

DAFTAR PUSTAKA

- Al Ghozy, M. R. Soelistyo, A. Kusuma, H. 2017. Analisis Ekspor Kakao Indonesia di Pasar Internasional. *Jurnal Ekonomi*. 1(4), 453-473
- Alves, A. Crous, P. W. Correia, A. Phillips, A. J. L. 2008. Morphological and Molecular Data Reveal Cryptic Speciation in *Lasiodiplodia theobromae*. *Fungal Diversity*. 1-13
- Amin, N. Salam, M. Junaid, M. Asman. Baco, M. S. 2014. Isolation and Identification of Endophytic Fungi from Cacao Plant Resistant VSD M.05 and Cacao Plant Susceptible VSD M.01 in South Sulawesi, Indonesia. *International Journal of Current Microbiology and Applied Sciences*. 3(2), 459-467
- Apriliani. S. H. N. Suciato, E. T. Purwati, E. S. 2020. Identifikasi Jamur Penyebab Penyakit pada Tanaman Sawi Putih (*Brassica rapa* L.) dan Persentase Penakitnya di Desa Serang, Kecamatan Karangreja, Kabupaten Purbalingga. *Bioeksakta: Jurnal Ilmiah Biologi Unsoed*. 2(4), 487-501. <https://doi.org/10.20884/1.bioe.2020.2.3.3394>
- Asman, A. Amin, N. Rosmana, A. Abdullah, T. 2018. Endophytic Fungi Associated with Cacao Branch and Their Potential for Biocontrol *Vascular Streak Dieback* Disease on Cacao Seedling. *IOP Conf. Series: Earth and Environmental Science*. 157, (1-7). <https://doi.org/10.1088/1755-1315/157/1/012039>
- Awan, Q. N., Akgül, D. S., Unal, G. 2016. First Report of *Lasiodiplodia pseudotheobromae* Causing Postharvest Fruit Rot of Lemonin Turkey. *Plant Dis. Notes*. 100, 2327. <http://dx.doi.org/10.1094/PDIS04160512PDN>
- Aziza, N. L. Sari, Noorkomala. Irsalina, S. 2021. Aktivitas Antagonistik Cendawa Endofit Asal Bunga Bawang Dayak (*Eleutherine bulbosa* (Mill.) Urb.) terhadap *Fusarium* sp. yang Menginfeksi Tanaman Cabai. *Jurnal Fitopatologi*. 17(5): 210-215
- Badan Pusat Statistik. 2020. *Statistik Kakao Indonesia 2019*. Direktorat Statistik Tanaman Perkebunan.
- Badan Pusat Statistik. 2022. *Statistik Daerah Provinsi Sulawesi Selatan*. Badan Pusat Statistik Provinsi Sulawesi Selatan
- Bailey, Bryan A. Evans, Harry C. Phillips-mora, Wilbert. Ali, Shahin S. Meinhardt, Lyndel W. 2018. *Moniliophthora roreri*, Causal Agent of Cacao Frosty Pod Rot. *Molecular Plant Pathology*. 19(7): 1580-1594
- Baniya, Sushmita. 2022. *Aspergillus: Morphology, Clinical Features, and Lab Diagnosis*. Microbe Online, Nepal. <https://microbeonline.com/aspergillus-morphology-clinical-features-and-lab-diagnosis/> [Diakses pada: 18 Mei 2023]
- Bragard, C. Baptista, P. Chatzivassiliou, E. Serio, F.D. Gonthier, P. Miret, J. A.J. et al. 2022. Pest Categorisation of *Lasiodiplodia pseudotheobromae*. *EFSA Journal*. 21(1): 7737

- CABI. 2019. Invasive Species Compendium: *Lasiodiplodia theobromae*. 2019. CAB International
- Chen, J., Zhu, Z., Fu, Y., Cheng, J., Xie, J., and Lin, Y. 2021. Identification of *Lasiodiplodia pseudotheobromae* Causing Fruit Rot of Citrus in China. *Plants*. 10, (1-8). <https://doi.org/10.3390/plants10020202>
- Correia, K. C. Silva, M.A. de Moraes, M. A. Armengol, J. Phillips, J.L. Camara, M.P.S. et al. 2016. Phylogeny, Distribution and Pathogenicity of *Lasiodiplodia* Species Associated with Dieback of Table Grape in The Main Brazilian Exporting Region. *Plant Pathology*. 65, 92-103
- Dania, Hasnima S.A. 2018. Perbandingan Laju Pertumbuhan Bibit Buah Kakao Klon S1, S2, dan THR. *Tugas Akhir*. Budidaya Tanaman Perkebunan. Politeknik Pertanian Negeri Pangkep.
- Dissanayake, A. J., Zhang, W., Mei, L., Chukeatirote, E., Yan, J. Y., Li, X. H., & Hyde, K. D. 2015. *Lasiodiplodia pseudotheobromae* causes pedicel and peduncle discolouration of grapes in China. *Australasian Plant Disease Notes*, 10(1), 1–5
- Dwiastuti, ME. Fajri, MN. Yunimar. 2015. Potensi *Trichoderma* spp. sebagai Agens Pengendali *Fusarium* spp. Penyebab Penyakit Layu pada Tanaman Stroberi (*Fragaria x ananassa* Dutch. *J. Hort*. 25(4): 331-339
- EPPO (European and Mediterranean Plant Protection Organization). 2022. *EPPO Global Database*. <https://gd.eppo.int>. Diakses pada tanggal 14 Mei 2023.
- Febbiyanti, T. R. Widodo. Wiyono, S. Yahya, S. 2019. Pengaruh pH dan Waktu Penyimpanan Terhadap Pertumbuhan *Lasiodiplodia theobromae* Penyebab Kanker Batang pada Tanaman Karet. *Jurnal Penelitian Karet*. 37(1):1-10. <https://doi.org/10.22302/ppk.jpk.v37i1.615>
- Gandjar, I., & Sjamsuridjal. 2006. *Mikologi: Dasar dan Terapan*. Jakarta: Yayasan Obor Indonesia.
- Ginting, R.C.B., Sukarno, N., Widyastuti, U., Darusman, L.K., & Kanaya, S. 2013. Diversity of Endophytic Fungi from Red Ginger (*Zingiber dfficinale* Rosc.) Plant and Their Inhibitory Effect to *Fusarium oxysporum* Plant Pathogenic Fungi. *Hayati J. Biosci*. 20(3), 127–137. <http://doi.org/10.4308/hjb.20.3127>.
- Gomdola, D. Jeewon, R. Jayawerdena, RS. Pem, D. Harishchandra, DL. 2020. A New Record of *Lasiodiplodia pseudotheobromae* Causing Leaf Spot of *Cynometra Malaccensis* in Thailand. *Plant Pathology and Quarantine*. 10(1), 223-237. <https://doi.org/10.5943/ppq/10/1/21>
- Hakkar, A.A. Rosmana, A. Rahim, M. D. 2014. Pengendlaian Peyakit Busuk Buah Phytophthora pada Kakao dengan Cendawan Endofit *Thricoderma asperellum*. *Jurnal Fitopatologi Indonesia*. 10(5), 139-144. <https://doi.org/10.14692/jfi.10.5.139>

