

Supplementary Information

Improving the sex-specificity of a conditional female lethal system for genetic biocontrol of the New World screwworm, *Cochliomyia hominivorax*

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Supplementary Figures

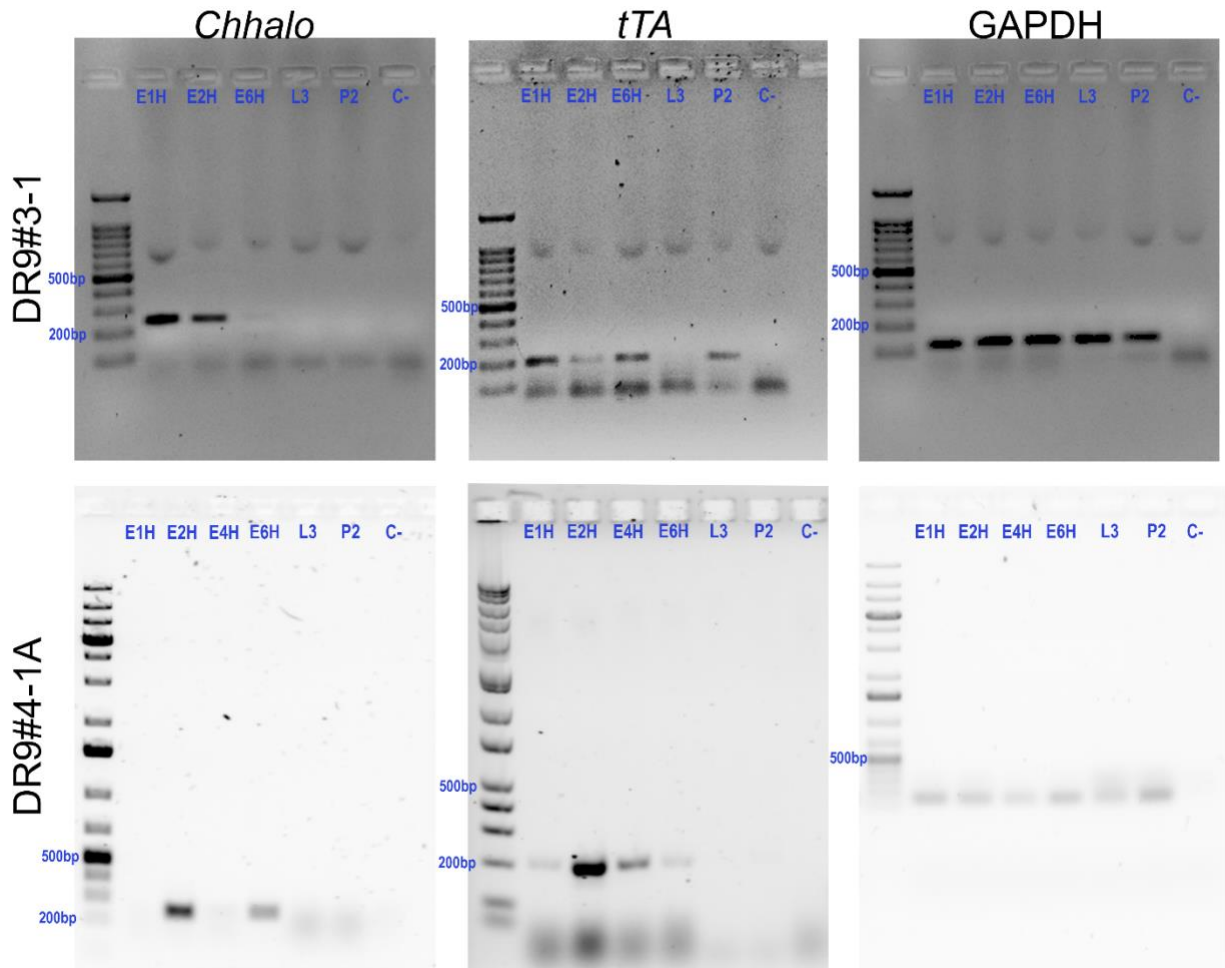


Figure S1. Full images of gels used in Figure 1 B,C. Results of the expression of the *Chhalo* gene and the *tTA* gene under the direction of the *Chhalo* promoter are shown. The transcripts correspond to samples of embryo mixtures from different time periods, larvae and pupae. The *ChGAPDH* gene was used as a positive control for expression. The images show the full images of the 1% agarose electrophoresis gels used to make up Figure 1B and C of the main article.

