**DAFTAR PUSTAKA**

Agriflo. 2012. *Cabai:* Prospek Bisnis dan Teknologi Mancan Negara. Jakarta: Penebar Swadaya Grup.

Akin HM & Nurdin M. 2003. Pengaruh infeksi TMV (*Tobacco mosaic viru*s) terhadap pertumbuhan vegetatif dan generatif beberapa cabai merah. Jurnal.Hama Penyakit Tanaman 3(1): 10-12

Akin, H. M. 2006.*Virologi Tumbuhan*. Yogyakarta.Kanisius.

AVRDC. 2003. Evaluation of phenotypic and molecular criteria for the identification for *Colletotrichum* species causing Pepper Antrachnose in Taiwan, p. 58-59.

Badan Pusat Statistik. 2019. Produksi cabai besar, cabai rawit, dan bawang merah. Statistik Indonesia. Jakarta.

Badawy MEI, El-Aswad A. 2012.Insecticidal activity of chitosans of different molecular weights and chitosan-metal complexes against cotton leafworm *Spodoptera littoralis* and oleander aphid *Aphis nerii*. *Plant Protection Sci- ence* 48:131–141.

Bell, AA. 1988. Biochemical mechanisms of diseases resistance. Annual Review Plant Physiology. 32: 21-28.

Benhamou N & G Theriault. 1992. Treatment with chitosan enhances resistence of tomato plants to the crown and root pathogen *Fusarium oxysporum* f. sp. radicislycopersici. Physiol. Mol. Plant Pathol. 41: 34-52.

Bock KR. 1982. Geminivirus disease. Plant Dis 66:266-270.

Boonlertnirun S, Boonraung C & Suvanasara R. 2008. Application of chitosan in rice production.*J Met Mater Miner*. 18:47-52.

BPS, 2011. Laporan Ringkas Studi Cabai. Laporan Bulanan Data Sosial Ekonomi. Edisi 9. Jakarta: Badan Pusat Statistik.

Chirkov SN. 2002. The antiviral activity of chitosan (review). *Applied Biochemis- try and Microbiology.*38:1-8.

Chirkov, SN, Ilina A V, Surgucheva NA, Letunova E V, Varitsev YA, Tatarinova NY & Varlamov VP. 2001, „Effect of chitosan on systemic viral in- fection and some defense responses in potato plants‟, Russian Journal of Plant Physiology. 48 (6):774–779.

Damayanti TA, Haryanto, Wiyono S. 2013. Pemanfaatan kitosan untuk pengen- dalian *Bean common mosaic virus* (BCMV) pada kacang panjang. *Jurnal Hama dan Penyakit Tumbuhan Tropika.*13(2):110-116.

De Barrow P J, Hidayat SH, Frohlich D, Subandiyah D & Shigenori U. 2008. A virus and its vector, *Pepper Yellow Leaf Curl Virus* and *Bemisia tabac*i, two new Invaders of indonesia. Biological Invasions 10 (4): 411-433.

Diaz J, Pomar F, Bernali A & Merino F. 2004. Peroxidases and metabolism of capsaicin in Capsicum anuum L. Phytochemistry Reviews. 3: 141-157.

Direktorat Jenderal Hortikultura (2007) Rujukan pengembangan agribisnis hortikultura . Departemen Pertanian.

Dolores LM. 1996. Management of pepper viruses. Proceeding of the AVNET II Midterm Workshop AVRDC, ADB and PCARRD.

Duriat A S, Gunaneni N & Wulandari. 2004. Induksi resistensi sistemik terhadap virus dan vektor virus CMV. Laboran Penelitian APBN. J.3.(1): 20 .

Duriat A S, Neni G. & Astri W W. (2007). Penyakit penting pada tanaman cabai dan pengendaliannya.Balai Penelitian Tanaman Sayuran Pusat Penelitian dan Pengembangan Hortikultura Badan Penelitian dan Pengembangan Pertanian.

