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วิเคราะห์ขนาดความยาวของไข่ที่อุณหภูมิ 32 °C และ 28 °C

The ANOVA Procedure

Class Level Information

Class	Levels	Values
Temp	2	28C 32C
Hour	6	3H 4H 5H 6H 8H 9H

Number of observations 36

NOTE: Due to missing values, only 33 observations can be used in this analysis

The ANOVA Procedure

Dependent Variable: egg

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	11	430151.5152	39104.6832	3.73	0.0047
Error	21	220312.5000	10491.0714		
Corrected Total	32	650464.0152			

R-Square	Coeff Var	Root MSE	egg Mean
0.661299	7.876623	102.4259	1300.379

Source	DF	Anova SS	Mean Square	F Value	Pr > F
Temp	1	34265.1411	34265.1411	3.27	0.0851
Hour	5	313349.4318	62669.8864	5.97	0.0014
Temp*Hour	5	82536.9423	16507.3885	1.57	0.2108

The ANOVA Procedure

Duncan's Multiple Range Test for egg

NOTE: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	21
Error Mean Square	10491.07
Harmonic Mean of Cell Sizes	16.48485

NOTE: Cell sizes are not equal

Number of Means	2
Critical Range	74.19

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	Temp
A	1333.59	16	28C
A	1269.12	17	32C

The ANOVA Procedure

Duncan's Multiple Range Test for egg

NOTE: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	21
Error Mean Square	10491.07
Harmonic Mean of Cell Sizes	5.373134

NOTE: Cell sizes are not equal.

Number of Means	2	3	4	5	6
Critical Range	130.0	136.4	140.6	143.5	145.6

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	Hour
A	1420.83	6	8H
A	1356.25	4	9H
A	1312.50	6	6H
A	1312.50	6	4H
A	1307.50	5	5H
B	1112.50	6	3H

วิเคราะห์ขนาดความกว้างของไข่ที่อุณหภูมิ 32 °C และ 28 °C

The ANOVA Procedure

Class Level Information

Class	Levels	Values
Temp	2	28C 32C
Hour	6	3H 4H 5H 6H 8H 9H

Alpha	0.05
Error Degrees of Freedom	22
Error Mean Square	2533.144
Harmonic Mean of Cell Sizes	5.625

NOTE: Cell sizes are not equal.

Number of Means	2	3	4	5	6
Critical Range	62.24	65.35	67.34	68.74	69.78

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	Hour
A	356.25	6	9H
A	320.83	6	8H
A	320.00	5	4H
A	315.00	5	6H
A	306.25	6	5H
B	241.67	6	3H

The ANOVA Procedure

วิเคราะห์ขนาดความยาวของตัวหนอนที่อุณหภูมิ 32 ° C และ 28 ° C

The ANOVA Procedure

Class Level Information

Class	Levels	Values
Temp	2	28C 32C
Hour	43	10H 11H 14H 15H 16H 17H 18H 19H 20H 21H 22H 23H 24H 25H 26H 27H 28H 29H 30H 31H 32H 33H 34H 35H 36H 37H 38H 39H 40H 41H 42H 45H 46H 47H 48H 49H 52H 53H 54H 55H 56H 59H 63H

Number of observations 258

The ANOVA Procedure

Dependent Variable: larvae

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	85	955.8634109	11.2454519	146.02	<.0001
Error	172	13.2466667	0.0770155		
Corrected Total	257	969.1100775			

R-Square	Coeff Var	Root MSE	larvae Mean
0.986331	5.997596	0.277517	4.627132

Source	DF	Anova SS	Mean Square	F Value	Pr > F
Temp	1	2.0862016	2.0862016	27.09	<.0001
Hour	42	944.2434109	22.4819860	291.92	<.0001
Temp*Hour	42	9.5337984	0.2269952	2.95	<.0001

