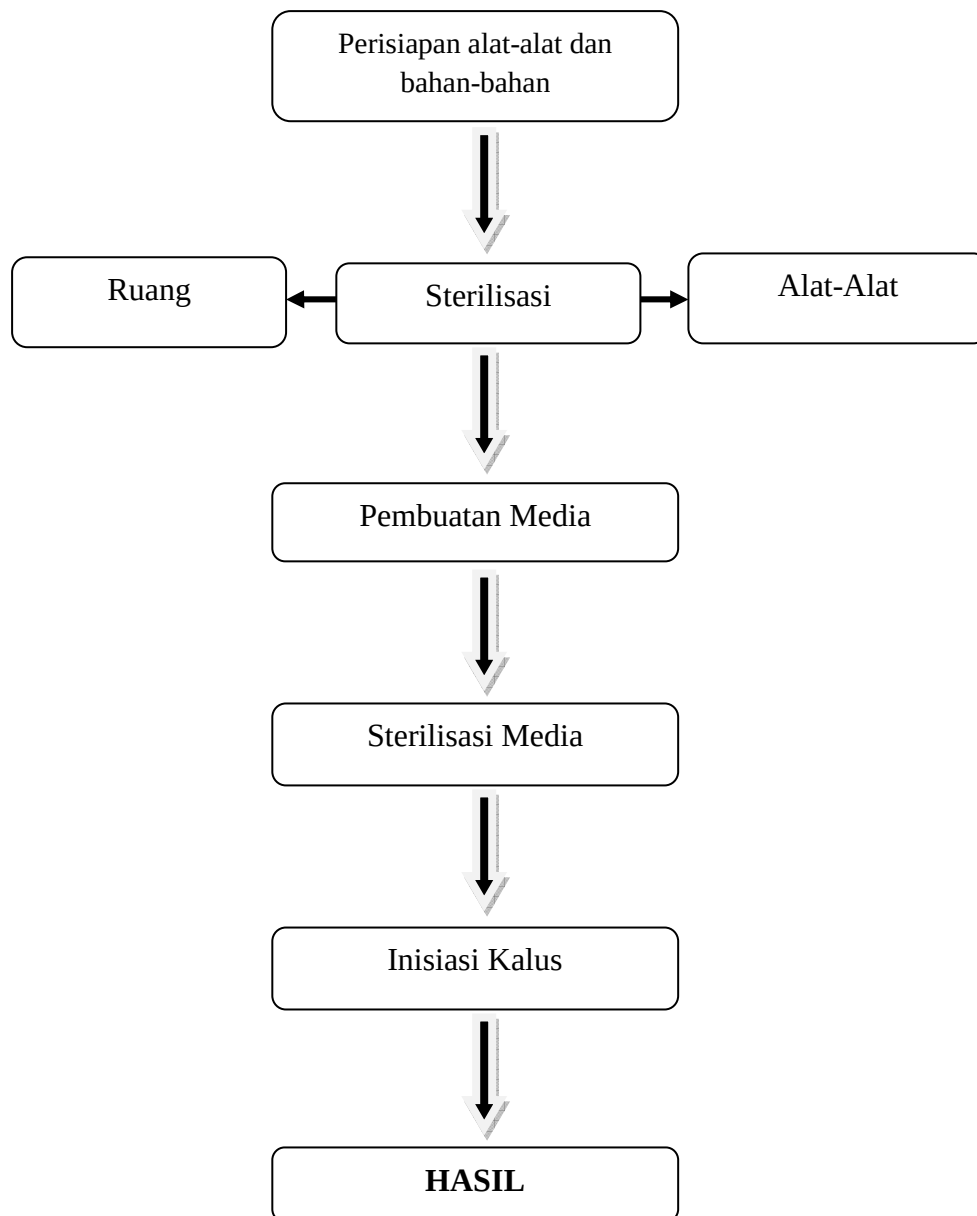


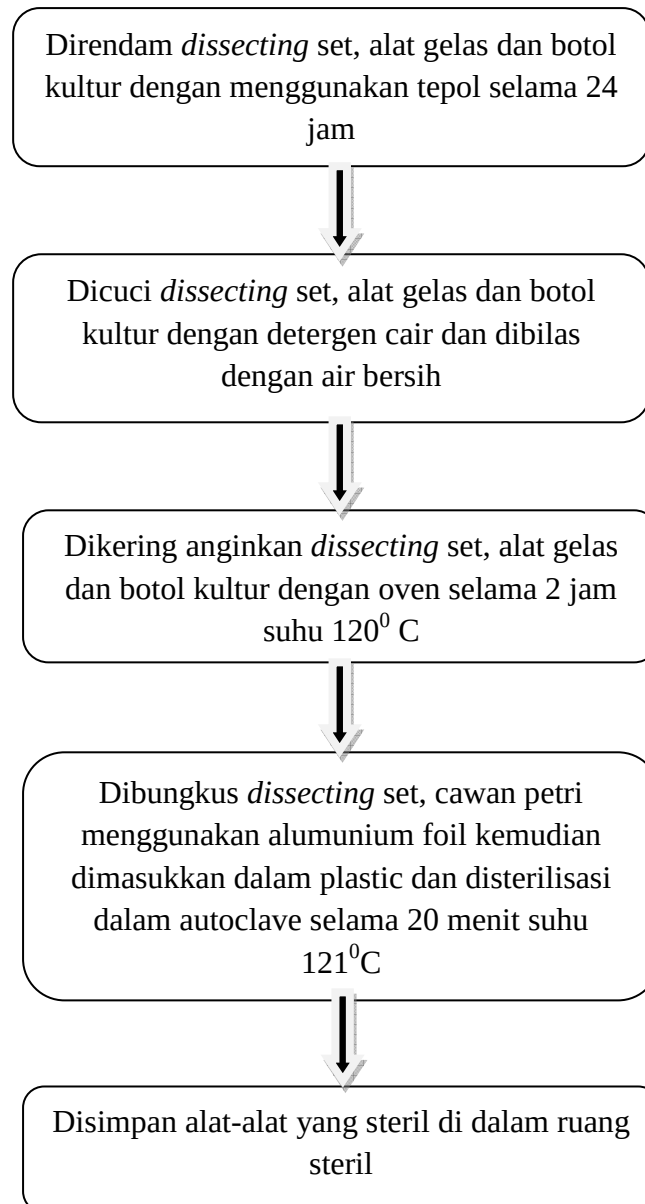
LAMPIRAN

Lampiran 1. Skema Kerja Penelitian



Lampiran 2. Skema Kerja Tahapan Sterilisasi

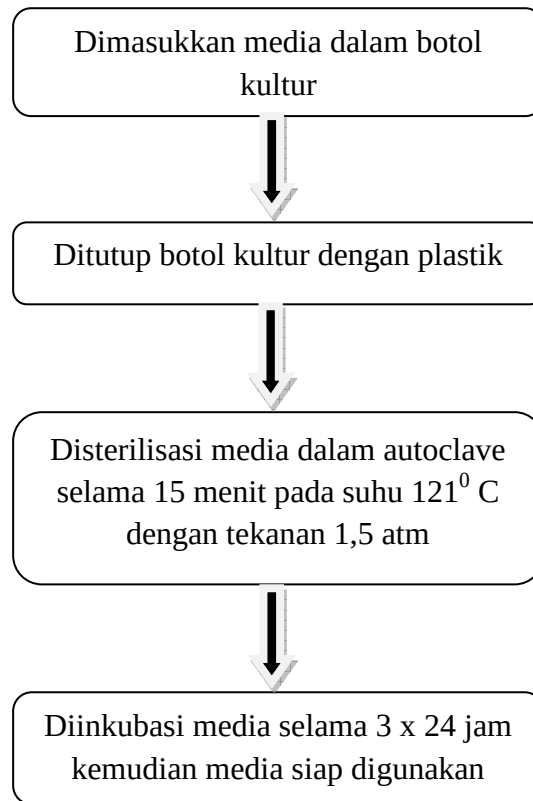
1. Sterilisasi Alat



2. Sterilisasi Ruang Tanam



3. Sterilisasi Media



Lampiran 3. Komposisi media MS

No.	Bahan Kimia	Komposisi (mg/l)	Komposisi (mg/50 ml)	Komposisi (mg/100 ml)
1	NH ₄ NO ₃	1650	8,25	16,5
2	KNO ₃	1900	9,5	19
3	CaCl	440	2,2	4,4
4	MgSO ₄	370	1,85	3,7
5	KH ₂ PO ₄	170	0,859	1,78
6	FeSO ₄ ·H ₂ O	27,8	0,139	0,278
7	Na ₂ EDTA	37,3	0,1865	1,373
8	MnSO ₄ ·H ₂ O	22,3	0,1115	0,223
9	ZnSO ₄ ·H ₂ O	8,6	0,043	0,086
10	H ₃ BO ₃	6,2	0,031	0,062
11	KI	0,83	0,00415	0,0083
12	Na ₂ MO ₄ ·H ₂ O	0,25	0,00125	0,0025
13	CuSO ₄ ·H ₂ O	0,025	0,000125	0,00025
14	CoC ₁₂ ·H ₂ O	0,025	0,000125	0,00025
15	Myoinositol	100	0,5	1
16	Niacin	0,5	0,0025	0,005
17	Pyrodoxine-HCl	0,5	0,0025	0,005
18	Thiamin-HCl	0,5	0,0025	0,005
19	Glycine	2,0	0,01	0,02