Duriat A S. 2009. Pengendalian penyakit kuning keriting pada tanaman cabai kecil. Balai Penelitian Tanaman Sayuran. Bandung.

Duriat, A.S. 1996. Penyegahan penyakit virus pada tanaman tomat.Prosedin Seminar Ilmia Nasional *Komoditas Sayuran*.Batista PFI Komda Bandung CIBA *Plant Protection*. 575-581.

Edwards, M. C., D. Gonsalves. 1999. Grouping seven biologically defined iso- lates of Cucumber mosaic virus (CMV) by peptide mapping. Phytopatholo- gy 73: 1117-1120.

El Hadrami, A, Adam, LR, El Hadrami, I & Daayf, F 2010. Chitosan in plant protection‟, Marine Drugs, 8 (4): 968–987.

El-Mougy NS, Abdel-Kader MM, Lashin SM & Megahed AA. 2013. Fungicides alternatives as plant resistance inducers against foliar diseases incidence of some vegetables grown under plastic houses conditions. International Journal of Engineering and Innovative Technology (IJEIT). 3:71-81.

Faoro F, Sant S, Iriti M, Appiano A. 2001. Chitosan-elicited resistance to plant viruses: a histochemical and cytochemical study. Di dalam: Muzzarelli RAA, editor. *Chitin Enzymology*. Grottammare, Italy. P:57–62.

Finetti Sialer M M, Cillo F, Barbarossa F, & Gallitelli D. 1999. Differentiation of *Cucumber mosaic virus* subgroups by RT-PCR RFLP. *J Plant Pathol.*81: 145-148.

Gonçalves MC (2010) An update on sugarcane viruses etiology and reflects on cultivar breeding programs. *Tropical Plant Pathology* 35, 54-57.

Gonçalves MC, Vega J, Oliveira JG & Gomes MMA. 2005, *Sugarcane yellow leaf virus* infection leads to alterations in photosynthetic effici-ency and car- bohydrate accumulation in sugarcane leaves, *Fitopatol. Bras*.30(1):1-15.

Gunaeni N, & Wulandari AW. 2010. Cara Pengendalian nonkimiawi terhadap serangga vektor kutu daun dan intensitas serangan penyakit virus mosaik pada tanaman cabai merah. *Jurnal Hortikultura,* 20(204):368-376.

Hamdayanty, Yunita R, Amin NN & Damayanti TA, 2012. Pemanfaatan kitosan untuk mengendalikan antraknosa pada pepaya (*Colletotrichumgloeo- sporoides*) dan meningkatkan daya simpan buah.*J Fitopatol Indones* 8(4):97-102.

Harianingsih, 2010. Pemanfaatan limbah cangkang kepiting menjadi kitosan sebagai bahan Pelapis (Coater) pada buah stroberi. Tesis. Program Magister Teknik Kimia Universitas Diponegoro Semarang.

Harpenas, Asep & Dermawan R. 2010. Budidaya Cabai Unggul. Penebar Swadaya. Jakarta.

Harrison BD. 1985. Advances in geminiviruses research. *Annu. Rev. Phytopathol*. 23:55-82

Hidayat S H (2003). Rangkuman hasil penelitian Gemini virus di Indonesia. Sebagai bahan diskusi untuk menghadapi peningkatan infeksi gemini virus pada cabai. Makalah pada Seminar Sehari Pengenalan dan Pengendalian Pen- yakit Virus Pada Cabai. Dir. Perlindungan Hortikultura. Dir. Jen. Bina Produksi Hortikultura. Jakarta.

Hidema J, Makino A, Kurita Y, Mae T & Ohjima K. 1992. Changes in the level of chlorophyll and light-harvesting chlorophyll a/b protein PS II in rice leaves agent under different irradiances from full expansion through senescense, Plant Cell Physiol 33(8):1209-1214.

