

## References

- Abe, K. (1992). Genealogical study on callus formation ability in anther culture of rice variety, Koshohikara. *Jpn. J. Breed*, 42, 403-413.
- Aflab, F., Zafar, Y., Malik, K.A. and Iqbal, J. (1996). Plant regeneration from Embryogenic cell suspension and protoplasts in sugarcane (*Saccharum spp. Hybrid cv. CoL-54*). *Plant Cell Tiss Org Cult*, 44, 71-78.
- Afza, R., Shen, M., Zapata-Arias, F.J., Xie, J. and Fundi, H.K. (2000). Effect of spikelet position on rice anther culture efficiency. *Plant Sci*, 153, 155-159.
- Al-Khayri, J. M., Huang, F. H., Morelock, T. E. and Busharar, T. A. (1992). Spinach tissue culture improved with coconut water. *HortScience*, 27(4), 357-358.
- Anagnostakis, S. L. (1974). Haploid plants from anthers of tobacco enhancement with Charcoal. *Planta*, 115, 281-283.
- Arnold, S.V., Sabala, I., Bozhkov, P., Dyachok, J. and Filonova, L. (2002). Developmental pathways of somatic embryogenesis. *Plant Cell Tiss Org Cult*, 69, 233–249.
- Attree S.M. and Fowke, L.C. (1993). Embryogeny of gymnosperms: advances in synthetic seed technology of conifers. *Plant Cell Tissue Org Cult*, 35: 1–35.
- Balachandran, S.M., Sarma, N.P. and Siddique, E.A. (1999) Inheritance of anther culture response in rice. *Current Science*, 77 (7), 962-964.

- Bante, I. Sonke, T., Tandler, R.F., Van der Bruel A.M.R. and Meyer, E.M. (1990). Anther culture of *Lolium perenne* and *L. multiflorum*. In: Sangwan, R.S., and Sangwan, B.S. (Eds), *The impact of biotechnology in agriculture*, (pp. 105-127). Kluwer, Dordrecht.
- Barnabas, B., Pfahler, P.L. and Kovacs, G. (1991). Direct effect of colchicine on the microspore embryogenesis to produce dihaploid plants in wheat (*Triticum aestivum* L.). *Theor. Appl. Genet.*, 81, 675-678.
- Bhojwani, S. S. and Razdan, M. K. (1996). *Plant Tissue Culture: Theory and Practice*, a Revised Edition. Elsevier Science B. V. Amsterdam.
- Bhojwani, S., Pande, H. and Raina, A. (2001). Factors affecting androgenesis in indica rice [Online]. Available : <http://www.bibd.un.-giessen.de/gdoe>. [2001,September 21].
- Bidhan, R. and Asit, B. M . (2005). Anther culture response in *indica* rice and variations in major agronomic characters among the androclones of a scented cultivar, Karnal local. *African Journal of Biotechnology*, 4(3), 235-240.
- Bjornstad, A., Skinnes, H. and Thoreson, K. (1993). Comparisons between doubled haploid lines produced by anther culture, the *Hordeum bulbosum*-method and lines produced by single seed descent in barley crosses. *Euphytica*. 66, 135-144.
- Bögre, L., Stefanov, I., Ábrahám, M., Somogyi, I. and Dudits, D.(1990). Differences in responses to 2,4-D-dichlorophenoxy acetic acid (2,4-D) treatment between embryogenic and non-embryogenic lines of alfalfa, in Progress in plant Cellular and Molecular Biology, Nijkamp, H.J.J., Van der Plas, L.H.W. and Van Aartrijk, J., (Eds), Kluwer Academic Publishers, Dordrecht, 427.

- Boonintara, J. (2004). *Anther culture of F1 hybrid and F2 progenies of aromatic rice (Oryza sativa L.) for the production of double haploid with photoperiod insensitive character.* MS. Thesis, Kasetsart University, Bangkok.
- Boonpeng, S. (2003). *Production of sugarcane dried synthetic seeds.* MS. Thesis, Chiang Mai University, Chiang Mai.
- Bozhkov, P.V., Filanova, L.H. and Von Arnold, S. (2002). A key developmental switch during Norway spruce somatic embryogenesis is induced by withdrawal of growth regulators and is associated with cell death and extracellular acidification. *Biotechnol. Bioeng.*, 77, 658-667.
- Burns, J. A. and Wetzstein, H. Y. (1997). Development and characterization of embryogenic suspension cultures of pecan. *Plant Cell, Tissue and Organ Culture.* 48: 93-102.
- Buyukalaca, S. and Mavituna, F. (1996). Somatic embryogenesis and plant regeneration of pepper in liquid media. *Plant Cell Tiss Org Cult*, 46, 227-235.
- Capuano, G., Piccioni, E. and Standardi, A. (1998). Effect of different treatments on the conversion of M26 apple rootstock synthetic seeds obtained from encapsulated apical and axillary micropropagated buds. *Journal of Horticultural Science and Biotechnology.* 73, 299-305.
- Castellanos, H., Sánchez-Olate, M. and Ríos, y. D. (2004). Embriogénesis somática recurrente en raulí (*Nothofagus alpina* (Poepp. et Endl.) Oerst.). 36 p. In Segundo Congreso Chileno de Ciencias Forestales, Valdivia, Chile. 10-12 de noviembre. Universidad Austral de Chile, Valdivia, Chile.