20	Sucrose	3000	15	30

Lampiran 4. Data-data hasil pengamatan

1. Data Hari Munculnya Kalus Sambiloto

No.	Perlakuan	Hari Muncul Kalus (hst)			Rata-Rata
		1	2	3	
1	A1D0	0	0	0	0.000
2	A2D0	0	0	0	0.000
3	A3D0	0	0	0	0.000
4	A1D1	29	30	29	29.333
5	A2D1	30	30	29	29.667
6	A3D1	19	21	23	21.000
7	A1D2	13	19	19	17.000
8	A2D2	21	23	21	21.667
9	A3D2	16	16	18	16.667
10	A1D3	15	17	17	16.333
11	A2D3	17	17	19	17.667
12	A3D3	18	16	18	17.333

2. Data persentase eksplan berkalus

No.	Perlakuan	Ulangan			Rata-Rata
		1	2	3	
1	A1D0	0	0	0	0
2	A2D0	0	0	0	0
3	A3D0	0	0	0	0
4	A1D1	100	100	100	100
5	A2D1	100	100	100	100
6	A3D1	100	100	100	100
7	A1D2	100	100	66.66667	88.88889
8	A2D2	66.66667	66.66667	33.33333	55.55556
9	A3D2	100	66.66667	100	88.88889
10	A1D3	100	100	66.66667	88.88889
11	A2D3	66.66667	100	66.66667	77.77778
12	A3D3	100	100	100	100

3. Data berat kalus Sambiloto

No.	Perlakuan	Berat Kalus (gram)			Rata- Rata(gram)
		1	2	3	
1	A1D0	0	0	0	0.000
2	A2D0	0	0	0	0.000
3	A3D0	0	0	0	0.000
