DAFTAR PUSTAKA

Anonim. 2008. *Ekspansi Industri Pulp*: *Cara Optimis Penghancuran Hutan Alam*. Retrieved from www.fwi.or.id

Buszewski, B., Bukowska, M., Ligor, M., & Staneczko-Baranowska, I. (2019). *a Holistic Study Of Neonicotinoids Neuroactive Insecticides—Properties, Applications, Occurrence, And Analysis.* Environmental Science and Pollution Research, *26*(34), 34723–34740. doi: 10.1007/s11356-019-06114-w

Casida, J. E., & Durkin, K. A. 2013. *Neuroactive Insecticides: Targets, Selectivity, Resistance, and Secondary Effects. In Annual Review of Entomology* (Vol. 58, pp. 99–117). doi: 10.1146/annurev-ento-120811-153645

Costa, L. G. 2006. *Current issues in organophosphate toxicology.* In Clinica Chimica Acta (Vol. 366, Issues 1–2, pp. 1–13). doi: 10.1016/j.cca.2005.10.008

Dharma, T. A., & Arya, T. 2024. *Insect Pest Problem in Industrial Forest Plantation and Their Management.* in Maret 2024 Jurnal Pro-Life (Vol. 11, Issue 1). Retrieved from https://ejournal.uki.ac.id/index.php/prolife

Dolui, A. K., & Debnath, M. 2010. *Antifeedant Activity of Plant Extracts to an Insect Helopeltis Theivora.*

Gina, N. B., Iftita, F., & Fani, F. 2024. *Menilik Helopeltis spp. Hama Penting Komoditas Perkebunan di Indonesia.* Agriprima : Journal of Applied Agricultural Sciences, *8*(2), 175–193. doi: 10.25047/agriprima.v8i2.664

Gomez, K. A., & Gomez, A. A. 1984. *Statistical Procedures For Agricultural Research (2nd ed.).*

Hussain, S., Khan, K. A., Shahid, M. R., Ather, T., Khan, L., Bibi, A., Kanwal, S., Ahmad, N. H., & Bugti, A. J. 2024. *Sublethal Impacts of Buprofezin And Pyriproxyfen on Cotton Mealybug Phenacoccus Solenopsis Through Transgenerational Hormesis.* Phytoparasitica, *52*(2), 35. doi: 10.1007/s12600-024-01138-6

Indriati, G., Soesanthy, F., & Hapsari, A. D. 2014. *Pengendalian Helopeltis spp. (hemiptera: miridae) pada Tanaman Kakao Mendukung Pertanian Terpadu Ramah Lingkungan the Pest Management Of Helopeltis Spp.* (hemiptera: miridae) in cocoa to support integrated agriculture environment friendly.

Izawa, Y., Uchida, M., Sugimoto, T., & Asai, T. 1985. *Inhibition of Chitin Biosynthesis by Buprofezin Analogs In Relation to Their Activity Controlling Nilaparvata Lugens.* in Pesticide Biochemistry And Physiology (Vol. 24).

Jeschke, P., Nauen, R., Schindler, M., & Elbert, A. 2011. *Overview of the status and global strategy for neonicotinoids*. Journal of Agricultural and Food Chemistry, *59*(7), 2897–2908. doi: 10.1021/jf101303g

Latifah, S. 2004. *Pertumbuhan dan Hasil Tegakan Eucalyptus Grandis di Hutan Tanaman Industri*.

Li, P., Gou, C., & Feng, H. 2025. *Biology and Ecology of Lygus pratensis (Linn, 1758) (Heteroptera: Miridae): Towards the Practical Management of Cropping Landscapes in China.* in Insects (Vol. 16, Issue 5). Multidisciplinary Digital Publishing Institute (MDPI). doi: 10.3390/insects16050441

Mande, S. R. 2021. *Efficacy of Insecticides Against Tea Mosquito Bug, Helopeltis Antonii Signoret n Cashew*. ~ 520 ~ The Pharma Innovation Journal, *11*, 520–523. Retrieved from http://www.thepharmajournal.com

