6- REFERENCES

Abdallah, Y.N. (1973).
Effect of calcium carbonate on the movement and fixation of certain micronutrients.
M.Sc. Thesis, Fac. of Agric. Ain Shams Univ., Egypt.

Abd-Elgawad, M.; Aboulroos, S.A.; Taha, S.A. and El-Sayed, E.A. (1984).
Status of iron and manganese in El-Fayoum soils.
Annal of Agric. Sci., Moshtohor, Vol. 12, 1115-1127.

Abd- El- Kader, F.H. and Abu- Ghalwa S.I. (1973).
Distribution of total and free-iron forms in different soils of Egypt.
Alex. J. Agric. Res. 443- 450.

Abdel- Latif, I.A. (1973).
Studies on the chemistry of chelating compounds and their reaction in soils.
Ph.D. Thesis, Fac. of Agric. Ain Shams Univ., Egypt.

Abd- El- Wahid, E. (1981).
Pedochemical studies of some trace elements in the North Western Coast, A.R.E.
Ph.D. Thesis, Fac. of Agric. Ain Shams Univ., Egypt.

Ahmed, S.A. (1976).
Origin and forms of iron and their effects on physico-chemical properties in soils of the New Valley (Kharga Oasis).
M.Sc. Thesis, Fac. of Agric., Ain Shams Univ., Egypt.

Aliyev, S.A. (1978).
Soils of Azerbaijan: The content and composition of organic matter during the improvement of light-chestnut and alluvial serozem soils of Azerbaijan.

Izv. Akad. Nauk Azerbaijan. SSR. Ser. Bio. Med. Nauk, (7).

Amer, A.A. (1986).
Distribution on composition of humic substances as related for pedological factures of some alluvial soils at Kafr-El-Sheikh Governorate. Ph.D. Thesis, Fac. of Agric., Univ. of Alex.

Arafat, S.M. (1983).
Availability of some micronutrients in alluvial and calcareous soils of Egypt. M.Sc. Thesis, Fac. of Agric. Ain Shams Univ., Egypt.

Arshed, M.A. (1977).
Characteristics of organic matter extracted from some solonetizic soils. Z. Pflanzenernahr. Bodenk. 140: 71- 78.

Awadallah, E.A.; Aboulroos, S.A. and Taha, S.A. (1981).
Forms and availability of manganese in some soils of Egypt.
Beitrage trop. Landwirtsch. Veterinarmed., 20: 39-45.

Bell, C.F. (1977).
Principles and applications of metal chelation. Clarendom Press. Oxford. 1977.

Bellamy, L.J. (1975).
The infrared spectra of complex molecules. Chapman and Hall, London.

Bioschot , P. and Durrowx, M. (1950).
Fixation of iron and Mn by calcareous soils. Ann. 1, 195.
(C.F. Soils and Fert., 13, No. 2209)(1950) .

Black, C.A. (1965).
Methods of Soil Analysis .
American Society of Agronomy Inc. Publisher,
Madison, Wisconsin, U.S.A.

Bohn, H.L.; McNeal, B.L. and O'connor, G.A. (1985).
soil chemistry 2nd Ed., A Wiley. Interscience
Publication.
John Wilcy and Sons., New York, Toranto.

Chapman, H.D. and Pratt, P.F. (1961).
Methods of analysis for soils, plants and water .,
Dept. of Agric., Sci., Univ. of California, Riverside.

Chen, Y., Senesi, N. and Schnitzer, M. (1978).
Chemical and physical characteristics of humic and
fulvic acids extracted from soils of the Mediterranean
region.
Geoderma, 20: 87- 104.

Christensen, P.D.; Toth, S.J. and Bear F.E. (1951).
The status of soil manganese as influenced by
moisture organic matter and pH.
Soil Sci. Soc. Am. Proc. 15, 279- 282.

El- Damaty, A.H.; El- Gala A.M.and Abdel- Latif I.A. (1975).
studies on humus acids of an arid region. I- Extrac-
tion and fractionation of soil organic matter.
J. Soil Sci. A.R.E., 2: 167- 173.

El- Gala, A.M. and Hendawy, Sh. (1972).
Studies on iron availability and behaviour in some soils of Egypt.
Egypt. J. Soil Sci., 12: 21.

El- Gala, A.M.; Talha, M. and Abu- Zayed J.S. (1975).
Studies on some chemical and nutritional changes associated with putting a virgin calcareous soil under cropping.
J. Soil Sci. A.R.E. 15: 201- 210.