The ANOVA Procedure

Duncan's Multiple Range Test for larvae

NOTE: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	172
Error Mean Square	0.077016
Number of Means	2
Critical Range	.06821

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	Temp
A	4.71705	129	32C
B	4.53721	129	28C

The ANOVA Procedure

Duncan's Multiple Range Test for larvae

NOTE: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	172
Error Mean Square	0.077016

Number of Means	2	3	4	5	6	7	8	9	10	11	12
Critical Range	.3163	.3329	.3440	.3521	.3585	.3636	.3679	.3716	.3747	.3775	.3799
Number of Means	13	14	15	16	17	18	19	20	21	22	23
Critical Range	.3821	.3841	.3859	.3875	.3889	.3903	.3915	.3927	.3938	.3948	.3957
Number of Means	24	25	26	27	28	29	30	31	32	33	34
Critical Range	.3966	.3974	.3981	.3989	.3995	.4002	.4008	.4013	.4019	.4024	.4028
Number of Means	35	36	37	38	39	40	41	42	43		
Critical Range	.4033	.4037	.4041	.4045	.4049	.4053	.4056	.4059	.4062		

Means with the same letter are not significantly different.

The ANOVA Procedure

Duncan's Multiple Range Test for larvae

Means with the same letter are not significantly different.

Duncan Grouping		Mean	N	Hour
	A	11.3333	6	63H
	B	9.3333	6	59H
	C	7.7500	6	56H
	D	7.0833	6	55H
	D	7.0000	6	54H
	D	6.9500	6	53H
	E	6.2500	6	52H
	E	6.1667	6	49H
	E	6.0000	6	48H
	F	5.5833	6	47H
G	F	5.3333	6	46H
G	H	5.2500	6	45H
G	H	5.1167	6	42H
G	H I	5.0167	6	41H
	H I	4.9167	6	38H
	H I	4.9000	6	40H
	J I	4.7333	6	39H
	J I	4.7333	6	35H
	J I	4.6833	6	37H
	J	4.4833	6	36H
	J	4.4833	6	32H
	J	4.4667	6	34H
K	J	4.3833	6	33H
K	L	4.1167	6	27H
	K L	4.1000	6	30H
	K L	4.0833	6	31H
	L	3.9667	6	29H

L	3.7667	6	28H
M	3.3000	6	19H
M	3.2500	6	24H
M	3.2500	6	18H
M	3.2500	6	25H
M	3.2500	6	20H
M	3.2500	6	23H
M	3.2167	6	17H
M	3.1667	6	22H
M	3.1667	6	21H
M	3.0833	6	26H
M	3.0000	6	16H
N	2.4167	6	15H
N	2.4000	6	14H
O	1.5000	6	11H
O	1.4833	6	10H

The ANOVA Procedure

Temp	Level of	Level of	-----larvae-----		
	Hour	N	Mean	Std Dev	
28C	10H	3	1.5000000	0.10000000	
28C	11H	3	1.5000000	0.10000000	
28C	14H	3	2.4333333	0.11547005	
28C	15H	3	2.4333333	0.11547005	
28C	16H	3	3.0000000	0.00000000	
28C	17H	3	3.1666667	0.28867513	
28C	18H	3	3.3000000	0.00000000	
28C	19H	3	3.3333333	0.28867513	
28C	20H	3	3.1666667	0.28867513	
28C	21H	3	3.0000000	0.00000000	
28C	22H	3	3.1666667	0.28867513	
28C	23H	3	3.1666667	0.28867513	
28C	24H	3	3.3333333	0.28867513	