Martin, T., Kamal, A., Gogo, E., Saidi, M., Delétré, E., Bonafos, R., Simon, S., & Ngouajio, M. 2014. *Repellent Effect of Alphacypermethrin-Treated Netting Against Bemisia tabaci (Hemiptera: Aleyrodidae).* Journal of Economic Entomology, *107*(2), 684–690. doi: 10.1603/EC12490

Matsuda, K., Kanaoka, S., Akamatsu, M., & Sattelle, D. B. 2009. *Diverse Actions and Target-Site Selectivity of Neonicotinoids: Structural Insights*. in Molecular Pharmacology (Vol. 76, Issue 1, pp. 1–10). doi: 10.1124/mol.109.055186

Melina, S., Martono, E., Trisyono, Y. A., Moechtar, S., & Radek, R. 2016. *Morphology of Adult Helopeltis bradyi (Heteroptera: Miridae) of Java, Resolving a Longstanding Species Uncertainty*. Retrieved from http://biozoojournals.ro/nwjz/index.html

Mutmainah, S. F., Afifah Lutfi, Adhi, R. S., & Irfan, B. 2025. *Uji Tingkat Resistensi Nilaparvata lugens Asal Lamahabang Karawang Terhadap Insektisida Berbahan Aktif Nitenpiram*.

Prabu, T., Manurung, D. R., & Si, M. 2015. *Adaptasi Masyarakat dalam Merespon Perubahan Fungsi Hutan. in Perspektif Sosiologi* (Vol. 3, Issue 1).

Putri, E. P., Ervayenri, & Insusanty, E. 2022. *Hama Helopeltis theivora pada Tanaman Eucalyptus Pellita di HTI PSPI Distrik Petapahan*.

Rahayu, D. S. 2017. *Jenis-Jenis Insektisida untuk Pengendalian Hama Utama pada Tanaman Kakao*.

Rockwood, D. L., Rudie, A. W., Ralph, S. A., Zhu, J. Y., & Winandy, J. E. 2008. *Energy product options for Eucalyptus species grown as short rotation woody crops*. International Journal of Molecular Sciences, *9*(8), 1361–1378. doi: 10.3390/ijms9081361

Rosianty, Y., Lensari, D., & Aini, A. N. 2024. *Identifikasi Tanaman Eucalyptus pellita (Eucalyptus pellita F.Muell) yang Terserang Hama di PT. Musi Hutan Persada Identification of Eucalyptus pellita Plants (Eucalyptus pellita F.Muell) Attacked by Pests in PT. Musi Hutan Persada. 13*(2), 51–60. doi: 10.32502/sylva.v13i2.9352

Roy, S., Mukhopadhyay, A., & Gurusubramanian, G. 2011. *Resistance to Insecticides in Field-Collected Populations of Tea Mosquito Bug (Helopeltis theivora Waterhouse) From the Dooars (North Bengal, India) Tea Cultivations*.

Safitri, N., & Widiyaningrum, P. 2024. *Analisis Kemampuan Makan dan Mortalitas Ulat Kandang (Alphitobius Diaperinus) Yang Terpapar Ekstrak Daun Lantana (Lantana Camara).* In Universitas Terbuka (Vol. 1, Issue 2).

Sangkut, M., Falahauddin, I., & Restu, P. A. 2017. *Efek Insektisida Piretroid Terhadap Aktivitas Sistem Saraf Pusat Mencit (Mus Musculus L.) dan Sumbangsihnya Pada Materi Sistem Saraf Kelas Xi/Sma/Ma*.

Saputra, P. 2023. *Morphological Character and Essential Oil Content of Eucalyptus Pellita (Eucalyptus pellita).* in Jurnal Agroteknologi Agribisnis dan Akuakultur (Vol. 3, Issue 2).