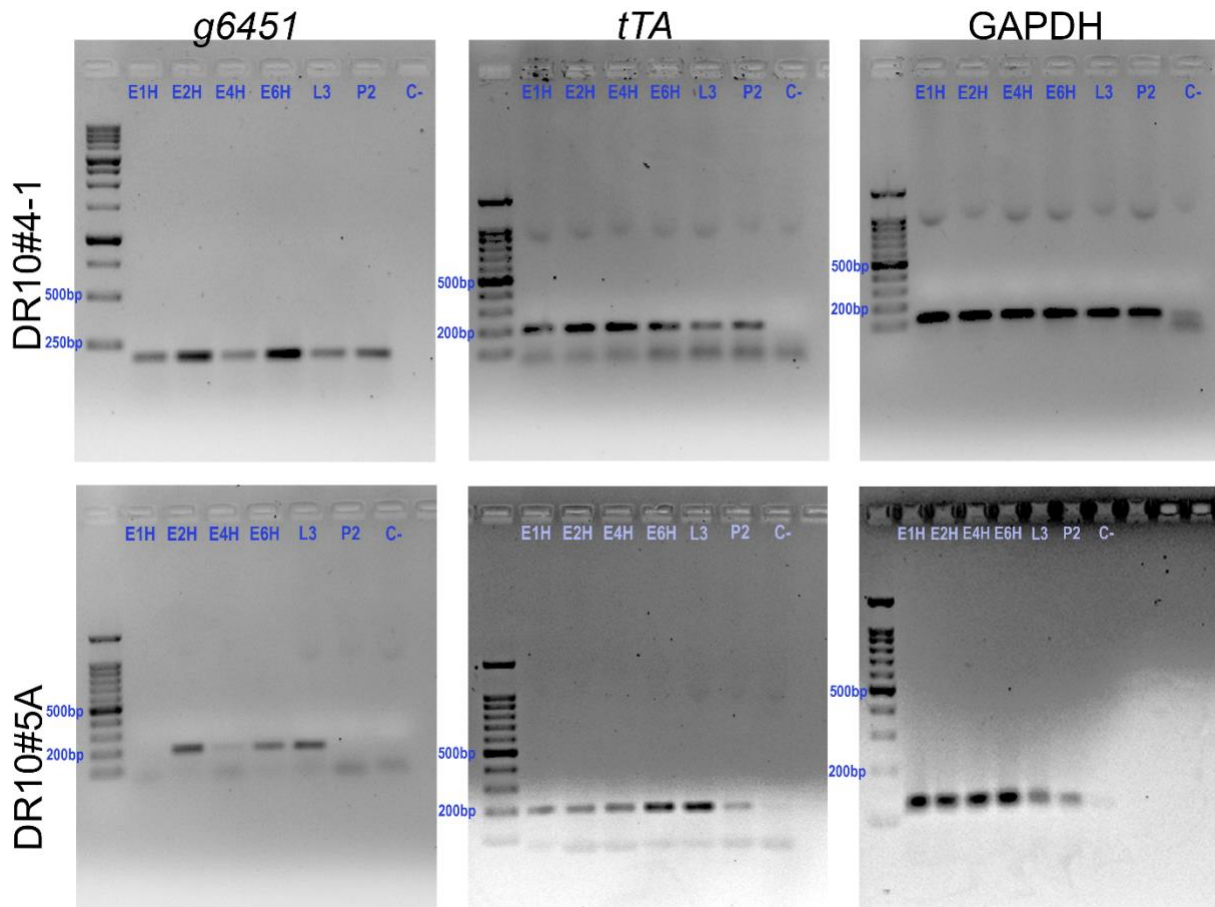


Figure S2. Full images of gels used in Figure 1 D,E. Results of the expression of the *g6451* gene and the *tTA* gene under the direction of the *g6451* promoter sequence. The transcripts correspond to samples of embryo mixtures from different time periods, larvae and pupae. The *ChGAPDH* gene was used as a positive control for expression. The images show the completed 1% agarose electrophoresis gels used to make up Figure 1D and E of the main article.

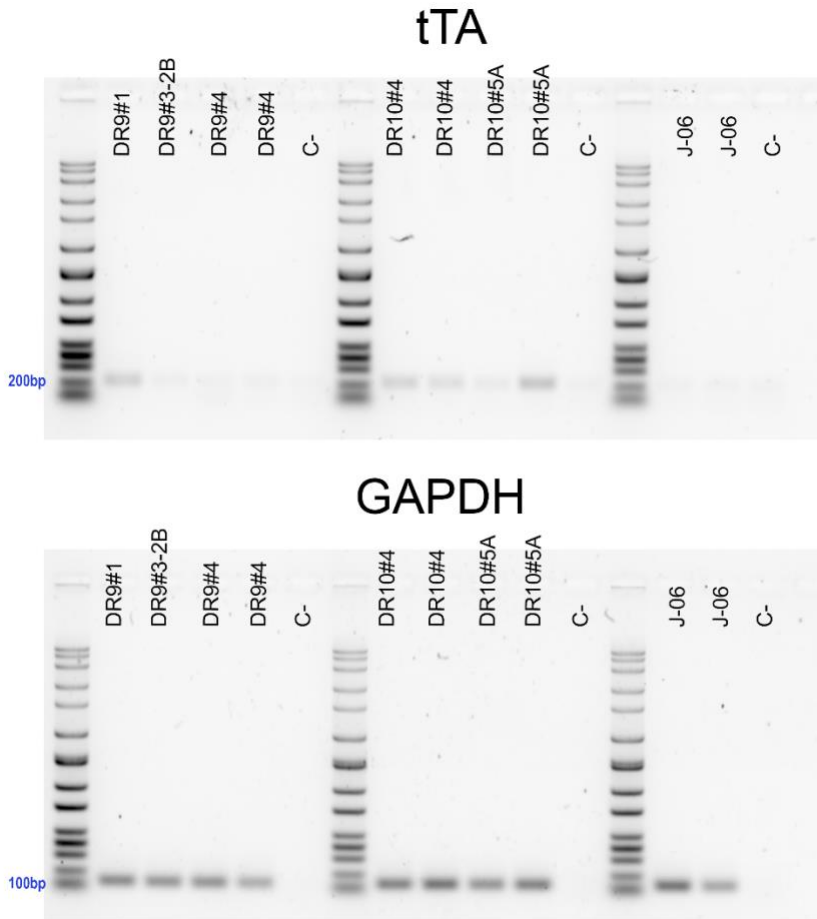


Figure S3. Expression of tTA_v in ovaries. Expression of the tTA_v gene obtained from the ovary of 24-hour post-emergence virgin females. The DR9#1 line was found to be non-lethal. Line J06 was used as a control. Note the expression of *tTA_v* in the DR10 lines. However, the lethal DR9 lines did not show evident expression in the ovaries. The *ChGAPDH* gene was used as a positive control.

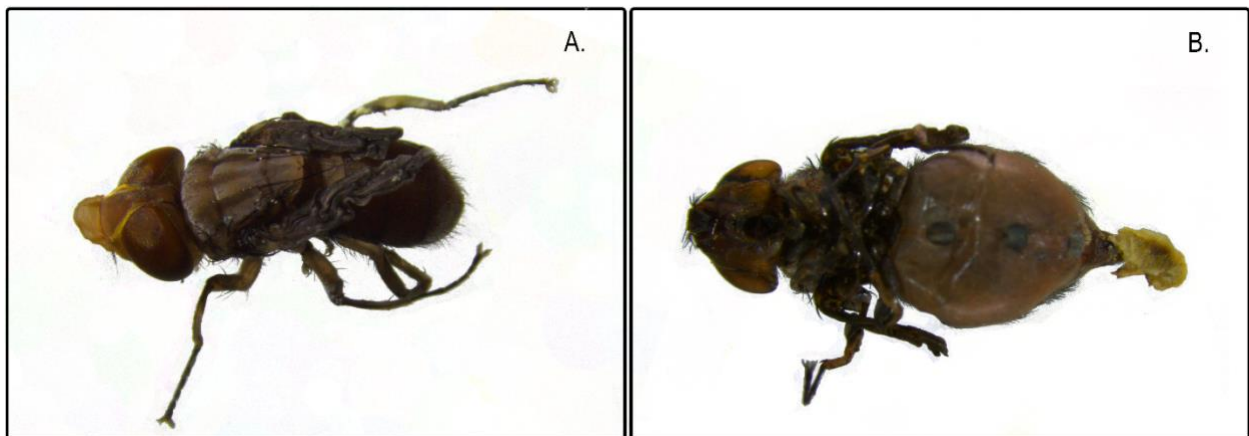


Figure S4. Females from the DR10#4-1 line when fed without doxycycline. Examples of some of the physical characteristics found in the few females that eclosed. Most of the females

did not emerge from the pupae and those that did, presented malformation in the abdomen, legs and wings and were sterile.

Supplementary Tables

Table S1. Homozygous lines of DR9 and DR10 crossed with EF1#6 to select for lines that exhibited female lethality.

