DAFTAR PUSTAKA

Alvim, P.T, A.D. Machado and F. Vello. 1974. Physiological responses of cacao to environt factors. Journal of Revista Theobroma, 4 (3) : 3-12.

Anonim. 2004. Panduan Lengkap Budidaya kakao. Agromedia Pustaka. Jakarta.

Anonim. 2016. Quarterly Bulletin of Cocoa Statistics. International Cocoa Organization, 43 (1) : 39-147.

Arrohmah, 2007. Studi Karakteristik Klorofil pada Daun Sebagai Material *Photodetector Organic*. Universitas Sebelas Maret. Skripsi.

Arsyad, M., B.M. Sinaga. dan S. Yusuf. 2011. Analisis dampak kebijakan pajak ekspor dan subsidi harga pupuk terhadap produksi dan ekspor kakao Indonesia pasca putaran Uruguay. Jurnal Sosial Ekonomi Pertanian, 8 (1) : 63-71.

Astuti, Y.T.M, A.A. Prawoto dan K. Dewi. 2011. Pengaruh keberadaan tunas, aplikasi *naphthalene acetid acid* dan *gibberellic acid* terhadap perkembangan buah muda kakao. Pelita Perkebunan, 27 (1) : 11-23.

Bailey, L. F., J. S. Rothacher and W. H. Cummings. 1951. A critical study of the cobald chloride method of measuring transpiration. Journal of Plant Physiology, 27 (3) : 563-574.

Bartolome, R. 1950. Cacao : The effect of fertilizer application on the incidence of *cherelle wilt* of cacao in Costa Rica. Inter-American Cacao Center, 2 (7) : 6-10.

Bayer, C., J. R. Hope.1990. Floral development of *Theobroma cacao* L. *Beitr ¨ age zur Biologie der Pflanzen,* 65: 301–312.

Boyer, J. (1973). Cycles de la matie`re organique des e´le´ments mine´raux dans une cacaoye`re camerounaise. Cafe´ Cacao The´ 18, 3–30.

Chen, B., Z. Chai, J. Sheng, W. Zhang and P. Jiang. 2017. Effect of potassium fertilizer on the physiological mechanisms of cotton fiber quality. Pakistan Journal of Botany, 49 (3) : 935-943.

Cohen, A. 1980. Potassium requirements of some tropical tree crops (oil palm, coconut palm, rubber, coffe, cocoa) : Potassium Requirements of Crops. International Potash Institute, Switzerland.

Conti, T.R. and D. Geiger. 1982. Potassium nutrition and translocation in sugar beet. Journal of Plant Physiology, 70 : 168-172.

Daryanto. 1977. Beberapa catatan tentang pembungaan dan pembentukan buah kakao. Jurnal Menara Perkebunan, 45(2) : 95-100.

Diethelm, R. E., R. Keller and F. Bangerth. 1988. Auxins, ABA and giberellin-like activity in abscissing and non-abscissing flowers and pods of *Vicia faba* L. Journal of Plant Growth Regulation, 72 : 75-90.

Ditjenbun. 2011. Produksi dan luas areal kakao di Indonesia. http://ditjenbun.deptan. go. Id./cigraph/index.php/viewstat/exportimport/1- Kakao. Diakses 4 Agustus 2017.

Doman, D.C. and D.R. Geiger. 1979. Effect of exogenously supplied foliar potassium on phloem loading in Beta vulgaris L. Journal of Plant Physiology, 64 : 528-533.

Erwiyono, R., A. A. Sucahyo, Suyono dan Sugeng W. 2006. Keefektifan pemupukan kalium lewat daun terhadap pembungaan dan pembuahan tanaman kakao. Jurnal Pelita Perkebunan, 22 (1) : 13-24.

Eviati dan Sulaeman. 2009. Analisis Kimia Tanah, Tanaman, Air dan Pupuk. Balai Penelitian Tanah, Bogor.

From, J. 2010. Wood formation of trees in relation to potassium and calcium nutrition. Tree Physiology, 30 (9) : 1140-1147.

Golec, A.D. and I. Szarejko. 2013. Open or close the gate – stomata action under the control of phytohormones in drought stress conditions. Fontiers in Plant Science, 4 : 1-16.

Hao, X. dan A. P. Papadopoulos. 2004. Effect of calcium and magnesium on plant growth, bimass partitioning and fruit yield of winter greenhouse tomato. Horticulture and Science, 39 (3) : 512-515.