4	A1D1	0.057	0.053	0.04	0.057
5	A2D1	0.093	0.083	0.08	0.082
6	A3D1	0.051	0.043	0.053	0.059
7	A1D2	0.082	0.077	0.069	0.052
8	A2D2	0.047	0.025	0.101	0.067
9	A3D2	0.057	0.065	0.06	0.061
10	A1D3	0.071	0.057	0.085	0.080
11	A2D3	0.045	0.06	0.075	0.060
12	A3D3	0.063	0.113	0.060	0.072

Lampiran 5. Analisis Data Perhitungan ANAVA

1. Hasil ANAVA pengaruh 2,4-D dan air kelapa terhadap hari munculnya kalus

Tests of Between-Subjects Effects

Dependent Variable: Data

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	12291.333 ^a	12	1024.278	526.771	.000
Auksin	3385.778	3	1128.593	580.419	.000
AK	73.722	2	36.861	18.957	.000
Auksin * AK	120.722	6	20.120	10.348	.000
Error	46.667	24	1.944		
Total	12338.000	36			

a. R Squared = .996 (Adjusted R Squared = .994)

2. Hasil uji DMRT 5 % (2,4-D) terhadap hari munculnya kalus

Auksin	N	Subset		
		1	2	3
1	9	0.00		
4	9		17.11	
3	9		18.44	
2	9			26.67
Sig.		1.000	.241	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 5,580.

