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LAMPIRAN

(a)



(b)



(c)



(d)

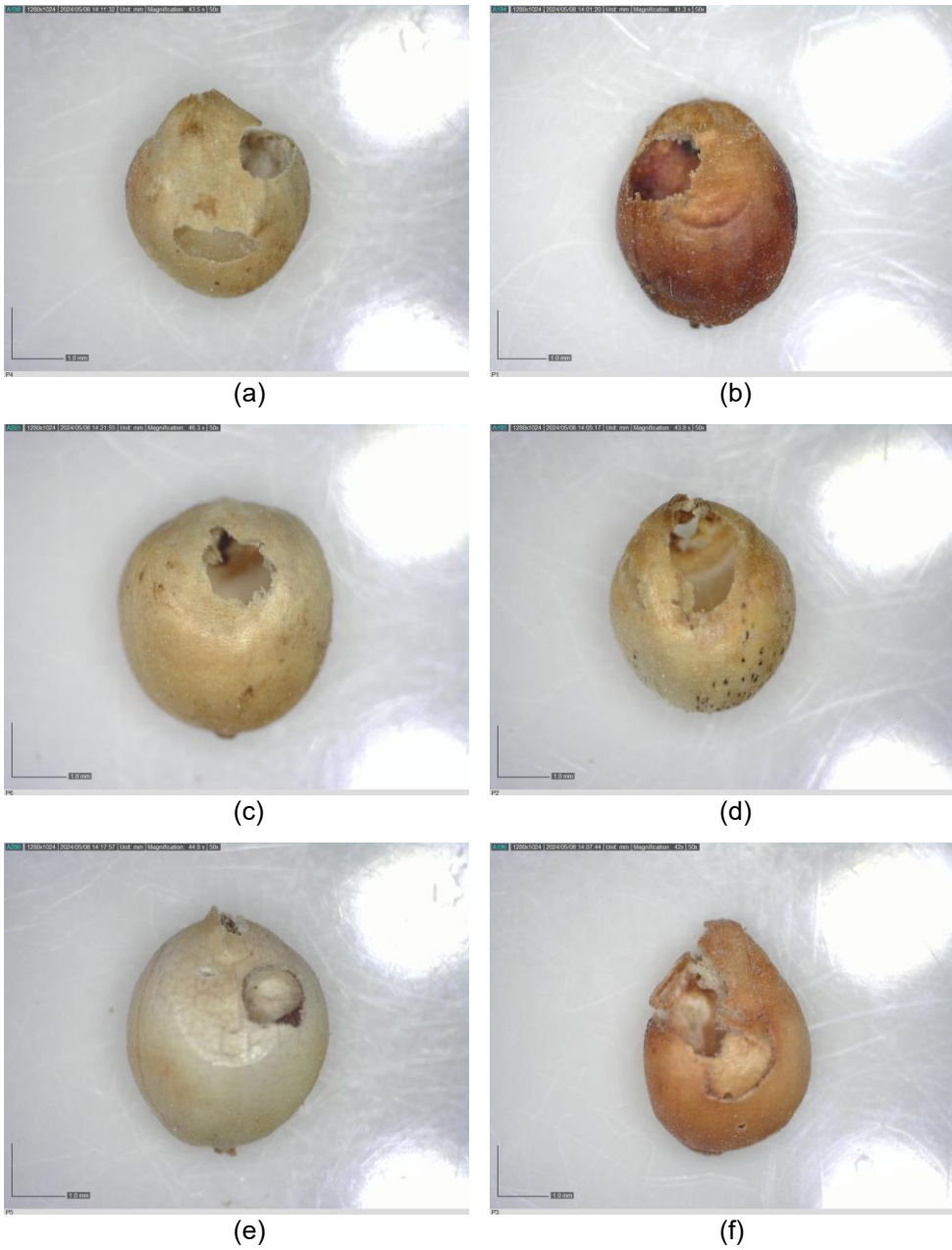


(e)



(f)

