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Tabel Lampiran 2 1 Komposisi media TRS, NMS, uji gram, uji katalase, media burk's

Media	Komponen	Konsentrasi	
		g	MI
<i>Treas elemen</i>	Na ₂ EDTA	0,5	
	FeSO ₄ . 7H ₂ O	0,1	
	H ₃ BO ₃	0,03	
	CoCl ₂ . 6H ₂ O	0,02	
	ZnSO ₄ . 7H ₂ O	0,01	
	MnCl ₂ . 4H ₂ O	3,0	
	Na ₂ MoO ₄ . 2H ₂ O	3,0	
	NiCl ₂ . 6H ₂ O	2,0	
	CaCl ₂ . 2H ₂ O	1,0	
	Aquadest		1000
NMS (<i>Nitrat Mineral Salt</i>)	MgSO ₄	1,0	
	KNO ₃	1,0	
	Na ₂ HPO ₄	0,717	
	KH ₂ PO ₄	0,272	
	CaCl ₂	0,2	
	NH ₄ Cl	0,004	
	Aquadest		1000
Uji Gram	KOH 3%		
Uji Katalase	H ₂ O ₂		
Media Burk's	<i>Stok Media Burk's:</i>		
	MgSO ₄	0,20	
	K ₂ HPO ₄	0,05	
	KH ₂ PO ₄	0,15	
	CaSO ₄	1,3	
	<i>Stok larutan FeMO:</i>		
	FeCl ₃	0,145	
	Na ₂ MoO ₄	0,002	
	Aquades		100
	<i>Komposisi Utama:</i>		
	Media Burk's	1,3	
	Larutan FeMO		1
	Sukrosa	2	
Agar	17		
Aquades		1000	

Tabel Lampiran 4.1 Hasil analisa sifat kimia tanah sebelum perlakuan (0 hari) dan setelah perlakuan biochar TKKS dan bakteri metanotrof (110 hari) di Desa Lantula Kecamatan Witaponda Kabupaten Morowali

.Parameter Terukur	Sebelum penanaman (0 hari)	Setelah Panen (110 hari)
pH	6,35	6,63
C	1,53 %	2,31 %
N	0,18 %	0,25 %
C/N	8,37 %	9,11 %
KTK	16,51 (cmol(+))kg ⁻¹	18,26 (cmol(+))kg ⁻¹
Ca	18,35 (cmol(+))kg ⁻¹	22,41 (cmol(+))kg ⁻¹
Mg	10,22 (cmol(+))kg ⁻¹	10,34 (cmol(+))kg ⁻¹
K	18,25 (cmol(+))kg ⁻¹	12,36 (cmol(+))kg ⁻¹
Na	28,25 (cmol(+))kg ⁻¹	41,32 (cmol(+))kg ⁻¹
P2O5	0,25 (cmol(+))kg ⁻¹	0,46 (cmol(+))kg ⁻¹

Tabel Lampiran 4. 2 Rata-rata tinggi tanaman (cm) padi sawah pada berbagai dosis biochar TKKS dan konsentersasi bakteri metanotrof

PERLAKUAN	KELOMPOK			Jumlah	Rata-rata	
	I	II	III			
b0	m0	98,60	98,00	101,20	297,80	99,27
	m1	105,40	108,00	109,20	322,60	107,53
	m2	100,80	110,60	106,20	317,60	105,87
	m3	102,60	108,80	99,20	310,60	103,53
SUB TOTAL	407,40	425,40	415,80	1248,60		
b1	m0	113,60	111,60	117,40	342,60	114,20
	m1	104,60	112,20	114,00	330,80	110,27
	m2	105,80	103,60	110,40	319,80	106,60
	m3	109,00	115,00	119,20	343,20	114,40
SUB TOTAL	433,00	442,40	461,00	1336,40		
b2	m0	101,20	104,80	112,80	318,80	106,27
	m1	122,80	122,20	121,60	366,60	122,20
	m2	103,40	120,80	111,80	336,00	112,00
	m3	122,00	121,60	120,40	364,00	121,33
SUB TOTAL	449,40	469,40	466,60	1385,40		
b3	m0	108,80	105,40	118,00	332,20	110,73
	m1	120,00	121,40	122,20	363,60	121,20
	m2	108,00	121,00	117,20	346,20	115,40
	m3	113,20	117,20	120,00	350,40	116,80
SUB TOTAL	450,00	465,00	477,40	1392,40		
TOTAL	1739,80	1802,20	1820,80	5362,80	111,73	

Tabel Lampiran 4 3. Sidik ragam rata-rata tinggi tanaman (cm) padi sawah

SK	DB	JK	KT	F.HITUNG	KET.	F.TABEL	
						0,05	0,01
Kelompok	2	225,01	112,51	9,67	*	5,14	10,92
B (pu)	3	1097,66	365,89	31,43	**	4,76	9,78
Galat (B)	6	69,84	11,64				
M (ap)	3	456,03	152,01	9,55	**	3,01	4,72
B x M	9	479,75	53,31	3,35	**	2,30	3,26
Galat (M)	24	382,08	15,92				
Total	47	2710,37					
KK B=	3,05%						
KK M=	3,57%	Keterangan	* = berpengaruh nyata	** sangat nyata			

Tabel Lampiran 4. 4. Rata-rata jumlah anakan (batang) padi sawah pada berbagai dosis biochar TKKS dan konsentrasasi bakteri Metanotrof