Hartemink, A.E. 2005. Nutrient Stocks, Nutrient Cycling and Soil Changes in Cocoa Ecosystem : A Review. World Soil Information, Netherlands.

Heuveldop, J., Fassbender, H. W., Alp´ızar, L., Enr´ıquez, G., and Fo¨lster, H. 1988. Modelling agroforestry systems of cacao (*Theobroma cacao*) with laurel (*Cordia alliodora*) and poro (*Erythrina poeppigiana*) in Costa Rica. II. Cacao and wood production, litter production and decomposition. Journal of Agroforestry System, 6 : 37–48.

Humphries, E.C. 1943a. Wilt of Cacao fruits (*Theobroma cacao*) : I. An investigation into the cause. Annals of Botany, 7 (25) : 31-44.

Humphries, E.C. 1943b. Wilt of cacao fruits (*Theobroma cacao*) : II. A preliminary survey of the carbohydrate metabolism with special reference to wilt susceptibility. Annals of Botany, 7 (25) : 45-61.

Humphries, E.C. 1947. Wilt of cacao fruits (*Theobroma cacao*) : IV. Seasonal variation in the carbohydrate reserves of the bark and wood of the cacao tree. Annals of Botany, 11 (42) : 221-244.

Humphries, E.C. 1950. Wilt of cacao fruits (*Theobroma cacao*) : V. Seasonal variation in potassium, nitrogen, phosphorus and calcium of the bark and wood of the cacao tree. Annals of Botany, 14 (54) : 149-164.

Ibrahim, M.H., H.Z.E. Jaafar, E. Karimi and A. Ghasemzadeh. 2012. Primary, secondary metabolites, photosynthetic capacity and antioxidant activity of the Malaysian herb kacip fatimah (*Labisia Pumila* Benth) exposed to potassium fertilization under greenhouse conditions. International Journal of Molecular Science, 13 : 15321-15342.

Jin, S.H., J.Q. Huang, X.Q. Li, B.S. Zheng, J.S. Wu, Z.J. Wang, G.H. Liu and M. Chen. 2011. Effects of potassium supply on limitations of photosynthesis by mesophyll diffusion conductance in *Carya cathayensis*. Tree Physiology, 31 : 1142-1151.

Kant, S. and U Kafkafi. 2002. Potassium and Abiotic Stresses in Plants. Faculty of Agricultural, Food and Environmental Quality Sciences. The Hebrew University of Jerusalem. Israel.

Kasran, R., A.K. Sandrang and S.K.S. Wazir. 1991. Effect of foliar fertilizer on *cherelle wilt* in cocoa. Transactions of the Malaysian Society of Plant Physiology, 2 : 103-107.

Liu, C., B. Tu, Y. Li, B. Tian, Q. Zhang, X. Liu and S.J. Herbet. Potassium application affects key enzyme activities of sucrose metabolism during seed filling in vegetable soybean. Crop Science, 57 (5) : 2707-2717.

Ma, L. and Y. Shi. 2011. Effect of potassium fertilizer on physiological and biochemical index of *Stevia rebaudiana* Bertoni. Energy Procedia, 5 : 581-586.

McDaniel, C.N.M1984. Competence, determination and induction in plant development. In G. Malacinski (ed.) Pattern Formation : A Primer in Developmental Biology, MacMillan. New York.

McKelvie. 1956. *Cherelle wilt* of cacao : I. Pod development and its relation to wilt. Journal of Experimental Botany, 7 (20) : 252-263.

McKelvie. 1960. *Cherelle wilt* of cacao : II. Wilt in relation to yield. Journal of Experimental Botany, 11 (33) : 413-424.

Melnick, R. 2016. Cacao Diseases : *Cherelle Wilt* of Cacao : A Physiological Condition. Springer International Publishing, Switzerland.

Melnick, R., M.D. Strem, J. Crozier, R.C. Sicher dan B.A. Bailey. Molecular and metabolic changes of *cherelle wilt* of cacao and its effect on *Moniliophthora roreri*. Physiological and Molecular Plant Pathology, 84 : 153-162.

Mengel, K. and W. W. Arneke. 1982. Effect of potassium on the water potential, the pressure potential, the osmotic potential and cell elongation in leaves of Phaseolus vulgaris. Journal of Physiologia Plantarum 54 (4) : 402-408.