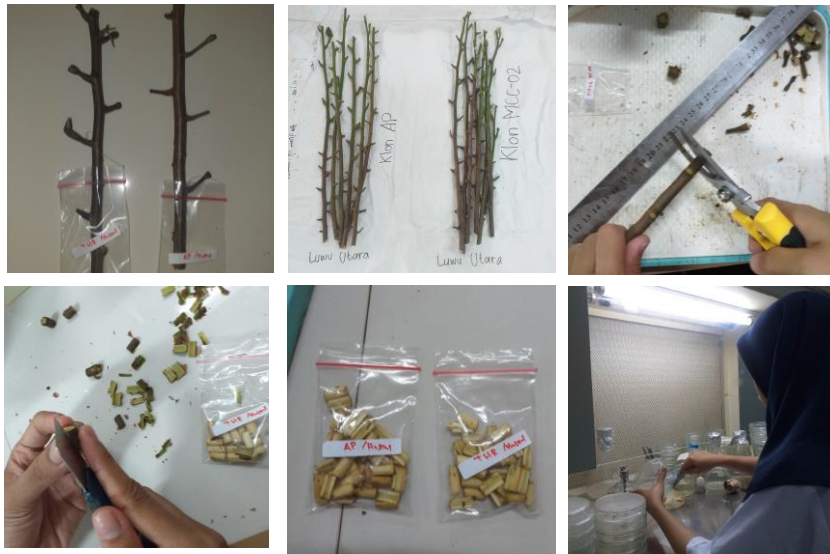
- Harahap, T.F.H. Lubis, Lahmuiddin. Hasanuddin. 2013. Efek Temperatur Terhadap Virulensi Jamur *Colletotrichum gloeosporioides* Penz. Sacc. Penyebab Penyakit Antraknosa pada Tanaman Kakao (*Theobromae cacao* L.). *Jurnal Online Agroekoteknologi*. 2(1): 411-420
- Harni, R. Amaria, Widi. Khaerati. Taufiq, Efi. 2016. Isolasi dan Seleksi Jamur Endofit Asal Tanaman Kakao Sebagai Agens Hayati *Phytophthora palmivora* Butl. *J. TIDP*. 3(3), 141-150.
- Hosseini, B. El-Hasan, A. Link, T. Voegelé, R.T. 2020. Analysis of The Species Spectrum of the Diapoth/Phomopsis complex in European Soybean Seeds. *Mycological Progress*. 19: 455-469. <https://doi.org/10.1007/s11557-020-01570-y>
- Izzah, N. K. Martono, B. Baharuddin. Wardiana, E. 2018. Keragaman Genetik Klon Kakao Lokal Sulawesi Tenggara Berdasarkan Marka SSR dan Karakter Morfologi. *Jurnal Tanaman Industri dan Penyegar*. 5(3), 95-104
- Liswarni, Y. N. Busniah, M. 2018. Ekplorasi Cendawan Endofit dan Potensinya untuk Pengendalian *Phytophthora palmivora* Penyebab Penyakit Busuk Buah Kakao. *Pros Sem Nas Masy Biodiv Indo*. 4(2), 231-235. <https://doi.org/10.13057/psnmbi/m040223>
- Martono, B. (2014). Karakteristik Morfologi dan Kegiatan Plasma Nutfah Tanaman Kakao. *Bunga Rampai: Inovasi Teknologi Bioindustro Kakao*.
- Musdalifa. Asman, A. Rosmana, A. 2021. The response of different fungicides against *Lasiodiplodia pseudotheobromae* causing dieback disease of cacao through in vitro test. *IOP Conf. Series: Earth and environmental Science*. 807, 1-5. <https://doi.org/10.1088/1755-1315/807/2/022091>
- Netto, M. S. B. Lima, W. G. Correia, K. C. Da Silva, C. F. B. Thon, M. Martins, et al. (2017). Analysis of Phylogeny, Distribution, and Pathogenicity of Botryosphaeriaceae Species Associated with Gummosis of *Anacardium* in Brazil, with a New Species of *Lasiodiplodia*. *Fungal Biology*. 121, 437-451. <http://dx.doi.org/10.1016/j.funbio.2016.07.006>
- Nursanti, A. Suciarto, E.T. Mumpuni, A. 2021. Identifikasi Jamur Patogen dan Tingkat Persentase Penyakit Pada Tanaman Selada (*Latuca sativa* L.) di Sentra Tanaman Sayur Desa Serang, Kecamatan Karangreja, Kabupaten Purbalingga. *Jurnal Ilmiah Biologi Unsoed*. 3(1): 9-19
- Phillips, A. J. L., Aves, A., & Crous, P. W. 2008. *Lasiodiplodia pseudotheobromae*. Retrieved from Fungal Diversity website: mycobank.org
- Prasetya, M. Eka, Agung S. Endang, Kusdiyantini. 2014. Eksplorasi Rhizobakteria Indigenous Tanaman Cabai Rawit (*Capsicum frutescens* Linn.) Dari Pertanian Semi Organic Desa Batur Kabupaten Semarang Sebagai Agen Hayati Pengendalian Pertumbuhan Jamur *Fusarium oxysporum* f. sp. *capsici*. *Jurnal Biologi*. 3(3)

- Pratiwi, Andi Wiwi. 2020. Cendawan yang Berasosiasi dengan Hama Penghisap Buah Kakao (*Helopetis* spp.) Di Perkebunan Kakao Desa Gantarang Keke Kecamatan Gantarang Keke Kabupaten Bantaeng. *Skripsi*. Fakultas Pertanian. Universitas Hasanuddin.
- Puspitasari, D. Wibowo, A. Rahayu, S. Prihatini, I. Rimbawanto, A. 2016. Karakter Morfologi Isolat *Phlebiopsis* sp. Jamur Pengendali Hayati yang Potensial untuk *Ganoderma philippii*. *Jurnal Pemuliaan Tanaman Hutan*. 10(1): 51-61
- Rosmana, A. Sjam, S. Dewi, V. S. Asman, A. Fhiqrah, M. 2022. Root and Collar Rot Disease: A New Threat to Young Cacao (*Theobromae cacao* L.) Plants in Sulawesi, Indonesia. *Australasian Plant Pathology*. 51, 475-482
- Rubini, Marciano R. Silva-Ribeiro Rute T. Pomella, Alan W. V. Maki, Cristina S. Araujo, et al. 2005. Diversity of Endophytic Fungal Community of Cacao (*Theobromae cacao* L.) and Biological Control of *Crinipellis pernicioso*, Casual Agent of Witches' Broom Disease. *Int. J. Biol. Sci.* 1, 24-33
- Rubiyo. Purwantara, A. Sudarsono. 2010. Ketahanan 35 Klon Kakao Terhadap Infeksi *Phytophthora palmivora* Bult. Berdasarkan Uji Detached Pod. *Jurnal Littri*, 16(4), 172-178. <https://doi.org/10.21082/jlittri.v16n4.2010.172-178>
- Sadoral, Joan P. Cumagun, Christian Joseph R. 2021. Observations on the Potential of an Endophytic Fungus Associated with Cacao Leaves against *Phytophthora palmivora*. *Microbiology research*. 12, 528-538
- Sahardi dan Djufry, F. 2015. Keragaman Karakteristik Morfologis dan Agronomis Plasma Nutfah Klon Harapan Kakao Lokal Sulawesi Selatan. *Jurnal Littri*. 21(3), 145-152
- Salvatore, M. M. Alves, A. Andolfi, A. 2020. Secondary Metabolites of *Lasiodiplodia theobromae*: Distribution, Chemical Diversity, Bioactivity, and Implications of Their Occurance. *Toxins*. 12(457), 1-29. <https://doi.org/10.3390/toxins12070457>
- Sandra, F. K. Nurhasanah, Y. S. Mutaqin, K. H. Wiyono, S. Tondok, E. T. 2021. Keragaman Morfologi dan Molekuler *Lasiodiplodia theobromae* dari Tanaman Jeruk, Kakao, Karet, Manggis, dan Pisang. *Jurnal Fitopatologi*. 17(2), 58-66
- Septyana, E. dan Taufiq, M. 2022. Analisis Pengaruh Produksi Biji Kakao, Harga Internasional Biji Kakao dan Nilai Tukar Terhadap Ekspor Kakao Olahan. *KINERJA: Jurnal Ekonomi dan Manajemen*. 19(3), 497-505
- Sharma, Anuja. Aggarwal, Neeraj K. Yadav, Anita. 2016. First Report of Lignin Peroxidase Production from *Alternaria alternata* ANF238 Isolated from Rotten Wood Sample. *Bioengineering and Bioscience*. 4(5): 76-87
- Sriwati, R., Melnick, R.L., Muarif, R., Strem, M. D., Samuels, G. J., & Bailey B.A. 2015. *Trichoderma* from Aceh Sumatra Reduce *Phytophthora* Lesions on Pods and Cacao Seedlings. *Biological Control*. 89, 33-41.

