

BIBLIOGRAFÍA CITADA

- Acevedo, E. 1989. Improvement of winter cereal crops in Mediterranean environments. Use of yield, morphological and physiological traits. *In* : Physiology-Breeding of winter cereals for stressed Mediterranean environments. (Montpellier, France, 3-6 July 1989). Ed. INRA, Paris 1991. (Les Colloques n°55).
- Acevedo, E., Craufurd, P.Q., Austin, R.B., and Perez-Marco, P. 1991. Traits associated with high yield in barley in low-rainfall environments. *J. Agric. Sci. (Camb.)* 116: 23-36.
- Ahmad, N. 1965. A review of salinity-alkalinity status of irrigated soils of west Pakistan. *Agrokrone Talajkan* 14 (Suppl): 117-154.
- Akhtar, J., Gorham, J., and Qureshi, R. H. 1994. Combined effect of salinity and hypoxia in wheat (*Triticum aestivum* L.) and wheat-Thinopyrum amphiploids. *Plant and Soil* 166:47-54.
- Alarcón, J. J., Sanchezblanco, M. J., Bolarin, M. C., and Torrecillas, A. 1994. Growth and osmotic adjustment of two tomato cultivars during and after saline stress. *Plant and Soil* 166:75-82.
- Alberico, G. J., and Cramer, G. R..1993. Is the Salt Tolerance of Maize Related to Sodium Exclusion.1. Preliminary Screening of Seven Cultivars. *J. of Plant Nutr.* 16:2289-2303.
- Alberto, F., Machín, J., y Aragüés, R. 1986. La problemática general de la salinidad en la cuenca del Ebro. Seminario "El sistema integrado del Ebro". Barcelona, 23-25 de febrero. 221-236 pp.
- Albisu, L.M., Gil, J.M., y Aragüés, R. 1988. Impacto económico de agua salina en la agricultura de la cuenca del Gallego. MAPA. Comunicaciones INIA, serie economía N°25.
- Aloy, M. 1995. Leaf ion concentrations and salt tolerance in barley. Ph.D. Thesis. University of Wales, Bangor, UK. 229 pp.
- Angas, P. 1995. Influencia de la salinidad sobre el desarrollo radicular de trigo (*Triticum aestivum* L.) y cebada (*Hordeum vulgare* L.). Proyecto Final de Carrera. ETSEALL. 66 pp.
- Aragüés, R. 1995. Agricultura de regadío y salinización de suelos y aguas. CSIC ed. Fronteras de la Ciencia y la Tecnología 8: 36-39.
- Aragüés, R., y Alberto, F. 1983. La salinización. Ponencia presentada en SMAGUA/83. Zaragoza. 41-78 pp.
- Aragüés, R. y Millán, M. 1986. El sensor electromagnético como método de medida "in situ" de la salinidad del suelo. Comunicaciones INIA N°18: 249-255.
- Aragüés, R., Alberto, F., y Quílez, D. 1986. Relaciones entre los parámetros químicos de las aguas superficiales de la cuenca del Ebro. Seminario "El sistema integrado del Ebro". Barcelona, 23-25 de febrero. 253-277 pp.
- Aragüés, R., Royo, A., y Faci, J. 1992. Evaluation of a triple line source sprinkler system for salinity crop production studies. *Soil Sci. Soc. Am. J.* 56: 377-383.
- Aragüés, R., Royo, A., and Grattan, S.R. 1994. Foliar uptake of sodium and chloride in barley sprinkler-irrigated with saline water: effect of pre-irrigation with fresh water. *Eur. J. Agron.* 3(1): 9-16.
- Ashraf, M., and Waheed, A. 1993. Responses of Some Genetically Diverse Lines of Chick Pea (*Cicer arietinum* L) to Salt. *Plant and Soil* 154:257-266.
- Ashraf, M., and Fatima, H. 1994. Intra-specific variation for salt tolerance in linseed (*Linum usitatissimum* L). *Journal of Agronomy and Crop Science - Zeitschrift Fur Acker und Pflanzenbau* 173:193-203.
- Ashraf, M., McNeilly, T., and Bradshaw, A.D. 1987. Selection and heritability of tolerance to sodium chloride in four forage species. *Crop Sci.* 27(2): 232-234.
- Aslam, M., Huffaker R.C., and Rains W. 1984. Early effects of salinity on nitrate assimilation in barley seedlings. *Plant Physiol.* 76: 321-325.
- Austin, R.B. 1987. Some crop characteristics of wheat and their influence on yield and water use. *In* : "Drought tolerance in winter cereals". (J. P. Srivastava, E. Porceddu, E. Acevedo, S. Varma, eds.). John Wiley & Sons, Chichester, 321-336 pp.
- Austin, R.B., Craufurd, P.Q., Hall, M.A., Acevedo, E., Siveira Pinheiro, B., and Ngugi, E.C.K. 1990. Carbon isotope discrimination as a means of evaluating drought resistance in barley, rice and cowpeas. *Bull. Soc. bot. Fr.* 137, Actual bot (I): 21-30.
- Ayers, D.A., and Westcott, D.W. 1985. Water quality for agriculture. 97 pp. Irrigation and Drainage. Paper 29. 97 pp, FAO. Roma.
- Ayers, A.D., Brown, J.W., and Wadleigh, D.W. 1952. Salt tolerance of barley and wheat in soil plots receiving several salinization regimes. *Agron. J.* 44: 307-310.
- Belkhdja, R., Morales, F., Abadia, A., Gomezaparisi, J., and Abadia, J. 1994. Chlorophyll Fluorescence as a Possible Tool for Salinity Tolerance Screening in Barley (*Hordeum vulgare* L). *Plant Physiol.* 104:667-673.
- Benes, S.E., Aragüés, R., Austin, R.B., and Grattan, S.R. 1996a. Brief pre- and post-irrigation with freshwater

- reduces foliar salt uptake in maize and barley irrigated with saline water. *Plant and Soil* (in press).
- Benes, S.E., Aragüés, R., Grattan, S.R., and Austin, R.B. 1996b. Foliar and root absorption of Na⁺ and Cl⁻ in maize and barley: implications for salt tolerance screening and the use of saline sprinkler irrigation. *Plant and Soil* (in press).
- Bernstein, L., and Hayward, H.E. 1958. Physiology of salt tolerance. *Ann. Rev. Plant Physiol.* 9: 25-46.