ID_Stream	Stream	Oviposition_date	Males	Females	No Emerged
507	DR9#1xEF1#6B	26/02/2023	36	27	37
507	DR9#1xEF1#6B	07/03/2023	55	37	8
507	DR9#1xEF1#6B	07/03/2023	65	37	0
507	DR9#1xEF1#6B	14/04/2023	48	42	10
507	DR9#1xEF1#6B	03/05/2023	53	41	6
547	DR9#1xEF1#6	09/03/2023	63	31	6
547	DR9#1xEF1#6	16/04/2023	42	52	6
547A	DR9#1xEF1#6	03/05/2023	45	50	5
553	DR9#3-2BxEF1#6	08/04/2023	71	0	29
553	DR9#3-2BxEF1#6	27/04/2023	85	0	15
553	DR9#3-2BxEF1#6	04/06/2023	44	12	56
553	DR9#3-2BxEF1#6	11/07/2023	50	33	17
553	DR9#3-2BxEF1#6	11/07/2023	46	37	9
553	DR9#3-2BxEF1#6	28/07/2023	58	2	40
553	DR9#3-2BxEF1#6	16/08/2023	85	0	15
553	DR9#3-2BxEF1#6	16/08/2023	92	0	8
553	DR9#3-2BxEF1#6	16/08/2023	86	0	14
553A	DR9#3-2BxEF1#6	27/04/2023	81	5	15
553A	DR9#3-2BxEF1#6	15/05/2023	45	12	43
553A	DR9#3-2BxEF1#6	02/06/2023	68	2	30
553A	DR9#3-2BxEF1#6	08/07/2023	47	37	16
553A	DR9#3-2BxEF1#6	28/07/2023	58	3	39
553A	DR9#3-2BxEF1#6	29/07/2023	65	2	33
569	DR9#-3-1XEF1#6	24/09/2023	47	57	2
570	DR9#-3-2XEF1#6	30/08/2023	97	0	0
554	DR9#4xEF1#6	19/05/2023	59	25	16
554	DR9#4xEF1#6	25/06/2023	61	35	4
554B	DR9#4xEF1#6	01/05/2023	53	13	34
554B	DR9#4xEF1#6	19/05/2023	60	15	25
554B	DR9#4xEF1#6	07/06/2023	60	0	40
554B	DR9#4xEF1#6	25/06/2023	53	1	46
554B	DR9#4xEF1#6	14/07/2023	56	0	44
568	DR9#4XEF1#6	04/09/2023	71	12	11
560	DR10#4-1xEF1#6	14/03/2023	45	50	5

560	DR10#4-1xEF1#6	09/05/2023	39	54	7
560	DR10#4-1xEF1#6	28/05/2023	51	23	26
560	DR10#4-1xEF1#6	05/07/2023	54	18	28
560B	DR10#4-1xEF1#6	14/03/2023	46	48	6
560B	DR10#4-1xEF1#6	09/05/2023	56	13	31
560B	DR10#4-1xEF1#6	27/05/2023	44	17	39
561	DR10#4-3xEF1#6	09/05/2023	50	43	7
561	DR10#4-3xEF1#6	28/05/2023	44	10	46
561B	DR10#4-3xEF1#6	14/03/2023	51	41	8
561B	DR10#4-3xEF1#6	19/03/2023	49	25	27
561B	DR10#4-3xEF1#6	15/03/2023	48	37	15
561B	DR10#4-3xEF1#6	28/05/2023	54	24	22
561B	DR10#4-3xEF1#6	15/06/2023	55	27	18
555	DR10#5AxEF1#6	27/06/2023	45	43	2
555	DR10#5AxEF1#6	22/08/2023	65	26	9
555	DR10#5AxEF1#6	10/02/2023	44	31	25
555B	DR10#5AxEF1#6	26/06/2023	89	0	11
555B	DR10#5AxEF1#6	22/08/2023	75	0	25
555B	DR10#5AxEF1#6	10/09/2023	93	0	7

Table S2. Survival of the strains obtained in the different larval stages from the standard feeding protocol. J-06, wild line used as control. +D, diet with doxycycline. -D, diet without doxycycline.

Strain	Developmental Stage	Percentage
J-06	Hatching	95.00
J-06	Hatching	93.00
J-06	Hatching	91.00
J-06	Hatching	87.00
J-06	Hatching	94.00
J-06	Hatching	97.00
J-06	Hatching	96.00
J-06	Hatching	86.00
J-06	Hatching	79.00
J-06	Hatching	77.00
J-06	Hatching	87.00
J-06	Hatching	90.00
J-06	Hatching	82.00
J-06	Hatching	81.00
J-06	Hatching	90.00
J-06	Hatching	87.00
J-06	Hatching	90.00

J-06	Hatching	92.00
J-06	Hatching	95.00
J-06	Hatching	91.00
J-06	Hatching	66.00
J-06	Hatching	80.00
J-06	Hatching	65.00
J-06	Hatching	78.00
J-06	Hatching	90.00
J-06	Hatching	90.00
J-06	Hatching	68.00
J-06	Hatching	74.00
J-06	Hatching	87.00
J-06	Hatching	63.00
J-06	Hatching	67.00
J-06	Hatching	78.00
J-06	Hatching	86.00
J-06	Hatching	77.86
J-06	Hatching	80.64
J-06	Hatching	86.50
J-06	Hatching	93.75
J-06	Hatching	82.83
J-06	Hatching	93.75
J-06	Hatching	85.25
J-06	Hatching	89.97
J-06	Hatching	85.13
J-06	Hatching	73.51
J-06	24h	90.48
J-06	24h	84.62
J-06	24h	55.56
J-06	24h	74.14
J-06	24h	91.53
J-06	24h	100.00
J-06	24h	74.07
J-06	24h	70.83
J-06	24h	76.72
J-06	24h	80.14
J-06	24h	69.50
J-06	24h	88.40
J-06	24h	72.30
J-06	24h	83.50
J-06	24h	76.50
J-06	24h	66.00
J-06	48h	89.06

