local by-products in the country.

5-Training experience

Based in Sudan :

Trained post graduate students at the Msc. and Ph.D levels in the field of animal production at U.of K.

I have initiated, supervised and co-supervised the research work of seven M.Sc and one Ph.D. graduate students. All of them had successfully graduated and awarded their degrees. The list of the students, research topics and year of graduation are listed below:

El-Tayeb, A.M.1982. The effect of Monensin on feed utilization of sheep and goats with special reference to the nutritive value of Sorghum bran (M.Sc thesis, co-supervisor).

Nadya, A.B.1982. Improvement of agro-industrial by-products through ensiling (M.Sc. thesis, co-supervisor).

Abdol-Galil, F H..1983. The effects of variable sources and levels of calcium and agro-industrial by-products on sheep performance (M.Sc. thesis, supervisor).

Musaddag, H. M.. 1983. Nutrient digestibility and performance of sheep and goats fed Clitoria terenata, Medicago sativa and groundnut hulls in various forms. (M.Sc. thesis, supervisor).

Hamza, E.A. 1984. The effect of various levels of molasses and vegetable oil (Sesame) on performance and carcass characteristics of Broiler chicks. (M.Sc. thesis, supervisor).

Omer I.H. 1984. Chemical and physical methods for improving the nutritive value of selected agric. by-products in the Sudan. (Ph.D thesis, supervisor).

Gaafar, M. M. 1986. Effect of Sorghum straw feeding on feedlot performance of cattle. (M.Sc. thesis, co-supervisor).

Faisal, M.A. 1986. Performance of feedlot beef cattle fed on agro-industrial by-products versus concentrate feed stuffs. (M.Sc.thesis , supervisor).

Trained two Somali technicians in the field of the analysis of animal feed stuffs .The technicians were sponsored by the Arab Organization for Agric Development (AOAD). .

Based in Somalia :

Installed the equipments of the animal nutrition laboratory of the ministry of agriculture in Somalia and trained two technicians for running the instruments and conducting analysis of animal feed stuffs .The training extended for two weeks and the mission was sponsored by AOAD (Sept.,1986).

Based in the Sultanate of Oman :

I initiated , organized and collaborated in executing training workshops in animal feeding , by-products utilization and analysis of animal feed stuffs for agric. engineers , livestock extension workers and technicians. I trained more than 12 agricultural engineers and animal production extension workers in the field of animal feeding and ration formulation (In-Service training) for the ministry of agriculture and fisheries at the Southern region of the country (Dhofar region).

Trained more than 25 agric. engineers, assistant eng. and animal production extension workers in the North , at Rumais Livestock Research Station .All are belonging to MAF . The training covered the area of feeding and management of livestock .

Trained 3 technicians in the animal nutrition lab. in the area of analysis of feed stuffs for MAF.

Trained 3 research assistants in the area of analysis of animal feed stuffs , ration-formulation, research-data handling ,interpretation of research results and scientific report-writing .

6-Management experience

Based in Sudan :

*Head, Department of animal nutrition, Institute of Animal production, U.of K.(1983-1986).

*Project-leader By-Products Sudan (Phase II) ,a research-project financed by the Canadian IDRC

Based in the Sultanate of Oman :

*In-charge of the animal nutrition lab.

*In-charge of research coordination at the level of the country (1992-1995)

*In-charge of the animal feed mill at Rumais Livestock Research Station.

*In-charge of the feeding program for the different classes of livestock in the station.

*In-charge of the research project for utilization of local agric. by-products in the Sultanate.

*In-charge of the research project of animal feeds in the Sultanate .

7-Consultancy

Based in Sudan :

- * Prepared for the AOAD a feasibility study for establishing a feed mill in KhartoumN., Sudan
- * Prepared for the AOAD a feasibility study for the development of the dairy industry in the Duem area ,White Nile province , Sudan .