3. Hasil uji DMRT 5% (Air Kelapa) terhadap hari munculnya kalus

Duncan

AK	N	Subset		
		1	2	3
3	12	13.75		
1	12		15.67	
2	12			17.25
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.944.

4. Hasil uji DMRT 5 % pada interaksi antara 2,4-D dengan air kelapa terhadap hari munculnya kalus

Interaksi	N	Subset			
		1	2	3	4
1	3	.00			
2	3	.00			
3	3	.00			
10	3		16.33		
9	3		16.67		
7	3		17.00		
12	3		17.33		
11	3		17.67		
6	3			21.00	
8	3			21.67	
4	3				29.33
5	3				29.67
Sig.		1.000	.305	.564	.772

5. Hasil ANAVA pengaruh 2,4-D dan air kelapa terhadap persentase eksplan berkalus

Tests of Between-Subjects Effects

Dependent Variable: Data

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	218521.704 ^a	12	18210.142	118.011	.000
Auksin	55556.222	3	18518.741	120.011	.000
AK	1296.204	2	648.102	4.200	.027
Auksin * AK	1666.611	6	277.769	1.800	.142
Error	3703.407	24	154.309		
Total	222225.111	36			

a. R Squared = .983 (Adjusted R Squared = .975)

6. Hasil uji DMRT 5 % (2,4-D) terhadap persentase eksplan berkalus

Auksin	N	Subset		
		1	2	3
1	9	.0000		
3	9		77.7789	
4	9		88.8900	88.8900
2	9			1.0000E2
Sig.		1.000	.088	.088

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 179.001.

7. Hasil uji DMRT 5% (Air Kelapa) terhadap persentase eksplan berkalus

AK	N	Subset	
		1	2
2	12	58.3342	
1	12		69.4450
3	12		72.2225
Sig.		.051	.615

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 179.001.

8. Hasil ANAVA pengaruh 2,4-D dan air kelapa terhadap berat kalus Sambiloto

Tests of Between-Subjects Effects

Dependent Variable: Data

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Model	.121 ^a	12	.010	41.545	.000
Auksin	.030	3	.010	40.645	.000
AK	5.106E-5	2	2.553E-5	.105	.900
Auksin * AK	.004	6	.001	2.615	.043
Error	.006	24	.000		
Total	.127	36			

a. R Squared = .954 (Adjusted R Squared = .931)

9. Hasil uji DMRT 5 % (2,4-D) terhadap berat kalus Sambiloto

Data

Duncan

Auksin	N	Subset	
		1	2
1	9	.00000	
2	9		.06144
3	9		.06478
4	9		.07089
Sig.		1.000	.236

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .000.

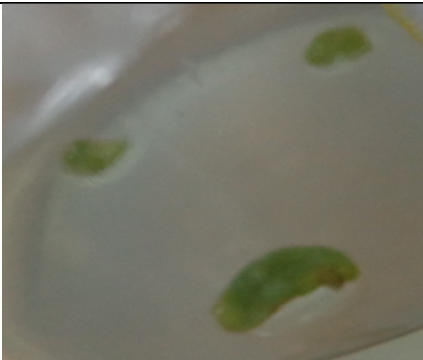
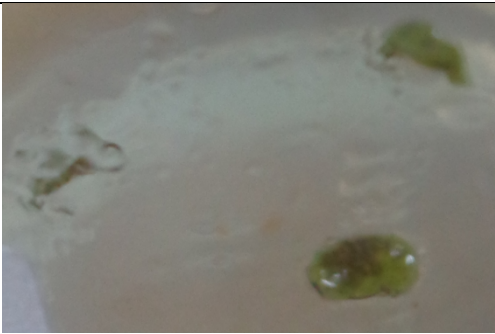
10. Hasil uji DMRT 5 % pada interaksi antara 2,4-D dengan air kelapa terhadap berat kalus Sambilot