- Castillo, B., Smith, M.A.L. and Yadava, U.L. (1998). Plant regeneration from encapsulated somatic embryos of *Carica papaya* L. *Plant Cell Rep*, 17, 172-176.
- Castillo, A.M., Cistué, L., Vallés, M.P., Sanz, J.M., Romagosa, I. and Molina-Cano, J.L. (2001). Efficient production of androgenic doubled-haploid mutants in barley by the application of sodium azide to anther and microspore cultures. *Plant Cell Rep*, 20, 105-111.
- Chaleff, R.S. Anther culture as a rice breeding technique. *Intl. Rice Res. Newslett*, 1978, 3, 2-3.
- Cha-Um, S., Srianan, B., Pichakum, A. and Kirdmanee, C. (2009). An efficient procedure for embryogenic callus induction and double haploid plant regeneration through anther culture of Thai aromatic rice (*Oryza sativa* L. subsp. *indica*). *In vitro Cell. Dev Biol. Plant*, 45, 171-179.
- Cha-um, S., Srianan, B., Pichakum, A. and Kirdmanee, C. (2009). An efficient procedure for embryogenic callus induction and double haploid plant regeneration through anther culture of Thai aromatic rice (*Oryza sativa* L. subsp. *indica*). *In vitro Cell. Dev. Biol. Plant*, 45, 171-179.
- Chen, Y., Lu, D.Y., Li, S.Y., Zuo, Q.X. and Zheng, S.W. (1980). Studies on the effect of cold- pretreatment on rice anther and isolated pollen culture *in vitro*. (pp. 79-81) in 1979 annual report of the institute of genetics, Academia Sinica.
- Chen, C.C. and Lin, M.H. (1976) Induction of rice plantlets from anther culture. *Bot. Bull. Acad. Sin. (Taipei)*, 17, 18-23.
- Chen, C.C. (1978). Effect of sucrose concentration on plant production in anther culture of rice. *Crop Sci*, 18, 905-906.

- Chen, Z. (1990). Haploid induction in perennial crops. In Chen, Z. et. al. (Ed.) *Handbook of plant cell culture. Vol. 6. Perennial Crops*, (pp. 62-75), New York: McGraw-Hill.
- Chen, C.C., Tsay, H. S. and Huang, C.R. (1991) Factors affecting androgenesis in rice (*Oryza sativa L.*). In *Biotechnology in Ag-riculture and Forestry: 14: Rice*. (Ed). Bajaj, Y.P.S. Springer Verlag. Berlin, (pp. 193-211).
- Cheng, S. H, Cao, L. Y. and Zhan, X. D. (2005). Techniques for hybrid rice seed production. Beijing: Jindun Publishing House.
- Chu, C.C., Wang, C.C., Sun, C. S., Hsu, C., Yin, K.C., Chu, C.Y. and Bi, F.Y. (1975). Establishment of an efficient medium for anther culture of rice through comparative experiments on the nitrogen source. *Sci. Sin.*, 18, 559-668.
- Clapham, D. (1973). Haploid *Hordeum* plants from anthers *in vitro*. *Z. Pflanzenzucht*, 69, 142-155.
- Datta, S.K., Datta, K. and Potrykus, I. (1990). Embryogenesis and plant regeneration from microspores of both 'indica' and 'japonica' rice (*Oryza sativa*). *Plant Sci.*, 67, 83-88.
- Datta, S.K. (2005). Androgenic haploids: Factors controlling development and its application in crop improvement. *Current Science*. 89 (11), 1870-1878.
- Dewi, I.S. and Purwoko, B.S. (2001). Kultur antera untuk mendukung program pemuliaan tanaman padi. *Bulletin of Agronomy*. 29, 59-63.
- Dudits, D., Bogre, L. and Gyorgyey, J. (1991). Molecular and cellular approaches to the analysis of plant embryo development from somatic cells *in vitro*. *J. Cell. Sci.* 99, 475-484.