- Bernstein, L., and Francois, L.E. 1975. Effects of frequency of sprinkling with saline waters compared with daily drip irrigation. *Agron. J.* 67(2): 185-190.
- Blum, A., 1983. Breeding programs for improving crop resistance to water stress. *In* : "Crop reaction to water and temperature stresses in humid, temperate climates". Raper D.C., and Kramer P.Y. eds. Westview Press, Boulder, pp 117-154.
- Blum, A. 1992. The role of physiological techniques in breeding for stress tolerance. Workshop on "Field ecophysiological techniques for crop improvement in semi-arid areas". Monterotondo (Rome), 27-29 May.
- Blum, A. 1988. *Plant breeding for stress environments*. 223 O. CRC Press. Florida. USA.
- Bole, J.L., and Wells, S.A. 1979. Dryland soil salinity: Effect on the yield and yield components of 6-row barley, 2-row barley, wheat, and oats. *Can J. Soil Sci.* 59: 11-17.
- Boursier, P., and Läuchli, A. 1990. Growth responses and mineral nutrient relations of salt stressed sorghum. *Crop Sci.* 30: 1226-1233.
- Brugnoli, E., and Lauteri, M. 1991. Effects of salinity on stomatal conductance, photosynthetic capacity, and carbon isotope discrimination of salt tolerant (*Gossypium hirsutum* L.) and salt sensitive (*Phaseolus vulgaris* L.) C3 non-halophytes. *Plant Physiol.* 95:628-635.
- Cachorro, P., Ortiz, A., and Cerdá, A. 1994. Implications of Calcium Nutrition on the Response of *Phaseolus vulgaris* L. to Salinity. *Plant and Soil* 159:205-212.
- Ceccarelli, S. 1987. Tolerance to climatic stresses. *Barley genetics V*: 689-702.
- Ceccarelli, S. 1991. Selection for specific environments or wide adaptability?. *In* : "Improvement and management of winter cereals under temperature, drought and salinity stresses". Monografías INIA. nº76, 227-237 pp.
- Ceccarelli, S., and Grando, S. 1991a. Selection environment and environmental sensitivity in barley. *Euphytica* 57: 157-167.
- Ceccarelli, S., and Grando, S. 1991b. Environment of selection and type of germplasm in barley breeding for low-yielding conditions. *Euphytica* 57: 207-219.
- Cerdá, A., Pardines, J., Botella, M. A., and Martínez, V. 1995. Effect of potassium on growth, water relations, the inorganic and organic solute contents two maize cultivars grown under saline conditions. *J. of Plant Nutr.* 18:839-851.
- Chaudhary, T.N., Bhatnagar, V.K., and Prihar, S.S. 1974. Growth response of crops to depth and salinity of ground water and soil submergence. I. Wheat (*Triticum aestivum* L.). *Agron. J.* 66: 32-35.
- Chaudhary, M. T., Wainwright, S. J., Merrett, M. J., and Shahealam, M. 1994. Salt tolerant plants of Lucerne (*Medicago media* Pers) regenerated from salt-selected suspension cultures. *Plant Science* 98:97-102.
- Colmer, T. D., Fan, T. W. M., Higashi, R. M., and Lauchli, A. 1994. Interactions of Ca²⁺ and NaCl stress on the ion relations and intracellular pH of Sorghum bicolor root tips: An in vivo P-31-NMR study. *J. Exp. Bot.* 45:1037-1044.
- Condon, A.G., Richards, R.A., and Farquhar, G.D. 1987. Carbon isotope discrimination is positively correlated with grain yield and dry matter production in field-grown wheat. *Crop Sci.* 27: 996-1001.
- Cotlove, E. 1963. Determination of true chloride content of biological fluids and tissues. II. Analysis by simple nonisotopic methods. *Anal. Chem.* 35: 101.
- Cramer, G.R., Abdelbasset, R., and Seemann, J.R. 1990a. Salinity-Calcium interactions on root growth and osmotic adjustment of two corn cultivars differing in salt tolerance. *J. of plant Nutr.* 13(11): 1453-1462.
- Cramer, G.R., Epstein, E., and Lauchli, A. 1990b. Effects of sodium, potassium and calcium on salt stressed barley. I.- Growth analysis. *Physiol. Plant.* 80: 83-88.
- Cramer, G.R., Epstein, E. and Lauchli, A. 1991. Effects of sodium, potassium and calcium on salt stressed barley. II.- Elemental analysis. *Physiol. Plant.* 81: 197-202.
- Cramer, G. R., Alberico, G. J., and Schmidt, C. 1994. Salt tolerance is not associated with the sodium accumulation of two maize hybrids. *Aust. J. Plant Physiol.* 21: 75-692.
- Craufurd, P.Q., Austin, R.G., Acevedo, E., and Hall, M.A. 1991. Carbon isotope discrimination and grain-yield in barley. *Field Crops Res.* 27: 301-313.
- Cubero, J.I., y Flores, F. 1994. Métodos estadísticos para el estudio de la estabilidad varietal en ensayos agrícolas. Ed. Junta de Andalucía. Consejería de Agricultura y Pesca. Monografías 12/94. 176 pp.
- Cullis, B.R., and Gleeson, A.C. 1989. Efficiency of neighbour analysis for replicated variety trials in Australia.

- J. Agric. Sci. (Cambr.) 113: 233-239.
- Curtin, D., Steppuhn, H., and Selles, F. 1993. Plant responses to sulfate and chloride salinity: growth and ionic relations. *Soil Sci. Soc. Am. J.* 57: 1304-1310.
- Díaz, L., y Herrero, J. 1992. Salinity estimates in irrigated soils using electromagnetic induction. *Soil Sci.* 154 (2): 151-157.
- Donald, C.M. 1968. The breeding of crop ideotypes. *Euphytica* 17: 385-403.
- Dracup, M. 1991. Increasing salt tolerance of plants through cell culture requires greater understanding of tolerance mechanisms. *Aust. J. Plant Physiol.* 18:1-15.
- Dutt, S.K. 1988. Soil salinity effects on the process of grain filling in barley (*Hordeum vulgare* L.) varieties. *Indian J. Plant Physiol.* XXXI(2): 222-227.
- Eberhardt, S.A., and Russel, W.A. 1966. Stability parameters for comparing varieties. *Crop Sci.* 6: 36-40.