PERLAKUAN	KELOMPOK			Jumlah	Rata-rata	
	I	II	III			
b0	m0	10,60	10,00	10,80	31,40	10,47
	m1	13,40	12,60	14,20	40,20	13,40
	m2	15,80	15,20	14,60	45,60	15,20
	m3	14,80	12,80	15,40	43,00	14,33
SUB TOTAL	54,60	50,60	55,00	160,20		
b1	m0	12,40	11,20	14,20	37,80	12,60
	m1	14,60	15,60	15,60	45,80	15,27
	m2	16,80	15,60	16,40	48,80	16,27
	m3	13,40	16,20	17,00	46,60	15,53
SUB TOTAL	57,20	58,60	63,20	179,00		
b2	m0	11,20	13,40	13,60	38,20	12,73
	m1	14,20	14,00	14,20	42,40	14,13
	m2	16,80	18,20	17,40	52,40	17,47
	m3	14,60	20,20	16,20	51,00	17,00
SUB TOTAL	56,80	65,80	61,40	184,00		
b3	m0	11,20	11,80	13,20	36,20	12,07
	m1	13,60	16,00	15,80	45,40	15,13
	m2	15,00	16,40	16,40	47,80	15,93
	m3	14,80	16,20	16,40	47,40	15,80
SUB TOTAL	54,60	60,40	61,80	176,80		
TOTAL	223,20	235,40	241,40	700,00	14,58	

Tabel Lampiran 4.5 Sidik Ragam Jumlah Anakan Padi Sawah

SK	DB	JK	KT	F.HITUNG	KET.	F.TABEL	
						0,05	0,01
Kelompok	2	10,75	5,38	2,22	tn	5,14	10,92
B (pu)	3	26,61	8,87	3,66	tn	4,76	9,78
Galat (B)	6	14,55	2,42				
M (ap)	3	128,38	42,79	43,60	**	3,01	4,72
B x M	9	8,95	0,99	1,01	tn	2,30	3,26
Galat (M)	24	23,55	0,98				
Total	47	212,79					
KK B=	10,68%						
KK M=	6,79%						

Tabel Lampiran 4.6. Rata-rata jumlah anakan produktif (batang) padi sawah pada berbagai dosis biochar TKKS dan konsentersasi bakteri metanotrof

PERLAKUAN	KELOMPOK			Jumlah	Rata-rata	
	I	II	III			
b0	m0	9,60	9,20	9,20	28,00	9,33
	m1	11,00	9,00	10,00	30,00	10,00
	m2	12,00	10,80	10,80	33,60	11,20
	m3	11,40	9,00	12,20	32,60	10,87
SUB TOTAL	44,00	38,00	42,20	124,20		
b1	m0	10,20	8,20	9,80	28,20	9,40
	m1	12,40	14,80	12,60	39,80	13,27
	m2	14,00	13,80	14,00	41,80	13,93
	m3	14,00	14,20	14,00	42,20	14,07
SUB TOTAL	50,60	51,00	50,40	152,00		
b2	m0	11,00	17,00	15,60	43,60	14,53
	m1	11,80	16,00	16,20	44,00	14,67
	m2	14,80	15,00	15,00	44,80	14,93
	m3	12,60	14,00	16,00	42,60	14,20
SUB TOTAL	50,20	62,00	62,80	175,00		
b3	m0	10,20	11,80	13,20	35,20	11,73
	m1	13,60	16,00	15,80	45,40	15,13
	m2	14,00	14,00	14,00	42,00	14,00
	m3	14,80	16,20	16,40	47,40	15,80
SUB TOTAL	52,60	58,00	59,40	170,00		
TOTAL	197,40	209,00	214,80	621,20	12,94	

Tabel Lampiran 4. 7 Sidik ragam jumlah anakan produktif pada padi sawah

SK	DB	JK	KT	F.HITUNG	KET.	F.TABEL	
						0,05	0,01
Kelompok	2	9,81	4,91	1,12	tn	5,14	10,92
B (pu)	3	131,86	43,95	10,02	**	4,76	9,78
Galat (B)	6	26,31	4,38				
M (ap)	3	47,10	15,70	14,59	**	3,01	4,72
B x M	9	32,62	3,62	3,37	**	2,30	3,26
Galat (M)	24	25,83	1,08				
Total	47	273,52					
KK B=	16,18%						
KK M=	8,02%						

Tabel Lampiran 4.8. Rata-Rata jumlah gabah permalai (bulir) tanaman padi sawah

PERLAKUAN	KELOMPOK			Jumlah	Rata-rata	
	I	II	III			
b0	m0	110,60	98,20	101,20	310,00	103,33
	m1	127,00	96,00	85,80	308,80	102,93
	m2	103,40	119,00	125,00	347,40	115,80
	m3	116,00	125,00	111,60	352,60	117,53
SUB TOTAL	457,00	438,20	423,60	1318,80		
b1	m0	119,00	125,00	99,00	343,00	114,33
	m1	122,40	116,40	128,00	366,80	122,27
	m2	96,80	123,60	115,60	336,00	112,00
	m3	120,60	104,60	106,60	331,80	110,60
SUB TOTAL	458,80	469,60	449,20	1377,60		
b2	m0	123,40	127,40	101,00	351,80	117,27
	m1	83,00	80,40	118,20	281,60	93,87
	m2	119,00	120,00	118,00	357,00	119,00
	m3	108,00	120,00	126,00	354,00	118,00
SUB TOTAL	433,40	447,80	463,20	1344,40		
b3	m0	130,20	109,60	98,80	338,60	112,87
	m1	127,20	117,40	104,00	348,60	116,20
	m2	118,00	119,00	122,00	359,00	119,67
	m3	106,20	106,80	128,60	341,60	113,87
SUB TOTAL	481,60	452,80	453,40	1387,80		
TOTAL	1830,80	1808,40	1789,40	5428,60	113,10	