28C	25H	3	3.1666667	0.28867513
28C	26H	3	3.0000000	0.00000000
28C	27H	3	4.1666667	0.28867513
28C	28H	3	3.5000000	0.50000000
28C	29H	3	3.9666667	0.05773503
28C	30H	3	4.0666667	0.05773503
28C	31H	3	3.9666667	0.45092498
28C	32H	3	4.4666667	0.45092498
28C	33H	3	4.3666667	0.23094011
28C	34H	3	4.4333333	0.11547005
28C	35H	3	4.6666667	0.28867513
28C	36H	3	4.4000000	0.17320508
28C	37H	3	4.6333333	0.32145503
28C	38H	3	4.6666667	0.28867513
28C	39H	3	4.6666667	0.28867513
28C	40H	3	4.8333333	0.28867513
28C	41H	3	5.0000000	0.00000000
28C	42H	3	5.0000000	0.00000000
28C	45H	3	5.1666667	0.28867513
28C	46H	3	5.3333333	0.28867513
28C	47H	3	5.3333333	0.28867513
28C	48H	3	6.0000000	0.00000000
28C	49H	3	6.1666667	0.28867513
28C	52H	3	6.1666667	0.28867513
28C	53H	3	7.0000000	0.00000000
28C	54H	3	6.9666667	0.05773503
28C	55H	3	6.8333333	0.57735027
28C	56H	3	7.5000000	0.50000000
28C	59H	3	8.1666667	0.28867513
28C	63H	3	11.0000000	1.00000000
32C	10H	3	1.4666667	0.11547005
32C	11H	3	1.5000000	0.10000000

32C	14H	3	2.3666667	0.11547005
32C	15H	3	2.4000000	0.10000000

The ANOVA Procedure

Level of		Level of	-----larvae-----	
Temp	Hour	N	Mean	Std Dev
32C	16H	3	3.0000000	0.00000000
32C	17H	3	3.2666667	0.25166115
32C	18H	3	3.2000000	0.17320508
32C	19H	3	3.2666667	0.25166115
32C	20H	3	3.3333333	0.28867513
32C	21H	3	3.3333333	0.28867513
32C	22H	3	3.1666667	0.28867513
32C	23H	3	3.3333333	0.28867513
32C	24H	3	3.1666667	0.28867513
32C	25H	3	3.3333333	0.28867513
32C	26H	3	3.1666667	0.28867513
32C	27H	3	4.0666667	0.11547005
32C	28H	3	4.0333333	0.05773503
32C	29H	3	3.9666667	0.05773503
32C	30H	3	4.1333333	0.05773503
32C	31H	3	4.2000000	0.20000000
32C	32H	3	4.5000000	0.00000000
32C	33H	3	4.4000000	0.17320508
32C	34H	3	4.5000000	0.10000000
32C	35H	3	4.8000000	0.26457513
32C	36H	3	4.5666667	0.11547005
32C	37H	3	4.7333333	0.25166115
32C	38H	3	5.1666667	0.28867513
32C	39H	3	4.8000000	0.26457513
32C	40H	3	4.9666667	0.15275252
32C	41H	3	5.0333333	0.05773503
32C	42H	3	5.2333333	0.25166115

32C	45H	3	5.3333333	0.28867513
32C	46H	3	5.3333333	0.28867513
32C	47H	3	5.8333333	0.28867513
32C	48H	3	6.0000000	0.00000000
32C	49H	3	6.1666667	0.28867513
32C	52H	3	6.3333333	0.28867513
32C	53H	3	6.9000000	0.10000000
32C	54H	3	7.0333333	0.05773503
32C	55H	3	7.3333333	0.28867513
32C	56H	3	8.0000000	0.50000000
32C	59H	3	10.5000000	0.50000000
32C	63H	3	11.6666667	0.57735027

วิเคราะห์จำนวนชั่วโมงที่ใช้ในการเจริญเติบโต

The SAS System 15:03 Tuesday, April 18, 2000 21

Obs	Temp	Stage	rep	hour
1	32C	eggs	1	9
2	32C	eggs	2	9
3	32C	eggs	3	9
4	32C	1ins	1	5
5	32C	1ins	2	5
6	32C	1ins	3	5
7	32C	2ins	1	24
8	32C	2ins	2	24
9	32C	2ins	3	24
10	32C	3ins	1	23
11	32C	3ins	2	23
12	32C	3ins	3	23
13	32C	prep	1	22
14	32C	prep	2	22
15	32C	prep	3	22
16	32C	pupa	1	72
17	32C	pupa	2	72