Based in Mauritania :

- * Prepared for the AOAD a feasibility study for the establishment of small feedmills

Based in Bahrain :

- * Prepared for the AOAD a feasibility study for developing agricultural laboratories of the ministry of Commerce, department of agriculture.

Based in the Sultanate of Oman :

- * Initiated and established the animal nutrition lab. At Rumais Livestock Research Station MAF; while working as an animal nutrition expert with AOAD .
- * Initiated and developed the establishment of goats and poultry development projects in the Sultanate.

8-Employment record :

May 2004 to – Feb., 2007 : Dean , Deanship of Graduate College and Scientific Research , Al Azhari University .

*2003 to May ,2004: Dean, Faculty of Agric. Al Azhari University .

*2002 – 2003 : Academic Secretary., Al Azhari University , Sudan.

*2001-2002: Head Dept .of Animal Production and Deputy Dean, Faculty of Agric. Al Azhari University.

*2001 to date : Professor of Animal Production , Faculty of Agric., Al Azhari University.

*1991-2000 : Animal nutrition expert - Rumais Livestock Research Station , MAF, Sultanate of Oman .

Duties : Conducting applied research in the field of animal nutrition and feeding ;Training of MAF employees (Agric. Engineers, Livestock extension workers , technicians and farmers) .

*1986-1991 : Animal nutrition expert with the Arab Org. for Agric. Development , Khartoum -Sudan ; stationed at the Sultanate of Oman with MAF .

Duties : Establishing the animal nutrition lab. ,conducting research in animal feeding and training of the Omani nationals (In-service training) in the area of animal feeding and analysis of animal feeds .

*1983-1986 : Associate professor of animal science and head of the Department of animal nutrition , Institute of animal production , U. of K. , Sudan .

Duties :Teaching and doing research as well as administering the department .

*1979-1983 : Assistant professor of animal science , Department of animal production , faculty of Agriculture , U. of K. , Sudan .

Duties :Teaching and doing research in the area of animal production .

*1972-1974 :Teaching assistant , Department of animal production ,U. of K. , Sudan .

Duties : Assisting in teaching .

9-Other Related Research and Academic Activities :

- * Acted as an internal examiner for 12 Msc. and four Ph.D. students.
- * Acted as an assessor for research papers published in the Journal of Vet. Sci. and animal husbandry (Sudan) 1982-1984.
- * Acted as an assessor for research papers published in the : Gezira Journal of Agricultural Science (Univ. of Gezira – Sudan) 2002 to – date .
- * Acted as an external examiner for Animal production to the students of Shambat Polytechnic Institute of Agriculture .
- * Took part in assessing and revising the forage course , proposed for the graduate students in the Institute of animal production ,U.of K. ,Sudan .
- *Participated together with my colleagues in preparing rules and curriculum for registration to post graduate studies in the Institute of animal production ,U. of K. , Sudan and Alazhari University .
- . * Member of the board of the Institute of animal production ,U. of K.,Sudan .
- * Member of the faculty board of Agriculture (1979-1986) , U. of K. , Sudan .
- * Member of the examination committee (1979-1981) ,faculty of Agric. , U. of K. ,Sudan
- * Member of the board of the University farm , U. of K. , Sudan (1982-1986) .
- * Member of the Senate ,U. of K. ,Sudan (1982-1986) .
- * Member of the technical committee for Agric. research ,MAF ,Sultanate of Oman (1996-2000).
- * Member of the salinity research committee , Agric. Res. , MAF , Sultanate of Oman (1995- 2000) .
- * Livestock Research coordinator , MAF , Sultanate of Oman. (1992- 2000)
- * Chairman of the faculty board of Agric, Alazhari U. (2003 - 2004).
- * Member of the Senate, Alazhari U.(2000 – todate).
- * Member of the Deans - committee , Alazhari U.(2003 – todate).