Shafiq, M., Abubakar, M., Riaz, M., & Shad, S. A. 2024. *Development of alpha-cypermethrin resistance and its effect on biological parameters of yellow fever mosquito, Aedes aegypti (L.) (Diptera: Culicidae).* Parasitology Research, 123(1), 14. doi: 10.1007/s00436-023-08051-7

Simanjuntak, R. G., Harjaka, T., & Wijonarko, A. 2022. *Biology and Demography of Helopeltis bradyi Waterhouse (Hemiptera: Miridae) Reared on Cucumbers.* Jurnal Perlindungan Tanaman Indonesia, *26*(1), 13. doi: 10.22146/jpti.71761

Sogorb, M. A., & VilAnova, E. 2002. *Enzymes involved in the detoxification of organophosphorus, carbamate and pyrethroid insecticides through hydrolysis.* ni Toxicology Letters (Vol. 128). Retrieved from www.elsevier.com/locate/toxlet

Sparks, T. C., & Nauen, R. 2015. IRAC: *Mode of action classification and insecticide resistance management.* Pesticide Biochemistry and Physiology, 121, 122–128. doi: 10.1016/j.pestbp.2014.11.014

Suhaila, Zahrah, S., & Sulhaswardi. 2013. *Perbandingan Campuran Media Tumbuh dan Berbagai Konsentrasi Atonik untuk Pertanaman Bibit (Eucalyptus pellita) Comparizon of Mixed Grow Medya and Various Atonic Concentrations for Seed Planting.* Jurnal Dinamika Pertanian, XXVIII.

Sulichantini, E. D. 2016. *Growth of Eucalyptus pellita F Muell at Land by Using Propagation from Seed with Methods by Using Seeds, Cuttings And Tissue Culture. 41*.

Tomizawa, M., & Casida, J. E. 2003. *Selective Toxicity of Neonicotinoids Attributable to Specificity of Insect and Mammalian Nicotinic Receptors. In Annual Review of Entomology* (Vol. 48, pp. 339–364). doi: 10.1146/annurev.ento.48.091801.112731

Ullah, F., Gul, H., Yousaf, H. K., Xiu, W., Qian, D., Gao, X., Tariq, K., Han, P., Desneux, N., & Song, D. 2019. *Impact of low lethal concentrations of buprofezin on biological traits and expression profile of chitin synthase 1 gene (CHS1) in melon aphid, Aphis gossypii*. Scientific Reports, 9(1), 12291. doi: 10.1038/s41598-019-48199-w

Zhang, F., Zhang, Y.-C., Yu, Z.-T., Zeng, B., Sun, H., Xie, Y.-Q., Zhu, K. Y., & Gao, C.-F. 2024. *the G932C mutation of chitin synthase 1 gene (CHS1) mediates buprofezin resistance as confirmed by CRISPR/Cas9-mediated knock-in approach in the brown planthopper, Nilaparvata lugens*. Pesticide Biochemistry and Physiology, *202*, 105953. doi: 10.1016/j.pestbp.2024.105953

LAMPIRAN

Lampiran 1. Data Rekaptulasi Rata-Rata Mortalitas *Hama Helopeltis bradyi*

Perlakuan	Ulangan	Mortalitas (%)		
		Hari ke 1	Hari ke 2	Hari ke 3
(T0) Kontrol	1	0	0	0
	2	0	0	0
	3	0	0	0
Jumlah (%)		**0**	**0**	**0**
Rata-Rata (%)		**0**	**0**	**0**
(T1) Buprofezin 2ml/l	1	0	0	20
	2	0	20	20
	3	0	0	0
Jumlah (%)		**0**	**20**	**40**
Rata-Rata (%)		**0**	**6,67**	**13,33**
(T2) Dimehipo 2ml/l	1	0	20	40
	2	0	40	60
	3	0	40	60
Jumlah (%)		**0**	**100**	**160**
Rata-Rata (%)		**0**	**33,33**	**53,33**
(T3) Alfa-sipermetrin 2ml/l	1	0	40	80
	2	20	80	100
	3	0	60	100
Jumlah (%)		**20**	**180**	**280**
Rata-Rata (%)		**6,67**	**60**	**93,33**
(T4) Nitenpiram 2ml/l	1	0	100	100
	2	20	80	100
	3	0	80	100
Jumlah (%)		**20**	**260**	**300**
Rata-Rata (%)		**6,67**	**86,67**	**100**

Lampiran 2. Rekapitulasi Data Rata-Rata Severitas Serangan Hama *Helopeltis bradyi* **Pada Pucuk Tanaman Eukaliptus**