Tabel Lampiran 4.9. Sidik ragam gabah per malai tanaman padi sawah

SK	DB	JK	KT	F.HITUNG	KET.	F.TABEL	
						0,05	0,01
Kelompok	2	53,68	26,84	0,42	tn	5,14	10,92
B (pu)	3	249,24	83,08	1,29	tn	4,76	9,78
Galat (B)	6	385,05	64,17				
M (ap)	3	427,76	142,59	0,77	tn	3,01	4,72
B x M	9	1777,53	197,50	1,06	tn	2,30	3,26
Galat (M)	24	4457,46	185,73				
Total	47	7350,72					
KK B=	7,08%						
KK M=	12,05%						

Tabel Lampiran 4.10. Rata-rata persentase jumlah gabah hampa (%) per malai pada berbagai dosis biochar dan konsentration bakteri metanotrof

PERLAKUAN	KELOMPOK			Jumlah	Rata-rata	
	I	II	III			
b0	m0	14,29	13,24	9,29	36,82	12,27
	m1	11,18	13,96	10,96	36,10	12,03
	m2	23,85	18,32	20,32	62,49	20,83
	m3	14,66	18,24	8,60	41,50	13,83
SUB TOTAL	63,98	63,76	49,17	176,91		
b1	m0	18,99	16,00	22,63	57,62	19,21
	m1	19,28	17,18	26,56	63,02	21,01
	m2	9,92	22,82	14,71	47,45	15,82
	m3	5,97	6,50	13,32	25,79	8,60
SUB TOTAL	54,16	62,50	77,22	193,88		
b2	m0	16,86	26,22	22,57	65,65	21,88
	m1	7,23	22,39	15,91	45,53	15,18
	m2	9,41	9,33	20,34	39,08	13,03
	m3	2,78	12,83	6,98	22,59	7,53
SUB TOTAL	36,28	70,77	65,80	172,85		
b3	m0	26,11	20,62	17,81	64,54	21,51
	m1	10,69	14,31	6,92	31,92	10,64
	m2	10,17	5,38	3,44	18,99	6,33
	m3	7,91	5,24	8,55	21,70	7,23
SUB TOTAL	54,88	45,55	36,72	137,15		
TOTAL	209,30	242,58	228,91	680,79	14,18	

Tabel Lampiran 4. 11. Sidik ragam gabah hampa tanaman padi sawah

SK	DB	JK	KT	F.HITUNG	KET.	F.TABEL	
						0,05	0,01
Kelompok	2	34,98	17,49	0,37	tn	5,14	10,92
B (pu)	3	142,09	47,36	1,00	tn	4,76	9,78
Galat (B)	6	284,25	47,38				
M (ap)	3	537,03	179,01	12,74	**	3,01	4,72
B x M	9	642,04	71,34	5,08	**	2,30	3,26
Galat (M)	24	337,13	14,05				
Total	47	1977,51					
KK B=	48,53%						
KK M=	26,43%						

Tabel Lampiran 4.12. Rata-rata jumlah gabah bernas (bulir) per malai pada berbagai dosis biochar dan konsentersasi bakteri metanotrof

PERLAKUAN	KELOMPOK			Jumlah	Rata-rata	
	I	II	III			
b0	m0	94,80	85,20	91,80	271,80	90,60
	m1	112,80	82,60	76,40	271,80	90,60
	m2	68,40	97,20	99,60	265,20	88,40
	m3	99,00	102,20	102,00	303,20	101,07
SUB TOTAL	375,00	367,20	369,80	1112,00		
b1	m0	96,40	105,00	76,60	278,00	92,67
	m1	98,80	96,40	94,00	289,20	96,40
	m2	87,20	95,40	98,60	281,20	93,73
	m3	113,40	97,80	92,40	303,60	101,20
SUB TOTAL	395,80	394,60	361,60	1152,00		
b2	m0	102,60	94,00	78,20	274,80	91,60
	m1	77,00	62,40	99,40	238,80	79,60
	m2	107,80	108,80	94,00	310,60	103,53
	m3	105,00	104,60	117,20	326,80	108,93
SUB TOTAL	392,40	369,80	388,80	1151,00		
b3	m0	96,20	87,00	81,20	264,40	88,13
	m1	113,60	100,60	96,80	311,00	103,67
	m2	106,00	112,60	117,80	336,40	112,13
	m3	102,80	101,20	117,60	321,60	107,20
SUB TOTAL	418,60	401,40	413,40	1233,40		
TOTAL	1581,80	1533,00	1533,60	4648,40	96,84	

Tabel Lampiran 4.13. Sidik ragam gabah bernas tanaman padi sawah

SK	DB	JK	KT	F.HITUNG	KET.	F.TABEL	
						0,05	0,01
Kelompok	2	98,02	49,01	1,39	tn	5,14	10,92
B (pu)	3	651,58	217,19	6,18	*	4,76	9,78
Galat (B)	6	210,84	35,14				
M (ap)	3	1468,55	489,52	3,27	*	3,01	4,72
B x M	9	1457,66	161,96	1,08	tn	2,30	3,26
Galat (M)	24	3593,35	149,72				
Total	47	7480,00					
KK B=	6,12%						
KK M=	12,64%						

Tabel Lampiran 4.14. Rata-rata berat per petak (kg) pada berbagai dosis biochar TKKS dan konsentration bakteri metanotrof

PERLAKUAN		KELOMPOK			Jumlah	Rata-rata
		I	II	III		
h0	m0	8,50	9,00	8,40	25,90	8,63
	m1	8,70	9,00	10,20	27,90	9,30
	m2	11,15	11,40	12,20	34,75	11,58
	m3	11,44	11,75	11,00	34,19	11,40
SUB TOTAL		39,79	41,15	41,80	122,74	
h1	m0	9,50	9,65	9,65	28,80	9,60
	m1	14,55	13,75	14,53	42,83	14,28
	m2	13,65	13,77	14,20	41,62	13,87
	m3	13,20	12,00	13,50	38,70	12,90
SUB TOTAL		50,90	49,17	51,88	151,95	
b2	m0	11,80	11,75	12,80	36,35	12,12
	m1	14,20	14,25	15,00	43,45	14,48
	m2	15,60	15,38	15,00	45,98	15,33
	m3	14,40	14,40	15,50	44,30	14,77
SUB TOTAL		56,00	55,78	58,30	170,08	
h3	m0	11,20	12,00	12,60	35,80	11,93
	m1	12,75	15,38	15,60	43,73	14,58
	m2	15,50	15,65	15,80	46,95	15,65
	m3	13,20	13,68	16,20	43,08	14,36
SUB TOTAL		52,65	56,71	60,20	169,56	
TOTAL		199,34	202,81	212,18	614,33	12,80