- Epstein, E. 1980. Responses of plants to saline environments. *In* : Genetic Engineering of osmoregulation. D.W. Rains; R.C. Valentine and A. Hollaender eds., Plenum, New York. 7-21 pp.
- Epstein, E., and Norlyn, J.D. 1977. Seawater-based crop production: A feasibility study. *Science* 197: 249-251.
- Epstein, E., and Rains, D.W. 1987. Advances in salt tolerance. *Plant and Soil.* 99: 17-29.
- Farquhar, G.D., and Richards, R.A. 1984. Isotopic composition of plant carbon correlates with water use efficiency of wheat genotypes. *Aust. J. Plant Physiol.* 11: 539-552.
- Farquhar, G.D., O'Leary, M.H., and Berry, J.A. 1982. On the relationship between carbon isotope discrimination and the intercellular carbon dioxide concentration in leaves. *Aust. J. Plant Physiol.* 9: 121-137.
- Farquhar, G.D., Ehleringer, J.R., and Hubick, K.T. 1989. Carbon isotope discrimination and photosynthesis. *Annu. Rev. Plant Physiol.* 40:503-537.
- Farooq, S., Asghar, M., Askari, E., and Shah, T. M. 1994. Production and Evaluation of Salt Tolerant Wheat Germplasm Derived Through Crosses Between Wheat (*Triticum Aestivum* L) and *Aegilops Cylindrica*. 1. Production of Salt Tolerant Wheat Germplasm. *Pakistan J. Bot.* 26:283-292.
- Febrero, A., Bort, J., Catala, J., Marzabal, P., Voltas, J., and Araus, J. L. 1994. Grain yield, carbon isotope discrimination and mineral content in mature kernels of barley under irrigated and rainfed conditions. *Agronomie*:127-132.
- Finlay, K.W., and Wilkinson, G.N. 1963. The analysis of adaptation in a plant breeding programme. *Aust. J. Agric. Res.* 14: 742-754.
- Fischer, R.A., and Maurer, R. 1978. Drought resistance in spring wheat cultivars. I. Grain yield responses. *Aust. J. Agric. Res.* 29: 897-912.
- Flowers, T.J., and Yeo, A.R. 1986. Ion relations of plants under drought and salinity. *Aust. J. Plant Physiol.* 13: 75-91.
- Flowers, T.J., and Yeo, A.R. 1995. Breeding for salinity resistance in crops plants: Where next?. *Aust. J. Plant Physiol.* 22: 875-884.
- Flowers, T.J., Troke, P.F., and Yeo, A.R. 1977. The mechanism of salt tolerance in halophytes. *Annu. Rev. Plant Physiol.* 28: 89-121.
- Flowers, T.J., Salama, F.M., and Yeo, A.R. 1988. Water use efficiency in rice (*Oryza sativa* L.) in relation to resistance to salinity. *Plant, Cell and Environ.* 11: 453-459.
- Forster, B.P., Miller, T.E., and Law, C.N. 1988. Salt tolerance of two heat *Agropyrum junceum* disomic addition lines. *Genome* 30: 559-564.
- Francois, L.E., and Clark, R.A. 1979. Foliar absorption of sodium and chloride as a factor in sprinkler-irrigated grapes. *J. Am. Soc. Hort. Sci.* 104: 11.
- Francois, L.E., Donovan, T.J., Maas, E.V., and Rubenthaler G.L. 1988. Effect of salinity on grain yield and quality, vegetative growth, and germination of triticale. *Agron. J.* 80: 642-647.
- Fricke, W., Leigh, R. A., and Tomos, A. D. 1994. Epidermal Solute Concentrations and Osmolality in Barley Leaves Studied at the Single-Cell Level - Changes Along the Leaf Blade, During Leaf Ageing and NaCl Stress. *Planta* 192:317-323.
- Fricke, W., Hinde, P. S., Leigh, R. A., and Tomos, A. D. 1995. Vacuolar solutes in the upper epidermis of barley leaves - Intercellular differences follow patterns. *Planta* 196:40-49.
- Galvez, A. F., Gulick, P. J., and Dvorak, J. 1993. Characterization of the Early Stages of Genetic Salt-Stress Responses in Salt-Tolerant *Lophopyrum elongatum*, Salt-Sensitive Wheat, and Their Amphiploid. *Plant Physiol.* 103:257-265.
- Garcia del Moral, L.F., Ramos, J.M., Garcia del Moral, M.B., and Jiménez-Tejada, M.P. 1991. Ontogenetic approach to grain production in spring barley based on path-coefficient analysis. *Crop Sci.* 31: 1179-1185.
- Gary-Bobo, C.M. 1970. Effect of Ca²⁺ on the water and non electrolyte permeability of phospholipid membranes. *Nature* 228: 1101-1102.

- Gorham, J. 1992. Stress tolerance and mechanisms behind tolerance in barley. *Barley Genetics*:1035-1049.
- Gorham, J. 1993. Genetics and physiology of enhanced K/Na discrimination. *Genetics aspects of plant Nutr.*:151-158.
- Gorham, J., Wyn Jones, R.G., and McDonnell, E. 1985. Some mechanisms of salt tolerance in crops plants. *Plant and Soil* 00: 1-26.
- Gorham, J., Budrewicz, E., McDonnell, E., and Wyn Jones, R.G. 1986. Salt tolerance in the triticeae: salinity-induced changes in the leaf solute composition of some perennials triticeae. *J. Exp. Bot.* 37(181): 1114-1128.
- Gorham, J., Papa, R., and AlloyLeonart, M. 1994. Varietal differences in sodium uptake in barley cultivars exposed to soil salinity or salt spray. *J. Exp. Bot.* 45: 895-901.
- Grattan, S.R., and Grieve, C.M. 1994. Mineral nutrient acquisition and response by plants grown in saline environments. In: "Handbook of plant and crop stress". Ed. Mohammad Pessaraki. Marcel Dekker, Inc. New York. 203-226 pp.
- Grattan, S.R., Royo, A., and Aragüés, R. 1994. Chloride accumulation and partitioning in barley as affected by differential root and foliar salt absorption under saline sprinkler irrigation. *Irr. Sci.* 14: 147-155.
- Greenway, H. 1962a. Plant response to saline substrates. I.- Growth and ion uptake of several varieties of *hordeum* during and after sodium chloride treatment. *Aust. J. Biol. Sci.* 15: 16-38.