10-Conferences and professional meetings :

- * Attended the annual meetings of the American Society of Animal Science (ASAS) , held at Chicago , Illinois-Mid western section (1975) .
- * Attended the world food conference , held at Ames , Iowa , USA. (1976) .
- * Attended and presented a paper in the Annual Meetings of the ASAS (1977) , held at Madison , Wisconsin , USA.
- * Attended and presented a paper in the 11th. Annual Meetings of the ASAS (1977) Midwestern sec. , held at Carbondale , Illinois ,USA.
- * Attended and presented a paper in the Annual Meetings of the ASAS (1978) ,held at Michigan State Univ. ,East Lansing -USA.
- * Attended and presented a paper in the Annual Meetings of the ASAS (1980) , held at Cornell , Univ. ,Ithaca , USA.
- * Attended the conference on : Improving the Arab Breeds of Cattle (1982) sponsored by (AOAD) , held at Friendship Hall , Khartoum - Sudan.
- * Attended and presented a paper in the 2nd. International conference for Utilization of Agric. By-Products in Animal-Feeding in the Developing countries (1983) , held at the Univ. of Alex., Alex. - Egypt .
- * Attended and presented a paper in the ILCA-FAO . Expert consultation on By-products (1984), held in Addis . , Ethiopia .
- * Attended and presented a paper in the seminar organized by AOAD , on systems of ruminants production in the Arab world (1984) , held in Riyadh-Saudi Arabia .
- * Attended and presented a paper in the workshop on : Research Methodology for Livestock On-Farm Trials , organized by the IDRC and ICARDA (1985) , held in Aleppo-Syria .
- * Attended and presented a paper in the workshop for the Utilization of Agric.By-products, organized by the African-Research Network for Agric.By-products(ARNAB) .1985., held in the Univ. of Alex ., Alex. - Egypt .
- * Attended and presented a paper in the workshop for : Livestock policy , Range and Feed utilization -Guideline for Drought-prone African countries , organized by FAO (1985) held in Khartoum , Sudan .
- * Attended and presented a paper in the International Symposium on Agric . and Fisheries Development in Oman , organized by MAF (1989) , held at Sultan Qaboos Univ . (SQU) , Muscat-Sultanate of Oman .
- * Attended and presented a paper in the : International conference on Animal production in Hot Climates , organized by SQU (1995) . , Muscat- Sultanate of Oman .
- * Attended and presented a paper in the seminar for : Identification of the potential chances for investment in the poultry industry in the Sultanate of Oman and the conditions required for acquiring soft

loans to invest in poultry industry , organized by MAF in Sohar (May,97) .

11-Institutions visited and Post-Doctorate training :

* Visited the Biodeterioration centre in Birmingham ,Univ. of Aston -England (1981) for two months where I did some work on the microbial upgrading of straw . Visit was financed by the Canadian -IDRC

* Visited the universities of : Florida , Gainesville and N. Carolina State-USA , each for one week , to discuss research results on utilization of agric . by-products (1985) . Visits were financed by the Canadian-IDRC

12-Membership of Scientific and Professional Societies :

* African-American Institute

* Sigma XI . the Scientific Research Society of North America .

* Sudan -Agricultural Society .

*African Research Network for Agric. By-products (ARNAB) .

* Sudanese Agricultural Council.

* Technical Agricultural Committee (Ministry of Higher Education).

13- Publications:

1- **M.G.El Hag, H.H.El Khangeri and M.A.Al- Merza** . 2002. Milk Production in the sultanate of Oman by Dairy Cows given Date by-products and urea multi- nutrient blocks. Asian-Australasian J. Anim . Sci . Vol. 15 (No.3) 371-376.

2- **M.G.El Hag, M.A.Al- Merza and B.Al Salti** . 2002. Growth in the Sultanate of Oman of Small ruminants given Date byproducts- urea multinutrient blocks. Asian-Aust. J. Anim . Sci 2002 . Vol. 15 (No.5) 671 -674.

3- **M.G.El Hag, A.H-A zam and R.S.AL-Habsi** .2000. Effect of system of management and genotype on reproductive performance of goats in Oman. TROPICULTURA. 2000 Vol- 18 (No.3) 136-141.