Lampiran Gambar 1. Kultivar sorgum yang digunakan dalam penelitian: (a) Soper-6; (b) Suri-4; (c) Kawali; (d) Numbu; (e) Super 1; (f) Super-2



Lampiran Gambar 2. Kerusakan biji sorgum yang disebabkan oleh infestasi *Sitophilus zeamais* pada setiap pakan perlakuan: (a), Soper-6; (b), Suri-4; (c), Numbu; (d), Kawali; (e), Super 1; (f), Super-2



(a)



(b)



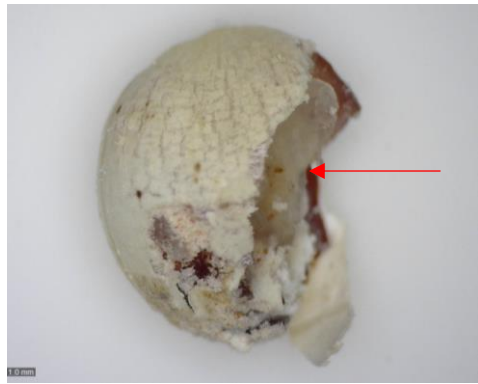
(c)



(d)



(e)



(f)



(g)



(h)



(i)

Lampiran Gambar 3. Perkembangan *Sitophilus zeamais* pada sorgum: (a), *egg plug* ; (b), Telur; (c), Larva; (d), larva pada biji sorgum; (e), pupa; (f), pupa pada biji sorgum; (g) imago baru jantan; (h) imago baru betina; (i) lubang imago baru pada biji sorgum

Tabel Lampiran 4. Analisis ragam perkembangan *Sitophilus zeamais* pada enam kultivar sorgum

		ANOVA Perkembangan <i>S. zeamais</i>				
		Sum of Squares	df	MeanSquare	F	Sig,
Telur	Between Groups	70,022	5	14,004	8,812	,000
	Within Groups	562,600	354	1,589		
	Total	632,622	359			
Larva	Between Groups	379,981	5	75,996	41,038	,000
	Within Groups	655,550	354	1,852		
	Total	1035,531	359			
Pupa	Between Groups	29,447	5	5,889	2,485	,031
	Within Groups	839,083	354	2,370		
	Total	868,531	359			
Pradewasa	Between Groups	713,022	5	142,604	22,886	,000
	Within Groups	2205,767	354	6,231		
	Total	2918,789	359			

Tabel Lampiran 5. Analisis ragam praoviposisi *Sitophilus zeamais* pada enam kultivar sorgum

ANOVA Praoviposisi					
	Sum of Squares	df	Mean Square	F	Sig,
Between Groups	77,333	5	15,467	9,534	,000
Within Groups	87,600	54	1,622		
Total	164,933	59			

Tabel Lampiran 6. Analisis ragam siklus hidup *Sitophilus zeamais* pada enam kultivar sorgum

ANOVA Siklus Hidup					
	Sum of Squares	df	Mean Square	F	Sig,
Between Groups	2323,336	5	464,667	74,442	,000
Within Groups	2209,671	354	6,242		
Total	4533,006	359			

Tabel Lampiran 7. Analisis ragam fekunditas F_2 *Sitophilus zeamais* pada enam kultivar sorgum

ANOVA Fekunditas					
	Sum of Squares	df	Mean Square	F	Sig,
Between Groups	263,683	5	52,737	15,708	,000
Within Groups	181,300	54	3,357		
Total	444,983	59			

Tabel Lampiran 8. Analisis ragam daya tetas telur F_2 *Sitophilus zeamais* pada enam kultivar sorgum

ANOVA Daya Tetas Telur F_2					
	Sum of Squares	df	Mean Square	F	Sig,
Between Groups	4566,920	5	913,384	3,827	,005
Within Groups	12886,586	54	238,640		
Total	17453,506	59			

Tabel Lampiran 9. Analisis ragam lama stadium telur F₂ *Sitophilus zeamais* pada enam kultivar sorgum