- Greenway, H. 1962b. Plant response to saline substrates. II.- chloride, sodium and potassium uptake and translocation in young plants of *hordeum vulgare* during and after a short sodium chloride treatment. *Aust. J. Biol. Sci.* 15: 39-57.
- Greenway, H. 1963. Plant response to saline substrates. III.- Effect of nutrient concentration on the growth and ion uptake of *hordeum vulgare* during a sodium chloride stress. *Aust. J. Biol. Sci.* 16: 616-628.
- Greenway, H. 1965. Plant responses to saline substrates. IV.- Chloride uptake by *hordeum vulgare* as affected by inhibitors, transpiration, and nutrients in the medium. *Aust. J. Biol. Sci.* 18: 249-268.
- Greenway H., and Thomas D.A. 1965. Plant response to saline substrates. V.- Chloride regulation in the individual organs of *hordeum vulgare* during treatment with sodium chloride. *Aust. J. Biol. Sci.* 18: 503-524.
- Grieve, C.M., and Francois, L.E. 1992. The importance of initial seed size in wheat plant response to salinity. *Plant and Soil* 147: 197-205.
- Handley, L.L., Nevo, E., Raven, J.A., Martínez-Carrasco, R., Scrimgeour, C.M., Pakniyat, H., and Forster, B.P. 1994. Chromosome 4 controls potential water use efficiency ($d^{13}C$) in barley. *J. Exp. Bot.* 45(280): 1661-1663.
- Hanks, R.J., Keller, J., Rasmussen, V.P., and Wilson, G.D. 1976. Line source sprinkler for continuous variable irrigation-crop production studies. *Soil Sci. Soc. Am. J.* 40: 426-429.
- Helal, H.M., and Mengel, K. 1979. Nitrogen metabolism of young barley plants as affected by NaCl-salinity and potassium. *Plant and Soil* 51: 457-462.
- Herrero, J., y Aragüés, R. 1988. Suelos afectados por la salinidad en Aragón. *Surcos de Aragón* 9: 5-10.
- Herrero, J., y Bercero, A. 1991. La salinidad en el nuevo regadío de Quinto (Zaragoza). *Suelo y Planta* 1:585-602.
- Hockett, E.A., and Nilan, R.A. 1985. Genetics. In : "Barley". American Society of Agronomy Inc. CSSA. SSSA. D.C. Rasmusson ed. Agronomy Series n°26. 187-230 pp.
- Huang, J., and Redmann, R.E. 1995a. Solute adjustment and calcium supply in cultivated and wild barley. *J. Plant Nutrition* 18(7): 1371-1389.
- Huang, J., and Redmann, R.E. 1995b. Physiological responses of canola and wild mustard to salinity and contrasting calcium supply. *J. Plant Nutrition* 18(9): 1931-1949.
- Hubick, K.T., and Farquhar, G.D. 1989. Carbon isotope discrimination and the ratio of carbon gained to water lost in barley cultivars. *Plant, Cell and Environ.* 12: 795-804.
- Igartua, E., Gracia, M. P., and Lasa, J. M. 1994. Characterization and genetic control of germination-emergence responses of grain sorghum to salinity. *Euphytica* 76:185-193.
- Igartua, E., Gracia, M. P., and Lasa, J. M. 1995. Field responses of grain sorghum to a salinity gradient. *Field Crops Res.* 42: 15-25.
- Isla, R., y Royo, A. 1995. Efecto de la densidad de siembra y del tamaño de semilla en cebada sobre la producción de grano en condiciones salinas. III Jornadas técnicas sobre riegos. AERYD. Puerto de la Cruz, Tenerife, 7-9. Junio. 285-293 pp.
- Jana, S. 1987. Strategies for breeding salt-tolerant wheat and barley. In : "Improvement and management of winter cereals under temperature, drought and salinity stresses". Monografías INIA. 1991. n°76, 351-371 pp.
- Jefferies, R.L. 1980. The role of organic solutes in osmoregulation in halophytic higher plants. In: *Genetic*

- engineering of osmoregulation. D.W. Rains; R.C. Valentine and Hollaender eds., Plenum. New York. pp 135-154.
- Johnson, R.C. 1991. Salinity resistance, water relations, and salt content of crested and tall wheatgrass accessions. *Crop Sci.* 31: 730-734.
- Johnson, R.C., and Tieszen, L. L. 1994. Variation for Water-Use Efficiency in Alfalfa Germplasm. *Crop Sci.* 34:452-458.
- Johnson, R. C., Muehlbauer, F. J., and Simon, C. J. 1995. Genetic variation in water-use efficiency and its relation to photosynthesis and productivity in lentil germplasm. *Crop Science* 35:457-463.
- Kaiser, W.M. 1987. Effects of water deficit on photosynthetic capacity. *Physiol. Planta.* 71: 142-149.
- Kefu, Z., Munns, R., and King, R.W. 1991. Abscisic acid levels in NaCl-treated barley, cotton and saltbrush. *Aust. J. Plant Physiol.* 18: 17-24.
- Kelly, J.T., Bacon, R.K., and Gbur, E.E. 1995. Relationship of grain yield and test weight in soft red winter wheat. *Cer. Res. Comm.* 23(1-2): 53-57.
- Kelman, W. M., and Qualset, C.O. 1991. Breeding for salinity-stressed environments: recombinant inbred wheat lines under saline irrigation. *Crop Sci.* 31: 1436-1442.
- Kirda, C., Mohamed, A.R.A.G., Kumarasinghe, K.S., Montenegro, A., and Zapata, F. 1992. Carbon isotope discrimination at vegetative stage as an indicator of yield and water use efficiency of spring wheat (*Triticum turgidum* L. var. *durum*). *Plant and Soil* 147: 217-223.
- Kingsbury, R.W., and Epstein, E. 1984. Selection for salt-resistant spring wheat. *Crop Sci.* 24: 310-315.
- Kluitenberg, G.J., and Biggar, J.W. 1992. Canopy temperature as a measure of salinity stress on sorghum. *Irrig. Sci.* 13: 115-121.
- Knight, J.D., Livingston, N.J., and Van Kessel, C. 1994. Carbon isotope discrimination and water-use efficiency of six crops under wet and dryland conditions. *Plant cell and Environment* 17: 173-179.
- Knotters, M., Brus, D.J., and Oude Voshaar, J.H. 1995. A comparison of kriging, co-kriging and kriging combined with regression for spatial interpolation of horizon depth with censored observations. *Geoderma* 67: 227-246.