Miller, A. N. and C. S. Walsh. 1990. Indole 3-acetid acid concentration and ethylen evolution during early fruit development in peach. Journal of Plant Growth Regulation, 9 : 37-46.

Mills, V.M and G.W. Todd. 1973. Effect of water stress on the indoleacetic acid oxidase activity in wheat leaves. Plant Physiologi, 51 : 1145-1146.

Nemadodzi, L., M. Nkomo, H.T. Araya dan F.N. Mudau. 2017. Nitrogen, phosphorus and potassium effect on the physiology and response biomass yield of baby spinach (Sinacia oleracea L.). Journal of Plant Nutrition, 1-11.

Nichols, R. 1961. Xylem occlusions in the fruit of cacao (*Theobroma cacao*) and their relation to *cherelle wilt*. Annals of Botany, 25 (100) : 463-475.

Nichols, R. 1964. Studies of fruit development of cacao (*Theobroma cacao*) in relation to *cherelle wilt* : I. Development of the pericarp. Annals of Botany, 28 (112) : 619-635.

Nichols, R. 1965a. Studies of fruit development of cacao (*Theobroma cacao*) in relation to *cherelle wilt* : II. Auxins and development of the seeds. Annals of Botany, 29 (114) : 181-196.

Nichols, R. 1965b. Studies of fruit development of cacao (*Theobroma cacao*) in relation to *cherelle wilt* : III. Effect of fruit-thinning. Annals of Botany, 29 (114) : 197-203.

Niemenak, N., C. Cilas, C. Rohsius, H. Bleiholder, U. Meier, R. Lieberei. 2009. Phenological growth stages of cacao (Theobroma sp.): condification and description according to the BBCH scale. Annals of Applied Biology : 155.

Nugroho, P.A. 2015. Dinamika hara kalium dan pengelolaannya di perkebunan karet. Warta Perkaretan, 34 (2) : 89-102.

Oktaviani, W. 2008. Peningkatan Produksi Buah Kakao (*Theobroma cacao* L.) Melalui Pemberian Zat Pengatur Tumbuh Paclobutrazol pada Berbagai Konsentrasi. Institut Pertanian Bogor. Skripsi.

Olaiya, A. O., Fagbayide J. A., Hammed L. A., and M. O. Aliyu. 2006. Comparison of potential pod yield and loss in old and rehabilitated cocoa plots. African Journal of Agricultural Research, 1 (5) : 189-193.

Patil, R. B. 2011. Role of potassium humate on growth and yield of soybean and black gram. International Journal of Pharma and Bio sciences, 2 (1) : 242-246.

Patrick, J. W., G. F. S. Johnstone and P. F. Warieng. 1979. Mobilizing ability of giberellin acid and kinetin applied to mature, decapitated stems of *Phaseolus vulgaris* L. Journal Annals of Botanny, 44 (4) : 517-519.

Pence V.C. 1991. Abscisic acid in developing zygotic embryos of *Theobroma cacao*. *Plant Physiology,* 91 : 1291–1293.

Prajapati, K. and H.A. Modi. 2012. The importance of potassium in plant growth-a review. Indian Journal of Plant Sciences, 1 : 177-186.

Prawoto, A. 1999. Kajian morfologis, anatomis dan biokhemis layu pentil kakao serta perkembangan upaya pengendaliannya. Pelita Perkebunan, 16 (1) : 11-29.

Prawoto, A. 2015. Pangkasan Tanaman Kakao : Kakao Sejarah, Botani, Proses Produksi, Pengolahan dan Perdagangan. Gadjah Mada University Press. Yogyakarta.

Prawoto, A. A. 2000. Morphological, anatomical and biochemical study of cherelle wilt and its of the control development effort. Jurnal Pelita Perkebunan, 16 : 11-29.

Prawoto, A.A. 2014. Dinamika pertunasan, layu pentil dan ketepatan taksasi produksi beberapa klon kakao. Pelita Perkebunan, 30 (2) : 100-114.

Pujiyanto, 2015. Kesesuaian Lahan Kakao : Kakao Sejarah, Botani, Proses Produksi, Pengolahan dan Perdagangan. Gadjah Mada University Press. Yogyakarta.

Ragimun. 2012. Analisis Daya Saing Komoditas Kakao Indonesia.<http://www.kemenkeu.go.id/sites/default/files/ANALISIS%20DAYA%20SAING%20KAKAO%20INDONESIA.Pdf>. Diakses tanggal 25 Agustus 2017.