Iriti M, Castorina G, Vitalini S, Mignani I Soave C, Fico G & Faoro F. 2010. Chitosan induced ethyleneindependent resistance does not reduce crop yield in bean. *Biol Control,* 54: 241–247.

Iriti M, Sironi M, Gomarasca S, Casazza AP, Soave C, & Faoro F. 2006. Cell death mediated antiviral effect of chitosan in tobacco. Plant Physiol Biochem, 44: 893-900.

Jackai LEN. 1983. Efficacy of insecticide application at different times of dayagainst the legume pod borer *Maruca vitrata* (FAB) (Lepidoptera: Pyra- lidae), on cowpea in Nigeria. *Journal of Environmental Protectionand Ecology*. 5:245-51.

Kaper J M & Waterworth H E. 2001. Cucumoviruses. In: E. Kurstak (ed.) Hand- book of Plant Virus Infections: Comparative Diagnosis. Elsevier/North Holland Biomedical Press. pp: 257-332.

Kar M & Mishra D. 1976. Catalase, peroxidase and polyphenol oxidase activities during rice leaf senescence. Plant Physiol. 57:315-319.

Kementerian Pertanian. 2019. Pusat data dan sistem informasi pertanian kementerian pertanian republik indonesia. Jakarta.

Kulikov SN, Chirkov SN, Ilina AV, Lopatin SA & Varlamov VP. 2006. Effect of the molecular weight of chitosan on its antiviral activity in plants. *Applied- Biochemistry and Microbiology.*42(2):224–228.

Laemmlen F. 2004. Viruses in pepper. Central coast agriculture highlights. Santa Barbara county. University of California Cooperative Extension.

Lanca & Brinado F. 2010. Pengaruh perlakuan kitosan terhadap pertumbuhan tanaman kedelai (*Glycine max*) selama fase vegetatif dan awal fase generatif departemen teknologi hasil perairan fakultas perikanan dan ilmu kelautan institut pertanian bogor.skripsi. Bogor.

Li Y, Yin H, Wang Q, Zhao X, DU Y, & Li F. 2009. Oligochitosan induced Bras- sica napus L production of NO and H2O2 and their phisiological function. Carbohydrate Polymers 75(4): 612- 617.

Lucas, GP 1975, Disease of tobacco, Harold E. Parker and Sons Raleigh, Nort Carolina. Mada University Press, pp.198., Yogyakarta.

Mardiyah K & Kartika D. 2011.Sintesis dan karakterisasi fisika-kimia kitosan. *Jurnal Inovasi* 5 (1) : 42

Matthews, R. E. F. 2002. Plant Virology. 4th Ed. Academic Press. San Francisco.

Megasari D, Damayanti TA, Santoso S. 2015. Pengendalian *Aphis cracccivora Koch.* dengan kitosan dan pengaruhnya terhadap penularan *Bean common mosaic virus* strain Black eye cowpea (BCMV-BIC) pada kacang panjang. Jurnal Entomologi Indonesia.11:72-80.

Mondal A M M, Dafader N C, Ilias K R & Haque M E. 2011. Effect of foliar application of chitosan on growth and yield in indian spinach*. J. Agrofor. Environ.* 5 (1): 99-102

Mondal, A. M. M., Puteh, A. B., Dafader, N. C., Rafii, M. Y., & Malek, M. A. 2013. Foliar application of chitosan improves growth and yield in maize*. Journal of Food, Agriculture & Environment*. 11 (2): 520-523.

Monica S , Pinem M & Oemry S.2017. Hubungan antara populasi kutu kebul (*Bemisia tabaci* Genn.) dan kejadian penyakit kuning pada tanaman cabai (*Capsicum annum*L.).*Jurnal Agroekoteknologi FP USU. 5. (110): 847- 854.*

Najah L N, Suhartanto M R & Widodo. 2016. Pengendalian *Colletotrichum* spp. terbawa benih cabai dengan paparan gelombang mikro. *J. Patologi Indonesia*, 12 (4): 115 – 123.