- Dunstan, D.I., Short, K.C. and Thomas, E. (1978). The anatomy of secondary morphogenesis in cultured scutellum tissues of Sorghum bicolor. *Protoplasma*. 97, 251-260.
- Epstein, E. (1971). Mineral nutrition of plants. Principles and Perspectives. John Wiley and Sons Inc., New York, London, Sydney, Toronto.
- Fan, Q., Xu, X.P., Huang, X.L. and Li, B.J. (2002). Callus formation and plant regeneration of *indica* rice variety Pei' ai 64S. *Acta Bot Boreal Occident Sin*, 22, 1469–1473.
- Fehér, A., Pasternak, T., Otvos, K., Miskolczi, P. and Dudits, D. (2002). Induction of embryogenic competence in somatic plant cells: a review. *Biologia*, 57, 5-12.
- Fourré, J.L., Berger, P., Niquet, L. and André, P. (1997). Somatic embryogenesis and somaclonal variation in Norway spruce: morphogenetic, cytogenetic and molecular approach. *Theoretical and Applied Genetics*, 94, 159-169.
- Friedman, R., Altman, A. and Bachrach, U. (1985). Polyamines and root formation in mung bean hypocotyl cuttings. II. Incorporation of precursors into polyamines. *Plant Physiol*, 79, 80-83.
- Fuji, J.A., Slade, D.T., Redenbaugh, K. and Walker, K.A. (1987). Artificial seeds for plant propagation. *Trends Biotechnol*, 5, 335-339.
- Geile, W. and Wagner, E. (1980). Rapid development of cell suspension cultures from leaf sections of *Chenopodium rubrum* L. *Plant Cell Environ*, 3, 141-148.
- Giri, C.C. and Giri, A. (2007). Plant biotechnology : Practical manual. *Plant biotechnology*, pp 106- 113.

- González, O., Silva, J. and Espinosa, y A. (2004). Semilla artificial: una solución en la biodiversidad mundial, (pp.17-22). In E. Galante (Ed.) Cuadernos de Biodiversidad N° 15. Centro Iberoamericano de Biodiversidad (CIBIO), Universidad de Alicante, Alicante. España.
- Guerra, M.P., Dal Vesco, L.L., Ducroquet, J.P.H., Nodari, R.O. and Reis, M.S. (2001). Somatic embryogenesis in *Feijoa sellowiana*: genotype response, auxinic shock and synthetic seeds. *Rev. Bras. Fisiol. Veg.*, 13, 117-128.
- Granatek, C.H. and Cockerline, A.W. (1979). Callus formation of cultured early differentiating barley embryos. *B. Torrey Bot. Club*, 106, 85-96.
- Gray, D.J. (1987). Quiescence in monocotyledonous and dicotyledonous somatic embryos induced by dehydration. *HortScience*, 22, 810-814.
- Gray, D.J. and Purohit, A. (1991). Somatic embryogenesis and development of synthetic seed technology. *Crit. Rev. Plant Sci.* 10, 33-61.
- Green, C.E. and Phillips, R.L. (1975). Plant regeneration from tissue culture of maize. *Crop Science*, 15, 417-421.
- Gupta, H.S. and Borthakur, D.N. (1987). Improved rate of callus induction from rice anther culture following microscopic staging of microspores in iron alum-haematoxylin. *Theor. Appl. Genet.*, 74, 95-99.
- He, T., Yang, Y., Tu, S.B., Yu, M.Q. and Li X.F. (2006). Selection of interspecific hybrids for anther culture of *indica* rice. *Plant cell, Tissue Organ. Cult.*, 86, 271-277.
- Hoekstra, S., van Zijderwold, M. H., Louwerse, J. D., Heidekamp, F. and Vandermark, F. (1992): Anther and microspore culture of *Hordeum vulgare* L. cv. Igri. *Plant Sci.*, 86 , 89-96.