Riffin, A. dan Fitri. 2007. Integrasi pasar kakao Indonesia. Jurnal Agribisnis dan Ekonomi Pertanian, 1 (2) : 1-12.

Rosmimi dan A. Soeptiadi. 2012. Serapan hara N, P, K dan pertumbuhan tanaman padi (Oryza sativa L.) di medium gambut yang diaplikasikan amelioran dregs dan pupuk N,P,K. Jurnal Agrotek Tropika, 1 (2) : 21-30.

Russell, E. W. 1973. Soil Conditions and Plant Growth. Longman, London.

Sakhidin, B.S. Purwoko, S. Yahya, R. Poerwanto, S. Susanto dan A.S. Abidin. 2006. Kandungan beberapa zat endogen pada buah retensi dan buah akan rontok pada mangga. Buletin Agronomi, 34(2) :106-111.

Salam, M. 2014. Perkembangan Bunga Kakao (*Theobroma cacao* L.) Tipe Forastero Berdasarkan Karakteristik Morofologi dan Anatomi. Skripsi. Universitas Jember, Jember.

Sale, P.J.M. 1969. Flowering of cacao under controlled temperature condition. Horticulture and Science, 45 : 99-118.

Samarappuli, L., N.Y.P. Karunadasa, U. Mitrasena and R. Hettiarachchi. 1993. Role of potassium on growth and water relations of rubber plants. Journal of The Rubber Research Institut of Sri Lanka, 73 : 37-57.

Santoso, D., Samanhudi and R. Purwanto. 2013. Chlorocholine chloride induces cacao reproductive development leading to improved fruitlets productivity of cacao trees in the field. Journal of Agricultural Science and Technology, 3 : 517-524.

Sari, I.A. and S. Abdoellah. n.d. Stomatal density, size and aperture of some cocoa clones (*Theobroma Cacao* L.) on various light intensities, air temperatures and humidities. Indonesian Coffee and Cocoa Research Institute, Jember.

Schwartzkopf, C. 1972. Potassium, calcium, magnesium-how they relate to plant growth. <http://gsrpdf.lib.msu.edu/ticpdf.py?file=/1970s/1972/721101.pdf>. Diakses tanggal 10 Agustus 2017.

Secer, M. 1978. Effect of potassium on nitrogen metabolization and grain protein formation in spring wheat. Kali-Briefe, 14 (6) : 393-402.

Siagian, V.J. 2016. Outlok Kakao. Pusat Data dan Sistem Informasi Pertanian Kementerian Pertanian. Jakarta.

Singh, R., S. Chaurasia., A. D. Gupta., A. Mishra and P. Soni. 2014. Comparative study of transpiration rate in *Mangifera indica* and *Psidium guajawa* affect by *Lantana camara* Aqueous Extract. Journal of Environmental Science, Computer Science and Engineering & Technology. 3 (3) : 1228 – 1234.

Siniwi, R. 2017. Pengaruh Konsentrasi Pyraclostrobin terhadap Kandungan Protein, Lemak dan Fenolik Total Biji Kakao (Theobroma cacao L.) Klon ICCRI 04 dan Scavina 6. Universitas Gadjah Mada. Skripsi.

Siregar, T.H.S., S. Riyadi dan L. Nuraeni. 1997. Budidaya, Pengolahan dan Pemasaran Hasil Kakao. Penebar Swadaya, Jakarta.

Snoeck, J., and Jadin, P. (1992). Cacao. In "IFA World Fertilizer Use Manual". IFA. Paris.

Soependi, I. Y. dan Yanuar A. 2014. Statistik Perkebunan Indonesia Komoditas Kakao 2013-2015. Direktorat Jenderal Perkebunan, Jakarta.

Sopher, C.D and J. V. Baird. 1982. Soils and Soil Management. Second Edition. Reston Publishing Company inc, Virginia.

Statistica, 2017. Word Cocoa Production by Country from 2012/2013 to 2016/2017 (in 1.000 metric tons). <https://www.statista.com/statistics/263855/cocoa-beans-production-worldwide-by-region/>. Diakses tanggal 19 Mei 2019.

Susanto, F.X. 1994. Tanaman Kakao : Budidaya dan Pengolahan Hasil. Kanisius, Yogyakarta.