Tabel Lampiran 4.15. Sidik ragam hasil produksi per petak

SK	DB	JK	KT	F.HITUNG	KET.	F.TABEL	
						0,05	0,01
Kelompok	2	5,51	2,76	4,07	tn	5,14	10,92
B (pu)	3	123,45	41,15	60,73	**	4,76	9,78
Galat (B)	6	4,07	0,68				
M (ap)	3	85,43	28,48	85,65	**	3,01	4,72
B x M	9	15,10	1,68	5,05	**	2,30	3,26
Galat (M)	24	7,98	0,33				
Total	47	241,54					
KK B=	6,43%						
KK M=	4,51%						

Tabel Lampiran 4. 16. Rata-rata berat per Ha (ton) pada berbagai dosis biochar dan konsentersasi bakteri metanotrof

PERLAKUAN	KELOMPOK			Jumlah	Rata-rata	
	I	II	III			
b0	m0	4,25	4,50	4,20	12,95	4,32
	m1	4,35	4,50	5,10	13,95	4,65
	m2	5,58	5,70	6,10	17,38	5,79
	m3	5,72	5,88	5,50	17,10	5,70
SUB TOTAL	19,90	20,58	20,90	61,37		
b1	m0	4,75	4,83	4,83	14,40	4,80
	m1	7,28	6,88	7,27	21,42	7,14
	m2	6,83	6,50	7,10	20,43	6,81
	m3	6,60	6,00	6,75	19,35	6,45
SUB TOTAL	25,45	24,20	25,94	75,59		
b2	m0	5,90	5,88	6,40	18,18	6,06
	m1	7,10	7,13	7,50	21,73	7,24
	m2	7,80	7,65	7,50	22,95	7,65
	m3	7,20	7,20	7,75	22,15	7,38
SUB TOTAL	28,00	27,85	29,15	85,00		
b3	m0	5,60	6,00	6,30	17,90	5,97
	m1	6,38	7,69	7,80	21,87	7,29
	m2	7,75	7,83	7,90	23,48	7,83
	m3	6,60	6,84	8,10	21,54	7,18
SUB TOTAL	26,33	28,36	30,10	84,78		
TOTAL	99,67	100,98	106,09	306,74	6,39	

Tabel Lampiran 4 .17. Sidik ragam berat per hektar tanaman padi sawah

SK	DB	JK	KT	F.HITUNG	KET.	F.TABEL	
						0,05	0,01
Kelompok	2	1,44	0,72	3,81	tn	5,14	10,92
B (pu)	3	30,87	10,29	54,48	**	4,76	9,78
Galat (B)	6	1,13	0,19				
M (ap)	3	20,81	6,94	85,13	**	3,01	4,72
B x M	9	3,85	0,43	5,24	**	2,30	3,26
Galat (M)	24	1,96	0,08				
Total	47	60,05					
KK B=	6,80%		KK M=	4,47%			

Tabel Lampiran 4.18. Rata-rata berat 100 bulir (gram) pada berbagai dosis biochar dan konsentration bakteri metanotrof