- Hu, H. and Zeng, J.Z. (1984). Development of new varieties via anther culture. *Handbook of plant cell culture*, 3, 65-90.
- Huang, B. and Sunderland, N. (1982). Temperature stress pretreatment in barley anther culture. *Ann. Bot*, 49, 77-88.
- Hussey, G. (1983). *In vitro* propagation of horticultural and agricultural crops, (pp. 111-138) in Mantell & Smith (Eds.) Plant Biotechnology. *Soc. Exp. Biol.* seminar series 18, 1983. C.U.P.
- Iqbal, M.C.M, Mollers, C. and Robben, G. (1994). Increased embryogenesis after colchicine treatment of microspore culture of *B. napus*. *J. Plant Physiol*, 143, 222-226.
- Jacquard, C., Asakaviviute, R., Hamalian, A. M., Sangwan, R.S., Devaux, P. and Clement, C. (2006). Barley anther culture: Effects of annual cycle and spike position on microspore embryogenesis and albinism. *Plant Cell Rep*, 25, 375-381.
- Janeiro, L.V., Ballester, A., Vieitez, A.M. (1997). *In vitro* response of encapsulated somatic embryos of Camellia. *Plant Cell Tissue Org. Cult*, 51, 119– 125.
- Janick, J., Kim, Y. H., Kitto, S. and Saranga, Y. (1993). *Synseeds*, In Redenbaugh, K. (Ed.), (pp. 12–34), CRC Press, Boca Raton.
- Jensen, C.J. (1974). Chromosome doubling techniques in haploids. In K.J. Kasha (Ed.), *Haploids in higher plants* (pp. 153-190), University of Guelph, Guelph.
- Jiménez, E. and Quiala, y E. (1998). Semilla artificial.. In J.N. Pérez (ed.) Propagación y mejora genética de plantas por biotecnología (pp. 225-240), Instituto de Biotecnología de las Plantas, Santa Clara, Villa Clara, Cuba.

- Khaleda, L. and Al-Forkan, M. (2006). Stimulatory effects of casein hydrolysate and praline *in vitro* callus induction and plant regeneration from five deepwater rice (*Oryza sativa* L.). *Biotechnology*, 5, 379-384.
- Khanna, H.K. and Raina, S.K. (1998). Genotype culture media induction effects on regeneration response of three *indica* rice cultivars. *Plant Cell Tiss Org Cult*, 52, 145– 153.
- Khatun, M.M. and Desamero, N.V. (2005). Callus induction and plant regeneration from rice epicotyl. *Plant tissue cult*, 15(1), 51-56.
- Khatun, M.M. and Nenita, V.D. (2005). Callus induction and plant regeneration from rice epicotyl. *Plant Tissue Cult*, 15(1), 51-56.
- Kim, H.S., Lee, Y.T., Lee, S.Y. and Kim, T.S. (1991). Anther culture efficiency in different rice genotypes under different cold treatment durations and culture temperatures. Research Reports of the Rural Development Administration. *Bio Technology*, 33, 5- 13.
- Kim, Y.S., Hahn, E.J., Yeung, E.C. and Paek, K.Y. (2003). Lateral root development and saponin accumulation as affected by IBA or NAA in adventitious root cultures of *Panax ginseng* CA Meyer. *In Vitro Cell. Develop. Biol*, 39, 245-249.
- Kitto, S.L. and Janick, J. (1985). Hardening treatments increase survival of synthetically-coated asexual embryos of carrot. *J Am Soc Hortic Sci*, 110, 283-286.
- Kumar, M., Vakeswaran, V. and Krishnasamy, V. (2004). Enhancement of synthetic seed conversion to seedlings in hybrid rice. *Plant Cell Tiss. Organ Cult*, 81, 97-100.

- Larkin, P.J., Davis, P.A. and Tanner, G.J. (1988). Nurse culture of low number of *Medicago* and *Nicotiana* protoplast using calcium alginate beads. *Plant Sci*, 58, 203–210.
- Lazzeri, P.A., Hildebrand, D.F., Sunega, J., Williams, E.G. and Collins, G.B. (1988). Soybean somatic embryogenesis: interactions between sucrose and auxin. *Plant Cell Rep*, 7, 517-520.
- Lee, K.S., Jeon, H.S. and Kim, M.Y. (2002). Optimization of a mature embryobased *in vitro* culture system for high-frequency somatic embryogenic callus induction and plant regeneration from *japonica* rice cultivars. *Plant Cell Tiss Org Cult*, 71, 9–13.
- Lee, S.Y., Kin, H.S. and Kwon, T.O. (2004). Variation in anther culture response and Fertility of backcrossed hybrids between *indica* and *japonica* rice (*Oryza sativa*). *Plant Cell Tiss Org Cult*, 79, 25–30.
- Leljak-Levanic, D., Bauer, N., Mihaljevic, S. and Jelaska, S. (2004). Changes in DNA methylation during somatic embryogenesis in *Cucurbita pepo* L. *Plant Cell Rep*, 23, 120-127.
- Lentini, Z., Reyes, P., Martinez, C.P. and Roca, W.M. (1995). Androgenesis of highly recalcitrant rice genotypes with maltose and silver nitrate. *Plant Sci*, 110, 127–138.
- Lertvichai, R. (1995). Anther culture of hybrid rice (Lemont/Khao Dawk Mali 105). MS. Thesis, Kasetsart University, Bangkok.
- Li, L., Qu, R., DeKochko, A., Fauquet, C. and Beachy, R.N. (1993). An improved rice transformation system using the biolistic method. *Plant Cell Rep*, 12 , 250–255.