18	32C	pupa	3	72
19	28C	eggs	1	9
20	28C	eggs	2	9
21	28C	eggs	3	9
22	28C	1ins	1	6
23	28C	1ins	2	6
24	28C	1ins	3	6
Obs	Temp	Stage	rep	hour
25	28C	2ins	1	40
26	28C	2ins	2	40
27	28C	2ins	3	40
28	28C	3ins	1	44
29	28C	3ins	2	44
30	28C	3ins	3	44
31	28C	prep	1	16
32	28C	prep	2	16
33	28C	prep	3	16
34	28C	pupa	1	86
35	28C	pupa	2	86
36	28C	pupa	3	86

The ANOVA Procedure

Class Level Information

Class	Levels	Values
Temp	2	28C 32C
Stage	6	1ins 2ins 3ins eggs prep pupa

Number of observations 36

The ANOVA Procedure

Dependent Variable: hour

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	11	22868.00000	2078.90909	Infty	<.0001
Error	24	0.00000	0.00000		
Corrected Total	35	22868.00000			

	R-Square	Coeff Var	Root MSE	hour Mean	
	1.000000	0	0	29.66667	
Source	DF	Anova SS	Mean Square	F Value	Pr > F
Temp	1	529.00000	529.00000	Infty	<.0001
Stage	5	21473.00000	4294.60000	Infty	<.0001
Temp*Stage	5	866.00000	173.20000	Infty	<.0001

The ANOVA Procedure

Duncan's Multiple Range Test for hour

NOTE: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	24
Error Mean Square	0
Number of Means	2
Critical Range	0

Means with the same letter are not significantly different

Duncan Grouping	Mean	N	Temp
A	33.50	18	28C
B	25.83	18	32C

The ANOVA Procedure

Duncan's Multiple Range Test for hour

NOTE: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha						0.05
Error Degrees of Freedom						24
Error Mean Square						0
Number of Means	2	3	4	5	6	
Critical Range	0	0	0	0	0	

Means with the same letter are not significantly different.

Duncan Grouping	Mean	N	Stage
A	79.00	6	pupa
B	33.50	6	3ins
C	32.00	6	2ins

D	19.00	6	prep
E	9.00	6	eggs
F	5.50	6	1ins

The ANOVA Procedure

Level of		Level of	-----hour-----	
Temp	Stage	N	Mean	Std Dev
28C	1ins	3	6.0000000	0
28C	2ins	3	40.0000000	0
28C	3ins	3	44.0000000	0
28C	eggs	3	9.0000000	0
28C	prep	3	16.0000000	0
28C	pupa	3	86.0000000	0
32C	1ins	3	5.0000000	0
32C	2ins	3	24.0000000	0
32C	3ins	3	23.0000000	0
32C	eggs	3	9.0000000	0
32C	prep	3	22.0000000	0
32C	pupa	3	72.0000000	0

ภาคผนวก ข

ตารางที่ 1 การเก็บตัวอย่างไข่และตัวหนอนระยะที่ 1-3 ในช่วงแรก ช่วงกลางและช่วงปลายของการเจริญของแมลงวันหัวเขียว *C. megacephala* และ *C. rufifacies* ที่อุณหภูมิ $27 \pm 2^{\circ}\text{C}$

Species	Stages	Time period (h)		
<i>C. megacephala</i>	Eggs	0	3	9
	1st instars	0	6	13-14
	2nd instars	0	5-9	17
	3rd instars	0	13-14	32-35
<i>C. rufifacies</i>	Eggs	0	3	10
	1st instars	0	7	16
	2nd instars	0	15-18	23-24
	3rd instars	0-1	13-17	31-46

