DAFTAR PUSTAKA

Anitasari, S.D., I. A. Astarini, M. R. Defiani, M. Pharmawati, and D. C. Prayantini. 2019. Pollen viability and microspore culture in three broccoli cultivars (*Brassica oleracea* L. var. *italica* Plenck). *Jurnal Biota*, 5 (2): 118-127

Asif, M. 2013. *Progress and Opportunities of Doubled Haploid Production*. Springer International Publishing Switzerland, p.4

Beyl, C. A. 2011. Getting Started with Tissue Culture-Media Preparation, Sterile Technique, and Laboratory Equipment. *In*: Trigiano, R.N. and D.J. Gray. (eds.) *Plant Tissue Culture, Development, and Biotechnology.* Boca Raton: CRC Press, pp. 11-26

Bhatia, R., S. S. Dey, S. Sood, K. Sharma, V. K. Sharma, C. Parkash, and R. Kumar. 2016. Optimizing protocol for efficient microspore embryogenesis and doubled haploid development in different maturity groups of cauliflower (*B. oleracea* var. *botrytis* L.) in India. *Euphytica*, 212 (3): 439–454

Bhojwani, S. S. and P. K. Dantu. 2013. *Plant Tissue Culture: An Introductory Text*. Springer India, p. 75

Chaar, M., I. Pinker, and M. Bohme. 2016. Factors affecting microspore embryogenesis in *Petunia*. *Acta Horticulturae*, 1127: 163-170

Chang, T. and E. A. Bardenas. 1965. *The Morphology and Varietal Characteristics of the Rice Plant*. Manila: The International Rice Research Institute, pp. 8-10

Chawla, H. S. 2002. *Introduction to Plant Biotechnology.* New Hampshire: Science Publishers, p.77

Chen, CC., H. S. Tsay, and C. R. Huang. 1991. Factors affecting androgenesis in rice (*Oryza sativa* L.). *In*: Bajaj, Y. P. S. (eds.) *Rice Biotechnology in Agriculture and Forestry*, vol 14. Springer, Berlin, Heidelberg, p. 204

Çölgeçen, H. 2017. TDZ induction in somatic embryogenesis of natural tetraploid *Trifolium pratense* L. *Journal of Animal and Plant Sciences*, 33 (2): 5301-5307

Dinani, E. T., M. R. Shukla, C. E. Turi, J. A. Sullivan, and P. K. Saxena. 2018. Thidiazuron: Modulator of morphogenesis in vitro. *In*: Ahmad, N. and M. Faisal. (eds.) *Thidiazuron: from urea derivative to plant growth regulator*. Singapore: Springer Nature Singapore, p. 3

Erland, L. A., R. T. Giebelhaus, J. M. R. Victor, S. J. Murch, and P. K. Saxena. 2020. The morphoregulatory role of thidiazuron: Metabolomics-guided hypothesis generation for mechanisms of activity. *Biomolecules*, 10 (9): 1-28

Esteves, P., I. Clermont, S. Marchand, and F. Belzile. 2014. Improving the efficiency of isolated microspore culture in six-row spring barley: II-exploring novel growth regulators to maximize embryogenesis and reduce albinism. *Plant Cell Reports*. 33 (6): 871-879

Ferrie, A. M. R. and W. A. Keller. 1995. Microspore culture for haploid plant production. *In*: Gamborg, O. L. and G. C. Phillips. (eds.) *Plant Cell, Tissue and Organ Culture: Fundamental Methods*. New York: Springer-Verlag, p. 155

Germanà, M. A. 2011. Gametic embryogenesis and haploid technology as valuable support to plant breeding. *Plant Cell Reports*, 30 (5): 839-857

Ghosh, A., A. U. Igamberdiev, and S. C. Debnath. 2018. Thidiazuron-induced somatic embryogenesis and changes of antioxidant properties in tissue cultures of half-high blueberry plants. *Scientific Reports*, 8 (1): 1-11

Govaerts R. (ed). 2017. WCSP: World Checklist of Selected Plant Families (version Aug 2017). *In*: Roskov, Y., G. Ower, T. Orrell, D. Nicolson, N. Bailly, P. M. Kirk, T. Bourgoin, R. E. DeWalt, W. Decock, E. van Nieukerken, and L. Penev. *Species 2000 & ITIS Catalogue of Life*, 2020-02-24. [Online] Tersedia di www.catalogueoflife.org/col, diakses pada 19 April 2020