El- Halawany, K.S.A. (1978).
Studies on certain micronutrients in some Egyptian soils under reclamation.
M.Sc. Thesis, Fac. Agric. Ain Shams Univ.

El- Leithi, A.A. (1986).
Pedological status of heavy metals in the vicinity of some industrial and highway areas in soils of Nile Delta.
Ph.D. Thesis, Fac. Agric. Alex. Univ., Egypt.

El- Nennah, M.; Ismail A.S. and Halawany K. (1980).
Preliminary studies on some micronutrients in recently reclaimed soil in Egypt.
Egypt. J. Soil Sci. 20: 145- 149.

El- Rashidi;Shehata, A. A. and Hamdi H. (1978).
Estimation of Fe and Mn solubility in saline alkali soils by the use of some chemical solutions.
Egypt. J. Soil Sci. 18: 217- 230.

El- Sikhry, E.M. (1985).
Chemical status and behaviour of certain heavy elements in some Egyptian soils and their relation to plant.
Ph.D. Thesis, Fac. Agric. Ain Shams Univ.

El- Sokkary, I.H. and Lag, (1980).
Status of some trace elements in Egyptian soils and wheat grains.
Beitrage Trop. Landwirtsch, Veterinarmed, 18: 35- 47.

Flaig, W., Beutelspacher, H., and Rietz, E., (L975).
Composition and physical properties of Humic substances.
In: J.E. Gieseking (ed.), Soil Components,
Springer-Verlag, New York, N.Y., PP. 1- 211.

Gamble, D.S. (1970).
Electrochemical and ion exchange properties, conductometric titration.
Can. J. Chem. 48, 2662.

Goh, K.M., and Reid, M.R. (1975).
Molecular weight distribution of soil organic matter affected by acid pretreatment and fractionation into humic and fulvic acids.
J. Soil Sci., 26: 207- 222.

Goodman, B.A. and Cheshire, M.V. (1979).
A mossbauer spectroscopic study of the effect of pH on the reaction between iron and humic acid in aqueous media.
J. of Soil Sci., 30, 85- 91.

Hassanain, H.G.; Bagouri I.H. and M. Yousry (1980).
Evaluation of chemical extractant for determining the availability of Fe, Mn, Zn and Cu in different soils.
Egypt. J. Soil Sci., 20: 151- 157.

Hayes, M.H.B. and Himes, F.L. (1986).
Nature and properties of humus-mineral complexes.
In: Huang, P.M. and Schnitzer, M. (ed.).
Interactions of soil minerals with natural organics and microbes, P. 103- 158, SSSA, Madison, WI.

Jackson, M.L. (1967).
Soil chemistry analysis.
Constable Co., Ltd., London.

Jacob, A.M.; Gupta, S. and Schindler, P. (1982).
The interaction of Cu (II) ion with humic acid.
J. of Colloid and Interface Sci., Vol. 89, No. 2, 401- 411.

Kodama, H. and Schnitzer, M. (1970).
Kinetic and mechanism of the thermal decomposition of fulvic acid.
Soil Sci. 109: 265- 271.

Kononova, M.M. (1966).
"Soil Organic Matter". Its nature, its role in soil formation and in soil fertility.
2nd Pergamon Press.

Kononova, M.M. (1975).
Humus of virgin and cultivated soils.
In: J.E. Gieseking (ed.), Soil Components.
Springer- Verlag, New York, PP. 476- 526.

Kumada, K.; and Aizawa, A., (1958).
The infrared spectra of humus acids.
Soil and Plant Food, 3: 152- 159.

Lindsay, W.L. and Norvell,A.W. (1978).
Development of DTPA soil test for Zn, Fe, Mn and Cu.
Soil Sci. Soc. Amer. Proc., 42: 421- 428.

Lindsay, W.L. and Schwab, A.P. (1982).
The chemistry of iron in soils and its availability to plants.
J. Plant Nutrition, 5: 821- 840.

Metwally, A.I., El- Gala, A.M. and Khalil, R.A. (1975).
The stability constant of Zn, Fe and Cu humic acids compelexes at different pH values.
Egypt.J. Soil Sci. (In Press.)

Mohler, R.L.; Hammel, J.E. and R.W. Harder, (1985).
The influence of crop rotation and tillage methods on DTPA- extractable copper, iron, manganese and zinc in Northern Idaho soils.
Soil Sci., 139: 279- 286.

Nofal, E.H.A. (1984).
Behaviour and availability of iron in some soils of Egypt.
M.Sc. Fac. Agric. Moshtohor, Zagazig Univ., Egypt.