Natawigena, H. 1993. Dasar-dasar perlindungan tanaman. Penerbit Trigenda Karya. Bandung.

Naylor M, Murphy AM, Berry JO, & Carr JP. 1998. Salicylic acid can induce resistance to plant virus movement. *Molecular Plant Microbe Interac*. 11:860-866.

No, HK, Lee S H, Park N Y & Meyers SP . 2003. Comparison of phsycochemical binding and antibacterial properties of chitosans prepared without and with deprotei ization progress. *Journal of Agriculture and Food Chemistry.* 51:7659-76663

Noordam, D. 1973. Identification of plant viruses methods and experiments. centre for agricultural publishing and documentation, Wageningen.

Noveriza1 R, Gede S, Sri HH & Utomo K. (2012). Penularan potyvirus penyebab penyakit mosaik pada tanaman nilam melalui vektor *Aphis gossypii*. *J Fitopatologi Indonesia*. 8 (3): 65-72.

Nur Aeni, A. 2007. Kajian Kestabilan Produktivitas Cabai Keriting Di Daerah Endemis Virus Kuning dengan Optimalisasi Nutrisi Tanaman.Tesis. UGM.

Nur S I Y .2019.Pengaruh aplikasi berbagai jenis kitosan untuk pengendalian *Tobacco mosaic virus* (TMV) pada tanaman cabai (*Capsicum annum* L.).Skripsi.Fakultas Pertanian, Universitas Jambi.

Palukaitis P, Roossinck M J, Dietzgen RG & Francki RIB 1997. Cucumber mosaic virus. Adv. Virus Res. 41: 281-348.

Polston, J.E. & P.K. Anderson. 1997. The emergence of whitefly transmitted geminiviruses in tomato in western Hemisphere. *Plant Disease* 81(12):1358-1369.

Pospieszny H & Atabekov JG. 1989. Effect of chitosan on the hypersensitive reac- tion of bean to *Alfalfa mosaic virus*. *Plant Science*. 62:29-31.

Pospieszny H, Chirkov S & Atabekov J. 1991.Introduction of antiviral resistance In Pospieszny H .1997.Anti viroid activity of chitosan .*Crop Protection .* 16 (1) : 105- 106.

Puvvada, Yateendra S., Saikishore V & Sudheshnababu S. 2012. Extraction of chitin from chitosan from exoskeleton of shrimp for application in the pharmaceutical industry. International Current Pharmaceutical Journal 1 (9):: 258-263.

Ratulangi M,. Manengkey G S J, & Sembel D T. 2007. Identifikasi penyakit penyakit virus pada tanaman cabe rawit dan tomat. *the World Vegetable Center Sylvia Green Virologist Go Yiming Liao Shanhua*, Tainan, taiwan. Kerjasama Unsrat dan Clemson University.

Rosdiana.2015. Respon pertumbuhan dan produksi tanaman tomat (*Lycopersicon esculentum Mill*.) terhadap pemberian berbagai konsentrasi larutan kitosan. Skripsi. Fakultas Pertanian Universitas Muhammadiyah Jakarta.

Saguez J, Hainez R, Cherqui A, Van WO, Jeanpierre H, Lebon G, Noiraud N, Beaujean A, Jouanin L, Laberche J & Vincent C.2005. Unexpected effect of chitinases on the peach-potato aphid (*Myzus persicae* Sulzer) 40 when delivered via transgenic potato plants (*Solanum tuberosum* Linne) and *in vitro*. *Translational Research.*14(1):57-67.

Saguez J, Vincent C, Giordanengo P. 2008. Chitinase inhibitor and chitin mimetics for crop protection. Pest Technology 2:81–86.

Salami L. 1998.Pemilihan metode isolasi khitin dan ektraksi khitosan dari limbah kulit udang windu (*Phenaus monodon*) dan aplikasinya sebagai bahan koagulasi limbah Cair industri tekstil, Skripsi. Jakarta: Jurusan Kimia F MIPA UI.