Perlakuan	Ulangan	Severitas (%)		
		Hari ke 1	Hari ke 2	Hari ke 3
(T0) Kontrol	1	0	22	56
	2	0	40	70
	3	0	80	90
Jumlah (%)		**0**	**142**	**216**
Rata-Rata (%)		**0**	**47,3**	**72**
(T1) Buprofezin 2ml/l	1	0	14	100
	2	0	11	90
	3	0	0	78
Jumlah (%)		**0**	**25**	**268**
Rata-Rata (%)		**0**	**8,33**	**89,33**
(T2) Dimehipo 2ml/l	1	0	14	43
	2	0	22	56
	3	0	0	8
Jumlah (%)		**0**	**36**	**107**
Rata-Rata (%)		**0**	**12**	**35,67**
(T3) Alfa-sipermetrin 2ml/l	1	0	14	29
	2	0	11	22
	3	0	0	0
Jumlah (%)		**0**	**25**	**51**
Rata-Rata (%)		**0**	**8,33**	**17,00**
(T4) Nitenpiram 2ml/l	1	0	8	8
	2	0	11	11
	3	0	0	0
Jumlah (%)		**0**	**19**	**19**
Rata-Rata (%)		**0**	**6,33**	**6,33**

Lampiran 3. Data Pengamatan Mortalitas Pada Ulangan 1

Ulangan 1							
Tanggal	Jam Pengamatan	Sampel Uji Helopeltis	Mortality				
			Control Air (T0A)	Fastac (T1)	Lugen (T1)	Dimetop (T2)	Artos (T3)
03/09/2025	13:42	5	0	0	0	0	0
	14:42	5	0	0	0	0	0
	15:42	5	0	0	0	0	0
	16:42	5	0	0	0	0	0
Mortalitas %			0%	0%	0%	0%	0%
04/09/2025	08:42	5	0	2	0	1	5
	09:42	5	0	2	0	1	5
	10:42	5	0	2	0	1	5
	11:42	5	0	2	0	1	5
	12:42	5	0	2	0	1	5
	13:42	5	0	2	0	1	5
	14:42	5	0	2	0	1	5
	15:42	5	0	2	0	1	5
	16:42	5	0	2	0	1	5
Mortalitas %			0%	40%	0%	20%	100%
05/09/2025	08:42	5	0	4	1	2	5
	09:42	5	0	4	1	2	5
	10:42	5	0	4	1	2	5
	11:42	5	0	4	1	2	5
	12:42	5	0	4	1	2	5
	13:42	5	0	4	1	2	5
	14:42	5	0	4	1	2	5
	15:42	5	0	4	1	2	5
	16:42	5	0	4	1	2	5
Mortalitas %			0%	80%	20%	40%	100%

Lampiran 4. Data Pengamatan Mortalitas Pada Ulangan 2

Tanggal	Jam Pengamatan	Sampel Uji Helopeltis	Mortality				
			Control Air (T0A)	Fastac (T0B)	Lugen (T1)	Dimetop (T2)	Artos (T3)
15/09/2025	14:37	5	0	0	0	0	0
	15:37	5	0	0	0	0	0
	16:37	5	0	1	0	0	1
Mortalitas %			0%	20%	0%	0%	20%
16/09/2025	08:37	5	0	3	1	2	4
	09:37	5	0	3	1	2	4
	10:37	5	0	4	1	2	4
	11:37	5	0	4	1	2	4
	12:37	5	0	4	1	2	4
	13:37	5	0	4	1	2	4
	14:37	5	0	4	1	2	4
	15:37	5	0	4	1	2	4
	16:37	5	0	4	1	2	4
Mortalitas %			0%	80%	20%	40%	80%
17/09/2025	08:37	5	0	5	1	3	5
	09:37	5	0	5	1	3	5
	10:37	5	0	5	1	3	5
	11:37	5	0	5	1	3	5
	12:37	5	0	5	1	3	5
	13:37	5	0	5	1	3	5
	14:37	5	0	5	1	3	5
	15:37	5	0	5	1	3	5
	16:37	5	0	5	1	3	5
Mortalitas %			0%	100%	20%	60%	100%