- Lin, Y.J. and Zhang, Q. (2005). Optimizing the tissue culture conditions for high efficiency transformation of *indica* rice. *Plant Cell Rep.*, 23, 540–547.
- Lo Schiavo, F., Pitto, L., Giuliano, G., Torti, G., Nutironchi, V., Marazziti, D., Vergara, R., Orselli, S. and Terzi, M. (1989). DNA methylation of embryogenic carrot cell cultures and its variations as caused by mutation, differentiation, hormones and hypomethylating drugs. *Theor. Appl. Genet.*, 77, 325-331.
- Malabadi, R. and Van Staden, J. (2005). Storability and germination of sodium alginate encapsulated somatic embryos derived from the vegetative shoot apices of mature *Pinus patula* trees. *Plant Cell Tiss. Organ Cult.*, 82, 259-265.
- Maluszynski, M., Szarejko, I. and Sigurbjörnsson, B. (1996). Haploidy and mutation techniques. In: Mohan Jain S., Sopory S.K. and Veilleux R.E. (Eds) *In Vitro haploid Production in Higher Plants*. Vol. 1 : Fundamental Aspects and Methods (pp. 67-93), Kluwer Academic Publisher, Dordrecht, The Netherlands.
- Mandal, A.B., Maiti, A. and Biswas, A. (2003). Somatic embryogenesis in root derived callus of *indica* rice. *Plant Tissue Cult.*, 13, 125–133.
- Maruyama, E., Hosoi, Y. and Ishii, K. (2003). Somatic embryo culture for propagation, artificial seed production, and conservation of sawara cypress (*Chamaecyparis pisifera* Sib. et Zucc.). *J. For. Res.*, 8, 1-8.
- Matsushima, T., Kikuchi, S., Takaiwa, F. and Oono, K. (1988). Regeneration of plants by pollen culture in rice (*Oryza sativa* L.). *Plant Tissue Cult. Lett.*, 5, 78-81.

- Mckersie, B. D. and Bowley, S. R. (1993). *Synseeds*. In Redenbaugh, K. (Ed.), (pp. 231–255), CRC Press, Boca Raton.
- Mercy, S. T. and Zapata, F. J. (1986). Effect of pollen development stage on callus induction and its relation to auricle distance in two rice varieties, *Int. Rice Res. Newslett.* 11, 23–24.
- Miah, M.A.A., Earle, E.D. and Khush, G.S. (1985). Inheritance of callus formation ability in anther cultures of rice, *Oryza sativa L. Theor. Appl. Gene*, 70, 113-116.
- Murashige, T. and Skoog, F. (1962). A revised medium for rapid growth and bioassays with tobacco cultures. *Physiol. Plant*, 15, 473-497.
- Narayanaswamy, S. (1977). Regeneration of plants from tissue cultures. pp. 179-206 in Reinert and Bajaj (Eds.) 1977 (q.v.).
- Narasimman, R. and Rangasamy, S.R.S. (1993). Comparison of fertility between the F1, F2 and anther derived lines in the crosses of *Indica Japonica* and *Japonica Indica* in rice (*Oryza sativa L.*). *Euphytica*, 66, 19-25.
- Nieves, N., Lorenzo, J., Blanco, M., González, J., Tapia, R. and González, y A. (2001). Composición de un endospermo artificial para embriones de mandarina “Cleopatra” (*Citrus reshni* Hort es Tan). *Rev. Fac. Agron. (Maracay)*, 27, 11-15.
- Nieves, N., Zambrano, Y., Tapia, R., Cid, M., Pina, D. and Castillo, R. (2003). Field performance of artificial seed derived sugarcane plants. *Plant Cell Tiss. Organ Cult*, 75, 279-282.
- Niino, T. and Sakai, A. (1992). Cryopreservation of alginate coated in vitro grown shoot tips of apple, pear and mulberry. *Plant Sci*, 87, 199–206.