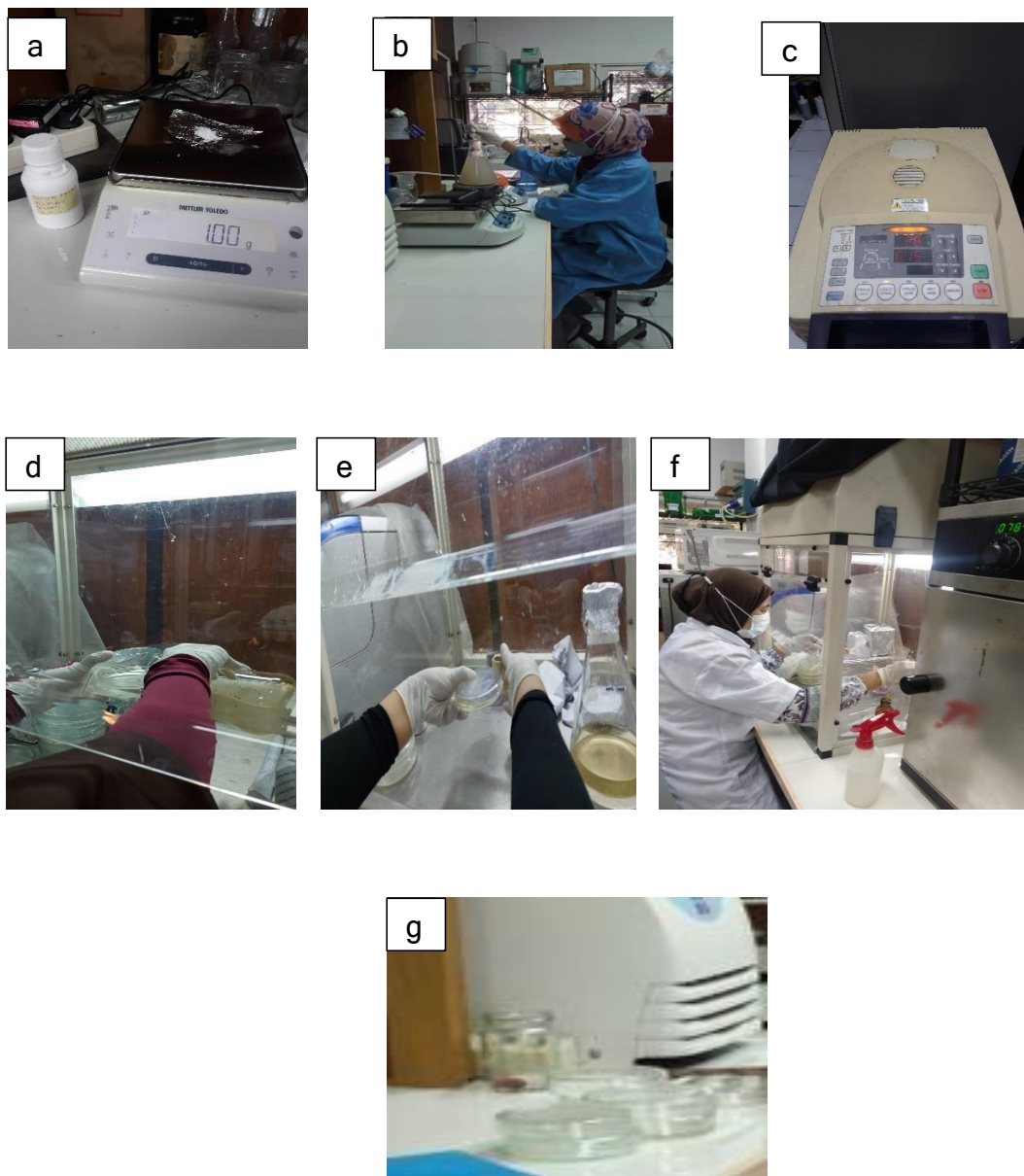
PERLAKUAN		KELOMPOK			Jumlah	Rata-rata
		I	II	III		
b0	m0	3,02	2,64	1,95	7,61	2,54
	m1	2,89	2,46	2,69	8,04	2,68
	m2	3,01	2,97	2,12	8,10	2,70
	m3	3,17	2,62	2,62	8,41	2,80
SUB TOTAL		12,09	10,69	9,38	32,16	
b1	m0	2,82	2,56	3,15	8,53	2,84
	m1	2,46	3,08	2,62	8,16	2,72
	m2	2,57	3,1	2,94	8,61	2,87
	m3	3,01	2,82	2,53	8,36	2,79
SUB TOTAL		10,86	11,56	11,24	33,66	
b2	m0	2,52	3,31	2,89	8,72	2,91
	m1	3,17	2,52	2,99	8,68	2,89
	m2	3,06	2,95	2,89	8,90	2,97
	m3	2,67	2,83	2,67	8,17	2,72
SUB TOTAL		11,42	11,61	11,44	34,47	
b3	m0	2,55	3,28	2,76	8,59	2,86
	m1	2,88	3,19	2,7	8,77	2,92
	m2	3,31	2,63	2,93	8,87	2,96
	m3	2,86	3,23	3,17	9,26	3,09
SUB TOTAL		11,60	12,33	11,56	35,49	
TOTAL		45,97	46,19	43,62	135,78	2,83

Tabel Lampiran 4.19. sidik ragam berat 100 bulir (gram) tanaman padi sawah

SK	DB	JK	KT	F.HITUNG	KET.	F.TABEL	
						0,05	0,01
Kelompok	2	0,25	0,13	0,92	tn	5,14	10,92
B (pu)	3	0,49	0,16	1,20	tn	4,76	9,78
Galat (B)	6	0,83	0,14				
M (ap)	3	0,06	0,02	0,20	tn	3,01	4,72
B x M	9	0,27	0,03	0,32	tn	2,30	3,26
Galat (M)	24	2,24	0,09				
Total	47	4,14					
KK B=	13,11%						

Tabel 4.20. kriteria penilaian hasil analisa kimia tanah (sumber : hill laboratorium (www.hill-laboratories.com))

Parameter tanah	Sangat Rendah	Rendah	Sedang	Tinggi	Sangat Tinggi	
C (%)	< 1	1 - 2	2 - 2	2 - 5	>5	
N (%)	< 0,1	0,1 - 0,2	0,21 - 0,5	0,15 - 0,75	>0,75	
C/N	< 5	5 - 10	11 - 15	16 - 25	>25	
P ₂ O ₅ HCL 25% (mg/100g)	< 15	15 - 20	21 - 40	41 - 60	>60	
P ₂ O ₅ Bray (ppm P)	< 4	5 - 7	8 - 10	11 - 15	>15	
P ₂ O ₅ Olsen (ppm P)	< 5	5 - 10	11 - 15	16 - 20	>20	
K ₂ O 25% (mg/100g)	< 10	10 - 20	21 - 40	41 - 60	>60	
KTK/CEC (me/100g)	< 5	5 - 16	17 - 24	25 - 40	>40	
Ca (me/100g)	< 2	2 - 5	6 - 10	11 - 20	>20	
Mg (me/100g)	< 0,2	0,4 - 1	1,1 - 2	2,1 - 8	>8	
K (me/100g)	< 0,1	0,1 - 0,2	0,4 - 0,5	0,6 - 1	>1	
Na (me/100g)	< 0,1	0,1 - 0,2	0,4 - 0,7	0,8 - 1	>1	
Kejenuhan Basa (KB)	< 20	20 - 40	41 - 60	61 - 80	>80	
Kejenuhan Alumunium %	< 5	5 - 10	11 - 20	20 - 40	>40	
Cadangan Mineral (%)	< 5	5 - 10	11 - 20	20 - 40	>40	
Salinitas/DHL (dS/m)	< 1	1 - 2	2 - 2	2 - 4	>4	
	Sangat masam	Masam	Agak masam	Netral	Agak alkalis	Alkalis
pH H ₂ O	< 4,5	4,5 - 5,5	5,5 - 6,5	6,6 - 7,5	7,6 - 8,5	>8,5