- Sukmadewi, D. K. T. dan Nikmah, I. A. 2022. Pengendalian Kapang Patogen Tanaman Kakao (*Theobromae cacao* L.) Menggunakan Konsorium Kapang Tanah (*Trichoderma* spp. dan *Aspergillus* sp.). *Jurnal Agrotek Lestari*. 8(2): 131-139
- Susanna. Sinaga, M. S. Wiyono, S. Triwidodo, Hermanu. 2018. Pemanfaatan Cendawan Antagonis In Situ sebagai Agens Biokontrol *Lasiodiplodia thebromae* Penyebab Dieback pada Pala di Aceh Selatan. *Jurnal Pertanian Tropik*. 5(3), 447-454.
- Susilo, Agung Wahyu. 2013. Peran Petani dalam Pengembangan Klon-Klon Lokal Sulawesi. *Warta: Pusat Penelitian Kopi dan Kakao*. 25(3): 1-6
- Wang, K., Shiwei, W., Bin, W., & Jiguang, W. 2014. Bioactive Natural Compounds from The Mangrove Endophytic Fungi. *In Medicinal Chemistry*, 14: 370-391.
- Zhang, Jiuxu. 2014. *Lasiodiplodia theobromae* in Citrus Fruit (*Diplodia Stem-End Rot*). Chapter 10. Postharvest Decay. Florida Departement of Citrus, Lake Alfred, Florida, USA. <http://dx.doi.org?10.1016/B978-0-12-411552-1.00010-7>










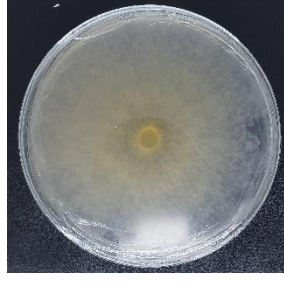
LAMPIRAN




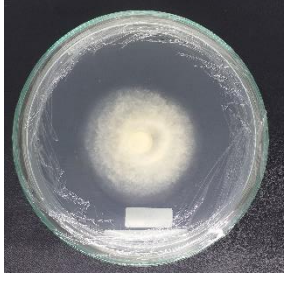
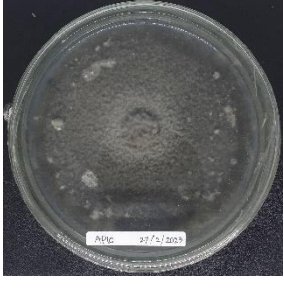
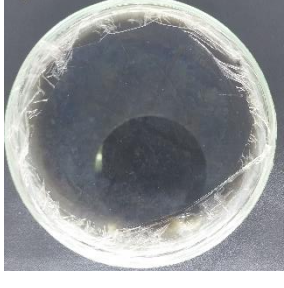
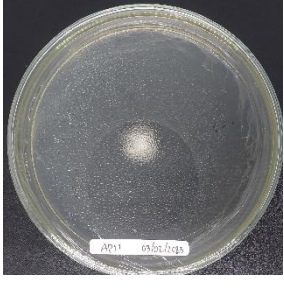

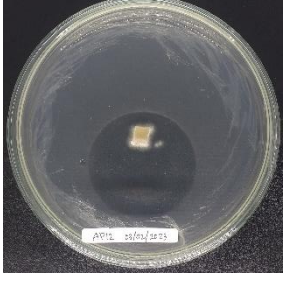
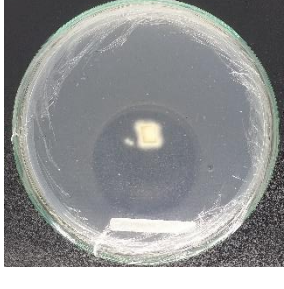
Lampiran 1. Dokumentasi Isolasi Batang Kakao Klon AP, THR dan MCC-02

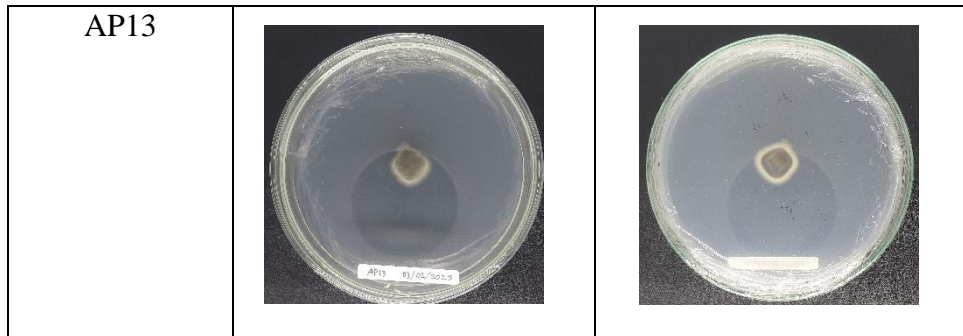


Lampiran 2. Dokumentasi Cendawan Hasil Isolasi Batang Kakao Klon AP

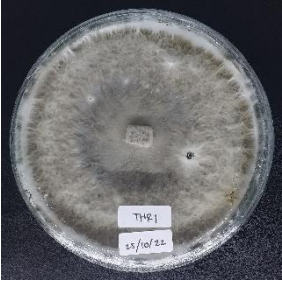
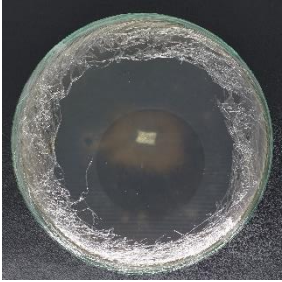
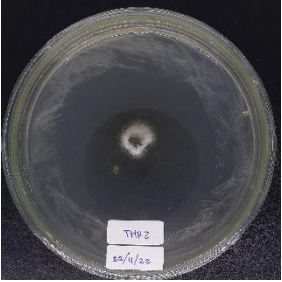
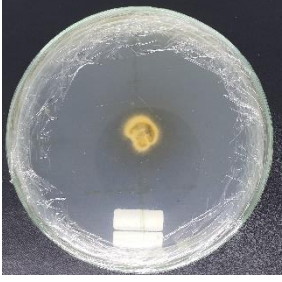
Kode Isolat	Tampak Depan	Tampak Belakang
AP1		
AP2		

<p>AP3</p>	 <p>AP3 01/02/2023</p>	
<p>AP4</p>	 <p>AP4 01/02/2023</p>	
<p>AP5</p>	 <p>AP5 01/02/2023</p>	
<p>AP6</p>	 <p>AP6 01/02/2023</p>	
<p>AP7</p>	 <p>AP7 01/02/2023</p>	



<p>AP8</p>	 <p>A petri dish showing a circular, textured, light-colored growth in the center. A small white label at the bottom center contains the text 'AP8' and '01/12/2013'. Red lines are drawn on the agar surface around the growth.</p>	 <p>A petri dish showing a circular, textured, light-colored growth in the center. Red lines are drawn on the agar surface around the growth.</p>
<p>AP9</p>	 <p>A petri dish showing a circular, textured, light-colored growth in the center. A small white label at the bottom center contains the text 'AP9' and '01/05/2013'.</p>	 <p>A petri dish showing a circular, textured, light-colored growth in the center.</p>
<p>AP10</p>	 <p>A petri dish showing a circular, textured, light-colored growth in the center. A small white label at the bottom center contains the text 'AP10' and '28/12/2013'.</p>	 <p>A petri dish showing a circular, textured, light-colored growth in the center.</p>
<p>AP11</p>	 <p>A petri dish showing a circular, textured, light-colored growth in the center. A small white label at the bottom center contains the text 'AP11' and '05/01/2013'.</p>	 <p>A petri dish showing a circular, textured, light-colored growth in the center. A small white label is visible at the bottom center.</p>
<p>AP12</p>	 <p>A petri dish showing a circular, textured, light-colored growth in the center. A small white label at the bottom center contains the text 'AP12' and '28/01/2013'.</p>	 <p>A petri dish showing a circular, textured, light-colored growth in the center. A small white label is visible at the bottom center.</p>