4- **M. G. El-Hag and K.M. El-Shargi** . 1998 .Chemical composition and feeding value of chopped Date fronds as affected by urea and Date syrup extract treatment . Asian-Australasian J. of Anim . Sci . (AJAS). Vol. 11 (No.6) 685-691.

5- **M. G. El-Hag and K.M. El-Shargi** . 1998.Feedlot performance of growing-finishing

Brahman calves on concentrate and by-products based diets . Bull. Anim. Hlth. Prod. Afri.(1998),46 ,55-57 .

6- **M.G. El-Hag and K.M. El-Shargi** . 1998 .Comparative performance of goats and sheep fed on high -fiber pelleted diets supplemented with different nitrogen sources . J.Appl. Anim. Res. 13(1998): 179-184 .

7- **M.G. El-Hag and K.M. El-Shargi**. 1996. Feedlot performance and carcass characteristics of local (Dhofari) and exotic (Cashmere) goats

- fed on a high-fiber by-product's diet supplemented with fish sardine. Asian-Australasian J. of Anim. Sci. (AJAS). vol. 9: 389-396.
- 8- **M.G. El-Hag and K.M. El-Shargi.** 1995. Feedlot performance and carcass characteristics of local and cross-bred (local x Chios) F1 sheep fed on by-products based diet. J. Appl. Anim. Res. 8: 197-202.
 - 9- **M.G. El-Hag, A.H. Azam and R.S. Al-Habsi.** 1995. Comparative performance of Damascus goats and Chios ewes in Oman. AJAS. 8: 419-425.
 - 10- **M.G. El-Hag.** 1995. Production of animal feeds from dates and date by-products in the Sultanate of Oman. A review. Int. J. of Anim. Sci. 10: 195-201.
 - 11- **M.G. El-Hag and K.M. El-Shargi.** 1995. Performance of laying hens on concentrate and by-product's based diets. Int. J. of Anim. Sci. 10: 181-183.
 - 12- **M.G. El-Hag, H. H. El-Khanjeri and H. I. Al-Alam.** 1995. Effect of challenge feeding (high plane of nutrition) versus normal feeding (medium plane of nutrition) on milk production of Jersey and cross-bred (Jersey x local) F1 cows. A paper presented in the Int. Conference on Animal Production in Hot Climates. Sultan Qaboos Univ.. Jan 8-15, 1995. Muscat, Sultanate of Oman.
 - 13- **M.G. El-Hag and K.M. El-Shargi.** 1993. Feedlot performance and carcass characteristics of cross-bred (Jersey x local) F1 dairy calves fed on concentrate and by-product's based diets. Agric. Res. Annual report. 1993. Ministry of Agric. and Fisheries. Oman / Agri/ Res/ RPT/93. P279-28.
 - 14- **M.G. El-Hag., A. Ali and K.M. El-Shargi.** 1993. Comparative evaluation for yield and nutritive value of Rhodes grass versus some irrigated grasses. Agric. Res. Annual Report. 1993. Ministry of Agric. and Fisheries. Oman / Agri /Res / RPT /93. P286-292.
 - 15- **M.G. El-Hag and K.M. El-Shargi.** 1993. Evaluation of date fruit (Bussor), date leaves and fish (sardines) for growing finishing Chios sheep. Agric. Res. Annual Report. 1993. Ministry of Agric. and Fisheries. Oman / Agri /Res / RPT / 93. P271-278
 - 16- **M.G. El-Hag and H.H. El-Khanjeri.** 1992. Dates and Sardines as potential animal feed resources. World Animal Review no. 73-FAO, Rome, Italy. P 15-23.
 - 17- **M.G. El-Hag and K.M. El-Shargi.** 1992. Evaluation of ensiling as a preservation method for selected agricultural by-products in the Sultanate. Agric. Res. Annual Report 1992. Ministry of Agric. and Fisheries (MAF). Doc. / No. 3/93/18. P 250-255.
 - 18- **M.G. El-Hag and K.M. El-Shargi.** 1992. A comparative study on feedlot performance and carcass characteristics of local (Batina), exotic (Shami) and cross-bred F1 (Batina x Shami) and (Batina x Anglo-Nubian) male goats. Agric. Res. Annual Report 1992.