- Kriedeman, P.E. 1986. Stomatal and photosynthetic limitations to leaf growth. *Aust. J. Plant Physiol.* 13: 211-219
- Krishnaraj, S., Mawson, M.T., Yeung, E.C., and Thorpe, T.A. 1993. Utilization of induction and quenching kinetics of chlorophyll *a* fluorescence for *in vivo* salinity screening studies in wheat (*Triticum aestivum* vars. Kharchia-65 and Fielder). *Can. J. Bot.* 71: 87-92
- Leopold, A.C., and Willing, R.P. 1984. Evidence for toxicity effects of salt membranes. *In* : " Salinity tolerance in plants. Strategies for crop improvement". Staples & Toenniessen. John Wiley & Sons.
- Lin, C.S., Binns, M.R., and Lefkovitch, L.P. 1986. Stability analysis: Where do we stand?. *Crop Sci.* 26: 894-900.
- Lin, C. C., and Kao, C. H. 1995. NaCl Stress in Rice Seedlings - The Influence of Calcium on Root Growth. *Botanical Bulletin of Academia Sinica* 36:41-45.
- Lin, G., and Sternberg, L.S.L. 1992. Effect of growth form, salinity, nutrient and sulfide on photosynthesis, carbon isotope discrimination and growth of red mangrove (*Rhizophora mangle* L.). *Aust. J. Plant Physiol.* 19: 509-517.
- Maas, E.V. 1985. Crop tolerance to saline sprinkling waters. *Plant and Soil* 89: 273-284.
- Maas, E.V. 1986. Salt tolerance of plants. *App. Agric. Res.* 1(1): 12-26.
- Maas, E.V., and Hoffman, G.J. 1977. Crop salt tolerance. *Current Assesment. J. Irrig. Div ASCE* 103(IR2): 115-134.
- Maas, E.V., Grattan, S.R., and Ogata, G. 1982. Foliar salt acumulation and injury in crops sprinkled with saline water. *Irrig. Sci.* 3: 157-168.
- Maas, E.V., Poss, J.A., and Hoffman G.J. 1986. Salinity sensitivity of Sorghum at three growth stages. *Irrig. Sci.* 7: 1-11.
- Mahmood, A., and Quarrie, S.A. 1993. Effects of salinity on growth, ionic relations and physiological traits of wheat, disomic addition lines from *Thinopyrum bessarabicum* and two amphiploids. *Plant breeding* 110: 265-276.
- Martin, P. K., Humble, J., and Koebner, R. M. D. 1994. Use of the Nutrient Film Technique as a Method for Assessment of Plant Response to Salt Stress in the Cereals. *Acta Societatis Botanicorum Poloniae* 63:159-165.
- Martínez Beltrán, J. 1978. Drainage and land reclamation of salt-affected soils. bardenas Area. Spain. International Institute of Land Reclamation and Improvement. Publication n° 42. 1987. Wageningen, The Netherlands.
- Martínez-Cob, A., Aragüés, A., and Royo, A. 1987. Salt tolerance of barley (*Hordeum vulgare* L.) cultivars at

- the germination stage: analysis of the response functions. *Plant and Soil* 104: 53-56.
- Marschner, H. 1986. *Mineral Nutrition in higher plants*, Academic Press, London.
- Masle, J., Farquhar, G.D., and Wong, S.C. 1992. Transpiration ratio and plant mineral content are related among genotypes of a range of species. *Aust. J. Plant Physiol.* 19: 709-721.
- McCree, K.J. 1986. Whole-plant carbon balance during osmotic adjustment to drought and salinity stress. *Aust. J. Plant Physiol.* 13: 33-43.
- Meinzer, F. C., Plaut, Z., and Saliendra, N. Z. 1994. Carbon Isotope Discrimination, Gas Exchange, and Growth of Sugarcane Cultivars Under Salinity. *Plant Physiol.* 104:521-526.
- Meiri, A. 1994. Tolerance of different crops to salinity conditions in soils. 15th World Congress of Soil Science. International Society of Soil Science. Acapulco, Mexico, July 1994. Transactions, Volume 3a, pp 320-331.
- Molina-Cano, J.L., García del Moral, L.F., Ramos, J.M., García del Moral, M.B., Jiménez-Tejada, P., Romagosa, I., and Roca de Togores, F. 1990. Quantitative phenotypical expression of three mutant genes in barley and the basis for defining an ideotype for Mediterranean environments. *Theor. Appl. Genet.* 80: 762-768.
- Muhammed, S. Akbar, M., and Neue, H.U. 1987. Effect of Na/Ca and Na/ K ratios in saline culture solution on the growth and mineral nutrition of rice (*Oryza sativa* L.). *Plant and Soil* 104: 57-62.
- Munns, R. 1993. Physiological processes limiting plant growth in saline soils: some dogmas and hypotheses. *Plant, Cell and Environment* 16: 15-24.
- Munns, R., and Termaat, A. 1986. Whole plant responses to salinity. *Aust. J. Plant Physiol.* 13: 143-160.
- Munns, R., and Sharp, R. E. 1993. Involvement of Abscisic Acid in Controlling Plant Growth in Soils of Low Water Potential. *Aust. J. Plant Physiol.* 20:425-437.
- Munns, R., Greenway, H., and Kirst, G.O. 1983. Halotolerant eukaryotes. *In* : " Physiological plant ecology. III. Responses to the chemical and biological environment". (Eds. O.L. Lange, C.B. Osmond, P.S. Nobel and H. Zeigler). *Encyl. Plant Physiol. New Ser.*, Vol. 12C, 59-135 pp.
- Munns, R., Gardner, P.A., Tonnet, M.L., and Rawson, H.M. 1988. Growth and development in NaCl-treated plants. II. Do Na⁺ or Cl⁻ concentrations in dividing or expanding tissues determine growth in barley?. *Aus. J. Plant Physiol.* 15: 519-527.
- Nachit, H.M., and Ketata, H. 1989. Selection of morpho-physiological traits for multiple abiotic stresses resistance in durum wheat (*triticum turgidum* L., var *Durum*). *In* : *Physiology-Breeding of winter cereals for stressed Mediterranean environments*. (Montpellier, France, 3-6 July 1989). Ed. INRA, Paris 1991. (Les Colloques n°55).