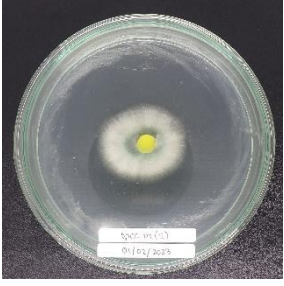
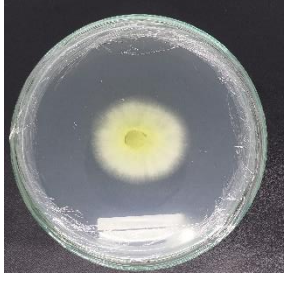

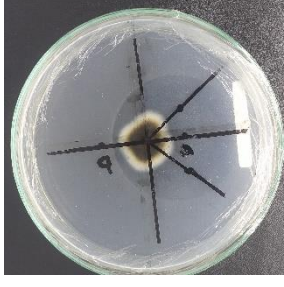


Lampiran 3. Dokumentasi Cendawan Hasil Isolasi Batang Kakao Klon THR

Kode Isolat	Tampak Depan	Tampak Belakang
THR1		
THR2		

Lampiran 4. Dokumentasi Cendawan Hasil Isolasi Batang Kakao Klon MCC-02

Kode Isolat	Tampak Depan	Tampak Belakang
MCC-02(1)		

MCC-02(2)		
MCC-02(3)		

Hasil Analisis Daya Hambat Cendawan terhadap Patogen

Lampiran 37. Daya Hambat Cendawan yang Berasosiasi dengan Kakao Klon AP Terhadap *L. theobromae* Pengamatan 24 jam

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x AP1	8	4	0	0	12	3
<i>L. theobromae</i> x AP2	5	0	0	4	9	2.25
<i>L. theobromae</i> x AP3	12	13	17	4	46	11.5
<i>L. theobromae</i> x AP4	7	0	10	0	17	4.25
<i>L. theobromae</i> x AP5	15	4	0	0	19	4.75
<i>L. theobromae</i> x AP6	6	0	6	0	12	3
<i>L. theobromae</i> x AP7	8	15	4	4	31	7.75
<i>L. theobromae</i> x AP8	0	12	12	4	28	7
<i>L. theobromae</i> x AP9	7	10	15	6	38	9.5
<i>L. theobromae</i> x AP10	0	12	4	0	16	4
<i>L. theobromae</i> x AP11	0	5	0	0	5	1.25
<i>L. theobromae</i> x AP12	5	0	0	0	5	1.25
<i>L. theobromae</i> x AP13	0	0	0	0	0	0
Kontrol <i>L. theobromae</i>	13	7	0	0	20	5
Total	86	82	68	22		
Jumlah					258	64.5

Lampiran 38. Sidik Ragam daya hambat cendawan yang berasosiasi dengan Kakao Klon AP Terhadap *L. theobromae* Pengamatan 24 Jam

SK	DB	JK	KT	F Hitung	Ket	F tabel	
						0.05	0.01
Perlakuan	13	568.86	43.758	2.027	*	1.96	2.59
Galat	42	906.50	21.583				
Total	55	1475.26					
KK	0.072						

Data

Tukey HSD

Perlakuan	N	Subset
		1
AP13	4	.0000
AP11	4	1.2500
AP12	4	1.2500
AP2	4	2.2500
AP1	4	3.0000
AP6	4	3.0000
AP10	4	4.0000
AP4	4	4.2500
AP5	4	4.7500
KONTROL	4	5.0000
AP8	4	7.0000
AP7	4	7.7500
AP9	4	9.5000
AP3	4	11.5000
Sig.		.057

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 21.583.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 39. Daya Hambat Cendawan yang Berasosiasi dengan Kakao Klon AP Terhadap *L. theobromae* Pengamatan 48 Jam

Perlakuan	48 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x AP1	0	0	0	0	0	0
<i>L. theobromae</i> x AP2	17	10	13	10	50	12.5
<i>L. theobromae</i> x AP3	23	33	30	20	106	26.5
<i>L. theobromae</i> x AP4	0	0	0	0	0	0
<i>L. theobromae</i> x AP5	0	0	0	0	0	0
<i>L. theobromae</i> x AP6	13	17	7	10	47	11.75
<i>L. theobromae</i> x AP7	23	23	23	20	89	22.25
<i>L. theobromae</i> x AP8	27	27	23	23	100	25
<i>L. theobromae</i> x AP9	17	13	17	23	70	17.5
<i>L. theobromae</i> x AP10	0	0	0	0	0	0
<i>L. theobromae</i> x AP11	0	0	0	0	0	0

<i>L. theobromae</i> x AP12	0	0	0	0	0	0
<i>L. theobromae</i> x AP13	0	0	0	0	0	0
Kontrol <i>L. theobromae</i>	0	0	0	0	0	0
Total	120	123	113	106		
Jumlah					462	115.5

Lampiran 40. Sidik Ragam daya hambat cendawan yang berasosiasi dengan kakao klon AP terhadap *L. theobromae* pengamatan 48 jam

SK	DB	JK	KT	F Hitung	Ket	F tabel	
						0.05	0.01
Perlakuan	13	5880	452.380	70.229	**	1.96	2.59
Galat	42	270.50	6.440				
Total	55	6150.50					
KK	0.022						

Data

Tukey HSD

Perlakuan	N	Subset			
		1	2	3	4
AP1	4	.00			
AP10	4	.00			
AP11	4	.00			
AP12	4	.00			
AP13	4	.00			
AP4	4	.00			
AP5	4	.00			
KONTROL	4	.00			
AP6	4		11.75		
AP2	4		12.50		
AP9	4		17.50	17.50	
AP7	4			22.25	22.25
AP8	4				25.00
AP3	4				26.50
Sig.		1.000	.115	.343	.518

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 6.440.

a. Uses Harmonic Mean Sample Size = 4.000.

Lampiran 41. Daya hambat cendawan yang berasosiasi dengan kakao klon THR terhadap *L. theobromae* pengamatan 24 jam

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x THR1	24	23	28	31	106	26.5
<i>L. theobromae</i> x THR2	4	4	7	0	15	3.75
Kontrol <i>L. theobromae</i>	13	7	0	0	20	5
Total	41	34	35	31		
Jumlah					141	35.25

Lampiran 42. Sidik Ragam daya hambat cendawan yang berasosiasi dengan kakao klon THR terhadap *L. theobromae* pengamatan 24 jam

SK	DB	JK	KT	F Hitung	Ket	F tabel	
						0.05	0.01
Perlakuan	2	1308.5	654.250	32.045	**	4.26	8.02
Galat	9	183.75	20.417				
Total	11	149.25					
KK	0.128						

Data

Tukey HSD

Perlakuan	N	Subset	
		1	2
THR2	4	3.7500	
KONTROL	4	5.0000	
THR1	4		26.5000
Sig.		.920	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 20.417.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 43. Daya hambat cendawan yang berasosiasi dengan kakao klon THR terhadap *L. theobromae* pengamatan 48 jam

Perlakuan	48 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x THR1	37	37	40	43	157	39.25
<i>L. theobromae</i> x THR2	0	0	0	0	0	0
Kontrol <i>L. theobromae</i>	0	0	0	0	0	0
Total	37	37	40	43		
Jumlah					157	39.25

Lampiran 44. Sidik ragam daya hambat cendawan yang berasosiasi dengan kakao klon THR terhadap *L. theobromae* pengamatan 48 jam

SK	DB	JK	KT	F	Ket	F tabel	
				Hitung		0.05	0.01
Perlakuan	2	4108.17	2054.083	746.939	**	4.26	8.02
Galat	9	24.75	2.750				
Total	11	4132.92					
KK		0.042					

Data

Tukey HSD

Perlakuan	N	Subset	
		1	2
KONTROL	4	.00	
THR2	4	.00	
THR1	4		39.25
Sig.		1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 2.750.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 45. Daya hambat cendawan yang berasosiasi dengan kakao klon MCC-02 terhadap *L. theobromae* pengamatan 24 jam

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x MCC-02(1)	4	8	8	8	28	7
<i>L. theobromae</i> x MCC-02(2)	0	9	0	8	17	4.25
<i>L. theobromae</i> x MCC-02(3)	0	0	0	0	0	0
Kontrol <i>L. theobromae</i>	13	7	0	0	20	5
Total	17	24	8	16		
Jumlah					65	16.25