J-06	48h	75.66
J-06	48h	46.15
J-06	48h	83.06
J-06	48h	75.90
J-06	48h	86.87
J-06	48h	64.71
J-06	48h	72.96
J-06	48h	69.42
J-06	48h	81.68
J-06	48h	73.61
J-06	48h	41.03
J-06	48h	68.31
J-06	48h	61.82
J-06	48h	50.67
J-06	48h	47.64
J-06	72h	69.66
J-06	72h	58.22
J-06	72h	47.93
J-06	72h	60.56
J-06	72h	85.38
J-06	72h	66.84
J-06	72h	61.40
J-06	72h	53.47
J-06	72h	54.17
J-06	72h	67.39
J-06	72h	55.24
J-06	72h	57.50
J-06	72h	66.89
J-06	72h	38.00
J-06	72h	81.64
J-06	72h	79.62
DR10#4-3xEF1#6 +D	Hatching	48.16
DR10#4-3xEF1#6 +D	Hatching	59.34
DR10#4-3xEF1#6 +D	Hatching	55.64
DR10#4-3xEF1#6 +D	Hatching	74.25
DR10#4-3xEF1#6 +D	Hatching	50.50
DR10#4-3xEF1#6 +D	Hatching	64.00
DR10#4-3xEF1#6 +D	Hatching	71.75
DR10#4-3xEF1#6 +D	Hatching	50.50
DR10#4-3xEF1#6 +D	Hatching	44.75
DR10#4-3xEF1#6 +D	Hatching	60.75
DR10#4-3xEF1#6 +D	Hatching	48.25
DR10#4-3xEF1#6 +D	Hatching	68.00

DR10#4-3xEF1#6 +D	Hatching	69.25
DR10#4-3xEF1#6 +D	Hatching	71.50
DR10#4-3xEF1#6 +D	Hatching	60.50
DR10#4-3xEF1#6 +D	Hatching	51.03
DR10#4-3xEF1#6 +D	24h	55.81
DR10#4-3xEF1#6 +D	24h	46.58
DR10#4-3xEF1#6 +D	24h	49.33
DR10#4-3xEF1#6 +D	24h	46.67
DR10#4-3xEF1#6 +D	24h	59.40
DR10#4-3xEF1#6 +D	24h	50.00
DR10#4-3xEF1#6 +D	24h	67.33
DR10#4-3xEF1#6 +D	24h	46.67
DR10#4-3xEF1#6 +D	24h	74.66
DR10#4-3xEF1#6 +D	48h	42.62
DR10#4-3xEF1#6 +D	48h	27.08
DR10#4-3xEF1#6 +D	48h	79.73
DR10#4-3xEF1#6 +D	48h	51.52
DR10#4-3xEF1#6 +D	48h	87.34
DR10#4-3xEF1#6 +D	48h	25.69
DR10#4-3xEF1#6 +D	48h	75.28
DR10#4-3xEF1#6 +D	48h	54.81
DR10#4-3xEF1#6 +D	48h	69.64
DR10#4-3xEF1#6 +D	72h	59.15
DR10#4-3xEF1#6 +D	72h	65.57
DR10#4-3xEF1#6 +D	72h	68.42
DR10#4-3xEF1#6 +D	72h	46.55
DR10#4-3xEF1#6 +D	72h	36.61
DR10#4-3xEF1#6 +D	72h	54.61
DR10#4-3xEF1#6 +D	72h	63.92
DR10#4-3xEF1#6 +D	72h	58.02
DR10#4-3xEF1#6 +D	72h	60.00
DR10#4-3xEF1#6 -D	Hatching	61.75
DR10#4-3xEF1#6 -D	Hatching	75.00
DR10#4-3xEF1#6 -D	Hatching	52.82
DR10#4-3xEF1#6 -D	Hatching	61.41
DR10#4-3xEF1#6 -D	Hatching	71.50
DR10#4-3xEF1#6 -D	Hatching	57.00
DR10#4-3xEF1#6 -D	Hatching	74.00
DR10#4-3xEF1#6 -D	Hatching	66.50
DR10#4-3xEF1#6 -D	Hatching	72.25
DR10#4-3xEF1#6 -D	24h	52.17
DR10#4-3xEF1#6 -D	24h	42.17
DR10#4-3xEF1#6 -D	24h	23.71

DR10#4-3xEF1#6 -D	24h	55.42
DR10#4-3xEF1#6 -D	24h	73.15
DR10#4-3xEF1#6 -D	24h	61.86
DR10#4-3xEF1#6 -D	24h	77.55
DR10#4-3xEF1#6 -D	24h	80.45
DR10#4-3xEF1#6 -D	24h	61.11
DR10#4-3xEF1#6 -D	48h	50.72
DR10#4-3xEF1#6 -D	48h	6.48
DR10#4-3xEF1#6 -D	48h	12.66
DR10#4-3xEF1#6 -D	48h	50.00
DR10#4-3xEF1#6 -D	48h	74.00
DR10#4-3xEF1#6 -D	48h	73.12
DR10#4-3xEF1#6 -D	48h	82.27
DR10#4-3xEF1#6 -D	48h	79.11
DR10#4-3xEF1#6 -D	48h	71.85
DR10#4-3xEF1#6 -D	72h	65.63
DR10#4-3xEF1#6 -D	72h	17.95
DR10#4-3xEF1#6 -D	72h	54.67
DR10#4-3xEF1#6 -D	72h	67.40
DR10#4-3xEF1#6 -D	72h	70.37
DR10#4-3xEF1#6 -D	72h	54.26
DR10#4-3xEF1#6 -D	72h	61.14
DR10#4-3xEF1#6 -D	72h	52.08
DR10#4-3xEF1#6 -D	72h	54.86
DR9#3-2BxEF1#6 +D	Hatching	67.50
DR9#3-2BxEF1#6 +D	Hatching	79.25
DR9#3-2BxEF1#6 +D	Hatching	80.00
DR9#3-2BxEF1#6 +D	Hatching	84.75
DR9#3-2BxEF1#6 +D	Hatching	82.75
DR9#3-2BxEF1#6 +D	Hatching	73.50
DR9#3-2BxEF1#6 +D	Hatching	82.77
DR9#3-2BxEF1#6 +D	Hatching	70.64
DR9#3-2BxEF1#6 +D	Hatching	75.64
DR9#3-2BxEF1#6 +D	Hatching	82.48
DR9#3-2BxEF1#6 +D	Hatching	83.82
DR9#3-2BxEF1#6 +D	Hatching	66.98
DR9#3-2BxEF1#6 +D	24h	67.86
DR9#3-2BxEF1#6 +D	24h	48.10
DR9#3-2BxEF1#6 +D	24h	48.09
DR9#3-2BxEF1#6 +D	24h	97.06
DR9#3-2BxEF1#6 +D	24h	73.49
DR9#3-2BxEF1#6 +D	24h	54.17
DR9#3-2BxEF1#6 +D	24h	81.88