ตารางที่ 2 แสดงจำนวนไข่ต่อหนึ่งกองและร้อยละของการฟักเป็นตัวหนอนระยะที่ 1 ของแมลงวันหัวเขียว *C. megacephala* ที่อุณหภูมิ $27 \pm 2^{\circ}\text{C}$

Rep.	No. of eggs per cluster	% hatch
1	235 eggs	100%
2	175 eggs	97.23%
3	182 eggs	99.45%
$\bar{X} \pm S.D.$	197 ± 33 eggs	$98.89 \pm 1.47\%$

ตารางที่ 3 แสดงร้อยละของการฟักเป็นตัวเต็มวัยและอัตราการเกิดของตัวเต็มวัยเพศผู้และเพศเมียของแมลงวันหัวเขียว *C. megacephala* ที่อุณหภูมิ $27 \pm 2^{\circ}\text{C}$

Rep.	% Emerges	% Adult eclosion		female: male
		female	male	
1	93.55%	51.73%	48.23%	1:1
2	94.44%	29.41%	70.59%	1:2
3	57.41%	38.72%	61.29%	2:3
$\bar{X} \pm S.D.$	$81.08 \pm 21.13\%$	$39.95 \pm 11.21\%$	$60.04 \pm 11.23\%$	2:3

ตารางที่ 4 แสดงข้อมูลระยะเวลาการเจริญเติบโตเวลาต่ำสุดและเวลาสูงสุดที่แมลงวันหัวเขียว *C. megacephala* ใช้ในการเจริญเติบโตได้ตั้งแต่ระยะไข่จนกระทั่งตัวเต็มวัย ที่อุณหภูมิ 27±2 °C

stages	Time (h)	Rep.			Average (h)
		1	2	3	
Eggs	Mean	9.39	10.55	9.35	9.45
	S.D.	0.38	0.00	0.12	0.10
	Min	9.20	10.55	9.20	9.39
	Max	10.40	10.55	11.11	10.14
1st instars	Mean	15.05	15.48	16.40	15.38
	S.D.	0.00	0.30	0.00	0.06
	Min	15.05	15.05	16.40	15.30
	Max	15.05	16.05	16.40	15.50
2nd instars	Mean	18.45	18.06	17.45	17.59
	S.D.	0.32	1.05	0.30	0.33
	Min	18.15	16.42	17.00	17.11
	Max	19.15	19.22	18.00	18.48
3rd instars + Prepupa	Mean	34.27	34.44	32.35	33.41
	S.D.	0.02	0.14	0.14	0.06
	Min	34.42	34.56	32.45	33.48
	Max	34.53	35.06	33.12	34.14
Pupa	Mean	118.09	119.17	115.47	117.34
	S.D.	4.43	5.48	1.27	3.43
	Min	112.00	112.09	113.40	112.29
	Max	127.33	130.12	118.40	125.17

ตารางที่ 5 แสดงขนาดความยาวและความกว้าง (µm)ของไข่แมลงวันหัวเขียว *C. megacephala* ชั่วโมงที่ 0 3 และ 9 ที่อุณหภูมิ 27±2 °C

Time (h)	Length of eggs (µm)								
	1st rep.			2nd rep.			3rd rep.		
	1	2	3	1	2	3	1	2	3
0	1625.0	1675.0	1625.0	1650.0	1650.0	1625.0	1575.0	1575.0	1625.0
3	1625.0	1625.0	1625.0	1600.0	1637.5	1625.0	1625.0	1650.0	1600.0
9	1600.0	1600.0	1575.0	1700.0	1625.0	1675.0	1625.0	1675.0	1575.0

