DAFTAR PUSTAKA

[BPS] Badan Pusat Statistik. 2018. *Luas Panen dan Produksi Padi di Indonesia*. No. 83/10/Th. XXI, 24 Oktober 2018. Badan Pusat Statistik, Jakarta.

[BPTPH] Balai Proteksi Tanaman Pangan dan Hortikultura. 2019. Laporan Luas Serangan OPT Januari 2018 hingga Maret 2019. Balai Proteksi tanaman pangan & holtikultura, Kabupaten Maros, Sulawesi Selatan.

[DITLIN] Direktorat Perlindungan Tanaman Pangan (Ditlin). 2010. Laporan tahunan luas dan intensitas serangan hama utama tanaman padi di Indonesia. Direktorat Perlindungan Tanaman Pangan. Jakarta.

[GDA] General Directorate of Agriculture. 2014. Rice Grassy Stunt Virus. *https://www.plantwise.org/KnowledgeBank/FactsheetForFarmers.aspx?pan=20157800083.* Diakses tanggal 24 Februari 2019.

Ani Sulistyarsi, Suranto, Supriyadi. 2012. *Pola pita protein total wereng hijau (Nephotettix virescens) dan daun tanaman padi (Oryza sativa) yang terinfeksi virus tungro*. Program Studi Biosains, Program Pascasarjana, Universitas Sebelas Maret, Surakarta, Jawa Tengah

Azzam, O., Chancellor, T.C.B. 2002. The biology, epidemiology, and management of rice tungro disease in Asia. Plant Disease 86:88-100.

Baehaki SE, Munawar D. 2007. Identifikasi biotipe wereng cokelat di Jawa, Sumatera, dan Sulawesi dan reaksi ketahanan kultivar padi. Di dalam: Baehaki SE, Hidayat S, editor. Seminar Apresiasi Hasil Penelitian Padi. BB Padi. 15p.

Baehaki, S.E., dan Dede Munawar., 2013, “Uji ketahanan galur padi terhadap wereng batang coklat biotipe 3 melalui population build-up”, Jurnal Entomologi Indonesia, Vol. 10, No. 1, hal 7-17.

Boccardo, G.& R.G. Milne.1984. Plant reovirus group. *CMI/AAB Descriptions of Plant Viruses*. No.294.

Boccardo, G. and Milne, R. G. (1984). Plant reovirus group. CMI/AAB, Descriptions of Plant Viruses No.294, Commonwealth Microbiology Institute and Association of Applied Biology. United Kingdom.

Bastian, A. 2005.Evaluasi Ketahanan Galur-Galur Padi Sawah terhadap Penyakit Tungro. Prosiding Seminar Ilmiah dan Pertemuan TahunanKomda Sul-Sel. 53-56 hlm.

Bartlett, J.M.S.,& D. Stirling. 2003. PCR Protocols Second Edition. Methods in Molecular Biology. Pp. 90-95.

BB Padi. 2013. Deskripsi Varietas Unggul Baru Padi. Badan Penelitian dan Pengembangan Pertanian, Jakarta.

Cabauatan,P.Q.,Melcher,U.,Ishikawa,K.,Omura,T.,1999. ibino,H.,Koganezawa,H. and Azzam,O. 1999. Sequence changes in six variants of rice tungro bacilliform virus and their phylogenetic relationships. Virol. 80 (Pt 8), 2229-2237

Cabauatan. P.Q, R.C. Cabunagan, and I.R. Choi. 2009. Rice viruses transmitted by the brown planthopper Nilaparvata lugent Stal. In K.. Heong and B Hardy, Proc. Planthopper-New Threat to the Sustainability on Intensive Rice Production System in Asia. International Rice Research Institute, Los Baños, Philippines. p357-368.

Calleja, D.O. 2010. Water shortage due to El Nino breeds 'tungro' in rice plantations. *http:balita.ph/2010/02/17/tungro-rice-disease-alert-up-in-bicol/*. Diunduh pada 24 Februari 2019.

Campbell N.A.,Reece J.B.,Mitchell L. G..2002. Biologi.Terj. dari Biology:oleh Lestari, R.dd. Erlangga, Jakarta.

Cantrell. 2004. New technologies for rice farmers. ICM Edition, Bayer Crop Sci 1: 21–22.

Cheng, S.N., Chen, J.C., Si, H., Yan, L.M., Chu, T. L., 1982,"Studies on the migrations of brown planthopper Nilaparvata lugens Stål. Acta Entomol". Sin, 22:1-21.

