

## DAFTAR PUSTAKA

- Ahmad, F. 2015. Aplikasi Air Kelapa dan Uncur Hara Zn untuk Mengatasi Layu Pentil (*Cherelle Wilt*) pada tanaman kakao (*Theobroma cacao* L.) dengan Teknik Penyemprotan Buah. Skripsi. Universitas Jember
- Alvim, P. de. T. 1977. Cacao. P: 279-313. In P. de T. Alvim dan T. T. Kazlowski (Eds). *Ecophysiology of Tropical Crops*. Academic Press. New York
- Ammermann, E., G. Lorenz, K. Schelberger, B. Mueller, R. Kirstgen, H. Sauter, BAS 500 F. 2000. The new broad spectrum strobilurin fungicide, in: Brighton Crop Protection Conference, Pests and Diseases, British Crop Protection Council, Farnham, UK, pp: 541 – 548.
- Anita-Sari, I. dan A. W. Susilo. 2013. Stabilitas karakter pembungaan, pertunasan, dan potensi jumlah buah pada 21 klon kakao harapan koleksi puslitkoka. *Pelita Perkebunan* 29: 82-92.
- Arnold, S., I. Sabala, P. Bozhkov, J. Dyachok, L. Flonofa. 2002. Developmental pathways of somatic embryogenesis. *Plant Cell Tissue Org Cult.* 69: 233-249.
- Baon, J. B. 1988. Tata cara penilaian kesesuaian lahan untuk kakao. Hal: 55-63. *Cit K. Pamian, S. Danimihardja, T. Hutomo (Eds)*. Prosiding Konferensi Nasional Kakao III, Buku 2. Rispa. Medan.
- Bardinelli, T., J. Barnes, H. Ypema, 2001. *Pyraclostrobin* (BAS 500F): update on BASF's broad-spectrum strobilurin fungicide. *Phytopathology* 91, S5.
- Bartlett, D. M., J. M. Clough., J. R. Godwin, A. A. Hall, M. Hamer, & B. Parr-Dobrzanski. 2002. The strobilurin fungicides. Review. *Pesticide Management Science*: 58
- Biehl, B. 1984. Cocoa fermentation and problems of acidity, over fermentation and low cocoa flavor. *Proceedings of the International Conference of Cocoa and Coconut*, Kualalumpur. No. 561-566.
- Butkute, B., A. Mankevičienė, I. Gaurilėikiene. 2008. A comparative study of strobilurin and triazole treatments in relation to the incidence of fusarium head blight in winter wheat, grain quality and safety presented at 3rd Int. FHB Symposium Szeged, Hungary.
- Cilas, C dan D. Despreaux. 2004. Improvement of Cocoa Tree Resistance to *Phytophthora* Disease. CIRAF, Caobisco.
- De Olivera, L. A. B., H. P. Pancheco, R. Scherer. 2015. Flutriafol and *pyraclostrobin* residues in Brazilian green coffees. *Food Chemistry* 190: 60-63

- Direktorat Jenderal Perkebunan. 2014. Statistik Perkebunan Indonesia 2013-2015 Kakao. Direktorat Jenderal Perkebunan, Jakarta.
- Efendi, R., Suwarti dan Zubachtirodin. 2011. Efektifitas *Pyraclostrobin* pada Tingkat Takaran Pemupukan Nitrogen terhadap Produksi Jagung. Seminar Nasional Serealia.
- Efendi, Y., D. Hariyono, dan K. P. Wicaksono. 2014. Uji efektivitas aplikasi *pyraclostrobin* dengan beberapa level cekaman suhu pada tanaman jagung (*Zea mays*) Jurnal Produksi Tanaman 2: 497-502
- Grossman, K., and G. Retzlaff. 1997. Bioregulatory effects of the fungicidal strobilurin kresoxim-methyl in wheat (*Triticum aestivum*). Pestic. Sci. 50: 11-20.
- Harmawan, S. 2010. Pemanfaatan Ekstrak Polifenol Biji Kakao (*Theobroma cacao* L.) Kering Non Fermented Terserang *Conopomorpha cramerella* Snellen dan *Phytophthora palmivora* Butler sebagai Antibakteri. [Skripsi]. Jurusan Teknologi Hasil Pertanian Fakultas Teknologi Pertanian Universitas Jember, Jember.
- Hart, H. 1983. Kimia Organik. Terjemahan Suminar. Erlangga: Jakarta.
- Hunter, J.R. 1959. Germination in *Theobroma cacao*. *Cacao (Turrialba)*, 4:1-7.
- Indarti, E. 2007. Efek pemanasan terhadap rendemen lemak pada proses pengepresan biji kakao. Jurnal Rekayasa Kimia dan Lingkungan: 6.
- INGENIC (International Group for Genetic Improvement of Cocoa). 2001. Conclusions and recommendations from the INGENIC workshop on new technologies and cocoa breeding (October 16-17, 2000). *INGENIC Newsletter* 6: 5-9
- Iswanto, A. 1999. Perbedaan Produksi dan Karakter Biji Antara Hibrida Kakao F1, Klonal F2 dan Keturunan F2. J Warta Puslit Kopi & Kakao, 15: 81-90.
- Joshi, J., S. Sharma, K. N. Gruruprasad. 2014. Foliar application of *pyraclostrobin* fungicide enhances the growth, rhizobial-nodule formation and nitrogenase activity in soybean (var. JS-335). *Pesticide Biochemistry and Physiology* 114: 61-66
- Kamle, M, A. Bajpai, R. Chandra, S. Kalim, R. Kumar. 2011. Somatic embryogenesis for crop improvement. *Bull Biosci.* 2:54-59
- Koehle, H., K. Grossmann, T. Jabs, M. Gerhard, W. Kaiser, J. Glaab, U. Conrath, K. Seehaus, S. Herms, Physiological effects of the strobilurin fungicide F 500 on plants, in: H.-W. Dehne, U. Gisi, K.-H. Kuck, P.E. Russell, H. Lyr. 2002. (Eds.) *Modern Fungicides and Antifungal Compounds III*, Proceedings of the 13th. AgroConcept, Bonn, Germany, pp. 61-74.