- Niizeki, H. and Oono, K. (1968). *Proc. B: Ind. Natl. Sci. Acad.* B63 No.6:631-638.
- Nitsch, C. (1977). Culture of isolated microspores. In Reinert and P. Bajaj, (Eds.),
- Ogawa, T., Hagio, T. and Ohkawa, Y. (1992). Plant regeneration from isolated pollen grains in *indica* type rice. *Japan J. Breed*, 42, 675-679.
- Ogawa, T., Fukuwa, H. and Ohkawa, Y. (1995). Plant regeneration through direct culture of isolated pollen grains in rice. *Breed. Sci.*, 45, 301-307.
- Ohtsuki, Y., Niizeki, H., Tanno, H., Sasaki, T. and Nakamura, Y. *J. Agr. Sci.*, 1989, 44(4), 33- 38.
- Olesen, A., Anderson, S. B. and Due, I. K. (1988). Anther culture response in perennial ryegrass (*Lolium perenne* L.). *Plant Breed*, 101, 60-65.
- Oono, K. (1975). *Bull. Natl. Inst. Agric. Sci., Ser. D*, 26, 139-222.
- Onishi, N., Sakamoto, Y. and Hirosawa, T., *Plant Cell Tissue Org. Cult.*, 1994, 39, 137-145.
- Ozawa, K., Kawahigashi, H., Kayano, T. and Ohkawa, Y. (2003). Enhancement of regeneration of rice (*Oryza sativa* L.) calli by integration of the gene involved in regeneration ability of the callus. *Plant Sci*, 165, 395–402.
- Pande, H. (1997). *Androgenesis in anther cultures of an indica cultivar of Oryza sativa L.* Ph.D. Thesis, University of Delhi.
- Pasternak, T.P., Prinsen, E., Ayaydin, F., Miskolczi, P., Potters, G., Asard, H., Vanonckelen, H.A., Dudits , D. and Feher, A. (2002). The role of auxin, pH, and stress in the activation of embryogenic cell division in leaf protoplast derived cells of alfalfa. *Plant Physiology*, 129, 1807-1819.

- Patel, A.V., Pusch, I., Mix-Wagner, G. and Vorlop, K.D. (2000). A novel encapsulation technique for the production of artificial seeds. *Plant Cell Rep*, 19, 868- 874.
- Premvaranon, P., Thanapornpoonpong N. and Vearasilp S. (2007). Enhancing the Viability of Sweet Pepper Synthetic Seed Using Abscisic Acid. *Journal of agriculture*, 23, 25-30.
- Prewein, C., and Wilhelm, E. (2002). Plant regeneration from encapsulated somatic embryos of pedunculate oak (*Quercus robur L.*). *In Vitro Cell. Dev.-Pl*, 39, 613- 617.
- Raina, S.K. and Irfan, S.T. (1998). High-frequency embryogenesis and plantlet regeneration from isolated microspores of *indica* rice. *Plant Cell Rep*, 17, 957- 962.
- Ramakrishnan, S.H., Saravanan, S., Anandakumar, C.R. and Kannanbapu, J.R. (2005). *In vitro* androgenesis in rice (*Oryza sativa L.*). *Asian J. Plant Sci*, 4, 600-602.
- Redenbaugh, K., Paasch, B.D., Nichol, J.W., Kossler, M.E., Viss, P.R. and Walker, K.A. (1986). Somatic seeds: encapsulation of asexual plant embryos. *Bio-Technol*, 4, 797-801.
- Redenbaugh, K., Viss, P., Slade, D. and Fujii, J.A. (1987). Scale up: artificial seeds, pp. 473–493. In: *Plant Tissue and Cell Culture* (Green, C. E., Somers, D., Hackett, W. F. and Bies-boer, D. D., Eds.). Alan R. Liss, New York.
- Redenbaugh, K. (1990). Application of artificial seeds to tropical crops. *HortSci*. 25, 251-255.

- Redenbaugh, K., Fujii, J. A. and Slade, D. (1993). *Synseeds*. In Redenbaugh, K. (Ed), (pp. 38–46), CRC Press, Boca Raton.
- Redenbaugh, K. and Walker, K. (1990). Plant Tissue Culture: Applications and Limitations In Bhojwani, S. (Ed.), (pp. 102–135), Elsevier, Amsterdam.
- Reddy, Y.S., Leelavathi, S. and Sen, S.K. (1985). Influence of genotype and culture medium on microspore callus, induction and green plant regeneration in anthers in *Oryza sativa*. *Physiol. Plant*, 63, 309-314.
- Redha, A., Attia, T., Büter, B., Saisintong, S., Stamp, P. and Schmid, J.E. (1998). Improved production of doubled haploids by colchicine application to wheat (*Triticum aestivum* L.) anther culture. *Plant Cell Rep*, 17, 974–979.
- Reid, J.B. and Howell, S.H. (1995). The functioning of hormones in plant growth and development. In Davies, J.P. (Ed.) Plant Hormones, Physiology, Biology, Molecular Biology. 2<sup>nd</sup> (pp. 448-485). Kluwer Acad. Publ., Dordrecht, Boston, London.
- Rice Today. 2010. “Hybridizing the world – The father of hybrid rice.” [Online]. Available <http://www.scribd.com/doc/37987857/Rice-Today-Vol-9-No-4> (Oct-Dec 2010).
- Roberts-Oehlschlager, S.L. and Dunwell, J.M. (1990). Barley anther culture: pretreatment on mannitol stimulates production of microspore-derived embryos. *Plant Cell Tiss. Org. Cult*, 20, 235-240.
- Roy, B. and Mandal, A.B. (2005). Anther culture response in *indica* rice and variations in major agronomic charaters among the androclones of a scented cultivar , Karnal local. *African J. Biotech*, 4(3), 235-240.