Chen,Q., Wu,M.A., Wu,Z.J. and Xie,L.H. 2010. *Phylogenetic evidence for origin and evolution of rice rigged stunt virus*. Institute of Plant Virology, Fujian Agricultural and Forestry University, Fuzhou, Fujian 350002, P.R. China.

Chomchan,P, Li, S.F., and Y, Shirako, 2003,"Rice grassy stunt Tenuivirus nonstructural protein p5 interacts with itself to form oligomeric complexes in vitro and in vivo", Journal of virology, 760-775.

Choi. I.R., P.Q. Cabauatan and R.C. Cabunagan. 2009. Rice Tungro Disease. *Rice Fact Sheet*, IRRI, Sep. 2009: 1-4.

Davis, L., M.Kuehl, & J.Battey. 1994. Basic methods: Mplecular Biology. 2nd ed. Appleton & Lange, Norwola

Du, P.V., R.C. Cabunagan and I.R. Choi. 2005. Rice "yellowing syndrome" in Mekong river delta. Omonrice, 13: 135-138.

Du, P.V., Cabunagan, R.C., Cabauatan, P.Q., Choi, H.S., Choi, I.R., Chien, H.V., dan Huan, N.H., 2007, "Yellowing Syndrome of rice: etiology, current status and future challenger", Omonrice. 15:94-101.

Doyle, J.J. and Doyle, J.L. 1990. Isolation of plant DNA from fresh tissue. Focus, vol. 12, no. 1, p. 13-15

EMD Milipore. 2014. Protein blotting handbook: tips and trick. Canada. USA. *http://www.emdmilipore.com.* [12 Mei 2019].

Froissart, R., Y. Michalakis, & S. Blanc, 2002. Helper component-transcomplementation in the vector transmission of plant viruses. Phytopathology. 92:576-579.

Glick B.R dan J.J. Pasternak. 2003. Molekuler Biotechnology, Principles and applications of Recombinan DNA. ASM Press, Washinton D.C.

Goodman, R.N., Z. Kiraly, and K.R. Wood. 1986. The biochemistry and physiology of plant disease. Univ. Of Missouri Press Columbia. 433p.

Guoying, Z., L.Xiongbin., L.Huijuan., L.Juanli., C.Shengxiang., & G.Zuxun. 1999. Rice Ragged Stunt Oryzavirus: role of the viral spike protein in transmission by the insect vector. Ann. Appl. Biol. 135: 573-578.

Hasanuddin A.,I. N. Widiarta dan Yulianto. 1995. *Keadaan penyakit tungro pada padi sawah di Jawa Barat dan Jawa Tengah*. Kongres Nasional XIII dan Seminar Ilmiah Perhimpunan Fitopatologi Indonesia. Mataram 25-27 September 1995.

Hasanuddin, A. 2002. Pengendalian penyakit tungro terpadu. Orasi Pengukuhan Ahli Peneliti Utama. Badan Litbang Pertanian. Jakarta.

Hasanuddin A. 2009. Status tungro di Indonesia Penelitian dan Strategi Pengelolaan ke Depan.Disampaikan pada orasi purnabakti Puslitbangtan,Bogor 31 Maret 2009

Heong, K.L., Hardy, B., 2009, Planthoppers: new threats to the sustainability of intensive rice production systems in Asia. Los Baños (Philippines): International Rice Research Institute.

Helina, S., 2018. “Deteksi Virus Kerdil dan Analisis Kehilangan Hasil Pada Tanaman Padi Varietas Ciherang dan Situ Begendit di Yogyakarta”. Fakultas Pertanian, Universitas Gadjah Mada. Yogyakarta.

Henegariu, O.,Heerema, N.A.,Dlouhy,S.R.,Vance,G.H.,& Vogt, P.H.1997 *Multiplex* PCR: critical parameters and step-by-step protocol. *Bio Techniques* 23 (3): 504-511.

Hibino H. 1996. Biology and epidemiology of rice viruses. Annual Review of Phytopathology. 34: 249-274.

Hibino, H., 1989,“ Insect-borne viruses in rice. In: Harris KF, editor. Advances in disease vector research”, New York: Springer - Verlag. p 209 - 241.

Hibino H, Cabunagan rc. 1986. Rice tungro associated viruses and their relation to host plants and vector leafhopper. Phytopatology 19: 173−182.

Hibino, H. 1986. Rice grassy stunt virus. Tropical Agriculture Research Series No. 19. Trop. Agr. Res. tent. Min. of Agl. Forestry and Fisheries. Japan.

Hibino,H.,Cabauatan,P.Q.,Omura,T.,Tsuchizaki,T.,1985,"Rice grassy stunt virus strain causing tungro-like symptoms in the Philippines", *Plant Dis*. 69:538-541.