Saleh, N, Susilowati, SE, Soerjono & Hari A B 1992, Pengendalian penyakit virus tanaman temba-kau, Pros. Diskusi II Tembakau Besuki NO, Balittas, Malang,

Sanchez-Campos S, Navas-Castillo J, Camero R, Soria C, Diaz JA & Meriones E. 1999. Displacement of *Tomato yellow leaf curl virus* (TYLCV)-Sr by TY- LCV-Is in tomato epidemics in Spain. *Phytopathology* 89:1038-1043.

Shew HD & GB Lucas. 1990. *Compendium of Tobacco Disease*. Amerika (USA) : Aps Press.

Siegel, BZ. 1993. Plant peroxidases: an organismic perspective. Journal Plant Growth Regulation. 12(3): 303-312.

Simanjuntak, Veronica TA. 2012. Pengaruh kitosan terhadap penyakit kerdil hampa pada tanaman padi. Departemen Proteksi Tanaman Fakultas Pertanian Institut Pertanian Bogor skripsi. Bogor.

Sinaga, Meity Suradji. 2006. Ilmu Penyakit Tumbuhan. Jakarta: Penebar Swadaya. Noordam D. 1973.*Identification of plant viruses.Methods & experi- ments*.Wageningen: Center for Agric. Publish. And Documentation.

Sinta N. W. 2014. Inventarisasi Serangga yang Berasosiasi dengan Tanaman Gan- dum (*Triticum aestrivum* L) pada Percobaan Adaptasi Ketinggian Tempat di Lombok Tengah.[*Skripsi*]. Fakultas Pertanian Universitas Mataram. Mata- ram.

Sopandie, D, Chozin, MA, Sastrosumarjo, S, Juhaeti, T & Sahardi 2003, Toleransi padi gogo terha-dap naungan, Hayati 10(2):71–75.

Sopialena.2014. Efektivitas Beberapa cara penularan virus mosaik pada tanaman cabai. *Jurnal AGRIFOR,* 13(2):207-212.

Souza IRPD, Oliveira ED, Peres MA, Oliveria ACD, Purcino AÁC. 2003. Peroxidase activity in maize inbred lines resistant or susceptible to Maize dwarf mosaic virus. Rev Brasil Milho Sorgo. 2(1):1-8.

Stermer, BA. 1995. Molecular regulation of systemic induced resistance. in: Induced Resistance to Disease in Plant. (R Hammerschmidt, and J Kuc, Eds.). Kluwer Academic Publisher, Dordrecht.

Struszczyk MH. 2002. Chitin and chitosan. *Polimery.*47:396-403.

Suastika, G, Natsuaki K T & Sayama H. 2003. Field survey of cucumber mosaic virus satellite RNA in tomato plants in Indonesia. Journal of ISSAAS, The International Society for Southeast Asian Agricultural Sciences 9: 16-21.

Sulandri, S. Suseno, R. Hidayati, H. S. Harjosudarmo, J & Sosromarsono, S. (2006). Deteksi dan Kajian Kisaran Inang Virus Penyebab Penyakit Daun Keriting Kuning Cabai kecil. *Hayati*, 13(1): 5-11.

Suptijah P. 2006. Deskripsi karakteristik fungsional dan aplikasi kitin dan kitosan.Prosiding Seminar Nasional Kitin dan Kitosan.

Suseno R, Hidayat S S, Harjosudarmono J & Sosromarsono. (2003). Respon beberapa kultivar cabai terhadap penyebab penyakit daun keriting kuning cabai. *Prosid. Konggres Nasional XVII*. PFI. Bandung . 6-8 Agustus

Sutic DD,.Ford RE, & Tosic M T. 1999. *Handbook of Plant Virus Disease*. New York:CRCPress

 Taufik M, Hidayat S H, Suastika G, Sumaraw S M & Mandang S. 2007. Ketahanan Beberapa Kultivar Cabai Ter- hadap *Cucumber Mosaic Virus* dan *Chilli Veinal Mottle Virus*. *Jurnal HPT Tropika*, 7(2):130-139.