Posner, A.M. (1966).
The humic acids extracted by various reagents from a soil. Part 1- Yield of inorganic components and titration curves.
J. Soil Sci. 17: 65- 78.

Richards, L.A. (1954).
Diagnosis and improvement of saline and alkali soils.
U.S. Salinity Laboratory Staff. Agriculture Hand book, 60.

Richards, M.S. and Riecken F.F. (1955).
Movement of iron in the development of Loess-Derived- Brunizen soils.
Soil Sci. 79: 177- 186.

Ryon, J.; Miyamata, S. and Straehleins, J.L. (1974).
Solubility of Mn, Fe and Zn as affected by application of sulphuric acid to calcareous soils.
Plant and Soil, 40: 421- 427.

Schnitzer, M. (1978).
Humic substances: Chemistry and reactions.
(In Soil Organic Matter, Schnitzer and Khan (eds.)).
Elsevier Scientific Publishing Company. Amesterdam, Oxford. New York (1978), PP: 1- 59.

Schnitzer, M. (1986).
Binding of humic substances by soil mineral colloids.
72- 101. In Huang, P.M. and Schnitzer, M. (ed.), Interaction of soil minerals with natural organics and microbes.
SSSA, Madison, WI.

Schnitzer, M. and Ghosh, K. (1982).
Characteristics of water-soluble fulvic acid-copper and fulvic acid- iron complexes.
Soil Sci., 134, No. 6, 354- 363.

Schnitzer, M., and Gupta, U.C. (1965).
Determination of acidity on soil organic matter.
Soil Sci. Soc. Amer. Proc., 29: 274- 277.

Schnitzer, M. and Khan, S.U. (1978).
Soil Organic Matter.
Elsevier Scientific Publishing Company, Amesterdam, Oxford, New- York.

Schnitzer, M. and Skinner, S.I.M. (1963).
Organic- metallic interactions in soils.
1- Reactions between a number of metal ions and the organic matter of a podzol B_h horizon.
Soil Sci., 96: 86- 93.

Schnitzer, M. and Skinner S.I.M. (1965).
Organo- metallic interactions in soils.
4- Carboxyl and hydroxyl groups in organic matter and metal retention.
Soil Sci., 99: 278- 284.

Soliman, H.S. (1982).
The effect of the functional groups and some nutrients, produced during decomposition of organic matter in plant nutrition.
Ph.D. Thesis, Fac. of Agric. Zagazig Univ. Egypt.

Stevenson, F.J. (1977).
Nature of divalent transition metal complexes of humic acids as revealed by a modified potentiometric titration method.
Soil Sci., 123: 10- 17.

Stevenson, F.J. (1982).
Humus Chemistry. John Wiley and Sons., New York.

Stevenson, F.J. and Goh, K.M. (1971).
Comparison on infrared spectra of synthetic and nutral humic and fulvic acids.
Soil Sci., 112: 392- 400.

Swift, R.S., and Posner, A.M. (1972).
Autoxidation of humic acid under alkaline conditions.
J. Soil Sci., 23: 381- 393.

Takker, P.N. (1969).
Effect of organic matter on soil iron and manganese.
Soil Sci. 108: 108- 112.

Tan, K.H. and Giddens, J.E. (1972).
Molecular weights and spectra characteristic of humic and fulvic acids.
Geoderma, 8: 221- 229.

Tan, K.H. and McGreery, R.A. (1970).
The infrared identication of humopolysaccharide esters in soil humic acid.
Soil Sci. Plant Analysis. (U.S.A.), 1 (2), 75- 84.

Tayel, M.Y. (1964).
Iron status and behaviour in soil of Egypt.
M.Sc. Thesis, Fac. of Agric., Ain Shams Univ. Egypt.

Thompson, S.O. and Chesters, G. (1969).
Electrochemical and ion exchange properties.
J. Soil Sci., 20, 364.

Wagner, G.H. and Stevenson, F.J. (1965).
Reactive functional groups of humic substances.
Soil, Sci. Soc. Amer. Proc., 29, 4 (1965).

Wright, C.H. (1939).
Soil analysis. Thomas, Murby & Co., London.

Youny, S.L. and J.B. Richmond (1976).
Stimulation of plant growth by humic substances.
Soil Sci. Soc. Amer. J. 40: 876- 879.

Zunino, H.M.; Agulera M.; Colozzi, P.P.; Borie, F. and Martin J.P. (1980).
Metal- binding organic macro molecular in soil 3- Competition of Mn (11) and Zn (11) for binding sites in humic and fulvic acids type model polymers.
Soil Sci., 128, PP. 257- 266.