Hibino H, Roechan M, Sudarisman S, Tantera DM. 1977. A virus diseases of rice (ragged stunt) transmitted by brown planthopper (Nilaparvata Lugens Stål). Contr Centr Res Ins Agric. Bogor. 35:15.

Hogenhout, S.A.,E.D.Ammar.,A.E. Whitfield, & M.G. Redinbaugh. 2008. Insect vector interactions with persistently transmitted viruses. Annu. Rev. Phytopathol. 46, 327-359.

Hull, Roger . 2002. Matthews "Plant Virology". 4th ed. San Diego, California (US): Academic Pr.

Imbe, T. 1991. Breeding for resistance to tungro disease of rice.Tropical Agriculture Research Center, Tokyo. 136p.

IRRI, 1996. Standard Evaluation System for Rice. IRRI, P.O. Box 9333, 1099. Manila.Philippines. 52 p.

Isogai, M., Uyeda, I. and Lee, B., 1998. Detection and ass ignment of proteins encoded by rice black streaked dwarf fijivirus S7, S8, S9 and S10. J. Gen. Virol. 79, 1487 – 1494

James WC. 1971. An illustrated series of assessment key for plant diseases, their preparation and usage. *Can Plant Dis Surv*. 51(2):39-65.

Jia, D. et al. 2012. Assembly of the viroplasm by viral non-structural protein Pns10 is essential for persistent infection of rice ragged stunt virus in its insect vector. J. Gen. Virol. 93, 2299–2309.

Jonson,G.B., Villegas,J.M., Kim,K.-H., Choi,H.-S. and Choi,I.-R. 2013. Plant Breeding, Genetics, and Biotechnology, International Rice Research Institute, DAPO Box 7777, Manila, Philippines

Joshi et al.,2010. Polymerase chain reaction: Methods, Principles and Aplications. International Journal of Biomedical Research. IJBR 1 (5):81-97.

Kawabe, S. 1985. Mechanism of varietal resistance to the green leafhopper (Nephotettix cincticeps Uhier). JARQ 19: 115-124.

Kusprayogie, Y., U. Nuzulullia dan D.R. Gabriel. 2011. Prakiraan Serangan OPT Utama Padi pada MT 2011/2012. Buletin Peramalan OPT, Vol.11/No.2/ Edisi XIII/Okt./2011.

Kusnoto. 2008. *Karakterisasi Molekuler Protein Toxocara cati dan Toxocara canis untuk Pengembangan Diagnostik Toxocariasis*. [Disertasi] Program Pascasarjana Universitas Airlangga. Surabaya

Khan, M.A., H. Hibino, V.M. Aguiero, and R.D. Daquioaq. 1991. Rice and weed hosts of rice tungro-associated and leafhopper vectors. Plant Disease 75(9):926-930.

King, A., M. Adams., E.Carsten.,& E.Lefkowitz. 2012. Virus Taxonomy: Ninth Report of the International Committe on Taxonomy of Viruses, 2nd edn. Elsevier Academic Press: San Diego, Caa, USA.

Ladja, F.T. 2013. Gulma inang virus tungro dan kemampuan penularannya ke tanaman padi. Jurnal Penelitian Pertanian Tanaman Pangan 32(3):187-191. Puslitbangtan. Bogor.

Li, B.C., Hong, Y.K., Hong, S.J., Park, S.T, and Lee, K.W., 2005, “Occurrence and detection of rice black-streaked dwarf virus in Korea”, Plant Pathol, 21(2): 172-173.

Li, L., Li, H. W., Dong, H. B., Wang, X. F. and Zhou, G. H. (2010). *Transmission by* Laodelphax striatellus *fallen of rice black streaked dwarf virus from frozen infected rice leaves to healthy plants of rice and maize. J Phytopathol* 159: 1-5.

Le, D.T., Netsu O., Uehara-Ichiki T., Shimizu T., II-Ryong Choi, Omura T. And Sasaya T.. 2010. Molecular detection of nine rice viruses by reverse-transcriptionloop-mediated isothermal amplification assay. Journal of Virological Methods 170:90 – 93.

Ling, K.C.,1975. *Rice virus diseases*. IRRI.142 p.

Ling, K.C., 1972, *Rice virus diseases*, Los Banos: IRRI.

Liu,Z.Q. and Li,X.D. 2012. Department of Plant Pathology, Shandong Agricultural University, No. 61, Daizong Street, Tai'an, Shandong 271018, China

Lv,H.-J. and Gong,Z.-X.2002. Group 106, Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences, 320 YueYang Road, Shanghai 200031, China

Marzachi, C., Boccardo, G., Milne, R., Isogai, M. and Uyeda, I. (1995). *Genome structure and variability of fijiviruses*. *Seminars in Virology* 6: 103-108.