Taufik M, Hidayat S H, Suastika G, Sumaraw S M & Sujiprihati S. 2005. Kajian *Plant GrowthPromoting Rhizobacteria* sebagai agens proteksi *Cu- cumber mosaic virus* dan *Chilliveinal mottle virus* pada cabai. *Hayati*12(4):139-144.

Taufik M, Sarawa A, Hasan K & Amelia. 2013. Analisis pengaruh suhu dan kelembapan terhadap perkembangan penyakit *Tobacco mosaic virus* pada tanaman cabai. Jurnal Agroteknologi. Universitas Haluoleo. 3 (2)

Taufik M. 2009. Evaluasi ketahanan beberapa varietas cabai terhadap TMV (*To bacco mosaic virus*).*Agriplus* 19 (01): 32-40.

Trisno J, Sri H.H., & Ishak M. 2010. Hubungan strain Geminivirus dan serangga vektor *B. Tabaci* dalam menimbulkan penyakit kuning keriting cabai. *Manggaro*, 11(1):1-7.

Tuhumury G N C & Amanupunya H R D. 2013. Kerusakan tanaman cabai akibat penyakit virus di desawaimital kecamatan kairatu. Jurusan Budidaya Jl. Ir. M Putuhena, kampus Poka, Ambon\ 2(1): 36-42

Turk JE, Breda C, Buffard C, Sallaud C, Esnault RS & Kondorosi A. 1993. Analysis of Peroxidase Gene Expression in an Hypersensitive Response Induced by Pathogenic Bacteria on Alfalfa. Kluwer Academic Publisher, Dordrecht.

Uthairatanakij A, Silva JAT & Obsuwan K. 2007. Chitosan for improving orchid production and quality. *J. Orchid Sci and Biotech* 1: 1-5.

van Loon L C, Pierpoint W S, Boller T H & Conejero V. 1994. Recommendations for naming plant phatogenesis-related proteins. Plant Molecular Biology Report. 12 : 245-264.

Vidhyasekaran, P. 2004. Concise Enclycolpedia of Plant Pathology. Food Product Press and Howard Reference Press. London.

Wahyuni W S & Francki R I B. 1996. Responses of some grain and pasture leg- umes to 16 strains of Cucumber mosaic virus (CMV). Austr. J. Agric. Res. 43: 465-477.

Wang W Q, Natsuaki K T, Okuda S, Teranaka M. 1998. Comparison of Cucumber mosaic virus (CMV) isolates by double stranded RNA analysis. Ann. Phytophathol. Soc. Japan 54: 536-539.

Wiyono S, Syukur M, Prajnanta F, Said G & Harpenas A. 2012. Cabai: Prospek bisnis dan teknologi mancanegara. Jakarta.

Yuliani, Purnama H. & Dewi S. 2006. Identifikasi Kutukebul (Hemiptera: Aleyrodidae) dari Beberapa Tanaman Inang dan Perkembangan Popu- lasinya. *J. Entomol. Ind*., 3(1): 41-49.

Zeng D, Luo X, Tu R. 2012. Application of bioactive coatings based on chitosan for soybean seed protection. International Journal of Carbohydrate Chemistry 20(12):1–5.

Zhang MI, Tan T, Yuan H, Rui C. 2003. Insecticidal and fungicidal activities of chitosan and oligo-chitosan.*Journal of Bioactive and CompatiblePolymers*. 18:391-400.

Zhou, B.W., s.Y. Liu, D.Y. Chen, Q. Yu, J. Yang, and C. Wang. 1992. Peroxidase in relation to varietal resistance to vius disease in rapeseed (Brassica napus). (Abstract). Oil Crops of China 2 : 52-54.