Time (h)	width of eggs (µm)								
	1st rep.			2nd rep.			3rd rep.		
	1	2	3	1	2	3	1	2	3
0	375.0	375.0	375.0	450.0	425.0	400.0	450.0	475.0	500.0
3	375.0	350.0	375.0	412.5	500.0	450.0	450.0	500.0	350.0
9	375.0	375.0	350.0	500.0	450.0	437.5	500.0	450.0	450.0

Time (h)	Length of eggs (µm)			$\overline{X} \pm S.D.$	Range
	1	2	3		
0	1641.7 ± 28.9	1641.7 ± 14.4	1591.7 ± 28.9	1625.0 ± 28.9	1591.7 ± 28.9 - 1641.7 ± 28.9
3	1625.0 ± 0.0	1620.8 ± 19.1	1625.0 ± 25.0	1623.6 ± 2.4	1620.8 ± 19.1 - 1625.0 ± 25.0
9	1591.7 ± 14.4	1666.7 ± 38.2	1625.0 ± 50.0	1627.8 ± 37.6	1591.7 ± 14.4 - 1666.7 ± 38.2

Time (h)	Weight of eggs (µm)			$\overline{X} \pm S.D.$	Range
	1	2	3		
0	375.0 ± 0.0	425.0 ± 25.0	475.0 ± 25.0	425.0 ± 50.0	375.0 ± 0.0 - 475.0 ± 25.0
3	366.7 ± 14.4	454.2 ± 43.9	433.3 ± 76.4	418.1 ± 45.7	366.7 ± 14.4 - 454.2 ± 43.9
9	366.7 ± 14.4	462.5 ± 33.1	466.7 ± 28.9	431.9 ± 56.6	366.7 ± 14.4 - 466.7 ± 28.9

ตารางที่ 6 แสดงขนาดความยาว (mm) แต่ละระยะของตัวหนอนแมลงวันหัวเขียว *C. megacephala* ตั้งแต่ไข่ฟักจนถึง post-feeding ณ อุณหภูมิคงที่ 27±2 °C

Stages	Time period (h)	Time (h) oviposition to post-feeding	Length of larvae (mm)								
			1st rep.			2nd rep.			3rd rep.		
			1	2	3	1	2	3	1	2	3
1st instars	0	10	2.0	2.0	2.0	1.6	2.0	2.0	1.9	1.9	1.9
	6	16	3.3	3.4	3.4	2.2	2.4	2.6	3.5	3.6	3.0
	13-14	23-24	4.1	3.8	4.0	4.0	4.0	3.9	4.0	4.0	4.4
2nd instars	0	25-26	4.5	4.2	4.6	4.5	4.6	4.6	4.6	5.0	4.5
	5-9	30-35	7.9	7.4	7.8	7.0	6.9	7.2	7.0	7.2	7.3
	17	42	9.0	8.9	8.0	7.7	7.0	11.0	9.4	9.8	8.5
3rd instars	0	44	10.0	9.0	10.0	10.5	10.6	9.8	9.0	8.2	9.0
	13-14	57-58	13.5	13.0	13.0	12.9	13.9	13.0	12.9	13.0	13.0
	post-feeding 32-35	76-79	15.0	15.0	15.0	13.2	14.1	14.0	15.5	14.6	14.0

Stages	Time period (h)	Time (h) oviposition to post-feeding	Length of larvae (mm)			$\overline{X} \pm S.D.$
			1	2	3	
1st instars	0	10	2.0 ± 0.0	1.9 ± 0.2	1.9 ± 0.0	1.9 ± 0.1
	6	16	3.4 ± 0.1	2.4 ± 0.2	3.4 ± 0.3	3.0 ± 0.6
	13-14	23-24	4.0 ± 0.2	4.0 ± 0.1	4.1 ± 0.2	4.0 ± 0.1
2nd instars	0	25-26	4.4 ± 0.2	4.6 ± 0.1	4.7 ± 0.3	4.6 ± 0.1
	5-9	30-35	7.7 ± 0.3	7.0 ± 0.2	7.2 ± 0.2	7.3 ± 0.4
	17	42	8.6 ± 0.6	8.6 ± 2.1	9.2 ± 0.7	8.8 ± 0.4
3rd instars	0	44	9.7 ± 0.6	10.3 ± 0.4	8.7 ± 0.5	9.6 ± 0.8
	13-14	57-58	13.2 ± 0.3	13.3 ± 0.6	13.0 ± 0.1	13.1 ± 0.2
	post-feeding 32-35	76-79	15.0 ± 0.0	13.8 ± 0.5	14.7 ± 0.8	14.5 ± 0.6