Lampiran 46. Sidik ragam daya hambat cendawan yang berasosiasi dengan kakao klon MCC-02 terhadap *L. theobromae* pengamatan 24 jam

SK	DB	JK	KT	F		F tabel	
				Hitung	Ket	0.05	0.01
Perlakuan	3	104.19	34.729	2.055	tn	3.49	5.95
Galat	12	202.75	16.896				
Total	15	306.94					
KK		0.253					

Lampiran 47. Daya hambat cendawan yang berasosiasi dengan kakao klon MCC-02 terhadap *L. theobromae* pengamatan 48 jam

Perlakuan	48 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x MCC-02(1)	23	23	23	27	96	24
<i>L. theobromae</i> x MCC-02(2)	10	10	0	0	20	5
<i>L. theobromae</i> x MCC-02(3)	0	0	0	0	0	0
Kontrol <i>L. theobromae</i>	0	0	0	0	0	0
Total	33	33	23	27		
Jumlah					116	29

Lampiran 48. Sidik ragam daya hambat cendawan yang berasosiasi dengan kakao klon MCC-02 terhadap *L. theobromae* pengamatan 48 jam

SK	DB	JK	KT	F		F tabel	
				Hitung	Ket	0.05	0.01
Perlakuan	3	1566.00	521.00	1.762	tn	3.49	5.95
Galat	12	3548.00	295.670				
Total	15	5111.00					
KK		0.593					

Lampiran 49. Daya hambat cendawan yang berasosiasi dengan kakao klon AP terhadap *L. pseudotheobromae* pengamatan 24 jam

Perlakuan	24 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x AP1	12	4	0	8	24	6
<i>L. pseudotheobromae</i> x AP2	0	5	0	0	5	1.25
<i>L. pseudotheobromae</i> x AP3	0	12	26	5	43	10.75
<i>L. pseudotheobromae</i> x AP4	10	14	23	0	47	11.75
<i>L. pseudotheobromae</i> x AP5	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x AP6	19	0	4	0	23	5.75
<i>L. pseudotheobromae</i> x AP7	4	0	0	0	4	1
<i>L. pseudotheobromae</i> x AP8	0	14	19	5	38	9.5
<i>L. pseudotheobromae</i> x AP9	11	0	8	4	23	5.75
<i>L. pseudotheobromae</i> x AP10	8	0	7	0	15	3.75
<i>L. pseudotheobromae</i> x AP11	0	5	0	4	9	2.25
<i>L. pseudotheobromae</i> x AP12	0	8	4	9	21	5.25
<i>L. pseudotheobromae</i> x AP13	0	0	9	5	14	3.5
Kontrol <i>L. pseudotheobromae</i>	0	23	19	13	55	13.75
Total	64	85	119	53		
Jumlah					321	80.25

Lampiran 50. Sidik ragam daya hambat cendawan yang berasosiasi dengan kakao klon AP terhadap *L. pseudotheobromae* pengamatan 24 jam

SK	DB	JK	KT	F Hitung	Ket	F tabel	
						0.05	0.01
Perlakuan	13	946.23	72.787	1.709	tn	1.96	2.59
Galat	42	1788.75	42.589				
Total	55	2734.98					
KK	0.081						

Lampiran 51. Daya hambat cendawan yang berasosiasi dengan kakao klon AP terhadap *L. pseudotheobromae* pengamatan 48 jam

Perlakuan	48 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x AP1	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x AP2	13	17	20	7	57	14.25
<i>L. pseudotheobromae</i> x AP3	27	27	23	23	100	25
<i>L. pseudotheobromae</i> x AP4	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x AP5	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x AP6	0	0	0	0	0	0

<i>L. pseudotheobromae</i> x AP7	20	17	17	17	71	17.75
<i>L. pseudotheobromae</i> x AP8	23	23	27	33	106	26.5
<i>L. pseudotheobromae</i> x AP9	17	17	0	10	44	11
<i>L. pseudotheobromae</i> x AP10	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x AP11	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x AP12	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x AP13	0	0	0	0	0	0
Kontrol <i>L. pseudotheobromae</i>	0	0	0	0	0	0
Total	100	101	87	90		
Jumlah					378	94.5

Lampiran 52. Sidik ragam daya hambat cendawan yang berasosiasi dengan kakao klon AP terhadap *L. pseudotheobromae* pengamatan 48 jam

SK	DB	JK	KT	F		F tabel	
				Hitung	Ket	0.05	0.01
Perlakuan	13	5314	408.769	45.359	**	1.96	2.59
Galat	42	378.50	9.012				
Total	55	5692.50					
KK	0.032						

Data

Tukey HSD

Perlakuan	N	Subset			
		1	2	3	4
AP1	4	.00			
AP10	4	.00			
AP11	4	.00			
AP12	4	.00			
AP13	4	.00			
AP4	4	.00			
AP5	4	.00			
AP6	4	.00			
KONTROL	4	.00			
AP9	4		11.00		
AP2	4		14.25		
AP7	4		17.75	17.75	
AP3	4			25.00	25.00
AP8	4				26.50
Sig.		1.000	.122	.071	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 9.012.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 53. Daya hambat cendawan yang berasosiasi dengan kakao klon THR terhadap *L. pseudotheobromae* pengamatan 24 jam

Perlakuan	24 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x THR1	21	25	22	22	90	22.5
<i>L. pseudotheobromae</i> x THR2	0	30	10	10	50	12.5
Kontrol <i>L. pseudotheobromae</i>	0	23	19	13	55	13.75
Total	21	78	51	45		
Jumlah					195	48.75

Lampiran 54. Sidik ragam daya hambat cendawan yang berasosiasi dengan kakao klon THR terhadap *L. pseudotheobromae* pengamatan 24 jam

SK	DB	JK	KT	F		F tabel	
				Hitung	Ket	0.05	0.01
Perlakuan	2	237.5	118.750	1.358	tn	4.26	8.02
Galat	9	786.75	87.417				
Total	11	1024.25					
KK		0.192					

Lampiran 55. Daya hambat cendawan yang berasosiasi dengan kakao klon THR terhadap *L. pseudotheobromae* pengamatan 48 jam

Perlakuan	48 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x THR1	37	40	43	40	160	40
<i>L. pseudotheobromae</i> x THR2	0	0	0	0	0	0
Kontrol <i>L. pseudotheobromae</i>	0	0	0	0	0	0
Total	37	40	43	40		
Jumlah					160	40

Lampiran 56. Sidik ragam daya hambat cendawan yang berasosiasi dengan kakao klon THR terhadap *L. pseudotheobromae* pengamatan 48 jam

SK	DB	JK	KT	F		F tabel	
				Hitung	Ket	0.05	0.01
Perlakuan	2	4266.67	2133.33	1.358	tn	4.26	8.02
Galat	9	18.00	2.00				
Total	11	4284.67					
KK	0.035						

Lampiran 57. Daya hambat cendawan yang berasosiasi dengan kakao klon MCC-02 terhadap *L. pseudotheobromae* pengamatan 24 jam

Perlakuan	24 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x MCC-02(1)	8	0	17	14	39	9.75
<i>L. pseudotheobromae</i> x MCC-02(2)	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x MCC-02(3)	0	0	0	5	5	1.25
Kontrol <i>L. pseudotheobromae</i>	0	23	19	13	55	13.75
Total	8	23	36	32		
Jumlah					99	24.75

Lampiran 58. Sidik ragam daya hambat cendawan yang berasosiasi dengan kakao klon MCC-02 terhadap *L. pseudotheobromae* pengamatan 24 jam

SK	DB	JK	KT	F		F tabel	
				Hitung	Ket	0.05	0.01
Perlakuan	3	530.19	176.73	4.326	*	3.49	5.95
Galat	12	490.25	40.850				
Total	15	1020.44					
KK	0.258						

Data

Tukey HSD

Perlakuan	N	Subset	
		1	2
MCC02-2	4	.00	
MCC02-3	4	1.25	1.25
MCC02-1	4	9.75	9.75
KONTROL	4		13.75
Sig.		.191	.071