DR9#3-2BxEF1#6 +D	24h	67.84
DR9#3-2BxEF1#6 +D	24h	77.88
DR9#3-2BxEF1#6 +D	24h	77.03
DR9#3-2BxEF1#6 +D	24h	71.43
DR9#3-2BxEF1#6 +D	24h	67.52
DR9#3-2BxEF1#6 +D	48h	68.31
DR9#3-2BxEF1#6 +D	48h	52.04
DR9#3-2BxEF1#6 +D	48h	36.17
DR9#3-2BxEF1#6 +D	48h	67.31
DR9#3-2BxEF1#6 +D	48h	81.21
DR9#3-2BxEF1#6 +D	48h	66.67
DR9#3-2BxEF1#6 +D	48h	85.90
DR9#3-2BxEF1#6 +D	48h	69.13
DR9#3-2BxEF1#6 +D	48h	78.87
DR9#3-2BxEF1#6 +D	48h	73.79
DR9#3-2BxEF1#6 +D	48h	68.79
DR9#3-2BxEF1#6 +D	48h	58.68
DR9#3-2BxEF1#6 +D	72h	65.19
DR9#3-2BxEF1#6 +D	72h	47.40
DR9#3-2BxEF1#6 +D	72h	40.27
DR9#3-2BxEF1#6 +D	72h	84.81
DR9#3-2BxEF1#6 +D	72h	70.48
DR9#3-2BxEF1#6 +D	72h	69.03
DR9#3-2BxEF1#6 +D	72h	83.53
DR9#3-2BxEF1#6 +D	72h	94.12
DR9#3-2BxEF1#6 +D	72h	82.72
DR9#3-2BxEF1#6 +D	72h	66.90
DR9#3-2BxEF1#6 +D	72h	64.50
DR9#3-2BxEF1#6 +D	72h	46.50
DR9#3-2BxEF1#6 -D	Hatching	74.50
DR9#3-2BxEF1#6 -D	Hatching	64.75
DR9#3-2BxEF1#6 -D	Hatching	76.75
DR9#3-2BxEF1#6 -D	Hatching	77.00
DR9#3-2BxEF1#6 -D	Hatching	62.50
DR9#3-2BxEF1#6 -D	Hatching	69.25
DR9#3-2BxEF1#6 -D	Hatching	52.50
DR9#3-2BxEF1#6 -D	Hatching	66.85
DR9#3-2BxEF1#6 -D	Hatching	64.76
DR9#3-2BxEF1#6 -D	Hatching	75.94
DR9#3-2BxEF1#6 -D	Hatching	80.19
DR9#3-2BxEF1#6 -D	Hatching	58.31
DR9#3-2BxEF1#6 -D	24h	52.40
DR9#3-2BxEF1#6 -D	24h	63.06

DR9#3-2BxEF1#6 -D	24h	43.50
DR9#3-2BxEF1#6 -D	24h	70.18
DR9#3-2BxEF1#6 -D	24h	56.93
DR9#3-2BxEF1#6 -D	24h	56.98
DR9#3-2BxEF1#6 -D	24h	47.40
DR9#3-2BxEF1#6 -D	24h	53.01
DR9#3-2BxEF1#6 -D	24h	53.59
DR9#3-2BxEF1#6 -D	24h	64.90
DR9#3-2BxEF1#6 -D	24h	70.61
DR9#3-2BxEF1#6 -D	24h	38.10
DR9#3-2BxEF1#6 -D	48h	52.94
DR9#3-2BxEF1#6 -D	48h	58.86
DR9#3-2BxEF1#6 -D	48h	48.28
DR9#3-2BxEF1#6 -D	48h	56.90
DR9#3-2BxEF1#6 -D	48h	60.69
DR9#3-2BxEF1#6 -D	48h	57.14
DR9#3-2BxEF1#6 -D	48h	43.97
DR9#3-2BxEF1#6 -D	48h	71.05
DR9#3-2BxEF1#6 -D	48h	51.98
DR9#3-2BxEF1#6 -D	48h	61.54
DR9#3-2BxEF1#6 -D	48h	69.08
DR9#3-2BxEF1#6 -D	48h	56.39
DR9#3-2BxEF1#6 -D	72h	29.58
DR9#3-2BxEF1#6 -D	72h	52.08
DR9#3-2BxEF1#6 -D	72h	45.30
DR9#3-2BxEF1#6 -D	72h	66.67
DR9#3-2BxEF1#6 -D	72h	46.00
DR9#3-2BxEF1#6 -D	72h	62.07
DR9#3-2BxEF1#6 -D	72h	32.05
DR9#3-2BxEF1#6 -D	72h	39.86
DR9#3-2BxEF1#6 -D	72h	48.73
DR9#3-2BxEF1#6 -D	72h	49.17
DR9#3-2BxEF1#6 -D	72h	53.85
DR9#3-2BxEF1#6 -D	72h	36.02
DR10#5AxEF1#6 +D	Hatching	81.25
DR10#5AxEF1#6 +D	Hatching	55.75
DR10#5AxEF1#6 +D	Hatching	72.25
DR10#5AxEF1#6 +D	Hatching	90.25
DR10#5AxEF1#6 +D	Hatching	73.65
DR10#5AxEF1#6 +D	Hatching	81.76
DR10#5AxEF1#6 +D	Hatching	82.09
DR10#5AxEF1#6 +D	Hatching	67.90
DR10#5AxEF1#6 +D	Hatching	72.98

DR10#5AxEF1#6 +D	24h	68.80
DR10#5AxEF1#6 +D	24h	41.10
DR10#5AxEF1#6 +D	24h	50.40
DR10#5AxEF1#6 +D	24h	57.70
DR10#5AxEF1#6 +D	24h	56.50
DR10#5AxEF1#6 +D	24h	59.30
DR10#5AxEF1#6 +D	24h	36.80
DR10#5AxEF1#6 +D	24h	44.50
DR10#5AxEF1#6 +D	24h	42.20
DR10#5AxEF1#6 +D	48h	66.20
DR10#5AxEF1#6 +D	48h	43.40
DR10#5AxEF1#6 +D	48h	67.30
DR10#5AxEF1#6 +D	48h	46.00
DR10#5AxEF1#6 +D	48h	44.80
DR10#5AxEF1#6 +D	48h	42.60
DR10#5AxEF1#6 +D	48h	20.30
DR10#5AxEF1#6 +D	48h	23.80
DR10#5AxEF1#6 +D	48h	24.10
DR10#5AxEF1#6 +D	72h	67.60
DR10#5AxEF1#6 +D	72h	56.50
DR10#5AxEF1#6 +D	72h	54.80
DR10#5AxEF1#6 +D	72h	69.20
DR10#5AxEF1#6 +D	72h	56.80
DR10#5AxEF1#6 +D	72h	65.70
DR10#5AxEF1#6 +D	72h	44.00
DR10#5AxEF1#6 +D	72h	46.10
DR10#5AxEF1#6 +D	72h	38.70
DR10#5AxEF1#6 -D	Hatching	70.00
DR10#5AxEF1#6 -D	Hatching	65.50
DR10#5AxEF1#6 -D	Hatching	54.75
DR10#5AxEF1#6 -D	Hatching	64.49
DR10#5AxEF1#6 -D	Hatching	84.67
DR10#5AxEF1#6 -D	Hatching	59.06
DR10#5AxEF1#6 -D	Hatching	67.19
DR10#5AxEF1#6 -D	Hatching	75.16
DR10#5AxEF1#6 -D	Hatching	70.94
DR10#5AxEF1#6 -D	24h	60.90
DR10#5AxEF1#6 -D	24h	63.80
DR10#5AxEF1#6 -D	24h	41.30
DR10#5AxEF1#6 -D	24h	55.40
DR10#5AxEF1#6 -D	24h	56.20
DR10#5AxEF1#6 -D	24h	57.10
DR10#5AxEF1#6 -D	24h	22.70