ตารางที่ 7 แสดงข้อมูลน้ำหนัก(g) ของดักแด้แมลงวันหัวเขียว *C. megacephala* แต่ละตัวเมื่ออายุครบ 1 วัน 2 วัน และ 3 วัน ที่อุณหภูมิ 27±2°C

No.	weight of <i>C.megacephala</i> pupae (g)								
	1st rep.			2nd rep.			3rd rep.		
	1 day	2 days	3 days	1 day	2 days	3 days	1 day	2 days	3 days
1	0.0453	0.0447	0.0446	0.0502	0.0501	0.0499	0.0444	0.0441	0.0437
2	0.0394	0.0393	0.0393	0.0483	0.0485	0.0479	0.0386	0.0382	0.0378
3	0.0398	0.0396	0.0392	0.0521	0.0521	0.0517	0.0423	0.0420	0.0415
4	0.0503	0.0501	0.0493	0.0549	0.0539	0.0535	0.0462	0.0459	0.0454
5	0.0498	0.0497	0.0492	0.0468	0.0467	0.0463	0.0461	0.0443	0.0432
6	0.0430	0.0425	0.0418	0.0512	0.0506	0.0503	0.0470	0.0468	0.0465
7	0.0402	0.0402	0.0397	0.0523	0.0521	0.0517	0.0432	0.0431	0.0423
8	0.0434	0.0430	0.0428	0.0481	0.0474	0.0471	0.0471	0.0466	0.0463
9	0.0402	0.0398	0.0349	0.0479	0.0485	0.0478	0.0444	0.0440	0.0435
10	0.0416	0.0406	0.0398	0.0479	0.0465	0.0461	0.0465	0.0446	0.0456
Average	0.0433	0.0430	0.0421	0.0500	0.0496	0.0492	0.0446	0.0440	0.0436
S.D.	0.0040	0.0040	0.0046	0.0026	0.0025	0.0026	0.0027	0.0025	0.0026

ตารางที่ 8 แสดงแสดงจำนวนไข่ต่อหนึ่งกองและร้อยละของการฟักเป็นตัวหนอนระยะที่ 1 ของ ไข่แมลงวันหัวเขียว *C. rufifacies* ที่อุณหภูมิ 27 ± 2 °C

Rep.	No. of eggs per cluster	% hatch
1	312 eggs	100%
2	153 eggs	97.50%
3	123 eggs	96.40%
$\bar{X} \pm S.D.$	196 ± 102 eggs	97.67 ± 1.84 %

ตารางที่ 9 แสดงข้อมูลระยะเวลาการเจริญเติบโต เวลาต่ำสุดและเวลาสูงสุดที่แมลงวันหัวเขียว *C. rufifacies* ใช้ในการเจริญเติบโตได้ตั้งแต่ระยะไข่จนกระทั่งตัวเต็มวัย ที่ $27\pm 2^{\circ}\text{C}$