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 40.854.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 59. Daya hambat cendawan yang berasosiasi dengan kakao klon MCC-02 terhadap *L. pseudotheobromae* pengamatan 48 jam

Perlakuan	48 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x MCC-02(1)	27	30	30	27	114	28.5
<i>L. pseudotheobromae</i> x MCC-02(2)	13	10	0	0	23	5.75
<i>L. pseudotheobromae</i> x MCC-02(3)	0	0	0	0	0	0
Kontrol <i>L. pseudotheobromae</i>	0	0	0	0	0	0
Total	40	40	30	27		
Jumlah					137	34.25

Lampiran 60. Sidik ragam daya hambat cendawan yang berasosiasi dengan kakao klon MCC-02 terhadap *L. pseudotheobromae* pengamatan 48 jam

SK	DB	JK	KT	F	Ket	F tabel	
				Hitung		0.05	0.01
Perlakuan	3	2208.19	736.06	60.602	**	3.49	5.95
Galat	12	145.75	12.150				
Total	15	2353.94					
KK	0.102						

Data

Tukey HSD

Perlakuan	N	Subset	
		1	2
KONTROL	4	.00	
MCC02-3	4	.00	
MCC02-2	4	5.75	
MCC02-1	4		28.50
Sig.		.145	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 12.146.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 61. Daya hambat cendawan yang berasosiasi dengan kakao klon terhadap *L. theobromae* (Uji dual kultur ganda) pengamatan 24 jam

Perlakuan	24 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x AP3 x AP8	0	0	6	0	6	1.5
<i>L. theobromae</i> x AP3 x THR1	5	5	6	0	16	4
<i>L. theobromae</i> x AP3 x MCC-02(1)	6	0	18	0	24	6
<i>L. theobromae</i> x AP8 x THR1	8	19	4	9	40	10
<i>L. theobromae</i> x AP8 x MCC-02(1)	8	4	4	0	16	4
<i>L. theobromae</i> x THR1 x MCC-02(1)	0	0	6	0	6	1.5
Kontrol <i>L. theobromae</i>	13	7	0	0	20	5
Total	40	35	44	9		
Jumlah					128	32

Lampiran 62. Sidik ragam daya hambat cendawan yang berasosiasi dengan kakao klon terhadap *L. theobromae* (Uji dual kultur ganda) pengamatan 24 jam

SK	DB	JK	KT	F		F tabel	
				Hitung	Ket	0.05	0.01
Perlakuan	6	204.86	34.143	1.271	tn	2.57	3.81
Galat	21	564.00	26.857				
Total	27	768.86					
KK		0.162					

Lampiran 63. Daya hambat cendawan yang berasosiasi dengan kakao klon terhadap *L. theobromae* (Uji dual kultur ganda) pengamatan 48 jam

Perlakuan	48 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x AP3 x AP8	0	0	0	0	0	0
<i>L. theobromae</i> x AP3 x THR1	0	0	0	0	0	0
<i>L. theobromae</i> x AP3 x MCC-02(1)	0	0	0	0	0	0
<i>L. theobromae</i> x AP8 x THR1	0	0	0	0	0	0
<i>L. theobromae</i> x AP8 x MCC-02(1)	0	0	0	0	0	0
<i>L. theobromae</i> x THR1 x MCC-02(1)	0	0	0	0	0	0
Kontrol <i>L. theobromae</i>	0	0	0	0	0	0
Total	0	0	0	0		
Jumlah					0	0

Lampiran 64. Daya hambat cendawan yang berasosiasi dengan kakao klon terhadap *L. pseudotheobromae* (Uji dual kultur ganda) pengamatan 24 jam

Perlakuan	24 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x AP3 x AP8	0	0	6	0	6	1.5
<i>L. pseudotheobromae</i> x AP3 x THR1	11	0	0	15	26	6.5
<i>L. pseudotheobromae</i> x AP3 x MCC-02(1)	0	20	6	0	26	6.5
<i>L. pseudotheobromae</i> x AP8 x THR1	0	0	5	0	5	1.25
<i>L. pseudotheobromae</i> x AP8 x MCC-02(1)	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x THR1 x MCC-02(1)	4	0	4	0	8	2
Kontrol <i>L. pseudotheobromae</i>	0	23	19	13	55	13.75
Total	15	43	40	28		
Jumlah					126	31.5

Lampiran 65. Sidik ragam daya hambat cendawan yang berasosiasi dengan kakao klon terhadap *L. pseudotheobromae* (Uji dual kultur ganda) pengamatan 24 jam

SK	DB	JK	KT	F		F tabel	
				Hitung	Ket	0.05	0.01
Perlakuan	6	558.50	93.083	2.418	tn	2.57	3.81
Galat	21	808.50	38.500				
Total	27	1367.00					
KK	0.197						

Lampiran 66. Daya hambat cendawan yang berasosiasi dengan kakao klon terhadap *L. pseudotheobromae* (Uji dual kultur ganda) pengamatan 48 jam

Perlakuan	48 Jam				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x AP3 x AP8	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x AP3 x THR1	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x AP3 x MCC-02(1)	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x AP8 x THR1	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x AP8 x MCC-02(1)	0	0	0	0	0	0
<i>L. pseudotheobromae</i> x THR1 x MCC-02(1)	0	0	0	0	0	0
Kontrol <i>L. pseudotheobromae</i>	0	0	0	0	0	0
Total	0	0	0	0		
Jumlah					0	0

Hasil Analisis Luas Lesi pada Buah Kakao

Lampiran 67. Luas lesi pada buah kakao pada hari ke-5 setelah inokulasi *L. theobromae*

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x AP3	70.33	45.21	55.34	49.06	219.94	54.99
<i>L. theobromae</i> x AP8	62.80	46.55	28.33	48.90	186.58	46.65
<i>L. theobromae</i> x THR1	55.73	45.53	54.16	61.15	216.57	54.14
<i>L. theobromae</i> x MCC-02(1)	32.42	40.82	43.56	13.80	130.60	32.65
Kontrol <i>L. theobromae</i>	31.63	27.00	20.33	40.03	118.99	29.75
Kontrol Positif	0	0	0	0	0	0
Total	252.91	205.11	201.72	212.94		
Jumlah					872.68	218.17

Lampiran 68. Sidik Ragam luas lesi pada buah kakao hari ke-5 setelah inokulasi *L. theobromae*

SK	DB	JK	KT	F	Ket	F tabel	
				Hitung		0.05	0.01
Perlakuan	5	8593.712	1718.742	16.812	**	2.77	4.25
Galat	18	1840.23	102.235				
Total	23	10433.95					
KK		0.046					

Data

Tukey HSD

Perlakuan	N	Subset		
		1	2	3
K.Positi	4	.0000		
K. L.the	4		29.7475	
L.txMCC2	4		32.6500	32.6500
L.txAP8	4		46.6450	46.6450
L.txTHR1	4			54.1425
L.txAP3	4			54.9850
Sig.		1.000	.221	.056

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 102.235.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 69. Luas lesi pada buah kakao pada hari ke-6 setelah inoculasi *L. theobromae*

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x AP3	76.85	78.89	73.94	72.61	302.29	75.57
<i>L. theobromae</i> x AP8	73.00	74.96	70.41	74.96	293.33	73.33
<i>L. theobromae</i> x THR1	63.89	70.88	78.50	65.78	279.05	69.76
<i>L. theobromae</i> x MCC-02(1)	54.71	54.71	54.00	54.71	218.13	54.53
Kontrol <i>L. theobromae</i>	49.22	37.83	24.72	44.11	155.88	38.97
Kontrol Positif	0	0	0	0	0	0
Total	317.67	317.27	301.57	312.17		
Jumlah					1248.68	312.17

Lampiran 70. Sidik Ragam Luas lesi pada buah kakao pada hari ke-6 setelah inoculasi *L. theobromae*

SK	DB	JK	KT	F	Ket	F tabel	
				Hitung		0.05	0.01
Perlakuan	5	16825.74	3365.147	120.617	**	2.77	4.25
Galat	18	502.19	27.899				
Total	23	17327.93					
KK		0.017					