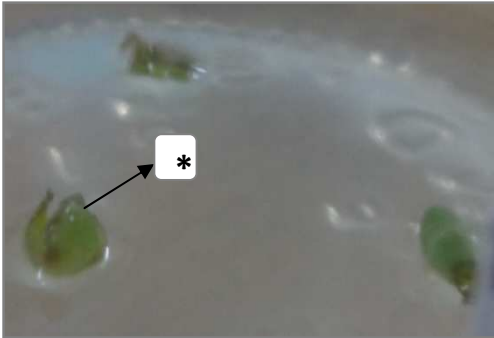
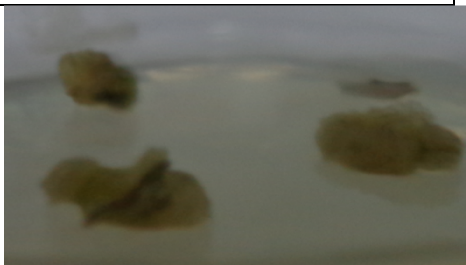
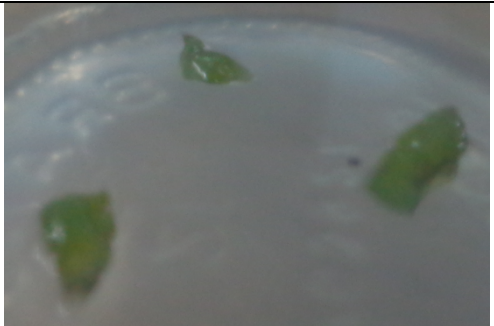
Duncan

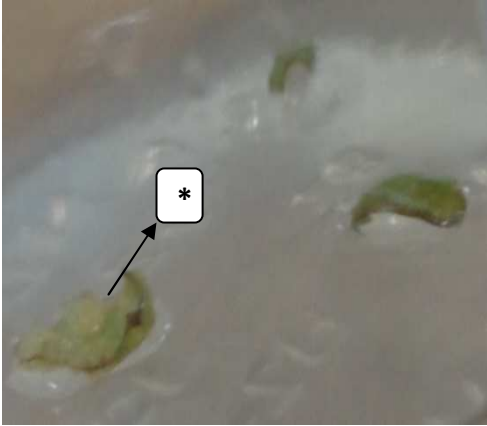
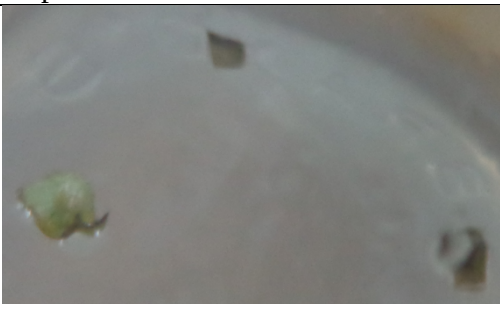
Interaksi	N	Subset for alpha = 0.05		
		1	2	3
1	3	.00000		
2	3	.00000		
3	3	.00000		
6	3		.04900	
4	3		.05000	
8	3		.05767	.05767
11	3		.06000	.06000
9	3		.06067	.06067
10	3		.07100	.07100
7	3		.07600	.07600
12	3			.08167
5	3			.08533
Sig.		1.000	.074	.068

Means for groups in homogeneous subsets are displayed.

Lampiran 6. Gambar Hasil Pengamatan

	Awal	Akhir
A	 A1D0 (Ak 10% + 2,4-D 0 mg/l)	 A1D0 (Ak 10% + 2,4-D 0 mg/l)
B	 A2D0 (ak 15% + auk 0 mg/l)	 A2D0 (ak 15% + auk 0 mg/l)
C	 A3D0 (ak 20% + auk 0 mg/l)	 A3D0 (ak 20% + auk 0 mg/l)

D	 A1D1 (ak 10% + auk 1 mg/l) Keterangan: * eksplan menggulung	 A1D1 (ak 10% + auk 1 mg/l)
E	 A2D1 (ak 15% + auk 1 mg/l)	 A2D1 (ak 15% + auk 1 mg/l)
F	 A3D1 (ak 20% + auk 1 mg/l)	 A3D1 (ak 20% + auk 1 mg/l)

G	 A1D2 (ak 10% + auk 2 mg/l) Keterangan : * bintik putih pada eksplan	 A1D2 (ak 10% + auk 2 mg/l)
H	 A2D2 (ak 15% + auk 2 mg/l)	 A2D2 (ak 15% + auk 2 mg/l)
I	 A3D2 (ak 20% + auk 2 mg/l)	 A3D2 (ak 20% + auk 2 mg/l)