Suwarno, R.D. Ratnani dan I. Hartati. 2015. Proses pembuatan gula invert dari sukrosa dengan katalis asam sitrat, asam tartrat dan asam klorida. Momentum, 11 (2) : 99-103.

Syamsulbahri, 1996. Bercocok Tanam Perkebunan Tahunan. UGM Press, Yogyakarta.

Taiz, L. and Zeiger. 2002. Plant Physiology Third Edition. Sinaeur Associates Inc, Sunderland.

Thomas T. C. and Thomas A. C. 2009. Vital role of potassium in the osmotic mechanism of stomata aperture modulation and its link with potassium deficiency. Plant Signal Behaviour 4 (3) : 240–243.

Thong, K. C., and Ng, W. L. 1978. Growth and nutrient composition of monocrop cocoa plants on inland Malaysian soils. In Procceding International Conference Cocoa and Coconuts, Kuala Lumpur.

Thorold, C. A. 1975. Diesase of Cocoa. Calendron Press. Oxford.

Tisdale, S.L. and W.L. Nelson. 1975. Soil Fertility and Fertilizers. Mac. Millan Publication Co., Inc., New York.

Tjasadihardja, A. 1987. Pertumbuhan dan pola pembentukan buah dan pengaruh perlakuan zat tumbuh terhadap kelayuan buah muda dan hasil buah/biji cokelat. (*Theobroma cacao* L.). Institut Pertanian Bogor. Disertasi Doktor.

Tutiliana. 2014. Aplikasi ZPT auksin, seng dan boron untuk mengendalikan layu pentil (*cherelle wilt*) pada tanaman kakao (*Theobroma cacao* L.). Jesbio, 3 (4) : 1-8.

Uncomtrade. 2015. International Trade Statistics Yearbook : Cacao. < https://comtrade.un.org/pb/CommodityPagesNew.aspx?y=2015>. Diakses tanggal 25 Agustus 2017.

Uribe, A., H. Mendez and J. Mantilla. 2001. Effect of balanced fertilization on cocoa yield. Better Crops International, 15 (2) : 1-3.

Valle, R.R., A.A.F.D. Almeida and R.M.D.O. Leite. 1990. Energy cost of flowering, fruiting and *cherelle wilt* in cacao. Tree Physiology, 6 : 329-336.

Van B. J. M. and Sultenfuss J. H. 1998. Better crops with plant food. In Potassium: Functions of Potassium 82 (3) : 4-5.

Wachjar, A. 2005. Kajian Tanggap Fisiologis Perkembangan Buah Muda dan Layu Pentil Terhadap Pemberian Unsur Seng (Zn) dan Boron (B) serta Pengaruhnya Terhadap Hasil Kakao (*Theobroma cacao* L.). Institut Pertanian Bogor. Disertasi Doktor.

Wahyudi, T., T.R Panggabean, dan Pujiyanto. 2008. Panduan Lengkap Kakao Manjemen Agribisnis dari Hulu hingga Hilir. Penebar Swadaya, Jakarta.

Walingkas, S.A.F. dan M. Rantung. 2012. Respons naphthalen acetic acid dan unsur mikro mikombi super terhadap *cherelle wilt* pada tanaman kakao. Eugenia, 18 (2) : 154-160.

Wandana, S., C. Hanum dan R. Sipayung. 2012. Pertumbuhan dan hasil ubi jalar dengan pemberian pupuk kalium dan triakontanol. Jurnal Online Agroteknologi, 1 (1) : 199-211.

Wessel, M. (1985). Shade and nutrition of cocoa. In "Cocoa" (G. A. R. Wood and R. A. Lass, Eds.), 4th edn. Longman Scientific and Technical, Essex.

Widiancas, A.P. 2010. Aplikasi ZPT NAA dan Unsur Mikro Untuk Mengatasi Layu Pentil (*Cherelle wilt*) pada Kakao (*Theobroma cacao* L.) dengan Teknik Penyemprotan Buah. Universitas Sebelas Maret. Skripsi.

Widya, Y. 2008. Budidaya Bertanam Cokelat. Tim Bina Karya Tani, Bandung.

Yamori, W and S.V. Caemmerer. 2009 . Effect of rubisco activase deficiency on the temperature response of CO_2 assimilation rate and rubisco activation state : insights from trasgenic tobacoo with reduced amounts of rubisco activase. Plant Physiology, 151 : 2073-2082.