- Nagy, Z., and Galiba, G. 1995. Drought and salt tolerance are not necessarily linked: A study on wheat varieties differing in drought tolerance under consecutive water and salinity stresses. *J. of Plant Physiology* 145:168-174.
- Newman, C.W., and McGuire, C.F. Nutritional quality of barley. *In* : "Barley". American Society of Agronomy Inc. CSSA. SSSA. D.C. Rasmusson ed. *Agronomy Series n°26*. 403-456 pp.
- Ngugi, E. C. K., Galwey, N. W., and Austin, R. B. 1994. Genotype x environment interaction in carbon isotope discrimination and seed yield in cowpea (*Vigna unguiculata* L. Walp.). *Euphytica* 73: 213-224.
- Noble, C.L., and Rogers, M.E. 1992. Arguments for the use of physiological criteria for improving the salt tolerance in crops. *Plant and Soil* 146: 99-107.
- Ortiz, A., Martinez, V., and Cerdá, A. 1994. Effects of osmotic shock and calcium on growth and solute composition of *Phaseolus vulgaris* plants. *Physiol. Plantarum* 91: 468-476.
- Ortiz-Ferrara, G., Yau, S.K., and Assad Mousa. M. 1989. Identification of agronomic traits associated with yield under stress conditions. *In* : *Physiology-Breeding of winter cereals for stressed Mediterranean environments*. (Montpellier, France, 3-6 July 1989). Ed. INRA, Paris 1991. (Les Colloques n°55). 67-88.
- Pal, B., Singh, C., and Singh, H. 1984. Barley yield under saline water cultivation. *Plant and Soil* 81: 221-228.
- Passioura, J.B. 1986. Resistance to drought and salinity: Avenues for improvement. *Aust. J. Plant Physiol.* 13: 191-201.
- Pasternak, D. 1987. Tolerance and crop production - A comprehensive approach. *Ann. Rev. Plant Pathol.* 25: 271-291.
- Pasternak, D., Nerd, A., and DeMalach, Y. 1993. Irrigation with brackish water under desert conditions. IX. The salt tolerance of six forage crops. *Agric Water Manage.* 24(4): 321-334.
- Pasternak, D., Sagih, M., DeMalach, Y., Keren, I., and Shaffer, A. 1995. Irrigation with brackish water under desert conditions. XI. salt tolerance in sweet-corn cultivars. *Agric. Water Manage.* 28: 325-334.
- Peccetti, L., and Annichiarico, P. 1995. Efficacy of a visual assesment for drought tolerance in durum wheat improvement under dryland conditions. *Cer. Res. Comm.* 23(1-2): 95-101.

- Peñuelas, J., Gamon, J.A., Griffin, K.L., and Field, C.B. 1993. Assessing type, biomass, pigment composition and photosynthetic efficiency of aquatic vegetation from spectral reflectance. *Remote sensing of environment* 46: 110-118.
- Petersen, R.G. 1985. Augmented designs for preliminary yield trials. *Rachis* 4(1): 2732.
- Poehlman, J.M. 1985. Adaptation and distribution. *In* : "Barley". American Society of Agronomy Inc. CSSA. SSSA. D.C. Rasmusson ed. Agronomy Series n°26. 1-17 pp.
- Ponnamperuma, F.N. 1984. Role of cultivar tolerance in increasing rice production on saline lands. *In* : "Salinity tolerance in plants. Strategies for crop improvement". R.C. Staples and G.H. Toenniessen eds., John Wiley & Sons, 257-271pp
- Quílez, D. 1991. Estimación espacial de la salinidad del suelo: robustez del krigeado en un sector de riego de monegros II. IX Jornadas técnicas sobre riegos. AERYD. Granada, 4-6 Junio. Ed. Junta de Andalucía. 171-178 pp.
- Rawson, H.M., Long, M.J., and Munns, R. 1988a. Growth and development in NaCl-treated plants. I. Leaf Na⁺ and Cl⁻ concentrations do not determine gas exchange of leaf blades in barley. *Aust. J. Agric. Res.* 39: 725-772.
- Rawson, H.M., Richards, R.A., and Munns, R. 1988b. An examination of selection criteria for salt tolerance in wheat, barley and triticale genotypes. *Aust. J. Agric Res.* 39: 759-772.
- Read, J.J., Johnson, D.A., Asay, K.H., and Tieszen, L.L. 1991a. Carbon isotope discrimination, gas exchange, and water-use efficiency in crested wheatgrass clones. *Crop Sci.* 31: 1203-1208.
- Read, J.J., Johnson, R.C., Carver, B.F., and Quarrie, S.A. 1991b. Carbon isotope discrimination, gas exchange, and yield of spring wheat selected for abscisic acid content. *Crop Sci.* 31: 139-146.
- Reeve, R.C., and Fireman, M. 1967. Salt problems in relation to agriculture. *In* : *Irrigation of agricultural lands.* (Eds R.M. Hagan, H. R. Haise and T.W. Edminster. pp 988-1008. (Am. Soc. Agron: Madison.)
- Regan, K.L., Siddique, K.H.M., Turner, N.C., and Whan, B.R. 1992. Potential for increasing early vigour and total biomass in spring wheat. II. Characteristics associated with early vigour. *Aust. J. Agric. Res.* 43: 541-543.
- Rhoades, J.D., and Corwin, D.L. 1981. Determining soil electrical conductivity-depth relations using an inductive electromagnetic soil conductivity meter. *Soil Sci. Soc. Am. J.* 45: 255-260.
- Richards, L.A. 1954. Diagnosis and improvement of saline and alkali soils. USDA Handbook N°60, Wash.D.C., 160 pp.
- Richards, R.A. 1983. Should selection for yield in saline regions be made on saline or nonsaline soils?. *Euphytica* 32: 431-438.
- Richards, R.A. 1992. Increasing salinity tolerance of grain crops: Is it worthwhile?. *Plant and Soil* 146: 89-98.
- Richards, R.A., Dennet, C.W., Qualset, C.O., Epstein, E., Norlyn, J.D., and Winslow, M.D. 1987. Variation in yield of grain and biomass in wheat, barley and triticale in salt affected field. *Field Crop Res.* 15: 277-287.
- Richardson, S.G., and McCree, K. J. 1985. Carbon balance and water relations of sorghum exposed to salt and water stress. *Plant Physiol.* 79:
- Robinson, D.L., Dobrenz, A.K., and Smith, S.E. 1986. Evaluating the genetic gains for germination salt tolerance in alfalfa using a sodium-chloride gradient. *Agron. J.* 78: 1099-1103.