ANOVA Lama Stadium Telur F ₂					
	Sum of Squares	df	Mean Square	F	Sig,
Between Groups	71,514	5	14,303	7,393	,000
Within Groups	684,817	354	1,935		
Total	756,331	359			

Tabel Lampiran 10. Analisis ragam berat imago jantan dan betina *Sitophilus zeamais* pada enam kultivar sorgum

ANOVA Berat Imago Jantan dan Betina						
		Sum of Squares	df	Mean Square	F	Sig,
Berat Imago Jantan	Between Groups	,252	5	,050	258,766	,000
	Within Groups	,002	12	,000		
	Total	,254	17			
Berat Imago Betina	Between Groups	,176	5	,035	13,840	,000
	Within Groups	,030	12	,003		
	Total	,206	17			

Tabel Lampiran 11. Uji T berat imago baru jantan dan betina *Sitophilus zeamais* pada kultivar Soper-6

t-Test: Two-Sample Assuming Equal Variances

Soper-6

	<i>Jantan</i>	<i>Betina</i>
Mean	1,366667	1,426667
Variance	0,000633	0,000233
Observations	3	3
Pooled Variance	0,000433	
Hypothesized Mean Difference	0	
df	4	
t Stat	-3,53009	
P(T<=t) one-tail	0,012114	
t Critical one-tail	2,131847	
P(T<=t) two-tail	0,024229	
t Critical two-tail	2,776445	

Tabel Lampiran 12. Uji T berat imago baru jantan dan betina *Sitophilus zeamais* pada kultivar Suri-4

t-Test: Two-Sample Assuming Equal Variances

Suri-4

	<i>Jantan</i>	<i>Betina</i>
Mean	1,473333	1,54
Variance	3,33E-05	0,0001
Observations	3	3
Pooled Variance	6,67E-05	
Hypothesized Mean Difference	0	
df	4	
t Stat	-10	
P(T<=t) one-tail	0,000281	
t Critical one-tail	2,131847	
P(T<=t) two-tail	0,000562	
t Critical two-tail	2,776445	

Tabel Lampiran 13. Uji T berat imago baru jantan dan betina *Sitophilus zeamais* pada kultivar Numbu

t-Test: Two-Sample Assuming Equal Variances

Numbu

	<i>Jantan</i>	<i>Betina</i>
Mean	1,243333	1,41
Variance	0,000133	0,0057
Observations	3	3
Pooled Variance	0,002917	
Hypothesized Mean Difference	0	
df	4	
t Stat	-3,77964	
P(T<=t) one-tail	0,009721	
t Critical one-tail	2,131847	
P(T<=t) two-tail	0,019442	
t Critical two-tail	2,776445	

Tabel Lampiran 14. Uji T berat imago baru jantan dan betina *Sitophilus zeamais* pada kultivar Kawali

t-Test: Two-Sample Assuming Equal Variances

Kawali

	<i>Jantan</i>	<i>Betina</i>
Mean	1,19	1,326667
Variance	0,0001	0,008033
Observations	3	3
Pooled Variance	0,004067	
Hypothesized Mean Difference	0	
df	4	
t Stat	-2,62476	
P(T<=t) one-tail	0,029253	
t Critical one-tail	2,131847	
P(T<=t) two-tail	0,058507	
t Critical two-tail	2,776445	

Tabel Lampiran 15. Uji T berat imago baru jantan dan betina *Sitophilus zeamais* pada kultivar Super-1

t-Test: Two-Sample Assuming Equal Variances

Super-1

	<i>Jantan</i>	<i>Betina</i>
Mean	1,356667	1,536667
Variance	0,000233	0,000933
Observations	3	3
Pooled Variance	0,000583	
Hypothesized Mean Difference	0	
df	4	
t Stat	-9,12767	
P(T<=t) one-tail	0,0004	
t Critical one-tail	2,131847	
P(T<=t) two-tail	0,000799	
t Critical two-tail	2,776445	