- Li R, P Guo, M. Baum, S Grando, S Ceccarelli. 2006. Evaluation of chlorophyll content and fluorescence parameters as indicators of drought tolerance in barley. *Agric. Sci. in China* 5 (10) : 751-757.
- Miller, C.R., M. J. Guiltinan. 2003. Perspective on rapid vegetative multiplication for orthotropic scion and rootstock varieties of cacao. In *International Workshop on Cacao. Cacao Breeding for Improved Production Systems (INGENIC)*, 189–194, 19–21 October 2003, Accra, Ghana.
- Minifie, W. Beinard, 1999. *Chocolate, Cocoa, and Confectionery SainsTechnology*. An Aspen Publication. London.
- Misnawi, S. 2005. Effect of cocoa liquor roasting on polyphenol content, hydrophobicity and astringency. *ASEAN Food Journal* 12:103-113.
- Mulato, W., S. Misnawi. 2005. *Petunjuk Teknis Produk Primer dan Sekunder Kakao*. Jember: Pusat Penelitian Kopi dan Kakao Indonesia
- Neil. 2002. *Biologi*. Penerbit Erlangga, Jakarta.
- Niemenak, N., C. Cilas, C. Rohsius, H. Bleiholder, U. Meier, R. Lieberei. 2009. Phenological growth stages of cacao (*Theobroma* sp.): condensation and description according to the BBCH scale. *Annals of Applied Biology*: 155
- Pujiyanto, 1999. *Materi Sekolah Lapang Kopi*. Puslit Koka Indonesia, Jember.
- Puranik RM, Srivastava HS. 1985. Increase in nitrate reductase activity in bean leaves by light involves a regulator protein. *Agric Biol Chem* 49 (7) : 2099-2104
- Pusat Penelitian Kopi dan Kakao Indonesia. 2014. *Bahan Tanam Kakao*. <<http://iccri.net/bahan-tanam-kakao/#>>. Diakses 17 Februari 2016.
- Putra, E.T.S., D. Indradewa dan E. Sulistyaningsih. 2014. Aplikasi *Pyraclostrobin* pada Kakao (*Theobroma cacao* L.) untuk Menekan Kejadian Gugur Bunga (*Flower Abcission*), Layu Pentil (*Cherelle Wilt*), dan Busuk Buah. Laporan Penelitian Kerjasama Fakultas Pertanian UGM – BASF. Fakultas Pertanian UGM. Yogyakarta, Indonesia. 56 hal.
- Rohsius, C. 2000. *Proteolyse von Reserveproteinen bei Keimung und Fermentation der Samen von Theobroma Arten*. Diplomarbeit. Institut für Angewandte Botanik, Universität Hamburg, Deutschland. 122 pp.
- Rubiyo dan W. Amaria. 2013. Ketahanan tanaman kakao terhadap penyakit busuk buah (*Phytophthora palmivora* Butl.). *Perspektif* 12: 23-36.
- Ruske, R.E., M.J. Gooding, S.A. Jones. 2003. The effects of triazole and strobilurin fungicide programmes on nitrogen uptake, partitioning, remobilization and grain N accumulation in winter wheat cultivars, *J. Agric. Sci.* 140: 395– 407.