Lampiran 5. Data Pengamatan Mortalitas Pada Ulangan 3

Tanggal	Jam Pengamatan	Sampel Uji Helopeltis	Ulangan 3 Mortality				
			Control Air (T0A)	Fastac (T0B)	Lugen (T1)	Dimetop (T2)	Artos (T3)
18/09/2025	10:40	5	0	0	0	0	0
	11:40	5	0	0	0	0	0
	12:40	5	0	0	0	0	0
	13:40	5	0	0	0	0	0
	14:40	5	0	0	0	0	0
	15:40	5	0	0	0	0	0
	16:40	5	0	0	0	0	0
Rata-Rata Mortalitas %			**0%**	**0%**	**0%**	**0%**	**0%**
19/09/2025	08:40	5	0	1	0	0	2
	09:40	5	0	1	0	0	2
	10:40	5	0	2	0	0	2
	11:40	5	0	2	0	0	4
	12:40	5	0	2	0	2	4
	13:40	5	0	3	0	2	4
	14:40	5	0	3	0	2	4
	15:40	5	0	3	0	2	4
	16:40	5	0	3	0	2	4
Rata-Rata Mortalitas %			**0%**	**60%**	**0%**	**40%**	**80%**
20/09/2025	08:40	5	0	4	0	3	5
	09:40	5	0	4	0	3	5
	10:40	5	0	5	0	3	5
	11:40	5	0	5	0	3	5
	12:40	5	0	5	0	3	5
	13:40	5	0	5	0	3	5
	14:40	5	0	5	0	3	5
	15:40	5	0	5	0	3	5
	16:40	5	0	5	0	3	5
Rata-Rata Mortalitas %			**0%**	**100%**	**0%**	**60%**	**100%**

Lampiran 6. Data Pengamatan Tingkat Keparahan Pucuk Tanaman (Severitas) Ulangan 1

Tanggal	Jam Pengamatan	Control Air (T0A)		Fastac (T0B)		Lugen (T1)		Dimetop (T2)		Artos(T3)	
		Terserang	Total Pucuk	Terserang	Total Pucuk	Terserang	Total Pucuk	Terserang	Total Pucuk	Terserang	Total Pucuk
03/09/2025	13:42	0	9	0	14	0	10	0	7	0	12
	14:42	0	9	0	14	0	10	0	7	0	12
	15:42	0	9	0	14	0	10	0	7	0	12
	16:42	0	9	0	14	0	10	0	7	0	12
Rata Rata Severitas (%)		0%		0%		0%		0%		0%	
04/09/2025	08:43	2	9	2	14	7	10	1	7	1	12
	09:43	2	9	2	14	7	10	1	7	1	12
	10:43	2	9	2	14	7	10	1	7	1	12
	11:43	2	9	2	14	7	10	1	7	1	12
	12:43	2	9	2	14	7	10	1	7	1	12
	13:43	2	9	2	14	7	10	1	7	1	12
	14:43	2	9	2	14	7	10	1	7	1	12
	15:43	2	9	2	14	7	10	1	7	1	12
	16:43	2	9	2	14	7	10	1	7	1	12
Rata Rata Severitas (%)		22%		14%		70%		14%		8%	
05/09/2025	08:42	5	9	4	14	7	10	3	7	1	12
	09:42	5	9	4	14	10	10	3	7	1	12
	10:42	5	9	4	14	10	10	3	7	1	12
	11:42	5	9	4	14	10	10	3	7	1	12
	12:42	5	9	4	14	10	10	3	7	1	12
	13:42	5	9	4	14	10	10	3	7	1	12
	14:42	5	9	4	14	10	10	3	7	1	12
	15:42	5	9	4	14	10	10	3	7	1	12
	16:42	5	9	4	14	10	10	3	7	1	12
Rata Rata Severitas (%)		56%		29%		100%		43%		8%	

Lampiran 7. Data Pengamatan Tingkat Keparahan Pucuk Tanaman (Severitas) Ulangan 2

