

REFERENCES

- ARMSTRONG, A.C. (1979). Aeration in higher plants. *Advances in botanical research*, 7, 225-332.
- _____. (1978a). The effect of drainage treatments on cereal yields: results from experiments on clay lands. *J. Agric. Sci., Camb.*, 91, 229-235.
- _____. (1978b). Root aeration in the wetland condition. In: Hook, D.D. and Crawford, M.N. *Plant life in anaerobic environments*. Ann Arbor Science, Ann Arbor: 269-297.
- BALL, C.B. and SMITH, A.K. (1994). Gas movement. In: Smith, A.K. and Mullins, C.E. (1994). *Soil Analysis. Physical Methods*. Marcel Dekker. Inc. New York.
- BOHN, H.L.; McLEAM, B.L. and O'CONNOR, G.A. (1985). *Soil chemistry*. Wiley: London.
- CALLEBAUT, F. (1987). Soil aeration. In: College on Soil Physics International Centre for Theoretical Physics, Trieste, Italy.
- CALLEBAUT, F., BALCAEN, M., GABRIELS, D. y DE BOODT, M. (1980) Data acquisition system for field determination of redox potential, oxygen diffusion rate and soil electrical resistance. *Mededelingen faculteit landbouwetenschappen Rijksuniversiteit, Gent* 45(1), 15-29.
- CAMPBELL, R.B. and PHENE, C.J. (1977). Tillage, matric potencial, oxygen and millet relations in a layered soil. *Transactions od the ASAE*, 20 (2), 271-275.
- CAMPBELL, G.S. (1985). *Soil physics with basic, developments in soil science* 14, Elsevier, Armsterdam: 12-25.
- CRANK, J. (1975). *The mathematics of diffusion*. Oxford University Press.
- CURRIE, J.A. (1984a). Gas diffusion through soil crumbs: the effects of compaction and wetting. *J. of Soil Sci.*, 35, 1-10.
- _____. (1983). Gas diffusion through soil crumbs: the effects of compaction and wetting. *J. of Soil Sci.*, 34, 217-232.
- _____. (1970). Movement of gases in soil respiration. In: *Sorption of Chemical Industry*. London: 152-169.
- _____. (1965). Diffusion within soil microstructure: a structural parameter for soils. *J. of Soil Sci.*, 16 (2). 279-289.
- _____. (1961a). Gaseous diffusion in porous media. III. Wet granular materials. *Brit. J. Appl. Phys.*, 12, 275-281.
- CURRIE, J.A. (1960). Gaseous diffusion in porous media. *Brit. J. Appl. Phys.*, 11, 314-324.

DENNIS, G.P.; HAYES, J.M. and HIEFTJE, G.M. (1974). Chemical separations and measurements. Theory and practice of analytical chemistry. Indiana University, Saunders Golden Series.

DE WILLIGEN, P. and VAN NOORDWIJK, M. (1984). Mathematical models on diffusion of oxygen to and within plant roots, with special emphasis on effects of soil-root contact. I. Derivation of the models. *Plant and Soil*, 77, 215-231.

DOWELL, R.J. and CREESE, R. (1975). Cultivation and the oxygen content of the soil atmosphere. A.R.C. Letcombe Laboratory Ann. Report: 52-53.

FREDE, H.G.; CHEN, B.; JURASCHEK, K. And STOECK, C. (1988). Simulation of gas diffusion. *Catena Supplement*. 11: 21-28.

GLINSKI, J. LABUDA, S. y STEPNIOWSKI, W. (1979) Oxygen content, redox potential and ODR as indices characterizing soil oxygen conditions for winter wheat emergence. *Zeszyty Problemowe Postepow Nauk Rolniczych*, 220, 125-135.

GRABLE, E.R. (1966). Soil aeration and plant growth. *Advances in Agronomy*, 18, 58-108.

HILLEL, D. (1980). Fundamentals of soil physics. Academic Press, London.