Data

Tukey HSD

Perlakuan	N	Subset			
		1	2	3	4
K.Positi	4	.0000			
K. L.the	4		38.9700		
L.txMCC2	4			54.5325	
L.txTHR1	4				69.7625
L.txAP8	4				73.3325
L.txAP3	4				75.5725
Sig.		1.000	1.000	1.000	.635

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 27.899.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 71. Luas lesi pada buah kakao pada hari ke-7 setelah inoculasi *L. theobromae*

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x AP3	78.81	82.03	77.08	75.75	313.67	78.42
<i>L. theobromae</i> x AP8	75.51	78.50	81.24	77.08	312.33	78.08
<i>L. theobromae</i> x THR1	66.01	71.51	78.89	66.33	282.74	70.69
<i>L. theobromae</i> x MCC-02(1)	69.23	70.10	82.50	73.63	295.46	73.87
Kontrol <i>L. theobromae</i>	66.72	62.01	30.22	59.03	217.98	54.50
Kontrol Positif	0	0	0	0	0	0
Total	356.28	364.15	349.93	351.82		
Jumlah					1422.18	355.545

Lampiran 72. Sidik Ragam luas lesi pada buah kakao pada hari ke-7 setelah inoculasi *L. theobromae*

SK	DB	JK	KT	F	Ket	F tabel	
				Hitung		0.05	0.01
Perlakuan	5	18398.343	3679.669	61.628	**	2.77	4.25
Galat	18	1074.74	59.708				
Total	23	19473.09					
KK	0.022						

Data

Tukey HSD

Perlakuan	N	Subset		
		1	2	3
K.Positi	4	.0000		
K. L.the	4		54.4950	
L.txTHR1	4		70.6850	70.6850
L.txMCC2	4			73.8650
L.txAP8	4			78.0825
L.txAP3	4			78.4175
Sig.		1.000	.076	.718

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 59.708.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 73. Luas lesi pada buah kakao pada hari ke-5 setelah inokulasi *L. pseudotheobromae*

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x AP3	5.10	22.68	52.20	5.73	85.71	21.43
<i>L. pseudotheobromae</i> x AP8	38.85	37.28	19.86	20.80	116.79	29.20
<i>L. pseudotheobromae</i> x THR1	43.96	65.45	53.61	24.72	187.74	46.94
<i>L. pseudotheobromae</i> x MCC-02(1)	28.49	22.21	15.54	30.09	96.33	24.08
Kontrol <i>L. pseudotheobromae</i>	31.95	31.24	25.19	3.61	91.99	23.00
Kontrol Positif	0	0	0	0	0	0
Total	148.35	178.86	166.40	84.95		
Jumlah					578.56	144.64

Lampiran 74. Sidik Ragam Luas lesi pada buah kakao hari ke-5 setelah inokulasi *L. pseudotheobromae*

SK	DB	JK	KT	F	Ket	F tabel	
				Hitung		0.05	0.01
Perlakuan	5	4546.358	909.272	4.918	**	2.77	4.25
Galat	18	3328.20	184.900				
Total	23	7874.56					
KK	0.094						

Data

Tukey HSD

Perlakuan	N	Subset	
		1	2
K.Positi	4	.0000	
L.txAP3	4	21.4275	21.4275
K. L.pse	4	22.9975	22.9975
L.txMCC2	4	24.0825	24.0825
L.txAP8	4	29.1975	29.1975
L.txTHR1	4		46.9350
Sig.		.066	.135

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 184.900.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 75. Luas lesi pada buah kakao pada hari ke-6 setelah inoculasi *L. pseudotheobromae*

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x AP3	13.03	40.58	73.63	6.51	133.75	33.44
<i>L. pseudotheobromae</i> x AP8	64.13	59.89	30.06	43.80	197.88	49.47
<i>L. pseudotheobromae</i> x THR1	72.61	66.96	66.33	28.73	234.63	58.66
<i>L. pseudotheobromae</i> x MCC-02(1)	42.62	32.34	33.99	69.55	178.50	44.63
Kontrol <i>L. pseudotheobromae</i>	49.22	37.83	24.72	44.11	155.88	38.97
Kontrol Positif	0	0	0	0	0	0
Total	241.61	237.60	228.73	192.70		
Jumlah					900.64	225.16

Lampiran 76. Sidik Ragam Luas Lesi pada Buah Kakao Pada Hari ke-6 Setelah Inokulasi *L. pseudotheobromae*

SK	DB	JK	KT	F	Ket	F tabel	
				Hitung		0.05	0.01
Perlakuan	5	8266.387	1653.277	4.973	**	2.77	4.25
Galat	18	5983.67	332.426				
Total	23	14250.06					
KK	0.081						

Data

Tukey HSD

Perlakuan	N	Subset	
		1	2
K.Positi	4	.0000	
L.txAP3	4	33.4375	33.4375
K. L.pse	4	38.9700	38.9700
L.txMCC2	4		44.6250
L.txAP8	4		49.4700
L.txTHR1	4		58.6575
Sig.		.068	.403

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 332.426.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 77. Luas lesi pada Buah Kakao pada Hari ke-7 Setelah Inokulasi *L. pseudotheobromae*

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x AP3	32.81	70.88	74.81	7.22	185.72	46.43
<i>L. pseudotheobromae</i> x AP8	66.49	94.30	40.11	63.42	264.32	66.08
<i>L. pseudotheobromae</i> x THR1	78.89	68.45	67.66	43.48	258.48	64.62
<i>L. pseudotheobromae</i> x MCC-02(1)	71.82	51.02	71.82	71.51	266.17	66.54
Kontrol <i>L. pseudotheobromae</i>	61.85	56.75	52.98	5.96	177.54	44.39
Kontrol Positif	0	0	0	0	0	0
Total	311.86	341.40	307.38	191.59		
Jumlah					1152.23	288.058

Lampiran 78. Sidik Ragam Luas Lesi pada Buah Kakao pada Hari ke-7 Setelah Inokulasi *L. pseudotheobromae*

SK	DB	JK	KT	F	Ket	F tabel	
				Hitung		0.05	0.01
Perlakuan	5	13065.87	2613.174	6.182	**	2.77	4.25
Galat	18	7608.25	422.681				
Total	23	20674.12					
KK	0.071						

Data

Tukey HSD

Perlakuan	N	Subset	
		1	2
K.Positi	4	.0000	
K. L.pse	4	44.3850	44.3850
L.txAP3	4		46.4300
L.txTHR1	4		64.6200
L.txAP8	4		66.0800
L.txMCC2	4		66.5425
Sig.		.064	.654

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 422.681.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Hasil Analisis Persentase Lesi pada Buah Kakao

Lampiran 79. Persentase Lesi pada Buah Kakao Hari ke-5 Setelah Inokulasi *L. theobromae*

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x AP3	82	48	65	58	253.00	63.25
<i>L. theobromae</i> x AP8	80	57	38	77	252.00	63.00
<i>L. theobromae</i> x THR1	81	59	58	82	280.00	70.00
<i>L. theobromae</i> x MCC-02(1)	51	46	58	58	213.00	53.25
Kontrol <i>L. theobromae</i>	37	36	21	48	142.00	35.50
Kontrol Positif	0	0	0	0	0	0
Total	331	246	240	323		
Jumlah					1140	285.00

Lampiran 80. Sidik Ragam Persentase Lesi pada Buah Kakao Hari ke-5 Setelah Inokulasi *L. theobromae*

SK	DB	JK	KT	F		F tabel	
				Hitung	Ket	0.05	0.01
Perlakuan	5	13711.5	2742.300	17.868	**	2.77	4.25
Galat	18	2762.50	153.472				
Total	23	16474.00					
KK	0.043						

Data

Tukey HSD

Perlakuan	N	Subset		
		1	2	3
K.POSITI	4	.0000		
K. LT	4		35.5000	
L.TXMCC2	4		53.2500	53.2500
L.TXAP8	4		63.0000	63.0000
L.TXAP3	4		63.2500	63.2500
L.TXTHR1	4			70.0000
Sig.		1.000	.051	.427