J	 A1D3 (ak 10% + auk 3 mg/l)	 A1D3 (ak 10% + auk 3 mg/l)
K	 A2D3 (ak 15% + auk 3 mg/l)	 A2D3 (ak 15% + auk 3 mg/l)
L	 A3D3 (ak 20% + auk 3 mg/l)	 A3D3 (ak 20% + auk 3 mg/l)

Lampiran 7. Gambar Alat, Bahan dan Kegiatan Penelitian

1. Gambar Alat



Oven



Autoclave



LAF



Lemari Pendingin



Timbangan Analitik



Hot Plate



Alat-alat gelas



alat-alat diseksi



pH meter

2. Gambar Bahan



Bahan Media



Bahan sterilisasi



Bahan Sterilisasi



Bahan Sterilisasi



Media Tanam

3. Gambar Kegiatan Penelitian



Penimbangan bahan media



Pemasakan media



Sterilisasi eksplan



Pengukuran pH



Sterilisasi eksplan dalam LAF



Pemotongan eksplan



Inisiasi



Pengamatan



KEMENTERIAN AGAMA RI
UNIVERSITAS ISLAM NEGERI (UIN)
MAULANA MALIK IBRAHIM MALANG
FAKULTAS SAINS DAN TEKNOLOGI
 Jl. Gajayana No. 50 Dinoyo Malang (0341)558933 Fax.(0341) 558933

BUKTI KONSULTASI SKRIPSI

Nama : Rizky Rachmawati Guntoro
NIM : 09620022
Fakultas/Jurusan : Sains dan Teknologi/Biologi
Pembimbing : Dr. Evika Sandi Savitri, M.P.
Judul Skripsi : Respon Eksplan Sambiloto (*Angrographis paniculata* Nees) terhadap Pembentukan dan Pertumbuhan Kalus pada Media MS dengan Penambahan ZPT 2,4-D yang Dikombinasikan dengan Air Kelapa

No	Tanggal	HAL	Tanda Tangan
1.	21 Juni 2013	Pengajuan BAB I, II, III	1.
2.	25 Juni 2013	Revisi BAB I, II, III	2.
3.	27 Juni 2013	Acc BAB I, II, III	3.
4.	2 Agustus 2013	Pengajuan BAB IV	4.
5.	4 Agustus 2013	Revisi BAB IV	5.
6.	6 Agustus 2013	Pengajuan BAB V	6.
7.	7 Agustus 2013	ACC Skripsi	7.

Malang, 5 September 2013

Mengetahui,

Ketua Jurusan Biologi



Dr. Evika Sandi Savitri, M. P

NIP. 19741018 200312 002



KEMENTERIAN AGAMA RI
UNIVERSITAS ISLAM NEGERI (UIN)
MAULANA MALIK IBRAHIM MALANG
FAKULTAS SAINS DAN TEKNOLOGI
Jl. Gajayana No. 50 Dinoyo Malang (0341)558933 Fax.(0341) 558933

BUKTI KONSULTASI SKRIPSI

Nama : Rizky Rachmawati Guntoro
NIM : 09620022
Fakultas/Jurusan : Sains dan Teknologi/Biologi
Pembimbing II : Achmad Nashichuddin, M.A
Judul Skripsi : Respon Eksplan Sambiloto (*Angrographis paniculata* Nees) terhadap Pembentukan dan Pertumbuhan Kalus pada Media MS dengan Penambahan ZPT 2,4-D yang Dikombinasikan dengan Air Kelapa

No	Tanggal	HAL	TandaTangan
1.	23 Juli 2013	Pengajuan BAB I, II, III	1.
2.	25 Juli 2013	Revisi BAB I, II, III	2.
3.	26 Juli 2013	Acc BAB I, II, III	3.
4.	7 September 2013	Pengajuan BAB IV	4.
5.	9 September 2013	ACC Keseluruhan	5.

Malang, 5 September 2013

Mengetahui,
Ketua Jurusan Biologi



Dr. Evika Sandi Savitri, M. P
NIP. 19741018 200312 002