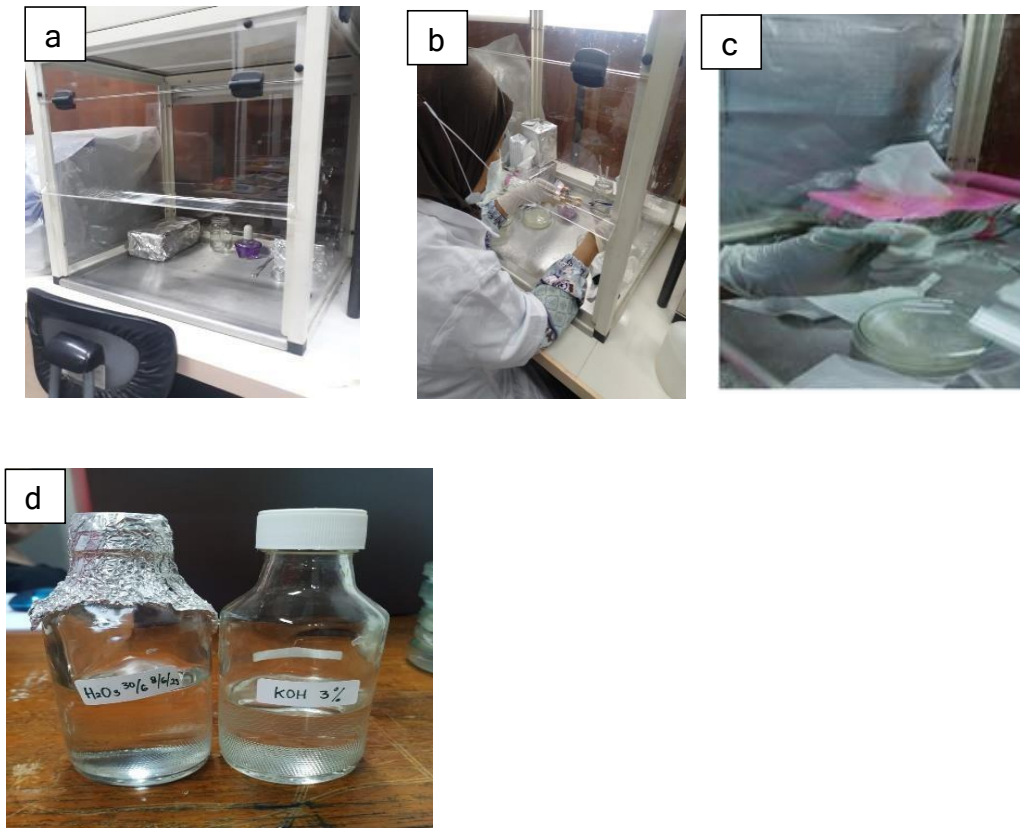
Gambar Lampiran 2. 1. Proses Pembuatan Media Nitrat Mineral Salt (NMS) di Laboratorium. a.) Menimbang bahan pembuatan media, b.) Menghomogen bahan dengan hot plate, c.) Mengautoclaf media, d.) Penuangan media, e.) wrapping pinggiran cawan. f cawan yang berisi media (g)



Gambar Lampiran 2. 2. Proses Isolasi bakteri metanotroph

Isolasi bakteri diawali melalui proses pengenceran dengan menimbang sampel tanah sebanyak 1 g (a) lalu masukkan ke dalam tabung reaksi (b). Setelah itu homogenkan dengan menggunakan *vorteks* (c). Kemudian masukkan 1 ml larutan ke dalam 9 ml aquades steril pada tabung reaksi lain sehingga diperoleh tingkat pengenceran 10^{-1} , 10^{-2} , 10^{-3} , 10^{-4} , 10^{-5} , 10^{-6} , 10^{-7} , and 10^{-8} . Sampel tanah yang telah diencerkan diambil sebanyak 0,3 ml menggunakan pipet mikro 0,3 ml (d) kemudian masukan ke dalam cawan petri steril yang mengandung media selektif NMS (e) Setelah media dingin maka cawan petri dibungkus dengan *plastic wrap* pada bibir cawan yang saling menyatu agar pada saat dilakukan kontrol terhadap pertumbuhan