Tabel Lampiran 16. Uji T berat imago baru jantan dan betina *sitophilus zeamais* pada kultivar Super-2

t-Test: Two-Sample Assuming Equal Variances

Super-2

	<i>Jantan</i>	<i>Betina</i>
Mean	1,123333	1,623333
Variance	3,33E-05	0,000233
Observations	3	3
Pooled Variance	0,000133	
Hypothesized Mean Difference	0	
df	4	
t Stat	-53,033	
P(T<=t) one-tail	3,78E-07	
t Critical one-tail	2,131847	
P(T<=t) two-tail	7,57E-07	
t Critical two-tail	2,776445	

Tabel Lampiran 17. Uji T lama stadium telur f_1 dan f_2 *sitophilus zeamais* pada kultivar Soper-6

t-Test: Two-Sample Assuming Equal Variances

Soper-6

	<i>Telur F1</i>	<i>Telur F2</i>
Mean	5,9	5,933333
Variance	1,447458	1,99548
Observations	60	60
Pooled Variance	1,721469	
Hypothesized Mean Difference	0	
df	118	
t Stat	-0,13915	
P(T<=t) one-tail	0,444784	
t Critical one-tail	1,65787	
P(T<=t) two-tail	0,889567	
t Critical two-tail	1,980272	

Tabel Lampiran 18. Uji T lama stadium telur f_1 dan f_2 *sitophilus zeamais* pada kultivar Suri-4

t-Test: Two-Sample Assuming Equal Variances

Suri-4

	<i>Telur F1</i>	<i>Telur F2</i>
Mean	5,916667	6,15
Variance	2,009887	2,163559
Observations	60	60
Pooled Variance	2,086723	
Hypothesized Mean Difference	0	
df	118	
t Stat	-0,88472	
P(T<=t) one-tail	0,189054	
t Critical one-tail	1,65787	
P(T<=t) two-tail	0,378108	
t Critical two-tail	1,980272	

Tabel Lampiran 19. Uji T lama stadium telur F₁ dan F₂ *Sitophilus zeamais* pada kultivar Numbu

t-Test: Two-Sample Assuming Equal Variances

Numbu	Telur F1	Telur F2
Mean	6,483333	6,133333
Variance	0,999718	2,490395
Observations	60	60
Pooled Variance	1,745056	
Hypothesized Mean Difference	0	
df	118	
t Stat	1,451189	
P(T<=t) one-tail	0,07469	
t Critical one-tail	1,65787	
P(T<=t) two-tail	0,149381	
t Critical two-tail	1,980272	

Tabel Lampiran 20. Uji T lama stadium telur F₁ dan F₂ *Sitophilus zeamais* pada kultivar Kawali

t-Test: Two-Sample Assuming Equal Variances

Kawali	Telur F1	Telur F2
Mean	7,15	7,116667
Variance	1,892373	2,003107
Observations	60	60
Pooled Variance	1,94774	
Hypothesized Mean Difference	0	
df	118	
t Stat	0,13082	
P(T<=t) one-tail	0,44807	
t Critical one-tail	1,65787	
P(T<=t) two-tail	0,896141	
t Critical two-tail	1,980272	

Tabel Lampiran 21. Uji T Lama Stadium Telur F₁ dan F₂ *Sitophilus zeamais* pada Kultivar Super-1

t-Test: Two-Sample Assuming Equal Variances

Super-1		
	Telur F1	Telur F2
Mean	6,166667	6,083333
Variance	1,39548	1,399718
Observations	60	60
Pooled Variance	1,397599	
Hypothesized Mean Difference	0	
df	118	
t Stat	0,38609	
P(T<=t) one-tail	0,350063	
t Critical one-tail	1,65787	
P(T<=t) two-tail	0,700126	
t Critical two-tail	1,980272	