Gu, H., Z. Zhao, X. Sheng, H. Yu, and J. Wang. 2014. Efficient doubled haploid production in microspore culture of loose-curd cauliflower (*Brassica oleracea* var. *botrytis*). *Euphytica*, 195: 467-475

Guo, B., B. H. Abbasi, A. Zeb, L. L. Xu, and Y. H. Wei. 2011. Thidiazuron: A multi-dimensional plant growth regulator. *African Journal of Biotechnology*, 10 (45): 8984-9000

Hadziabdic, D., P. A. Wadl., and S. M. Reed. 2011. Haploid cultures. *In*: Trigiano, R.N. and D.J. Gray. (eds.) *Plant Tissue Culture, Development, and Biotechnology.* Boca Raton: CRC Press, p. 385

Heidari-Zefreh, A. A., M. E. Shariatpanahi, A. Mousavi, and S. Kalatejari. 2019. Enhancement of microspore embryogenesis induction and plantlet regeneration of sweet pepper (*Capsicum annuum* L.) using putrescine and ascorbic acid. *Protoplasma*, 256 (1): 13-24

Indrianto, A. 2003a. *Bahan Ajar Kultur Jaringan Tumbuhan*. Yogyakarta: Fakultas Biologi Universitas Gadjah Mada, hal. 91

Indrianto, A. 2003b. Cytological and ultrastructural features of initiation of wheat microspore embryogenesis. *Biologi*, 3 (2): 65-79

Indrianto, A., C. Siregar, S. Linuhung, Mekartinita, and T. Sartikoningsih. 2015. Induction of sporophytic division in orchids microspores by stress. *KnE Life Sciences*, 2 (1): 390-397

Indrianto, A., I. Barinova, A. Touraev, and E. Heberle-Bors. 2001. Tracking individual wheat microspore in vitro: identification of embryogenic

microspore and body axis formation in the embryo. *Planta*, 212 (2001): 163-174

Jia, J. X., Y. Zhang, L. W. Cui, and H. Feng. 2019. Effect of thidiazuron on microspore embryogenesis and plantlet regeneration in Chinese flowering cabbage (*Brassica rapa.* var. *parachinenis*). *Plant Breeding*, 138 (6): 916-924

Kristamtini dan Prajitno AL KS. 2009. Karakterisasi padi beras merah Segreng varietas unggul lokal Gunung Kidul. *Jurnal Ilmu-ilmu Pertanian*, 5 (1): 45-51

Kristamtini dan H. Purwaningsih. 2009. Potensi pengembangan beras merah sebagai plasma nutfah Yogyakarta. *Jurnal Litbang Pertanian*, 28 (3): 88-95

Kurniawan, A.A. 2016. Pengaruh Auksin Endogen Terhadap Embriogenesis Mikrospora Padi (*Oryza sativa*, L. 'Fatmawati') [Tesis]. Yogyakarta: Universitas Gadjah Mada

Kyo, M. and H. Harada. 1986. Control of the developmental pathway of tobacco pollen in vitro. *Planta*, 168 (1986): 427-432

Lin, C.S., C.C. Lin, and W.C. Chang. 2004. Effect of thidiazuron on vegetative tissue-derived somatic embryogenesis and flowering of bamboo *Bambusa edulis*. *In Vitro Cell Development Biology*, 76 (2004): 75-82

Lynch, P.T., R.P. Finch, M.R. Davey, and E.C. Cocking. 1991. Rice tissue culture and its application. *In*: Khush, G.S. and G.H. Toenniessen. (eds.) *Rice Biotechnology*. Wallingford: CAB International, p. 136

Matsui, T., K. Omasa, and T. Horie. 1999. Rapid swelling of pollen grains in response to floret opening unfolds anher locules in rice. *Plant Production Science*, 2 (3): 196-199

Meagher, M.G., R.G. English, and A. Abouzid. 2000. Thidiazuron stimulates shoot regeneration of sugarcane embryogenic callus. *In Vitro Cell Development Biology*, 36 (2000): 37-40

Moraes, A. P. D., M. H. B. Zanettini, S. M. C. Jacques, and E. K. Santos. 2004. Effect of temperature shock on soybean microspore embryogenesis. *Brazilian Archives Biology and Technology*, 47 (4): 537-544