- SAS Institute Inc. 1990. *SAS/STAT Users Guide*. SAS Publishing, North Caroline.
- Soedjanaatmadja, R. U. M. S. 2008. Perananan Pathogenesis Related (Pr)- Protein dan Fitohormon dalam Menjaga Kelangsungan Kehidupan Tanaman serta Meningkatkan Produksi Hasil Pertanian.
- Susanto, F. X. 1994. *Tanaman Kakao Budidaya dan Pengolahan Hasil*. Penerbit Kanisius: Yogyakarta.
- Susanto. 1994. *Budidaya Tanaman Kakao*. Penebar Swadaya, Jakarta.
- Swanson, J. D. 2005. Flower development in *Theobroma cacao* L. An assessment of morphological and molecular conservation of floral development between *Arabidopsis thaliana* and *Theobroma cacao* L. PhD Thesis, The Pennsylvania State University, USA. 191 pp.
- Tjitrosoepomo, G. 1988. *Taksonomi Tumbuhan (Spermatophyta)*. Universitas Gadjah Mada Press, Yogyakarta.
- Toonen, M. A. J., Vries SC. 1996. Initiation of somatic embryos from single cells. In Wang TL. and Cuming A. (Eds) : *Embryogenesis the Generation of Plant*. Oxford. Pp. 173-189
- Toquin, V., F. Barja, C. Sirven, R. Bffa, 2007. Fluopicolide, a new anti-oomycetes fungicide with a new mode of action inducing perturbation of a spectrinlike protein. In: Krämer, W., Schirmer, U. (Eds.), *Modern Crop Protection Compounds*. Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, Germany.
- Umayah, A., dan A. Purwantara. 2006. Identifikasi isolat *Phytophthora* asal kakao. *Menara Perkebunan* 74: 76-85.
- Utomo, B., A. A. Prawoto, S. Bonnet, A. Bangviwat, S. H. Gheewala. 2016. Environmental performance of cocoa prodction from monoculture and agroforestry systems in Indonesia. *Journal of Cleaner Production* 134: 583-591
- Venancio, W. S., M. A. T. Rodrigues, E. Begliomini dan N. L. de Souza. 2003. Physiological effect of strobilurin fungiceides on plants. *Ponta Grossa* 9: 59-68
- Venter, M.J., N. J. M. Kuipers, A. B. de Haan. 2007. Modelling and experimental evaluation of high pressure expression of cocoa nibs. *Journal of Food Engineering*: 80.
- Vincelli, P., E. Dixon. 2002. Resistance to QoI (strobilurin like) fungicides in isolates of *Pyricularia grisea* from perennial ryegrass, *Plant Dis.* 86: 235–240.

- Voigt, J. H. Heinrichs, G. Voigt, and B. Biehl. 1994. Cocoa-specific aroma precursors are generated by proteolytic digestion of the vicil in like globulin of cocoa seeds. *J. Food Chemistry*: 50. Pp: 177-184.
- Wachjar, A. dan H. S. Iskandar. 1988. *Budidaya Tanaman Coklat*. Jurusan Budidaya Pertanian, Fakultas Pertanian. IPB. Bogor. 50 hal.
- Wang, W., P. Zhang, R. Meng, J. Zhao, Q. Huang, X. Han, Z. Ma, X. Zhang. 2014. Fungitoxicity and synergism of mixtures of fluopicolide and *pyraclostrobin* against *Phytophthora infestans*. *Crop Protection* 57: 48-56.
- Wilkins, M.B., 1984. *Advanced Plant Physiology*. Pitman Publishing Limited. London
- Wood, G. A. R. 1975. *Cacao*. Longmans Group Ltd. London. 292 hal.
- Wood, G. A. R. And R.A. Lass. 1989. *Cocoa*. Tropical Agriculture Series. Fourth Edition. New York: Longman Scientific & Technical Published in the United State With J Wiley & Sons.
- Yan, X.J., Jin, S.H., Chen, F.H., Wang, D.Q., 2006. Advance in research of the target of action of strobilur in fungicides. *Chin. J. Pesti. Sci.* 8.
- You, X., C. Liu, F. Liu, Y. Liu, J. Dong. 2012. Dissipation of *pyraclostrobin* in its metabolite BF-500-3 in maize under field conditions. *Entoxiology and Environmental Safety* 80: 252-257.
- Zimmerman, J. L. 1993. Somatic embryogenesis: A model for early development in higher plants. *The Plant Cell* 5:1411-1423