- Romagosa, I., and Araus, J.L. 1991. Genotype-environment interaction for grain yield and ¹³ C discrimination in barley. *Barley Genetics VI*: 563-567.
- Romagosa, I., Fox, P.N., Hayward, M.D., and Bosemark, N.O. 1993. Genotype environment interactions: reviews. *In* : " Plant breeding: Principles and Prospects". Chapman and Hall Ltd., London, UK. 373-390 pp.
- Rosielle, A.A., and Hamblin, J. 1981. Theoretical aspects of selection for yield in stress and non-stress environments. *Crop Sci.* 21: 943-946.
- Royo, A. 1989. Análisis de la tolerancia a la salinidad de cultivares de cebada. Tesis Doctoral. 433 pp. ETSIA. Lérida.
- Royo, A., y Aragüés, R. 1991a. Tolerancia a la salinidad de 48 cultivares de cebada en la fase de emergencia. *Invest. Agraria, Prod. Protec Vegetal* 6(1): 17-26.
- Royo, A., y Aragüés, R. 1991b. Descripción y evaluación de una triple fuente lineal de aspersion para el estudio de la respuesta de los cultivos a la salinidad. II.- Salinidad del suelo. *Invest. Agraria, Prod. Protec. Vegetal* 6(2): 217-228.
- Royo, A., and Aragüés, R. 1993. Validation of salinity crop production functions obtained with the triple line source sprinkler system. *Agron. J.* 85: 795-800.
- Royo, A., y Aragüés, R. 1995. Efecto de la salinidad sobre diversos caracteres morfo-fisiológicos y sobre el rendimiento en grano de la cebada. *Invest. Agraria. Prod. Prot. Vegetal.* Vol. 10(1): 71-84.

- Royo, A., Faci, J., y Aragües, R. 1987. Utilización de la triple línea de aspersión para evaluar la respuesta de los cultivos a la salinidad. *Riegos y Drenajes XXI*, 17: 48-54.
- Royo, A., Aragües, R., y Faci, J. 1991a. Descripción y evaluación de una triple fuente lineal de aspersión para el estudio de la respuesta de los cultivos a la salinidad. I.- Agua de riego. *Invest. Agraria, Prod. Protec. Vegetal* 6(1).
- Royo, A., Aragües, R., Susin, V. 1991b. Respuesta en campo de cultivares de cebada a la salinidad del suelo medida "in situ" por técnicas electrométricas. *Invest. Agraria, Prod. Protec. Vegetal* 6(2).
- Royo, A., Aragües, R., y Quílez, D. 1991c. Descripción y evaluación de cuatro modelos de respuesta de cultivares de cebada a la salinidad. *Invest. Agraria, Prod. Protec. Vegetal* 6(3): 319-330.
- Royo, A., Aragües, R., y Isla, R. 1994. Efecto de la salinidad sobre la producción y sus componentes en cebada. XII Jornadas técnicas sobre riegos. Pamplona, 22-24 Junio. AERYD. 231-239 pp.
- Rumbaugh, M. D., Pendery, B. M., and James, D. W. 1993. Variation in the Salinity Tolerance of Strawberry Clover (*Trifolium fragiferum* L.). *Plant and Soil* 153:265-271.
- Salama, S., Trivedi, S., Busheva, M., Arafa, A. A., Garab, G., and Erdei, L. 1994. Effects of NaCl salinity on growth, cation accumulation, chloroplast structure and function in wheat cultivars differing in salt tolerance. *J. Plant Physiol.* 144:241-247.
- Sandquist, D., and Ehleringer, J. 1995. Carbon isotope discrimination In the C-4 shrub *Atriplex Confertifolia* along a salinity gradient. *Great Basin Naturalist* 55:135-141.
- SAS Institute Inc. 1988. SAS/STAT™ Guide for personal computers, Versión 6 Edition. Cary, NC: SAS Institute Inc., 378 pp.
- Satti, S. M. E., Ibrahim, A. A., and Alkindi, S. M. 1994. Enhancement of Salinity Tolerance in Tomato - Implications of Potassium and Calcium in Flowering and Yield. *Communications in Soil Science and Plant Analysis* 25:2825-2840.
- Sayre, K. D., Acevedo, E., and Austin, R. B. 1995. Carbon isotope discrimination and grain yield for three bread wheat germplasm groups grown at different levels of water stress. *Field Crops Research* 41: 45-54.
- Schachtman, D.P., Munns, R., and Whitecross, M.I. 1991. Variation in sodium exclusion and salt tolerance in *Triticum tauschii*. *Crop Sci.* 31: 992-997.
- Schaller, C.W., Berdegue, J.A., Dennett, C.W., Richards, R.A., and Winslow, M.D. 1981. Screening the world barley collection for salt tolerance. *Proc. 4th Intern. Barley Gen. Symp.* 389-393.
- Shalaby, E. E., Epstein, E., and Qualset, C. O. 1993. Variation in Salt Tolerance Among Some Wheat and Triticale Genotypes. *J. of Agronomy and Crop Science - Zeitschrift Fur Acker und Pflanzenbau* 171:298-304.
- Shalhevet, J. 1994. Using Water of Marginal Quality for Crop Production - Major Issues. *Agric. Water Manag.* 25:233-269.
- Shalhevet, J., and Hsiao, Th. C. 1986. Salinity and drought. A comparison of their effects on osmotic adjustment, assimilation transpiration and growth. *Irr. Sci.* 7: 249-264.
- Shannon, M.C. 1978. Testing salt tolerance variability among tall wheatgrass lines. *Agron. J.* 70(5): 719-722.
- Shannon, M.C. 1984. Breeding, selection, and the genetics of salt tolerance. *In* : Salinity tolerance in plants. Strategies for crop improvement. R.C. Staples and G.H. Toenniessen eds., John Wiley & Sons. (Chapter 13).
- Shannon, M.C. 1985. Principles and strategies in breeding for higher salt tolerance. *Plant and Soil* 89: 227-241.
- Shannon, M.C., and Francois, L.E. 1978. Salt tolerance of three muskmelon cultivars. *J. Amer. Soc. Hort. Sci.* 103: 127-130.