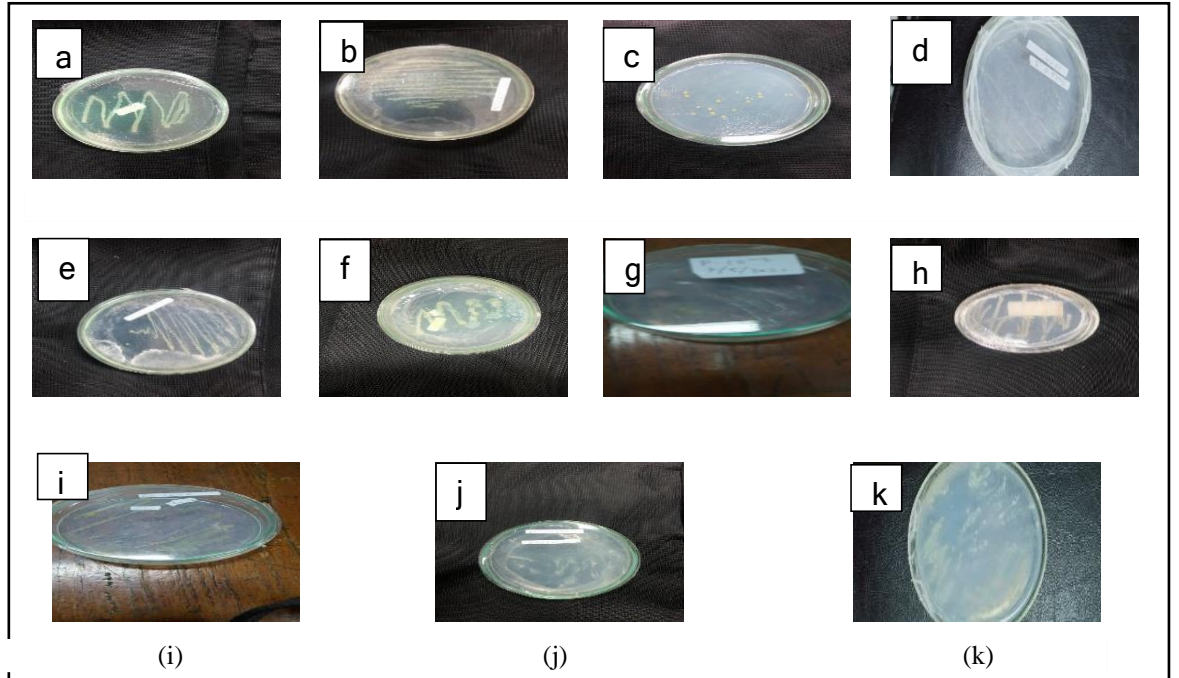
bakteri (penyemprotan alcohol 70% di dalam ruang inkubasi) alkohol tidak masuk ke dalam cawan. Inkubasi dilakukan selama 1-5 hari pada suhu 30°C. Setiap koloni bakteri yang tumbuh, kemudian diamati bentuk morfologi dan karakteristiknya



(d)

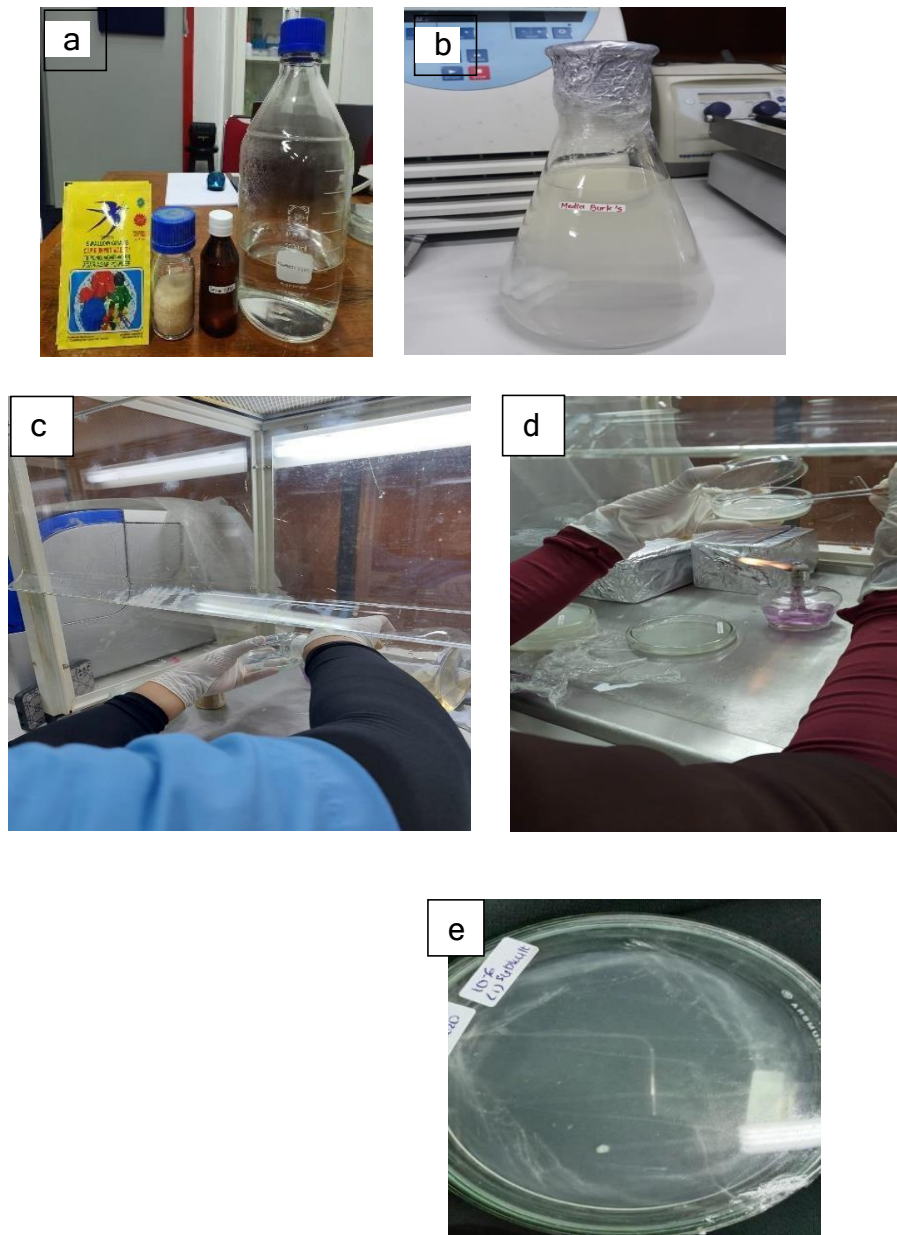
Gambar Lampiran 2, 3. Proses uji gram dan uji katalase

Menyiapkan alat dan bahan pada *Laminar Air Flow* (LAF) (a), Mengambil isolat bakteri *Metanotrof* dari cawan petri ditempatkan di preparat kemudian ditetaskan larutan KOH 3%, (uji gram) (b) Isolat bakteri metanoroph ditetaskan larutan H₂O₂ (uji katalase) (c) larutan KOH dan H₂O₂ (d)