- Ministry of Agric. and Fisheries (MAF). Doc. / No. 3/93/18. P 236-244.
- 19-M.G. El-Hag and A.Ali.** 1991. Evaluation of yield and nutritive value of some irrigated legumes and grass forages. Agric. Res. Annual Report 1991. MAF. Doc. No. 4/1992/13. P 241-244.
- 20-M.G. El-Hag and A.Ali.** 1991. Effect of the stage of maturity and length of cutting intervals on yield and nutritive value of Rhodes grass in the Sultanate. Agric. Res. Annual Report 1991. MAF. Doc. No. 4/1992/13. P 244-249.
- 21-M.G. El-Hag.** 1990. Some observations on an incident of copper deficiency in local dairy calves in the Sultanate of Oman. Sudan J. Anim. Prod. vol. 3 part 1, 1990, 53-56.
- 22-M.G. El-Hag.** 1989. Animal Production in the Sultanate of Oman: Problems and prospects in relation to some research findings at Rumais Livestock Research Station. A paper presented for the International Symposium on Agric. and Fisheries Development in Oman (Oct. 15-19/1989). MAF, Muscat, Sultan Qaboos University.
- 23-M.G. El-Hag.** 1988. Dairy production traits of local Omani Batina goat (In Arabic) . Agric. and Development in Arab countries. Arab Organization for Agricultural Development (A.O.A.D) , Khartoum, Sudan.
- 24-M.G.El-Hag.** 1987. Evaluation of productive performance of local and exotic breeds of dairy cattle and their crosses at Rumais Livestock Research Station. Sultante of Oman (In Arabic)) Agric. and Development in Arab countries. Arab Organization for Agricultural Development (A.O.A.D) , Khartoum, Sudan.
- 25-M.G. El-Hag, M.A. Maglad and M.H. Hakir.** 1987. Evaluation of the feeding value of *Clitoria (Clitoria terenata)* as a legume forage for sheep feeding. Sudan Agric. J. 12(1987) P 74-90.
- 26-M.G.El-Hag.** 1985. Animal feed resources in the Sudan: Potential supply and problems. A paper presented for the workshop on : Livestock policy, range and feed utilization. Guidelines for Drought - prone African countries (FAO/Ministry of Agric. and Natural Resources, Khartoum, Sudan). Nov. 10-13/1985.
- 27-M.G. El-Hag and O.I. Kurdi.** 1985. Prospects for efficient utilization of Agro-industrial by-products and crop residues for ruminant feeding in the Sudan, with emphasis on quantification, nutrients composition, constraints and research results. A paper presented for African Research Network on Agric. By-products' (ARNAB) workshop. (Oct. 14-18/1985) Univ. of Alexandria, Alex ., Egypt.
- 28-M.G.El-Hag and O.I. Kurdi.** 1985. Performance and carcass characteristics of Sudan Desert sheep and goats on high roughage diets with added fat. Anim. Feed Science. and Technology. 13-147.