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 153.472.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 81. Persentase Lesi pada Buah Kakao Hari ke-6 Setelah Inokulasi *L. theobromae*

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x AP3	92.00	81.00	90.00	87.00	350.00	87.50
<i>L. theobromae</i> x AP8	91.00	88.00	79.00	93.00	351.00	87.75
<i>L. theobromae</i> x THR1	91.00	92.00	92.00	92.00	367.00	91.75
<i>L. theobromae</i> x MCC-02(1)	77.00	63.00	67.00	67.00	274.00	68.50
Kontrol <i>L. theobromae</i>	52.00	47.00	26.00	52.00	177.00	44.25
Kontrol Positif	0	0	0	0	0	0
Total	403.00	371.00	354.00	391.00		
					1519.0	
Jumlah					0	379.75

Lampiran 82. Sidik Ragam Persentase Lesi pada Buah Kakao Hari ke-6 Setelah Inokulasi *L. theobromae*

SK	DB	JK	KT	F	Ket	F tabel	
				Hitung		0.05	0.01
Perlakuan	5	25558.708	5111.742	122.315	**	2.77	4.25
Galat	18	752.25	41.792				
Total	23	26310.96					
KK		0.017					

Data

Tukey HSD

Perlakuan	N	Subset			
		1	2	3	4
K.POSITI	4	.0000			
K. LT	4		44.2500		
L.TXMCC2	4			68.5000	
L.TXAP3	4				87.5000
L.TXAP8	4				87.7500
L.TXTHR1	4				91.7500
Sig.		1.000	1.000	1.000	.934

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 41.792.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 83. Persentase Lesi pada Buah Kakao Hari ke-7 Setelah Inokulasi *L. theobromae*

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. theobromae</i> x AP3	99.00 100.0	91.00	100.00	100.00	390.00	97.50
<i>L. theobromae</i> x AP8	0 100.0	100.00	95.00	100.00	395.00	98.75
<i>L. theobromae</i> x THR1	0	94.00	94.00	94.00	382.00	95.50
<i>L. theobromae</i> x MCC-02(1)	98.00	79.00	93.00	89.00	359.00	89.75
Kontrol <i>L. theobromae</i>	77.00	73.00	32.00	66.00	248.00	62.00
Kontrol Positif	0	0	0	0	0	0
	474.0					
Total	0	437.00	414.00	449.00		
Jumlah					1774	443.50

Lampiran 84. Sidik Ragam Persentase Lesi pada Buah Kakao Hari ke-7 Setelah Inokulasi *L. theobromae*

SK	DB	JK	KT	F Hitung	Ket	F tabel	
						0.05	0.01
Perlakuan	5	29980.3333	5996.067	69.208	**	2.77	4.25
Galat	18	1559.50	86.639				
Total	23	31539.83					
KK	0.021						

Data

Tukey HSD

Perlakuan	N	Subset		
		1	2	3
K.POSITI	4	.0000		
K. LT	4		62.0000	
L.TXMCC2	4			89.7500
L.TXTHR1	4			95.5000
L.TXAP3	4			97.5000
L.TXAP8	4			98.7500
Sig.		1.000	1.000	.745

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 86.639.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 85. Persentase Lesi pada Buah Kakao Hari ke-5 Setelah Inokulasi *L. pseudotheobromae*

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x AP3	8.00	35.00	65.00	8.00	116.00	29.00
<i>L. pseudotheobromae</i> x AP8	53.00	44.00	24.00	46.00	167.00	41.75
<i>L. pseudotheobromae</i> x THR1	46.00	89.00	74.00	31.00	240.00	60.00
<i>L. pseudotheobromae</i> x MCC-02(1)	37.00	22.00	18.00	50.00	127.00	31.75
Kontrol <i>L. pseudotheobromae</i>	39.00	40.00	31.00	4.00	114.00	28.50
Kontrol Positif	0	0	0	0	0	0
Total	183.00	230.00	212.00	139.00		
Jumlah					764	191

Lampiran 86. Sidik Ragam Persentase Lesi pada Buah Kakao Hari ke-5 Setelah Inokulasi *L. pseudotheobromae*

SK	DB	JK	KT	F	Ket	F tabel	
				Hitung		0.05	0.01
Perlakuan	5	7696.83333	1539.367	4.436	**	2.77	4.25
Galat	18	6246.50	347.028				
Total	23	13943.33					
KK	0.098						

Data

Tukey HSD

Perlakuan	N	Subset	
		1	2
K.POSITI	4	.0000	
K. LP	4	28.5000	28.5000
L.PXAP3	4	29.0000	29.0000
L.PXMCC2	4	31.7500	31.7500
L.PXAP8	4	41.7500	41.7500
L.PXTHR1	4		60.0000
Sig.		.051	.211

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 347.028.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 87. Persentase Lesi pada Buah Kakao Hari ke-6 Setelah Inokulasi *L. pseudotheobromae*

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x AP3	17.00	56.00	96.00	9.00	178.00	44.50
<i>L. pseudotheobromae</i> x AP8	84.00	70.00	39.00	76.00	269.00	67.25
<i>L. pseudotheobromae</i> x THR1	74.00	94.00	95.00	36.00	299.00	74.75
<i>L. pseudotheobromae</i> x MCC-02(1)	51.00	36.00	41.00	84.00	212.00	53.00
Kontrol <i>L. pseudotheobromae</i>	52.00	56.00	49.00	6.00	163.00	40.75
Kontrol Positif	0	0	0	0	0	0
Total	278.00	312.00	320.00	211.00		
Jumlah					1121	280.25

Lampiran 88. Sidik Ragam Persentase Lesi pada Buah Kakao Hari ke-6 Setelah Inokulasi *L. pseudotheobromae*

SK	DB	JK	KT	F	Ket	F tabel	
				Hitung		0.05	0.01
Perlakuan	5	13879.7083	2775.942	4.430	**	2.77	4.25
Galat	18	11279.25	626.625				
Total	23	25158.96					
KK		0.089					

Data

Tukey HSD

Perlakuan	N	Subset	
		1	2
K.POSITI	4	.0000	
K. LP	4	40.7500	40.7500
L.PXAP3	4	44.5000	44.5000
L.PXMCC2	4	53.0000	53.0000
L.PXAP8	4		67.2500
L.PXTHR1	4		74.7500
Sig.		.072	.422

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 626.625.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.

Lampiran 89. Persentase Lesi pada Buah Kakao Hari ke-7 Setelah Inokulasi *L. pseudotheobromae*

Perlakuan	Ulangan				Total	Rata-rata
	P1	P2	P3	P4		
<i>L. pseudotheobromae</i> x AP3	40.00	91.00	100.00	10.00	241.00	60.25
<i>L. pseudotheobromae</i> x AP8	90.00	90.00	52.00	99.00	331.00	82.75
<i>L. pseudotheobromae</i> x THR1	90.00	100.00	100.00	52.00	342.00	85.50
<i>L. pseudotheobromae</i> x MCC-02(1)	95.00	56.00	83.00	91.00	325.00	81.25
Kontrol <i>L. pseudotheobromae</i>	71.00	68.00	58.00	8.00	205.00	51.25
Kontrol Positif	0	0	0	0	0	0
Total	386.00	405.00	393.00	260.00		
Jumlah					1444	361

Lampiran 90. Sidik Ragam Persentase Lesi pada Buah Kakao Hari ke-7 Setelah Inokulasi *L. pseudotheobromae*

SK	DB	JK	KT	F		F tabel	
				Hitung	Ket	0.05	0.01
Perlakuan	5	21183.33	4236.667	6.435	**	2.77	4.25
Galat	18	11850.00	658.333				
Total	23	33033.33					
KK		0.071					

Data

Tukey HSD

Perlakuan	N	Subset	
		1	2
K.POSITI	4	.0000	
K. LP	4	51.2500	51.2500
L.PXAP3	4		60.2500
L.PXMCC2	4		81.2500
L.PXAP8	4		82.7500
L.PXTHR1	4		85.5000
Sig.		.099	.440

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 658.333.

a. Uses Harmonic Mean Sample Size = 4.000.

b. Alpha = 0.05.