Gambar Lampiran 2, 4. Kode Isolat a) isolat WPM1, (b) isolat WPM2, (c) isolat WPM3, (d) isolat

WPM4, (e) isolat WPM5, (f) isolat BRM1 (g) isolat BRM2, (h) isolat BRM3, isolat BTM1, Koloni yang berasal dari kecamatan Bungku Tengah dengan kode isolat (j) BTM2, (k) □ □ Koloni yang berasal dari kecamatan Bungku Barat dengan kode isolat BBM1 □



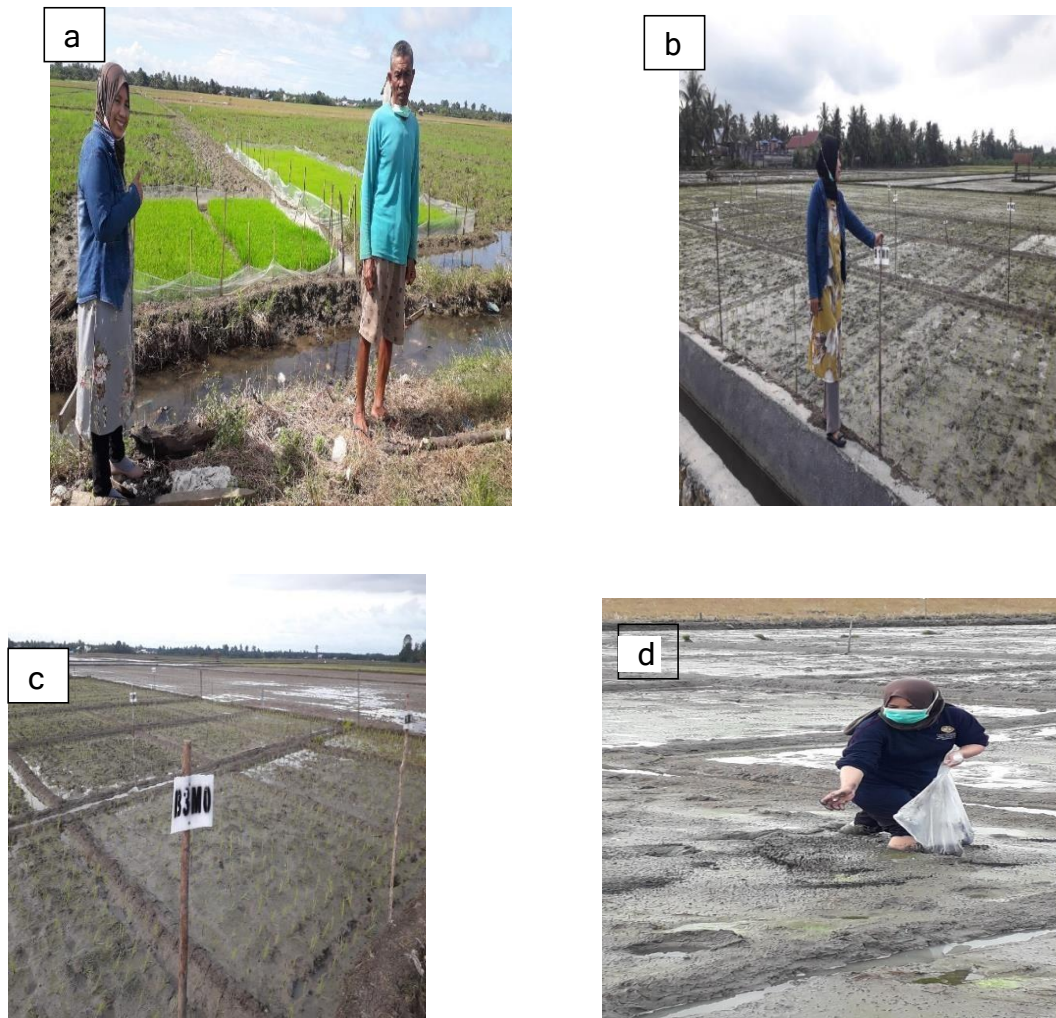
Gambar Lampiran 2. 5. Uji Fiksasi Nitrogen. Bahan media NMS (a) bahan media FeMo (b) larutan media Burk's (c) Memindahkan isolat bakteri Metanotrof pada media Burk's, (d.) Isolat bakteri Metanotrof yang tumbuh pada media Burk's (e)



Gambar Lampiran 2..6. Media NB (Nutrient Both) saat di shaker



Gambar Lampiran 3.1. Proses Pembuatan Biochar : TKKS (a), proses pembakaran TKKKS (b), biochar TKKS (c)



Gambar Lampiran 4.1. Lokasi pembibitan (a), pembuatan petakan (b), pemberian biochar TKKS tahap I (c)



Gambar Lampiran 4.2 Pemberian biochar TKKS tahap II



Gambar Lampiran 4.3 Pemberian bakteri metanotorf pada lahan sawah



Gambar Lampiran 4.4 Pengukuran pada Tanaman Padi Sawah



Gambar Lampiran 4.7. Gambar hasil pengukuran spectrometer pada konsentrasi perlakuan

Curikulum Vitae

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: Hasni Manca
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5. Dosen Universitas Tadulako Fakultas Pertanian Nopemebr 2022 - sekarang

Penelitian :

1. Characterization of Biochar Empty Fruit Bunches OPEFB at Various Temperatures and Burning Time. *Journal of Experimental Biology and Agricultural Sciences*, 10(3), 599-606.
[https://doi.org/10.18006/2022.10\(3\).599.606](https://doi.org/10.18006/2022.10(3).599.606)

Seminar International

1. Isolation, Characterization and Identification of Methanotrophic Bacteria in Rice Fields, Morowali Regency. The 5th International Conference on Science (ICoS) 2022 Universitas Hasanuddin