Tabel Lampiran 22. Uji T lama stadium telur F₁ dan F₂ *Sitophilus zeamais* pada kultivar Super-2

t-Test: Two-Sample Assuming Equal Variances

Super-2		
	Telur F1	Telur F2
Mean	6,65	6,766667
Variance	1,790678	2,080226
Observations	60	60
Pooled Variance	1,935452	
Hypothesized Mean Difference	0	
df	118	
t Stat	-0,45932	
P(T<=t) one-tail	0,323424	
t Critical one-tail	1,65787	
P(T<=t) two-tail	0,646849	
t Critical two-tail	1,980272	

Tabel Lampiran 23. Deskripsi sorgum kultivar Soper-6

Variabel	Deskripsi
Tahun dilepas	2019
Asal	Perbaikan galur introduksi KT247-1-1-1, introduksi dari ICRISAT, India tahun 2002
Umur	Berbunga 50%: \pm 64 hst Panen: \pm 111 hst
Sifat tanaman	Tidak membentuk anakan dan dapat diratun
Tinggi tanaman	\pm 181 cm
Kedudukan tangkai	Dipucuk
Sifat/bentuk malai	Kompak/Simetris
Warna/Ukuran biji	Krem/Kecil
Kadar protein	\pm 15,05%
Kadar lemak	\pm 2,82%
Kadar karbohidrat	\pm 66,88%
Kadar tanin	\pm 0,07%
Bobot 1000 biji	\pm 24,92 Gram
Rata-rata hasil	\pm 4,5 t/ha (KA 10%)
Potensi hasil	\pm 6,0 t/ha (KA 10%)
Ketahanan	Tahan terhadap hama <i>Aphis</i> , sangat tahan terhadap penyakit karat dan tahan penyakit antraknosa
Pemulia	Fatmawati dan Muhammad Azrai, Amin Nur, Karlina S, Aviv Andriani, dan Roy Efendi

Tabel Lampiran 24. Deskripsi sorgum kultivar Suri-4

Variabel	Deskripsi
Tahun dilepas	22 November 2014
Asal	Merupakan perbaikan galur Intoduksi galur 15020, introduksi dari ICRISAT, India tahun 2002
Umur	Berbunga 50% : \pm 55 hst Panen : \pm 95 hst
Tinggi tanaman	\pm 239,4 cm
Kedudukan tangkai	Dipucuk
Sifat/bentuk malai	Terbuka/Terkulai
Panjang malai	\pm 29 cm
Warna biji	Cokelat tua kemerahan
Ukuran biji	Panjang
Kadar protein	\pm 15,42%
Kadar lemak	\pm 3,96%
Kadar karbohidrat	\pm 64,93%
Kadar Gula (Brix)	\pm 15,05%
Kadar tanin	\pm 0,013% b.k
Bobot 1000 biji	\pm 32,4 gram
Rata-rata hasil	\pm 4,8 t/ha (KA 10%)
Potensi hasil	\pm 5,7 t/ha (KA 10%)
Ketahanan	Tahan terhadap hama <i>Aphis</i> , agak tahan terhadap penyakit antraknosa, dan bercak daun
Pemulia	Fatmawati dan Muahmmad Azrai

Tabel Lampiran 25. Deskripsi sorgum kultivar Kawali

Variabel	Deskripsi
Tahun dilepas	22 Oktober 2001
Asal	India
Umur	Berbunga 50% : ± 70 hst Panen : ± 100–110 hst
Tinggi tanaman	± 135 cm
Kedudukan tangkai	Dipucuk
Sifat/bentuk malai	Kompak/Elips
Panjang malai	± 28–29 cm
Bentuk biji	Bulat
Sifat Biji	Mudah Rontok
Warna biji	Krem
Ukuran biji	3,2; 3,0; 3,4 mm
Kadar protein	± 8,81%
Kadar lemak	± 1,97%
Kadar karbohidrat	± 87,87%
Bobot 1000 biji	± 30 gram
Rata-rata hasil	± 2,96 t/ha (KA 10%)
Potensi hasil	± 4,0–5,0 t/ha (KA 10%)
Ketahanan	Agak tahan terhadap hama <i>Aphis</i> , tahan terhadap penyakit karat, dan bercak daun.
Daerah sebaran	Dapat ditanam di lahan sawah dan tegalan