Murashige, T., and F. Skoog. 1962. A Revised Medium for Rapid Growth and Bio Assays with Tobacco Tissue Cultures. *Physiologia Plantarum*, 15(3), 473–497

Murthy, B. N. S., S. J. Murch, and P. K. Saxena. 1998. Thidiazuron: a potent regulator of *in vitro* plant morphogenesis. *In Vitro Cell Development Biology*, 34 (1998): 267-275)

Niroula, R. K., and H. P. Bimb. 2009. Effect of genotype and callus induction medium on green plant regeneration from anther of nepalese rice cultivars. *Asian Journal of Plant Sciences*, 8 (5): 368–374

Nurbaiti, S., Y. A. Purwestri, B. S. Daryono, E. Semiarti, and A. Indrianto. 2019. Developmental the pattern of embryogenic microspore of rice (*Oryza sativa* L.) based on morphological characteristics. *Berkala Penelitian Hayati Journal of Biological Researches*, 25 (1): 7-11

Ouyang, Y., Y. Chen, J. Liu, J. A. Texeira da Silva, X. Zhang, and G. Ma. 2016. Somatic embryogenesis and enhanced shoot organogenesis in *Metabriggsia ovalifolia* W. T. Wang. *Scientific Reports*, 6 (June 2015): 1-9

Pai, S. R. and N. S. Desai. 2018. Effect of TDZ on various plant cultures. *In*: Ahmad, N. and M. Faisal. (eds.) *Thidiazuron: From Urea Derivative to Plant Growth Regulator*. Singapore: Springer Nature, p. 442

Parra-Vega, V., B. González-García, and J. Seguí-Simarro. 2013. Morphological markers to correlate bud and anther development with microsporogenesis and microgametogenesis in pepper (*Capsicum annuum* L.). *Acta Physiologiae Plantarum*, 35 (2): 628-634

Pattnaik, S.S., B. Dash, S. S. Bhuyan, J. L. Katara, C. Parameswaran, R. Verma, N. Ramesh, and S. Samantaray. 2020. Anther culture efficiency in quality hybrid rice: a comparison between hybrid rice and its ratooned plants. *Plants*, 9 (10): 1-12

Prabowo, H., D. W. Djoar, dan Pardjanto. 2014. Korelasi sifat-sifat agronomi dengan hasil dan kandungan antosianin padi beras merah. *Agrosains*, 16 (2): 49-54

Prem, D., K. Gupta, and A. Agnihotri. 2009. Doubled haploids in crop *Brassicas*: retrospect and prospects. *In*: Kumar, A. and N.S. Shekhawat. (eds.) *Plant Tissue Culture and Molecular Markers: Their Role in Improving Crop Productivity*. New Delhi: I.K. International Publishing House, pp. 158, 169-172

Raghavan, V. 1988. Anther and polen development in rice **(***Oryza sativa* L.). *American Journal of Botany*. 75 (2): 183–196

Razdan, M.K. 2003. *Introduction to Plant Tissue Culture*. Enfield: Science Publishers, p.59

Rodriguez-Serrano, M., I. Barany, D. Prem, M. Coronado, M. C. Risueno, and P. S. Testillano. 2011. NO, ROS, and cell death associated with caspase-like activity increase in stress-induced microspore embryogenesis of barley. *Journal of Experimental Botany*, 63 (5): 2007-2024

Shariatpanahi, M. E., U. Bal, E. Heberle-Bors, and A. Touraev. 2006. Stresses applied for the re-programming of plant microspores towards in vitro embryogenesis. *Physiologia Plantarum*, 127 (4): 519-534

Sharma, A. K. and A. Sharma. 1980. *Chromosome Techniques Theory and Practice, 3rd ed.* Oxford: Butterworths-Heinemann, p. 177

Silva, T. D. 2012. Microspore embryogenesis. *In:* Sato, K. (eds.) *Embryogenesis*. Rijeka: InTechOpen, p.577

Suaib, W. Mangoendidjojo, P. D. N. Mirzawan, dan A. Indrianto. 2007. Proporsi mikrospora uninukleat pada empat klon tebu (*Saccharum* spp.). *Berkala Penelitian Hayati*, 12 (2007): 145-152