Miranda, G.J.,O. Azzam., & Y. Shirako. 2000. Comparison of nucleotide sequences between Northern and Southern Philippine isolates of rice grassy stunt virus indicates occurence of natural genetic reassortment. *Virology*: 266:26-32

McPherson, M.J., S.G. Moller. 2006. PCR Second Edition . Abingdon: Tylor and Francis Group e - Library. 2 nd edition 292 p.

Muralidharan, K., D. Krishnaveni, N.V.L. Rajarajeswari and A.S.R. Prasad. 2003.Tungro epidemics and yield losses in paddy fields in India. Current Science, 85(8):1143-1147.

Nam, N.T.,N.M. Hung, C.H. Ha, H.T.T. Hang, & L.T. Binh.2007. Genetic Variations in Rice grassy stunt virus strains isolate from Cuu Long River Delta Provinces. Tap chi cong nghe sinh hoc 5:479-484.

Oswald N. 2008. How SDS PAGE works. Blog Article in Protein Analysis, Detection and Assay. *http://bitesizebio.com/580/how-sds-page-works/.* [12 Mei 2019].

Oktavina, M.A.2015. Pola protein sekret kelenjar paratoid tiga spesies kodok dan sekret kelenjar kulit katak kongkang racun (Odorrana hosii boulenger, 1891) melalui SDS-PAGE. Laporan Skripsi. Universitas Gadjah Mada. Yogyakarta.

Palmer, L. T., V. Soepriaman & Kardaatmadja 1978. Rice yield losses due to brown planthopper and rice grassy stunt disease in Java and Bali. Plant Dis. Reptr., 63,963-965.

Praptana ,H. Hartono,S . Trisyono, A.Y, Sumardiyono.YB, Widiarta N.I. 2014. Keragaman virulensi dan konstruksi molekuler virus tungro pada padi dari daerah endemis. Penelitian Pertanian Tanaman Pangan. 33(22):93-101.

Raga, I.N., W. Murdita, Tri, M.P.L., Edi, S.W., dan Oman. 2004. Sistem surveillance Antisipasi Ledakan Penyakit Tungro di Indonesia. P. 49-59. *In* A. Hasanuddin, I.N. Widiarta dan Sunihardi (eds.), *Strategi Pengendalian Penyakit Tungro: Status dan Program, Prosiding Seminar Nasional Status Program Penelitian Tungro Mendukung Keberlanjutan Produksi Padi Nasional*. Makassar, 7-8 September 2004.

Rivera, C.T., S.H Ou, & T. T Iida, 1966. Grassy stunt disease of rice & its transmission by the plant hopper *Niparvata lugens* (Stal.). Plant Dis. Reptr. 50: 453-456.

Rahmawati, R.,S. Sulandari, S. Hartono, 2015. Respon 5 varietas padi terhadap infeksi virus penyebab penyakit kerdil rumput (Rice Grassy Stunt Virus). Pros Sem Nas Masy Biodiv Indon 1 (5): 1123-1126.

Sama S., A. Hasanuddin., I. Manwan, R.C. Cabunangan, and H. Hibino, 1991. *Integrated rice tungro disease management in South Sulawesi,* Indonesia. Crop Protection 10

Sambrook, J.,E.F. Fritsch, dan T. Maniatis. 1989. Molecular Cloning: A Laboratory Manual. 2nd edition. Cold Spring Harbor Laboratory Press, New York.

Semangun, H. 1996. *Ilmu Penyakit Tumbuhan*. Gadjah Mada University Press, Yogyakarta. 754 hal.

Seal, S. & Coates, D. 1998. Detection and quantification of plant viruses by PCR. Di dalam: Foster GD, Taylor SC. Editor. Methods in Mol Biol [internet]. [diakses 2 februari 2018]. Totowa (NJ) : *Humana Press*. 81: 469-486.

Shen,P., Kaniewska,M., Smith,C. and Beachy,R.N.1993. Nucleotide sequence and genomic organization of rice tungro spherical virus. Virology 193 (2), 621-630

Shikata, E. and Kitagawa, Y. (1977). *Rice black-streaked dwarf virus: its properties, morphology and intracellular localization. Virology* 77(2): 826-842.

Sulandari, S., Hartono, S., Trisyono, dan A., Somowiyarjo, S., 2014, Inovasi Teknik Pengendalian Terpadu Penyakit Kerdil Kuning Padi Tertular Wereng Cokelat di Indonesia untuk Mendukung Program Ketahanan Pangan Nasional. Laporan Akhir Penelitian Strategis Nasional.