- 29-M.G.El-Hag and O.I. Kurdi.** 1984. Effects of level and form of Sugar-cane by-products supplemented with urea on performance of Sudan Desert sheep. *East African Agric. and Forestry J.* (1984). 50(1) 6-13.
- 30-M.G. El-Hag.** 1984. Use of agro-industrial by-products and crop residues in the Sudan. An abstract of a paper presented in the ILCA-FAO / Expert consultation in the use of crop residues and agric-byproducts in developing countries. Held in Addis Ababa, Ethiopia, 4th-9th of March 1984.
- 31-S.E. Ahmed , T.A. Mohamed and M.G. El-Hag.** 1984. Survey and on-farm trials in private beef cattle finishing feedlots in Khartoum area. Proceedings of a workshop held at Aleppo-Syria, 25-28 March 1985. Proceeding series IDRC- 242e. P15-40.
- 32-M.G. El-Hag , G.A. El-Hag and E.Gaali.** 1984. Sudan desert sheep and goats: Performance on high roughage and concentrate diets with Monensin. *International goat and sheep research.* 274 (2), 1984 : P 274-282.
- 33-T.A. Mohamed , M.G. El-Hag and S.E. Ahmed.** 1984. Systems of beef production in the Sudan: Potentials and constraints (In Arabic) . A paper presented to the seminar on :systems of ruminants' production in the Arab world, sponsored by the AOAD, Khartoum, Sudan. Held at Riyadh, Saudi Arabia. Nov. 10-14. 1984.
- 34-M.G. El-Hag and A.F. Hamad.** 1983. The effects of different sources and ratios of calcium and phosphorus on performance of Sudan Desert sheep. *World Review of Anim. Prod.* Vol. XIX No. 4, Oct. - Dec. 1983.
- 35-M.G. El-Hag and A.F. Hamad.** 1983. Sudan Desert sheep: Performance on variable levels of agro-industrial by-products supplemented with urea and cobalt. *World Review of Anim. Prod.* Vol. XIX No. 4, Oct-Dec. 1983.
- 36-M.G. El-Hag and G.A. El-Hag.** 1983. Evaluation of acid insoluble ash (AIA) as a marker for predicting the dry matter digestibility of high roughage and high concentrate diets for Sudan Desert sheep and goats. *World Review of Anim. Prod.* Vol. XIX, No. 2, April-June, 1983.
- 37-M.G. El-Hag.** 1983. Evaluation of microbiological and chemical methods for improving the digestibility of Wheat and Barley straws. A paper presented in the 2nd. International Conference for Utilization of Agric. by-products in animal feeding in the developing countries, held in March, 1983. Univ. of Alexandria, Egypt.
- 38-M.G. El-Hag , R.L Vetter , M. D. kenealy and R.J. Smith.** 1982. Evaluation of a model laboratory silo. *J. Dairy Sci.* 65:250-258.
- 39-M.G. El-Hag , R.L Vetter and M. D. kenealy.** 1982. Effects of silage additives on fermentation characteristics of Corn silage and performance of feedlot heifers. *J. Dairy Sci.* 65: 259-266.

- 40-M.G. El-Hag and G.A. El-Hag.** 1981. Further studies on the effects of supplementing groundnut hulls with dried poultry excreta or cotton seed cake on performance of Sudan Desert sheep. *World Review of Anim. Prod.* Vol. XVII, No. 2, April-June, 1981.
- 41-M.G. El-Hag and G.A. El-Hag.** 1981. The effects of supplementing groundnut hulls with dried poultry excreta or cotton seed cake on performance of Sudan Desert sheep. An abstract of paper presented in the 72nd. Annual Meetings of the American Society of Animal Sciences (ASAS). July, 1980, Cornell Univ., Ithaca , NewYork, USA (1980 meeting abstracts).
- 42-M.D.Kenealy,M.G.EL-Hag and R.L.Vetter.**1980.Effect of microbial inoculation and finess of chop on the ensiling characteristics of reconstituted corn stover A.S..leaflet R 314. Iowa State University of Science and Technology.Agric.and Home Economics Experiment Station,Ames, Iowa ,U.S.A.
- 43-M.D.Kenealy,M.G.EL-Hag and R.L.Vetter.**1979.The effects of moisture level and silage additives on the ensiling characeristics of alfalfa in laboratory silos.A S.Leaf.let R29 . Iowa State University of Science and Technology. Agric and Home Economics Experiment . Station, Ames, Iowa, U.S.A .
- 44-R.L.Vetter,M.G.El-Hag and M.D.kenealy.**1978. Performance of feedlot heifers fed corn silage treated with a silage additive.A.S. Leaflet R287.Iowa State University of Science and Technology.Agric and Home Ec.Experiment Station, Ames, Iowa, U.S.A.
- 45-R.L. Vetter,M.G.El-Hag and Kendall Vonglan .**1978.Evaluation of yeast and bacterial single cell protiens for growing-finishing cattle..A.S.Leaflet R284 . Iowa State University of Science and Technology, Ames, Iowa, U.S.A.
- 46-M.G.El-Hag and R.L.Vetter.**1978. Nutrient and fermentation characteristics of Gum arabic. An abstract (1978abstracts) of paper presented in the Annual meeting of the AS, July 9-13, 1978. Michigan State University, East Lancing, U.S.A.
- 47-M.K.Mohsen , R.L.Vetter,M.G.El-Hag and A.Paez .**1978. Chemical composition of normal and low-lignin corn hybrid.An abstract of paper presented in the 11th. Annual meeting of the ASAS.Midwesternsection.,Jan.4-6,1978.Southern.Illinois University , Carbondale , U.S.A.
- 48-M.G.El-Hag, R.L.Vetter,M.K.Mohsen and A.Paez .**1978. Correlations of chemical and agronomic traits for normal and low-lignin corn hybrids.An abstract of paper presented in the 11th..Annual meeting of the ASAS.Midwestern section. Jan.4-6, 1978.Southern Illinois, University, Carbondale, U.S.A.