Tabel Lampiran 26. Deskripsi sorgum kultivar Numbu

Variabel	Deskripsi
Tahun dilepas	22 Oktober 2001
Asal	India
Umur	Berbunga 50% : \pm 69 hst Panen : \pm 100–105 hst
Tinggi tanaman	\pm 187 cm
Kedudukan tangkai	Dipucuk
Sifat/bentuk malai	Kompak/Elips
Panjang malai	\pm 22–23 cm
Bentuk biji	Bulat lonjong
Sifat Biji	Mudah Rontok
Warna biji	Krem
Ukuran biji	4,2; 4,8; 4,4 mm
Kadar protein	\pm 9,12%
Kadar lemak	\pm 3,94%
Kadar karbohidrat	\pm 84,58%
Bobot 1000 biji	\pm 36–37 gram
Rata-rata hasil	\pm 3,11 t/ha (KA 10%)
Potensi hasil	\pm 4,0–5,0 t/ha (KA 10%)
Ketahanan	Tahan terhadap hama <i>Aphis</i> , tahan terhadap penyakit karat, dan bercak daun.
Daerah sebaran	Dapat ditanam di lahan sawah dan tegalan

Tabel Lampiran 27. Deskripsi sorgum kultivar Super-1

Variabel	Deskripsi
Tahun dilepas	18 Desember 2013
Asal	Perbaikan populasi Watar Hamu Putih hasil koleksi plasma nutfah Balitsereal dari Pulau Sumba, Nusa Tenggara Timur
Umur	Berbunga 50% : \pm 56 hst Panen : \pm 105–110 hst
Tinggi tanaman	\pm 204,8 cm
Kedudukan tangkai	Dipucuk
Sifat/Bentuk malai	Kompak/Lonjong
Panjang malai	\pm 26,7 cm
Warna biji	Putih
Kadar protein	\pm 12,9%
Kadar lemak	\pm 2,2%
Kadar karbohidrat	\pm 71,3%
Kadar Gula (Brix)	\pm 13,5%
Kadar tanin	\pm 0,11%
Bobot 1000 biji	\pm 28,0 gram
Rata-rata hasil	\pm 2,6 t/ha (KA 10%)
Potensi hasil	\pm 5,7 t/ha (KA 10%)
Ketahanan	Tahan hama <i>Aphis</i> , tahan antraknosa, karat, dan hawar daun
Pemulia	Marcia B. P, Sigit B. S, Fatmawati R, Amin Nur, Muzdalifah, Nuning A, Sumarni Singgih, M. Azrai

Tabel Lampiran 28. Deskripsi sorgum kultivar Super-2

Variabel	Deskripsi
Tahun dilepas	18 Desember 2013
Asal	Perbaikan galur 15021, introduksi dari ICRISAT
Umur	Berbunga 50% : \pm 60 hst Panen : \pm 115–120 hst
Tinggi tanaman	\pm 229,7 cm
Kedudukan tangkai	Dipucuk
Sifat/bentuk malai	Agak terserat/Simetris
Panjang malai	\pm 26 cm
Warna biji	Krem kemerahan
Ukuran biji	Panjang 4,63 mm, lebar 3,6 mm, diameter 2,92 mm
Kadar protein	\pm 9,2%
Kadar lemak	\pm 3,1%
Kadar karbohidrat	\pm 75,6%
Kadar Gula (Brix)	\pm 12,7%
Kadar tanin	\pm 0,3%
Bobot 1000 biji	\pm 30,1 gram
Rata-rata hasil	\pm 3,0 t/ha (KA 10%)
Potensi hasil	\pm 6,3 t/ha (KA 10%)
Ketahanan	Tahan hama <i>Aphis</i> , agak tahan antraknosa, karat, dan hawar daun
Pemulia	Marcia B. P, Sigit B. S, Nuning A, Aviv A, Sumarni S, Fatmawati R, M. Azrai