Tanggal	Jam Pengamatan	Control Air (T0A)		Fastac (T0B)		Lugen (T1)		Dimetop (T2)		Artos(T3)	
		Terserang	Total Pucuk	Terserang	Total Pucuk	Terserang	Total Pucuk	Terserang	Total Pucuk	Terserang	Total Pucuk
15/09/2025	14:37	0	10	0	9	0	10	0	9	0	9
	15:37	0	10	0	9	0	10	0	9	0	9
	16:37		10	0	9	0	10	0	9	0	9
Rata Rata Severitas (%)		**0%**		**0%**		**0%**		**0%**		**0%**	
16/09/2025	08:37	4	10	1	9	4	10	2	9	1	9
	09:37	4	10	1	9	4	10	2	9	1	9
	10:37	4	10	1	9	4	10	2	9	1	9
	11:37	4	10	1	9	4	10	2	9	1	9
	12:37	4	10	1	9	4	10	2	9	1	9
	13:37	4	10	1	9	4	10	2	9	1	9
	14:37	4	10	1	9	4	10	2	9	1	9
	15:37	4	10	1	9	4	10	2	9	1	9
	16:37	4	10	1	9	4	10	2	9	1	9
Rata Rata Severitas (%)		**40%**		**11%**		**40%**		**22%**		**11%**	
17/09/2025	08:37	7	10	2	9	9	10	5	9	1	9
	09:37	7	10	2	9	9	10	5	9	1	9
	10:37	7	10	2	9	9	10	5	9	1	9
	11:37	7	10	2	9	9	10	5	9	1	9
	12:37	7	10	2	9	9	10	5	9	1	9
	13:37	7	10	2	9	9	10	5	9	1	9
	14:37	7	10	2	9	9	10	5	9	1	9
	15:37	7	10	2	9	9	10	5	9	1	9
	16:37	7	10	2	9	9	10	5	9	1	9
Rata Rata Severitas (%)		**70%**		**22%**		**90%**		**56%**		**11%**	

Lampiran 8. Data Pengamatan Tingkat Keparahan Pucuk Tanaman (Severitas) Ulangan 3

		Ulangan 3									
		Severitas									
Tanggal	Jam Pengamatan	Control Air (T0A)		Fastac (T0B)		Lugen (T1)		Dimetop (T2)		Artos(T3)	
		Terserang	Total Pucuk	Terserang	Total Pucuk	Terserang	Total Pucuk	Terserang	Total Pucuk	Terserang	Total Pucuk
18/09/2025	10:40	0	10	0	11	0	9	0	12	0	8
	11:40	0	10	0	11	0	9	0	12	0	8
	12:40	0	10	0	11	0	9	0	12	0	8
	13:40	0	10	0	11	0	9	0	12	0	8
	14:40	0	10	0	11	0	9	0	12	0	8
	15:40	0	10	0	11	0	9	0	12	0	8
	16:40	0	10	0	11	0	9	0	12	0	8
Rata Rata Severitas (%)		0%		0%		0%		0%		0%	
19/09/2025	08:40	8	10	0	11	5	9	0	12	0	8
	09:40	8	10	0	11	5	9	0	12	0	8
	10:40	8	10	0	11	5	9	0	12	0	8
	11:40	8	10	0	11	5	9	0	12	0	8
	12:40	8	10	0	11	5	9	0	12	0	8
	13:40	8	10	0	11	5	9	0	12	0	8
	14:40	8	10	0	11	5	9	0	12	0	8
	15:40	8	10	0	11	5	9	0	12	0	8
	16:40	8	10	0	11	5	9	0	12	0	8
Rata Rata Severitas (%)		80%		0%		56%		0%		0%	
20/09/2025	08:40	9	10	0	11	7	9	1	12	0	8
	09:40	9	10	0	11	7	9	1	12	0	8
	10:40	9	10	0	11	7	9	1	12	0	8
	11:40	9	10	0	11	7	9	1	12	0	8
	12:40	9	10	0	11	7	9	1	12	0	8
	13:40	9	10	0	11	7	9	1	12	0	8
	14:40	9	10	0	11	7	9	1	12	0	8
	15:40	9	10	0	11	7	9	1	12	0	8
	16:40	9	10	0	11	7	9	1	12	0	8
Rata Rata Severitas (%)		90%		0%		78%		8%		0%	