- 49-M.G.El-Hag.**1978. Evaluation of silage additives and fermentation characteristics of forages using model laboratory silos. Ph.D Thesis.1978. Iowa State University, Ames, Iowa , U.S.A.
- 50-M.G,El-Hag and R.L.Vetter** .1977. Chemical and In Vitro Evaluation of crop residues .An abstract of paper presnted in the 69th. Annual meeting of the ASAS (1977 meeting abstracts).69th.Annual meeting , July 23-27,1977.Univ. of Wisconsin, Madison, Wisconsin , U.S.A
- 51-M.G.El-Hag** .1976. Chemical and In Vitro Evaluation of crop residues. M.Sc. Thesis.Iowa, State , University, Amea, Iowa, U.S.A.

Manuals and Reports :

- 52-M.G.El-Hag and T.A.Mohamed** .1983. Basic and routine analysis of forages and feed stuffs .A laboratory manual prepared for training Somali technicians as requested by the Arab Org. For Agric. Development.
- 53- M.G.El-Hag** .1984. By-Products (Sudan) Phase II . A final technical report submitted for the Candian International. Development Research Centre (IDRC).
- 54- M.G.El-Hag and F.Sidahmed.** 2004. Sudan : The Millenum Development Goal 1. A Report Prepared for FAO – Office in the Sudan.
- 55-M.G.El-Hag and A. Abdul Aziz** .2005. Livelihood Assessment Mission to Greater Darfur. 26th. January – 5th. Feb. 2005– Mission Report, Submitted to FAO – Office, Khartoum - Sudan.

Other related publications:

- 56-Contributed** as a joint author in the Agric. Arabic Dictionary for Scientific terms Volumell, sponsored by AOAD, Khartoum-Sudan.1981.(In - Arabic) .
- 57-Contributed** as a joint author in the feasibility study for improvement and modernization of the dairy industry in the Dueim area (Sudan).1983. Financed by AOAD, Khartoum, Sudan. (In - Arabic)
- 58- Contributed** as a joint author in the feasibility study for constructing a feed mill in the Democratic Republic of the Sudan - Kudaro area, Khartoum. 1983. AOAD, Khartoum. (In - Arabic)
- 59- Contributed** as a joint author in the feasibility study for establishing small feed mills in Mauritania. 1984. AOAD, Khartoum. (In - Arabic)
- 60-Contributed** as a joint author in the study for evaluation of the agricultural laboratories in the state of Bahrain. 1985. AOAD, Khartoum. (In - Arabic).
- 61-Contributed** as an author of a book entitled as Basics of Animal Nutrition and Applied Ruminants Feeding. 2008 (In - Arabic).