stages	Time (h)	Rep.			Average (h)
		1	2	3	
Eggs	Mean	11.48	11.03	8.38	10.17
	S.D.	0.48	0.06	0.09	0.12
	Min	12.33	11.00	8.15	10.29
	Max	17.38	11.50	9.58	12.49
1st instars	Mean	19.08	18.47	20.14	19.13
	S.D.	0.25	0.53	1.15	0.38
	Min	18.39	17.39	18.42	18.04
	Max	19.39	19.39	21.12	19.58
2nd instars	Mean	25.51	25.51	27.12	26.02
	S.D.	0.00	0.48	1.17	0.33
	Min	25.51	24.52	25.43	25.09
	Max	25.51	26.52	28.48	26.50
3rd instars + Prepupa	Mean	39.37	42.08	47.56	43.00
	S.D.	0.28	9.32	1.17	3.35
	Min	39.25	30.50	47.01	38.55
	Max	40.27	54.45	51.01	48.34
Pupa	Mean	119.38	121.42	113.23	118.00
	S.D.	7.23	2.25	2.00	3.49
	Min	112.37	119.12	112.35	114.36
	Max	134.22	128.32	120.21	127.35

ตารางที่ 10 แสดงขนาดความยาวและความกว้าง(μm)ของไข่แมลงวันหัวเขียว*C.rufifacies* ชั่วโมงที่0 3และ 10 ที่ 27±2 °C

Time (h)	Length of eggs (μm)								
	1st rep.			2nd rep.			3rd rep.		
	1	2	3	1	2	3	1	2	3
0	1487.5	1450.0	1400.0	1537.5	1537.5	-	1375.0	1437.5	1475.0
3	1362.5	1325.0	1475.0	1470.0	1470.0	1475.0	1450.0	1450.0	1465.0
10	1375.0	1350.0	1375.0	1457.5	1457.5	1487.5	1425.0	1425.0	-

Time (h)	width of eggs (μm)								
	1st rep.			2nd rep.			3rd rep.		
	1	2	3	1	2	3	1	2	3
0	325.0	325.0	312.5	425.0	400.0	-	362.5	350.0	350.0
3	300.0	300.0	300.0	337.5	325.0	325.0	325.0	350.0	325.0
10	312.5	300.0	337.5	312.5	337.5	325.0	325.0	350.0	-

Time (h)	Length of eggs (μm)			$\bar{X} \pm S.D.$	Range
	1	2	3		
0	1445.8 ± 43.9	1537.5 ± 0.0	1429.2 ± 50.5	1470.8 ± 58.3	1429.2 ± 50.5 - 1537.5 ± 0.0
3	1387.5 ± 78.1	1471.7 ± 2.9	1455.0 ± 8.7	1438.1 ± 44.6	1387.5 ± 78.1- 1471.7 ± 2.9
10	1366.7 ± 14.4	1467.5 ± 17.3	1425.0 ± 0.0	1419.0 ± 50.6	1366.7 ± 14.4 - 1467.5 ± 17.3

Time (h)	Weight of eggs (μm)			$\bar{X} \pm S.D.$	Range
	1	2	3		
0	320.8 ± 7.2	412.5 ± 17.7	354.2 ± 7.2	362.5 ± 46.4	320.8 ± 7.2 - 412.5 ± 17.7
3	300.0 ± 0.0	329.2 ± 7.2	333.3 ± 14.4	320.8 ± 18.2	300.0 ± 0.0 - 333.3 ± 14.4
10	316.7 ± 19.1	325.0 ± 12.5	337.5 ± 17.7	326.4 ± 10.5	316.7 ± 19.1 - 337.5 ± 17.7



ตารางที่ 11 แสดงร้อยละของการฟักของตัวเต็มวัยและอัตราการเกิดของตัวเต็มวัยเพศผู้และเพศเมียของแมลงวันหัวเขียว *C. rufifacies* ที่อุณหภูมิ 27 ± 2 °C

Rep.	% Emerges	% Adult eclosion		female: male
		female	male	
1	80.00%	14.29%	85.71%	1:6
2	71.43%	50.00%	50.00%	1:1
3	65.38%	88.24%	7.69%	11:1
$\bar{X} \pm S.D.$	72.27 ± 7.3%	50.84 ± 37.0%	47.8 ± 39.1%	1:1