Lampiran 9. Hasil Analis Varians (Anova) Pada Parameter Rata-Rata Mortalitas dan Severitas

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	Mortalitas	6.536[a]	7	.934	116.714	.000
	Severitas	4.490[b]	7	.641	25.978	.000
Perlakuan	Mortalitas	2.464	4	.616	77.000	.000
	Severitas	1.517	4	.379	15.357	.001
Ulangan	Mortalitas	.016	2	.008	1.000	.410
	Severitas	.061	2	.030	1.228	.343
Error	Mortalitas	.064	8	.008		
	Severitas	.198	8	.025		
Total	Mortalitas	6.600	15			
	Severitas	4.688	15			

a. R Squared = ,990 (Adjusted R Squared = ,982)

b. R Squared = ,958 (Adjusted R Squared = ,921)

Hasil Analisis Varians Rata-Rata Tingkat Mortalitas dan Severitas Hari ke 3 Menggunakan Aplikasi SPSS

Sumber Varians	Derajat Bebas	Jumlah Kuadrat	Kuadrat Tengah	Fhitung	Sig
Perlakuan	4	1,511	0,378	15,427*	,001
Blok	2	0,060	0,030	1,224	,344
Error	8	0,196	0,024		
Total	14	4,473			

Hasil Analisis Varians Rata-Rata Tingkat Mortalitas Hari ke 3

Sumber Varians	Derajat Bebas	Jumlah Kuadrat	Kuadrat Tengah	Fhitung	Sig
Perlakuan	4	2,364	0,616	77,000*	,000
Blok	2	0,016	0,008	1,000	,410
Error	8	0,064	0,008		
Total	14	6,600			

Hasil Analisis Varians Rata-Rata Tingkat Severitas Hari ke 3

Lampiran 10. Uji DMRT Pengaruh Faktor Jenis Bahan Aktif Insektisida Terhadap Mortalitas Hama dan Severitas *Helopeltis Bradyi* Pada Pucuk Tanaman Eukaliptus Pada Hari ke 3

Mortalitas

| | Perlakuan | N | Subset |
			1	2	3
Duncan[a,b]	T0	3	.0000		
	T1	3	.1333		
	T2	3		.5333	
	T3	3			.9333
	T4	3			1.0000
	Sig.		.105	1.000	.388

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = ,008.
a. Uses Harmonic Mean Sample Size = 3,000.
b. Alpha = ,05.

Severitas

| | Perlakuan | N | Subset |
			1	2
Duncan[a,b]	T4	3	.0633	
	T3	3	.1700	
	T2	3	.3567	
	T0	3		.7200
	T1	3		.8933
	Sig.		.060	.214

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = ,025.
a. Uses Harmonic Mean Sample Size = 3,000.
b. Alpha = ,05.

Hasil Uji Lanjut Terhadap Tingkat Mortalitas dan Severitas Menggunakan DMRT (*Duncan's Multiple Range Test)* menggunakan Aplikasi SPSS

Jenis bahan aktif insektisida	Rata-Rata Mortalitas Hama (%)	
(T0) Kontrol	0	a
(T1) Buprofezin 2ml/l	13,33	a
(T2) Dimehipo 2ml/l	53,33	b
(T3) Alfa sipermterin 2ml/l	93,33	c
(T4) Nitenpiram 2ml/l	100	c

Uji DMRT Pengaruh Faktor Jenis Bahan Aktif Insektisida Terhadap Mortalitas Hama *Helopeltis Bradyi* Pada Pucuk Tanaman Eukaliptus Pada Hari ke 3

Jenis bahan akitf insektisida	Severitas (%)	
(T4) Nitenpiram 2ml/l	6,33	a
(T3) Alfa sipermterin 2ml/l	17,00	a
(T2) Dimehipo 2ml/l	35,67	a
(T0) Kontrol	72,00	b
(T1) Buprofezin 2ml/l	89,33	b

Uji DMRT Pengaruh Faktor Jenis Bahan Aktif Insektisida Terhadap Severitas Serangan Hama *Helopeltis Bradyi* Pada Pucuk Tanaman Eukaliptus Pada Hari ke 3

Lampiran 11. Uji Korelasi Terhadap Tingkat Mortalitas Hama dengan Severitas Serangan Hama Terhadap Pucuk Tanaman Eukaliptus

Correlations

		Mortalitas	Severitas
Mortalitas	Pearson Correlation	1	-.953[*]
	Sig. (2-tailed)		.012
	N	5	5
Severitas	Pearson Correlation	-.953[*]	1
	Sig. (2-tailed)	.012	
	N	5	5

*. Correlation is significant at the 0.05 level (2-tailed).