DR10#5AxEF1#6 -D	24h	25.80
DR10#5AxEF1#6 -D	24h	42.20
DR10#5AxEF1#6 -D	48h	35.10
DR10#5AxEF1#6 -D	48h	36.20
DR10#5AxEF1#6 -D	48h	36.70
DR10#5AxEF1#6 -D	48h	20.10
DR10#5AxEF1#6 -D	48h	33.30
DR10#5AxEF1#6 -D	48h	29.40
DR10#5AxEF1#6 -D	48h	12.70
DR10#5AxEF1#6 -D	48h	29.60
DR10#5AxEF1#6 -D	48h	17.70
DR10#5AxEF1#6 -D	72h	32.10
DR10#5AxEF1#6 -D	72h	31.10
DR10#5AxEF1#6 -D	72h	22.50
DR10#5AxEF1#6 -D	72h	25.90
DR10#5AxEF1#6 -D	72h	21.20
DR10#5AxEF1#6 -D	72h	17.00
DR10#5AxEF1#6 -D	72h	40.10
DR10#5AxEF1#6 -D	72h	34.10
DR10#5AxEF1#6 -D	72h	34.50

Table S3. Survival of the strains obtained in the different larval stages from the variation of feeding protocol. J-06, wildtype line used as control. Δ +D, diet with doxycycline. Δ -D, diet without doxycycline.

Strain	Developmental Stage	Percentage
J-06	Hatching	78.00
J-06	Hatching	86.00
J-06	Hatching	82.83
J-06	Hatching	93.75
J-06	Hatching	77.86
J-06	Hatching	80.64
J-06	Hatching	88.00
J-06	Hatching	75.00
J-06	Hatching	86.50
J-06	Hatching	93.75
J-06	Hatching	92.75
J-06	Hatching	85.94
J-06	Hatching	85.00
J-06	Hatching	81.00
J-06	Hatching	75.00
J-06	Hatching	69.00

J-06	Hatching	68.50
J-06	Hatching	68.57
J-06	Hatching	85.25
J-06	Hatching	89.97
J-06	Hatching	82.56
J-06	Hatching	86.38
J-06	Hatching	85.13
J-06	Hatching	73.51
J-06	24h	91.53
J-06	24h	100.00
J-06	24h	69.50
J-06	24h	88.40
J-06	24h	74.07
J-06	24h	70.83
J-06	24h	74.80
J-06	24h	67.60
J-06	24h	76.72
J-06	24h	80.14
J-06	24h	95.75
J-06	24h	81.00
J-06	24h	81.00
J-06	24h	74.24
J-06	24h	76.26
J-06	24h	71.06
J-06	24h	61.41
J-06	24h	72.30
J-06	24h	83.50
J-06	24h	82.44
J-06	24h	76.74
J-06	24h	76.50
J-06	24h	66.00
J-06	48h	75.90
J-06	48h	86.87
J-06	48h	73.61
J-06	48h	41.03
J-06	48h	64.71
J-06	48h	72.96
J-06	48h	74.56
J-06	48h	68.97
J-06	48h	69.42
J-06	48h	81.68
J-06	48h	73.71
J-06	48h	82.10

J-06	48h	68.90
J-06	48h	56.50
J-06	48h	90.19
J-06	48h	66.85
J-06	48h	69.08
J-06	48h	68.31
J-06	48h	61.82
J-06	48h	72.73
J-06	48h	64.10
J-06	48h	50.67
J-06	48h	47.64
J-06	72h	85.38
J-06	72h	66.84
J-06	72h	55.24
J-06	72h	57.50
J-06	72h	61.40
J-06	72h	53.47
J-06	72h	54.17
J-06	72h	67.39
J-06	72h	65.99
J-06	72h	76.10
J-06	72h	57.80
J-06	72h	87.22
J-06	72h	93.16
J-06	72h	57.87
J-06	72h	54.19
J-06	72h	66.89
J-06	72h	38.00
J-06	72h	78.95
J-06	72h	66.67
J-06	72h	81.64
J-06	72h	79.62
DR9#3-2BxEF1#6 Δ+D	Hatching	89.50
DR9#3-2BxEF1#6 Δ+D	Hatching	77.50
DR9#3-2BxEF1#6 Δ+D	Hatching	84.80
DR9#3-2BxEF1#6 Δ+D	Hatching	83.53
DR9#3-2BxEF1#6 Δ+D	Hatching	77.60
DR9#3-2BxEF1#6 Δ+D	Hatching	75.25
DR9#3-2BxEF1#6 Δ+D	Hatching	87.50
DR9#3-2BxEF1#6 Δ+D	Hatching	82.25
DR9#3-2BxEF1#6 Δ+D	Hatching	67.48
DR9#3-2BxEF1#6 Δ+D	Hatching	80.02
DR9#3-2BxEF1#6 Δ+D	Hatching	76.52