Suaib dan M. J. Arma. 2012. Pengembangan kultur mikrospora pada varietas padi ladang lokal asal Kendari. *Jurnal Agronomi Indonesia*, 40 (2): 99-104

Supriyanti, A., Supriyanta, dan Kristamtini. 2015. Karakterisasi dua puluh padi (*Oryza sativa* L.) lokal di Daerah Istimewa Yogyakarta. *Vegetalika*, 4 (3): 29-41

Sutharut, J. and J. Sudarat. 2012. Total anthocyanin and antioxidant activity of germinated colored rice. *International Food Research Journal*, 19 (1): 215-221

Taryono. 2016. *Pengantar Bioteknologi untuk Pemuliaan Tanaman*. Yogyakarta: Gadjah Mada University Press, hal. 44

Touraev, A. A. Indrianto, I. Wratschko, and O. Vicente. 1996. Efficient microspore embryogenesis in wheat (*Triticum aestivum* L.) induced by starvation at high temperature. *Sexual Plant Reproduction*, 9 (4): 209-215

Tuncer, B., A. Çiğ, R. Yanmaz, and F. Yaşar. 2016. Effect of heat shock treatment on microspore embryogenesis in *Brassica oleracea* species. *Journal of Agricultural Sciences*, 22 (4): 548-554

Utama, M. Z. H. 2015. *Budidaya Padi pada Lahan Marginal: Kiat Meningkatkan Produksi Padi*. Yogyakarta: Penerbit ANDI, hal. 1, 4-7

Wahidah. B.F. 2014. Kajian karakter morfologi mikrospora tembakau virginia yang mengalami cekaman pelaparan dan suhu tinggi secara *in vitro*. *Jurnal Teknosains*, 8 (1): 217-226

Wilson, Z.A., J. Song, B. Taylor, and C. Yang. 2011. The final split: the regulation of anther dehiscence. *Journal of Experimental Botany*, 62 (5): 1633-1649

Winarto, B. and J. A. T. da Silva. 2011. Microspore culture protocol for Indonesian *Brassica oleracea*. *Plant Cell, Tissue and Organ Culture*, 107 (2): 305–315

Würschum, T., M. R. Tucker, and H. P. Maurer. 2014. Stress treatments influence efficiency of microspore embryogenesis and green plant regeneration in hexaploid triticale (× *Triticosecale* Wittmack L.). *In Vitro Cellular & Developmental Biology – Plant*, 50 (1): 143-148

Yanuarti, A. R. dan M. D. Afsari. 2016. *Profil Komoditas Barang Kebutuhan Pokok dan Barang Penting: Komoditas Beras*. Jakarta:Kementrian Perdagangan [Online] Tersedia di https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=11&cad=rja&uact=8&ved=2ahUKEwi18_Obn4HpAhWZXCsKHRIeC0

kQFjAKegQIAxAB&url=https%3A%2F%2Fews.kemendag.go.id%2Fdownload.aspx%3Ffile%3DBK_BERAS_16-03-2018-SP2KP.pdf%26type%3Dpublication&usg=AOvVaw3KGMnO52w3pm29kCkrjxqX , diakses pada 24 Maret 2020

Yusri, A.M. 2019. *Varietas Padi*. [Online] Tersedia di http://cybex.pertanian.go.id/mobile/artikel/69940/VARIETAS-PADI/ , diakses pada 23 Maret 2020

Zeng, A., J. Yan, L. Song, B. Gao, Y. Zhang, J. Li, H. Liu, X. Hou, and Y. Li. 2015. Induction and development of microspore-derived embryos in broccoli × white-headed cabbage hybrids microspore culture. *Euphytica*, 203 (2): 261-272

Zieliński, K., M. Krzewska, I. Żur, K. Juzoń, P. Kopeć, A. Nowicka, J. Moravčiková, E. Skrzypek, and E. Dubas. 2020. The effect of glutathione and mannitol on androgenesis in anther and isolated microspore cultures of rye (*Secale cereale* L.). *Plant Cell, Tissue and Organ Culture*, 140 (3): 577-592

Żur, I., E. Dubas, M. Krzewska, F. Janowiak. 2015. Current insights into hormonal regulation of microspore embryogenesis. *Frontiers in Plant Science*, 6 (June): 1-10