KOWALIK, P.J. (1985) Influence of land improvement on soil oxidation. Swedish University of Agricultural Sciences, Department of Ecology and Environmental Research, Energy Forestry project, Report 42, Uppsala.

_____. (1972). Investigations on the relationships between soil moisture content and soil oxidation. *Polish Journal of Soil Sci.*, 5 (2), 109-116.

KOWALIK, P. and STEPNIOWSKI, W. (1979). The significance of soil erosion for plants. *Zesz. Probl. Post. Nau. Roln.*, 220. 61-80.

KRISTENSEN, K. J. (1966) Factors affecting measurements of oxygen diffusion rate (ODR) with bare platinum microelectrodes. *Agronomy Journal* , 58, 351-354.

LEMON, E.R. (1962). Soil aeration and plant root relations. I theory. *Agronomy Journal*, 54: 167-170.

LETEY, J. (1985) Relationship between soil physical properties and crop production *Advances in soil Sci.* 1, 277-294.

LETEY, J. y STOLZY, L.H. (1964) Measurements of oxygen diffusion rates with the platinum microelectrode. III. correlation of plant response to oxygen diffusion rates. *Hilgardia* 35, 567-576.

OBANDO, F.H. (1990). Oxygen transport in tilled clay soils, Ph.D. Thesis, Cranfield Institute of Technology, Silsoe College, U.K. Unpublished.

OBANDO, F.H. (2003). El transporte del oxigeno en el suelo. Relaciones agrofisicas basicas. Universidad de Caldas. Manizales, Colombia (In press).

PENMAN, H.L. (1940). Gas and vapour movements in the soil: I. the diffusion of vapour through porous solids. *Journal of Agriculture Science. Camb.*, 30: 437-462.

PHENE, C.J., CAMPBELL, R.B. y DOTY, C.W. (1976), Characterization of soil aeration in situ with automated oxygen diffusion measurements. *Soil Sci.*, 122,5:271-281.

PHENE, CJ. (1974). High-frequency porous tube irrigation with a soil matric potential sensor. *Proceedings of the Second International Drip Irrigation Congress*, 166-171.

RAATS, P. (1989). Physical aspects of growth and functioning of plant roots. Lecture notes, College on Soil Physics. International Centre for Theoretical Physics, Triesty Italy.

SALLAM, A.; JURY, W.A. and LETEY, J. (1984). Measurement of gas diffusion coefficient under relatively low air-filled porosity. *Soil Sci. Soc. Am. J.*, 48, 3-6.

SMITH, K.A. (1980). A model of the extent of anaerobic zones in aggregated soils, and its potential application to estimates of denitrification. *Journal of Soil Sci.*, 31, 263-277.

_____. (1977) Soil aeration. *Soil Sci.* 123(5), 284-291.

SMITH, K.A. and DOWDELL, R.J. (1974) Field studies of the soil atmosphere. I. Relationships between ethylene, oxygen, soil moisture content, and temperature. *Journal of soil Sci.*, 25(2), 217-230.

SMITH, H.A. and JACKSON, M.B. (1974). Ethylene, waterlogging and plant growth. Agricultural Research Council Letcombe Laboratory Annual Report: 29-31: 60-75.

STOLZY, L.H. (1974) Soil atmosphere. In: Carson, E.W., *The plant root and its environment*. University Press of Virginia, Charlottesville, 335-361.

STOLZY, L.H. FOCHT, D.D. y FLUHLER, H. (1981) Indicators of soil aeration status. *Flora*, 171, 236-265.

STOLZY, L.H. y FLUHLER, H. (1978), Measurement and prediction of anaerobiosis in soils. In: Nielsen, D.R. and MacDonald, J.G., Nitrogen in the environment. Academic Press, New York: 363-425.

STOLZY, L.H. and LETEY, J. (1964). Characterizing soil oxygen conditions with a platinum microelectrode. *Advances in Agronomy*, 16, 249-279.