- Scott, R., Hodge, R., Paul, W. and Draper, J. (1991). The molecular biology of anther differentiation. *Plant Sci*, 80, 167-191.
- Senaratna, Y., McKersie B. D. and Bowley, S. R. (1990). Artificial seed of alfalfa (*Medicag sativa* L.). Induction of desiccation tolerance in somatic embryos. *In Vitro Cell Dev. Biol*, 26, 85-90.
- Shahjahan, A.K.M., Karim, N.H., Nahar, M.A, Hoque, M.Z. and Miah, S.A. (1992). Studies on the callus induction efficiency of rice (*Oryza sativa* L.) anthers, *Bangladesh J. Bot*, 21, 239–246.
- Sharp, W.R., Sondahl, M.R., Caldas, L.S. and Maraffa, S.B. (1980). The physiology of *in vitro* asexual embryogenesis. *Hort. Rev*, 2, 268-310.
- Shih-Wei, L. and Zhi-Hong, X. (1992) Anther culture for rice improvement in China. In Biotechnology in Agriculture and Forestry: 14: Rice. (Ed). Bajaj, Y. P. S. (pp 19-37), Springer Ver- lag. Berlin.
- Shinbashi, N., Aikawa, M., (1986). *Recent development of plant breeding*, 27, 13-18.
- Singsit, C., Veilleux R.E. and Sterrett, S.B. (1990). *Genome*, 33, 50-56.
- Sivamani, E., Shen, P., Opalka, N., Beachy, R.N. and Fauquet, C.M. (1996). Selection of large quantities of embryogenic calli from *indica* rice seeds for production of fertile transgenic plants using the biolistic method. *Plant Cell Rep*, 15, 322–327.
- Skirvin, R.M. (1978). Natural and induced variation in tissue culture. *Euphytica*, 27, 241-266.
- Smith, H. (1990). Signal perceptual expression within multigene families and the molecular basis of phenotypic plasticity, *Plant cell Environ*, 13, 585.

- Street, H.E. (1977). Cell (suspension) cultures - techniques. pp. 61-102 in Street H.E. (Ed.) 1977 (q.v.). Plant Tissue and Cell Culture. Bot. Monographs Vol.11, Blackwell Scientific Publications. Oxford, London.
- Sunderland, N. (1974). Anther culture as a means of haploid induction. In: Kasha, K.J. (Ed.). Haploids in higher plants-advances and potential. pp.91-122. Univ. Guelph, Canada.
- Sunderland, N. and Roberts, M. (1977). New approach to pollen culture. *Nature*, 270, 236-238.
- Sunderland, N. and Dunwell, J.M. (1977). Anther and pollen culture. pp. 223-265 in Street H.E. (ed.) 1977a (q.v.).
- Suriyan, C., Bootsaya, S., Aussanee, P. and Chalermpol, K. (2009). An efficient procedure for embryogenic callus induction and doubled haploid plant regeneration through anther culture of Thai aromatic rice (*Oryza sativa* L. subsp. *indica*). *In vitro Cell. Dev. Biol. Plant*, 45, 171-179.
- Szakacs, E. and Barnabas, B. (1995). The effect of colchicine treatment on microspore division and microspore-derived embryo differentiation in wheat (*Triticum aestivum* L.). *Euphytica*, 83, 209-213.
- Takahashi, T., Hoshi, M. and Asahina, E. (1975). Exogastrulation induced by low temperature treatment in the sea urchin. *Low Temp. Sci*, 33, 29-38.
- Tapia, R., Castillo, R., Nieves, N., Blanco, M., González, J., Sánchez, M. and Rodríguez, Y. (1999). Inducción, maduración y encapsulación de embriones somáticos de caña de azúcar (*Saccharum* sp.) var. Cp 5243. *Biotecnología Aplicada*, 16(1), 20-23.