DR9#3-2BxEF1#6 Δ +D	24h	81.53
DR9#3-2BxEF1#6 Δ +D	24h	84.85
DR9#3-2BxEF1#6 Δ +D	24h	76.43
DR9#3-2BxEF1#6 Δ +D	24h	83.22
DR9#3-2BxEF1#6 Δ +D	24h	73.53
DR9#3-2BxEF1#6 Δ +D	24h	72.32
DR9#3-2BxEF1#6 Δ +D	24h	65.94
DR9#3-2BxEF1#6 Δ +D	24h	71.88
DR9#3-2BxEF1#6 Δ +D	24h	56.85
DR9#3-2BxEF1#6 Δ +D	24h	82.93
DR9#3-2BxEF1#6 Δ +D	24h	63.24
DR9#3-2BxEF1#6 Δ +D	48h	85.11
DR9#3-2BxEF1#6 Δ +D	48h	83.01
DR9#3-2BxEF1#6 Δ +D	48h	68.57
DR9#3-2BxEF1#6 Δ +D	48h	78.02
DR9#3-2BxEF1#6 Δ +D	48h	50.00
DR9#3-2BxEF1#6 Δ +D	48h	69.92
DR9#3-2BxEF1#6 Δ +D	48h	60.00
DR9#3-2BxEF1#6 Δ +D	48h	75.51
DR9#3-2BxEF1#6 Δ +D	48h	53.09
DR9#3-2BxEF1#6 Δ +D	48h	67.86
DR9#3-2BxEF1#6 Δ +D	48h	76.39
DR9#3-2BxEF1#6 Δ +D	72h	76.50
DR9#3-2BxEF1#6 Δ +D	72h	77.70
DR9#3-2BxEF1#6 Δ +D	72h	73.33
DR9#3-2BxEF1#6 Δ +D	72h	81.08
DR9#3-2BxEF1#6 Δ +D	72h	65.52
DR9#3-2BxEF1#6 Δ +D	72h	54.84
DR9#3-2BxEF1#6 Δ +D	72h	68.28
DR9#3-2BxEF1#6 Δ +D	72h	65.79
DR9#3-2BxEF1#6 Δ +D	72h	66.10
DR9#3-2BxEF1#6 Δ +D	72h	54.43
DR9#3-2BxEF1#6 Δ +D	72h	60.90
DR9#3-2BxEF1#6 Δ -D	Hatching	46.50
DR9#3-2BxEF1#6 Δ -D	Hatching	43.75
DR9#3-2BxEF1#6 Δ -D	Hatching	56.85
DR9#3-2BxEF1#6 Δ -D	Hatching	51.10
DR9#3-2BxEF1#6 Δ -D	Hatching	47.14
DR9#3-2BxEF1#6 Δ -D	Hatching	46.50
DR9#3-2BxEF1#6 Δ -D	Hatching	42.50
DR9#3-2BxEF1#6 Δ -D	Hatching	42.87
DR9#3-2BxEF1#6 Δ -D	Hatching	52.50
DR9#3-2BxEF1#6 Δ -D	Hatching	44.75

DR9#3-2BxEF1#6 Δ-D	Hatching	59.00
DR9#3-2BxEF1#6 Δ-D	24h	38.89
DR9#3-2BxEF1#6 Δ-D	24h	44.07
DR9#3-2BxEF1#6 Δ-D	24h	40.52
DR9#3-2BxEF1#6 Δ-D	24h	38.51
DR9#3-2BxEF1#6 Δ-D	24h	28.44
DR9#3-2BxEF1#6 Δ-D	24h	36.84
DR9#3-2BxEF1#6 Δ-D	24h	34.85
DR9#3-2BxEF1#6 Δ-D	24h	48.39
DR9#3-2BxEF1#6 Δ-D	24h	42.44
DR9#3-2BxEF1#6 Δ-D	24h	45.31
DR9#3-2BxEF1#6 Δ-D	24h	49.10
DR9#3-2BxEF1#6 Δ-D	48h	38.71
DR9#3-2BxEF1#6 Δ-D	48h	56.57
DR9#3-2BxEF1#6 Δ-D	48h	35.17
DR9#3-2BxEF1#6 Δ-D	48h	46.78
DR9#3-2BxEF1#6 Δ-D	48h	37.04
DR9#3-2BxEF1#6 Δ-D	48h	52.35
DR9#3-2BxEF1#6 Δ-D	48h	35.26
DR9#3-2BxEF1#6 Δ-D	48h	35.26
DR9#3-2BxEF1#6 Δ-D	48h	51.67
DR9#3-2BxEF1#6 Δ-D	48h	38.64
DR9#3-2BxEF1#6 Δ-D	48h	51.43
DR9#3-2BxEF1#6 Δ-D	72h	30.07
DR9#3-2BxEF1#6 Δ-D	72h	36.75
DR9#3-2BxEF1#6 Δ-D	72h	30.88
DR9#3-2BxEF1#6 Δ-D	72h	16.38
DR9#3-2BxEF1#6 Δ-D	72h	28.00
DR9#3-2BxEF1#6 Δ-D	72h	26.95
DR9#3-2BxEF1#6 Δ-D	72h	35.95
DR9#3-2BxEF1#6 Δ-D	72h	32.21
DR9#3-2BxEF1#6 Δ-D	72h	37.55
DR9#3-2BxEF1#6 Δ-D	72h	32.85
DR9#3-2BxEF1#6 Δ-D	72h	31.16
DR9#4-1xEF1#6 Δ+D	Hatching	40.74
DR9#4-1xEF1#6 Δ+D	Hatching	52.52
DR9#4-1xEF1#6 Δ+D	Hatching	48.87
DR9#4-1xEF1#6 Δ+D	Hatching	55.36
DR9#4-1xEF1#6 Δ+D	Hatching	61.00
DR9#4-1xEF1#6 Δ+D	Hatching	66.43
DR9#4-1xEF1#6 Δ+D	Hatching	55.00
DR9#4-1xEF1#6 Δ+D	Hatching	63.00
DR9#4-1xEF1#6 Δ+D	Hatching	46.00

DR9#4-1xEF1#6 Δ+D	24h	42.00
DR9#4-1xEF1#6 Δ+D	24h	62.35
DR9#4-1xEF1#6 Δ+D	24h	41.54
DR9#4-1xEF1#6 Δ+D	24h	53.54
DR9#4-1xEF1#6 Δ+D	24h	42.15
DR9#4-1xEF1#6 Δ+D	24h	37.80
DR9#4-1xEF1#6 Δ+D	24h	50.60
DR9#4-1xEF1#6 Δ+D	24h	39.50
DR9#4-1xEF1#6 Δ+D	48h	40.40
DR9#4-1xEF1#6 Δ+D	48h	54.67
DR9#4-1xEF1#6 Δ+D	48h	40.00
DR9#4-1xEF1#6 Δ+D	48h	41.22
DR9#4-1xEF1#6 Δ+D	48h	43.88
DR9#4-1xEF1#6 Δ+D	48h	40.00
DR9#4-1xEF1#6 Δ+D	48h	39.90
DR9#4-1xEF1#6 Δ+D	48h	40.50
DR9#4-1xEF1#6 Δ+D	48h	54.10
DR9#4-1xEF1#6 Δ+D	72h	43.36
DR9#4-1xEF1#6 Δ+D	72h	33.70
DR9#4-1xEF1#6 Δ+D	72h	30.69
DR9#4-1xEF1#6 Δ+D	72h	45.63
DR9#4-1xEF1#6 Δ+D	72h	50.00
DR9#4-1xEF1#6 Δ+D	72h	51.33
DR9#4-1xEF1#6 Δ+D	72h	45.00
DR9#4-1xEF1#6 Δ+D	72h	57.30
DR9#4-1xEF1#6 Δ+D	72h	37.80
DR9#4-1xEF1#6 Δ-D	Hatching	30.43
DR9#4-1xEF1#6 Δ-D	Hatching	34.19
DR9#4-1xEF1#6 Δ-D	Hatching	39.99
DR9#4-1xEF1#6 Δ-D	Hatching	36.45
DR9#4-1xEF1#6 Δ-D	Hatching	23.50
DR9#4-1xEF1#6 Δ-D	Hatching	30.00
DR9#4-1xEF1#6 Δ-D	Hatching	31.00
DR9#4-1xEF1#6 Δ-D	Hatching	35.00
DR9#4-1xEF1#6 Δ-D	Hatching	16.00
DR9#4-1xEF1#6 Δ-D	24h	27.00
DR9#4-1xEF1#6 Δ-D	24h	35.60
DR9#4-1xEF1#6 Δ-D	24h	29.50
DR9#4-1xEF1#6 Δ-D	24h	30.20
DR9#4-1xEF1#6 Δ-D	24h	29.50
DR9#4-1xEF1#6 Δ-D	24h	19.40
DR9#4-1xEF1#6 Δ-D	24h	37.20
DR9#4-1xEF1#6 Δ-D	24h	29.70