- Sharkey, T.D., and Seemann, J.R. 1989. Mild water stress effects on carbon - reduction - cycle intermediates, Ribulose Biphosphate Carboxilase activity and spatial homogeneity of photosynthesis in intact leaves. *Plant Physiol.* 89: 1060-1065.
- Sharma, P.C., and Gill, K.S. 1992. Effect of salinity on yield and ion distribution in Pearl Millet genotypes. *Arid Soil Res. & Rehab.* 6(3): 253-260.
- Slavich, P.G., Read, B.J., and Cullis, B.R. 1990. Yield response of barley germplasm to yield variation in salinity quantified using the EM-38. *Aust. J. Exp. Agric.* 30: 551-556.
- Smith, R. C. G., Wallace, J. F., Hick, P. T., Gilmour, R. F., Belford, R. K., Portmann, P. A., Regan, K. L., and Turner, N. C. 1993. Potential of Using Field Spectroscopy During Early Growth for Ranking Biomass in Cereal Breeding Trials. *Aust. J. Agric. Res.* 44:1713-1730.
- Soil Survey Staff. 1994. Keys to soil salinity. Sixth Edition. S.M.S.S. USDA. Washington. pp 306.
- Suhaida, C. G., Redmann, R.E., Harvey, B.L., and Cipywnyk, A.L. 1992. Comparative response of cultivated and wild barley species to salinity stress and calcium supply. *Crop Sci.* 32: 154-163.
- Szabolcs, I. 1989. Salt-affected soils. CRC Press, Boca Ratón, FL.
- Talanova, V. V., and Titov, A. F. 1994. Endogenous abscisic acid content in cucumber leaves under the

- influence of unfavourable temperatures and salinity. *J. Exp. Bot.* 45: 1031-1033.
- Termaat, A., Passioura, J.B., and Munns, R. 1985. Shoot turgor does not limit shoot growth of NaCl affected wheat and barley. *Plant Physiol.* 77: 869-872.
- Thomas, J. C., and Bohnert, H. J. 1993. Salt Stress Perception and Plant Growth Regulators in the Halophyte *Mesembryanthemum crystallinum*. *Plant Physiol.* 103: 1299-1304.
- Timm, D.A., Waskom, R.M., Miller, D.R., and Nabors, M.W. 1991. Greenhouse evaluation of regenerated spring wheat for enhanced salt tolerance. *Cer. Res. Comm.* 19(4): 451-457.
- Torres, B.C., and Bingham, F.T. 1973. Salt tolerance of Mexican wheat. I. Effect of NO₃ and NaCl on mineral nutrition, growth and grain production of four wheats. *Soil Sci. Am. Proc.* 37: 711-715.
- Townley-Smith, T.F., and Hurd, E.A. 1973. The use of moving means in wheat yield field trials. *Can J. Plant Sci.* 53: 447-450.
- Ullah, S. M., Soja, G., and Gerzabek, M. H. 1993. Ion Uptake, Osmoregulation and Iont-Water Relations in Faba Beans (*Vicia faba* L) Under Salt Stress. *Bodenkultur* 44:291-301.
- Van-Genuchten, M.Th. 1983. Analyzing crop salt tolerance data: Model description and user's manual. Washington: USDA-ARS-USSL Research Report N°120.
- Vaughan, P.J., Lesch, S.M., Corwin, D.L., and Cone, D.G. 1995. Water content effect on soil salinity prediction: A geostatistical study using cokriging. *Soil Sci. Soc. Am. J.* 59: 1146-1156.
- Walker, C.D., and Lance, R.C.M. 1991. Silicon accumulation and ¹³C composition as indices of water-use efficiency in barley cultivars. *Aust. J. Plant Physiol.* 18: 427-434.
- Ward, J. H. 1963. Hierarchical grouping to optimize and objective function. *J. Amer. Statist. Ass.* 58: 236-244.
- Weimberg, R. 1986. Growth and solute accumulation in 3 - week-old seedlings of *Agropyron elongatum* stressed with sodium and potassium salts. *Physiol. Planta.* 67: 129-135.
- Weimberg, R. 1987. Solute adjustment in leaves of two species of wheat at two different stages of growth in response to salinity. *Physiol. Planta.* 70: 381-388.
- Wolf, O., Munns, R., Tonnet, M.L., and Jeschke, W.D. 1991. The role of the stem in the partitioning of Na⁺ and K⁺ in salt treated barley. *J. Exp. Bot.* 42: 697-704.
- Wyn Jones, R.G. 1985. Salt tolerance in plants. *Chemistry in Britain*: 454-459.
- Wyn Jones, R.G., and Gorham, J. 1983. Osmoregulation. In: "Encyclopedia of Plant Physiology". New Series. Lange, O.L., Nobel, P.S., Osmond, C.B., Ziegler, H. Eds. Vol 12C. pp 35-58. Springer, Berlin.
- Wyn Jones, R.G., and Gorham, J. 1986. The potential for enhancing the salt tolerance of wheat and other important crop plants. *Outlook of Agriculture* 15(1): 33-39.
- Wyn Jones, R.G., Gorham, J., and Mcdownell, E. 1984. Organic and inorganic solute contents as selection criteria for salt tolerance in the triticeae. In : Salinity tolerance in plants. Strategies for crop improvement. R.C. Staples and G.H. Toenniessen eds., John Wiley & Sons.
- Yang, Y.W., Newton, R.J., and Miller, F.R. Salinity tolerance in Sorghum. I. 1990. Whole plant response to sodium chloride in *S. bicolor* and *S. halepense*. *Crop Sci.* 30: 775-781.
- Yeo, A.R., and Flowers, T.J. 1982. Accumulation and localisation of sodium ions within the shoot of rice (*Oryza sativa*) varieties differing in salinity resistance. *Physiol. Plant.* 56: 343-348.
- Yeo, A.R., and Flowers, T.J. 1986. Salinity resistance in rice (*Oryza sativa* L.) and a pyramiding approach to breeding varieties for saline soils. *Aust. J. Plant Physiol.* 13: 161-173.
- Zekri, S., Albisu, L.M., Aragüés, R., y Herrero, J. 1990. Impacto económico de la salinidad de los suelos en la agricultura de Bardenas I. MAPA. Comunicaciones INIA, Serie Economía N°36.
- Zhong, H. L., and Lauchli, A. 1994. Spatial distribution of solutes, K, Na, Ca and their deposition rates in the growth zone of primary cotton roots: Effects of NaCl and CaCl₂. *Planta* 194:34-41.