- Terzi, M. and Lo Schiavo, F. (1990). Developmental mutants in carrot. pp. 391-397 in Nijkamp H.I.J., Van Der Plas I.H.W. and Van Aartrijk J. (Eds.) 1990, Progress in Plant Cellular and Molecular Biology. Proc. VIIth Int. Cong. on Plant Tissue and Cell Culture. Amsterdam, The Netherlands. 24-29 June 1990. Kluwer Academic Publishers, Dordrecht, Netherlands.
- Thobunluepop, P. (2003). Enhance of sweet corn synthetic seed viability under various storage condition. Master thesis. Department of Agronomy. Faculty of Agriculture. Chiang Mai University.
- Torrey, J.G. and Reinert, J. (1961). Suspension cultures of higher plant cells in synthetic media. *Plant Physiol.*, 36, 483-491.
- Trejo-Tapia, G., Amaya, U.M., Morales, G.S., Sanchez, A.D.J. and Bonfil, B.M. *et al.*, (2002). The effects of cold-pretreatment, auxins and carbon source on anther culture of rice. *Plant Cell Tiss. Organ Cult.*, 71, 41-46.
- Tsai, S.C. and Lin, M.H. (1977). Production of rice plantlets by anther culture. *J. Agric. Res. China*, 26, 100-112.
- Utomo, H.S., Wenefrida, I., Meche, M.M. and Nash, J.L. (2008). Synthetic seed as a potential direct delivery system of mass produced somatic embryos in the coastal marsh plant smooth cordgrass (*Spartina alterniflora*). *Plant Cell Tiss. Organ Cult.*, 92, 281- 291.
- Visarada, K.B.R.S, Aailaja, M. and Sarma, N.P. (2002). Effect of callus induction media on morphology of embryogenic calli in rice genotypes. *Biol Plant*, 45, 495-502.

- Wang, P. and Hong, L. (1976). Beneficial effects of activated on plant tissue and organ culture *In-vitro*. In: MARGARA, J., Bases de la Multiplication vegetative les meristemes et l'organogense. I.N.R.A. Paris. 262P.
- Wang, M., Sandra, V.B. and Bert, V.D. (2000) Insights in to a key developmental switch and its importance for efficient plant breeding. *Plant Physiology*, 124, 523-530
- Wang, Y.Q., Duan, Z.G., Huang, J. K. and Liang, C.Y. (2004). Efficient regeneration from *in vitro* culture of young panicles of rice (*Oryza sativa* L.). *Chinese Bull Bot*, 21, 52–60.
- Wu, J.G., Chen, S.Y., Shi, C.H. and Fan, L.J. (2002). Study on culture system in gene transformation of *indica* rice. *Chin Agric Sci Bull*, 18, 36–40.
- Yin, K.C., Hu, C., Chun, C.Y., Pi, F.Y., Wang, S.T., Liu, T.Y., Chu, C.C., Wang, C.C. and Sun, C.S. (1976). A study of the new cultivars of rice raised by haploid breeding method, *Sci. Sin*, 19 (1976), 227–242.
- Yeoman, M.M. and Forche, E. (1980). Cell proliferation and growth in callus cultures. pp. 1-24 in Vasil I.K. (Ed.) 1980a (q.v.).
- Yuan L.P. (2002). The second generation of hybrid rice in China. Sustainable rice Production for food security, Proceedings of the 20th Session of the International Rice Commission, Food and Agriculture Organization of the United Nations.
- Zaki, M.A. and Dickinson, H.G. (1990). Structural changes during the first divisions of embryos resulting from anther and free microspore culture in *Brassica napus*. *Protoplasma*, 156, 149-162.

- Zaki, M.A. and Dickinson, H.G. (1991). Microspore-derived embryos in *Brassica*: The significance of division symmetry in pollen mitosis I to embryogenic development. Sex. *Plant Reprod*, 4, 48-55.
- Zaki, M.A. and Dickinson, H.G. (1995). Modification of cell development in vitro: The effect of colchicine on anther and isolated microspore culture in *Brassica napus*. *Plant Cell Tissue Organ Cult*, 40 , 225-70.
- Zhang, Z.H. (1989). The practicability of anther culture breeding in Rice. In Review of Advances in Plant Biotechnology. Eds. Kazi, A.M. and Stich, L. CIMMYT and IRRI. 31-42.
- Zhang, Z.H. and Chu, Q.R. (1986). *China J Agric Sci* 2 (suppl.),10-16.
- Zhao, C.Z. (1983). Effect of low temperature on induction and differentiation of callus in rice anther culture. In: Shen, J. H., Zhang, Z. H., Shi, S.D. editors. Studies on anther culture breeding in rice. Beijing: Agricultural Publishing House. pp 76-80.
- Zhou, X.T. and Cheng, Q. L. (1981). The cold-pretreatment effect on the rate of pollen induced plant of *hsien* rice. *Jour of Fujian Agri. College*, 3, 25-32.