Variabel	r (Koefiesein Korelasi Pearson)	Sig. (p-value)
Tingkat Mortalitas dan Severitas	- 0,953*	0,012

Keterangan : * = Berbeda nyata pada taraf uji 0,05

Hasil Uji Korelasi Antara Mortalitas dan Severitas Menggunakan SPSS

Lampiran 12. Jenis Insektisida yang Digunakan Dalam Penelitian

Insektisida Dengan Bahan Aktif *Alfa-sipermetrin*

Insektisida dengan bahan aktif Buprofrezin

Insektisida dengan kandungan bahan aktif Dimehipo

Insektisida dengan kandungan bahan aktif Nitenpiram

Lampiran 13. Alat-Alat yang digunakan Saat Melakasanakan Penelitian

Sprayer

Kotak Uji

Lampiran 14. Alat dan Bahan yang digunakan dalam proses *Breading* dan *Rearing Helopeltis bradyi*

Stoples

Label, Pen dan Kua

Lampiran 15. Siklus Hidup Hama *Helopeltis bradyi*

Telur (8-10 hari) → Nimfa I (3 hari) → Nimfa II (3 hari) → Nimfa III (3 hari)

Imago (14-30 hari) ← Nimfa V (4 hari) ← Nimfa IV (4 hari)

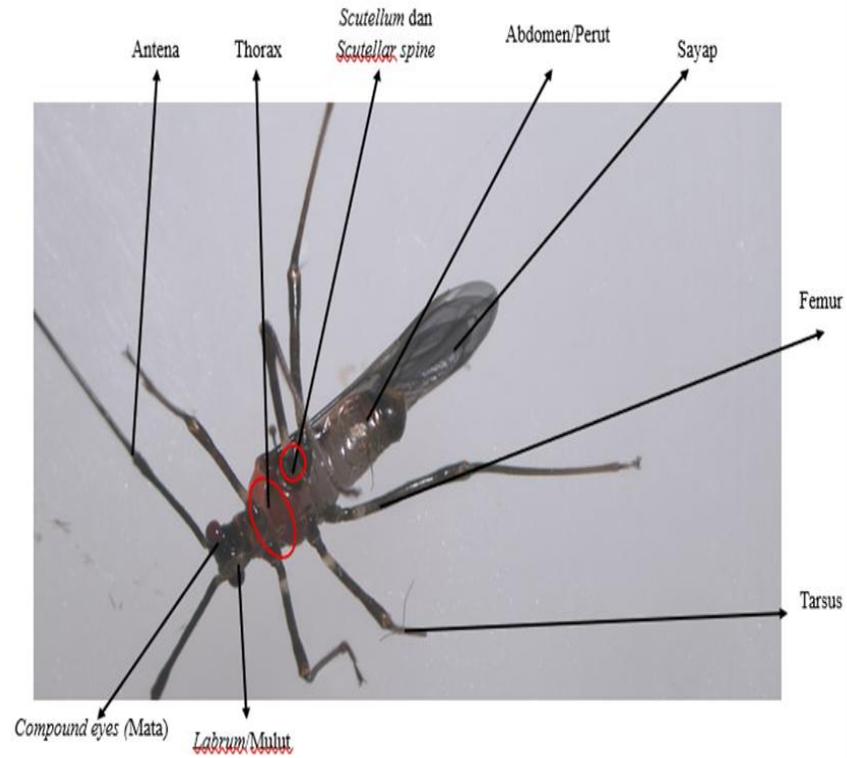**Lampiran 16. Morfologi *Helopeltis bradyi***

Bagian Tubuh Helopeltis   Helopeltis Jantan   Helopeltis Betina