Sun, F., Yuan, X., Xu, Q., Zhou, T., Fan, Y. and Zhou, Y., 2013. Overexpression of rice black - streaked dwarf virus p7 - 1 in Arabidopsis results in male sterility due to non - dehiscent anthers. PloS one 8, e79514

Suranto. 2004. Pengelolaan Virus Tungro Melalui Pendekatan Bioteknologi. Status dan Program Penelitian Pengendalian Terpadu Penyakit Tungro. p. 15-25. In A. Hasanuddin, I.N. Widiarta dan Sunihardi (eds.), Strategi Pengendalian Penyakit Tungro: Status dan Program, Prosiding Seminar Nasional Status Program Penelitian Tungro Mendukung Keberlanjutan Produksi Padi Nasional. Makassar, 7–8 September 2004.

Seidman L.A.,Moore C.J. 2000. Basic laboratory for biotechnology: Textbook and laboratory reference. Prentice Hall, Inc.,New Jersey.

Toriyama, S., Kimishima, T., and M. Takahashi, 1997, “The protein encoded by rice grassy stunt virus RNA5 and RNA6 are only distantly related to the corresponding proteins of other members of the genus Tenuivirus”. Journal of General Virology. 78: 2355-2363.

Untung, K. 2000. Pelembagaa pengendalian hama terpadu Indonesia. Jurnal Perlindungan Tanaman Indonesia 6(1): 1–8.

Wang, B.X., Jiang, L., Chen, L.M., Lu, B.G., Wang, Q., Fan, J.W., Cheng, X.N., Zhai, H.Q., Yong, X.D. and Wan, J.M., 2010. Screening of rice resources against rice black - streak ed dwarf virus and mapping of resistant QTL. Acta Agron Sin 36, 1258 - 1264.

Wrolstad, R.E., T.E Acree, E.A. Decker, M.H.Penner, D.S.Reid, S.J. Schwartz, C.F. Shoemaker, D.M. Smith and P.Spons. 2000. *Handbook of food analytical chemistry*. John Wiley & Sons, Inc. Canada.

Widiarta, I.N. 2005. Wereng Hijau (*Nephotettix virescens Distant*.) : Dinamika populasi dan strategi pengendaliannya sebagai vektor penyakit tungro. *Jurnal Litbang Pertanian*, 24 (3): 85-92.

Yan, J.,H. Kudo, I. Uyeda.,S.Y.Lee.,& E. Shikata.1992. Conserved terminal sequences of rice ragged stunt virus genomic RNA. J. Gen. Virol. 73:785-789.

Yudistian. 2012. Gel Electrophoresis (SDS-PAGE). *https://doctorstory.wordpress.com/2012/03/17/gel-electrophoresis-sds-page/.* Diakses tanggal 20 mei 2018.

Yee Siew Fung, Chu Chia Huay, Evenni Poili, Magdline Sia Henry Sum. 2016. *Expression and the antigenicity of recombinant coat proteins of tungro viruses expressed in Escherichia coli*. Journal of Virological Methods. http:///dx.doi.org/doi:10.1016/j.jviromet.2016.12.001. 6-0934(16)30084-2

Zadoks, C.J. and R.D. Schein, 1979, *Epidemiology and Plant Disease Management*. New York: Oxford University Press. 427 pp.

Zhang, H.M., Yng, J., Chen, J.P., and Adams, M.J., 2008, “A black-streaked drarf disease on rice in China is caused by a novel fijivirus”, Arch. Virol. 153: 1893-1898.

Zhang, H. M., Chen, J. P., Lei, J. L. and Adams, M. J. (2001). *Sequence analysis shows that a dwarfing disease on rice, wheat and maize in china is caused by rice black-streaked dwarf virus. Eur J Plant Pathol* 107: 563-567.

Zhang, C., Liu, Y., Liu, L., Lou, Z., Zhang, H., Miao, H., Hu, X., Pang, Y. and Qiu, B., 2008. Rice black streaked dwarf virus P9 - 1, an α - helical protein, self - interacts and forms viroplasms in vivo. J. Gen. Virol. 89 , 1770 - 1776.

Zheng, T., Yang, J., Zhong, W., Zhai, H., Zhu, L., Fan, F., Ali, A.J., Yang, J., Wang, J. and Zhu, J., 2012. N ovel loci for field resistance to black - streaked dwarf and stripe viruses identified in a set of reciprocal introgression lines of rice (Oryza sativa L.). Mol. Breed. 29, 925 - 938.