DR9#4-1xEF1#6 Δ-D	24h	12.10
DR9#4-1xEF1#6 Δ-D	48h	27.40
DR9#4-1xEF1#6 Δ-D	48h	16.40
DR9#4-1xEF1#6 Δ-D	48h	32.00
DR9#4-1xEF1#6 Δ-D	48h	28.20
DR9#4-1xEF1#6 Δ-D	48h	19.80
DR9#4-1xEF1#6 Δ-D	48h	22.50
DR9#4-1xEF1#6 Δ-D	48h	23.40
DR9#4-1xEF1#6 Δ-D	48h	22.10
DR9#4-1xEF1#6 Δ-D	48h	10.80
DR9#4-1xEF1#6 Δ-D	72h	14.40
DR9#4-1xEF1#6 Δ-D	72h	26.90
DR9#4-1xEF1#6 Δ-D	72h	29.20
DR9#4-1xEF1#6 Δ-D	72h	13.60
DR9#4-1xEF1#6 Δ-D	72h	21.70
DR9#4-1xEF1#6 Δ-D	72h	14.50
DR9#4-1xEF1#6 Δ-D	72h	14.50
DR9#4-1xEF1#6 Δ-D	72h	16.70
DR9#4-1xEF1#6 Δ-D	72h	14.20
DR10#4-3xEF1#6 Δ+D	Hatching	42.50
DR10#4-3xEF1#6 Δ+D	Hatching	84.50
DR10#4-3xEF1#6 Δ+D	Hatching	74.00
DR10#4-3xEF1#6 Δ+D	Hatching	74.75
DR10#4-3xEF1#6 Δ+D	Hatching	86.75
DR10#4-3xEF1#6 Δ+D	Hatching	91.00
DR10#4-3xEF1#6 Δ+D	Hatching	65.68
DR10#4-3xEF1#6 Δ+D	Hatching	76.12
DR10#4-3xEF1#6 Δ+D	Hatching	83.50
DR10#4-3xEF1#6 Δ+D	24h	61.27
DR10#4-3xEF1#6 Δ+D	24h	80.85
DR10#4-3xEF1#6 Δ+D	24h	77.20
DR10#4-3xEF1#6 Δ+D	24h	45.45
DR10#4-3xEF1#6 Δ+D	24h	48.51
DR10#4-3xEF1#6 Δ+D	24h	32.73
DR10#4-3xEF1#6 Δ+D	24h	51.04
DR10#4-3xEF1#6 Δ+D	24h	48.60
DR10#4-3xEF1#6 Δ+D	24h	73.06
DR10#4-3xEF1#6 Δ+D	48h	47.37
DR10#4-3xEF1#6 Δ+D	48h	90.91
DR10#4-3xEF1#6 Δ+D	48h	67.97
DR10#4-3xEF1#6 Δ+D	48h	35.81
DR10#4-3xEF1#6 Δ+D	48h	64.71
DR10#4-3xEF1#6 Δ+D	48h	20.73

DR10#4-3xEF1#6 Δ +D	48h	61.42
DR10#4-3xEF1#6 Δ +D	48h	68.87
DR10#4-3xEF1#6 Δ +D	48h	63.43
DR10#4-3xEF1#6 Δ +D	72h	32.30
DR10#4-3xEF1#6 Δ +D	72h	72.15
DR10#4-3xEF1#6 Δ +D	72h	73.89
DR10#4-3xEF1#6 Δ +D	72h	45.24
DR10#4-3xEF1#6 Δ +D	72h	54.55
DR10#4-3xEF1#6 Δ +D	72h	31.00
DR10#4-3xEF1#6 Δ +D	72h	56.22
DR10#4-3xEF1#6 Δ +D	72h	47.06
DR10#4-3xEF1#6 Δ +D	72h	75.79
DR10#4-3xEF1#6 Δ -D	Hatching	57.25
DR10#4-3xEF1#6 Δ -D	Hatching	69.25
DR10#4-3xEF1#6 Δ -D	Hatching	76.75
DR10#4-3xEF1#6 Δ -D	Hatching	67.64
DR10#4-3xEF1#6 Δ -D	Hatching	65.00
DR10#4-3xEF1#6 Δ -D	Hatching	67.48
DR10#4-3xEF1#6 Δ -D	Hatching	63.17
DR10#4-3xEF1#6 Δ -D	Hatching	71.00
DR10#4-3xEF1#6 Δ -D	Hatching	86.48
DR10#4-3xEF1#6 Δ -D	24h	77.16
DR10#4-3xEF1#6 Δ -D	24h	69.59
DR10#4-3xEF1#6 Δ -D	24h	89.83
DR10#4-3xEF1#6 Δ -D	24h	54.61
DR10#4-3xEF1#6 Δ -D	24h	10.98
DR10#4-3xEF1#6 Δ -D	24h	46.46
DR10#4-3xEF1#6 Δ -D	24h	54.55
DR10#4-3xEF1#6 Δ -D	24h	64.94
DR10#4-3xEF1#6 Δ -D	24h	52.68
DR10#4-3xEF1#6 Δ -D	48h	62.28
DR10#4-3xEF1#6 Δ -D	48h	75.41
DR10#4-3xEF1#6 Δ -D	48h	86.27
DR10#4-3xEF1#6 Δ -D	48h	35.74
DR10#4-3xEF1#6 Δ -D	48h	43.65
DR10#4-3xEF1#6 Δ -D	48h	29.74
DR10#4-3xEF1#6 Δ -D	48h	45.14
DR10#4-3xEF1#6 Δ -D	48h	61.57
DR10#4-3xEF1#6 Δ -D	48h	60.27
DR10#4-3xEF1#6 Δ -D	72h	57.59
DR10#4-3xEF1#6 Δ -D	72h	64.29
DR10#4-3xEF1#6 Δ -D	72h	60.61
DR10#4-3xEF1#6 Δ -D	72h	61.67

DR10#4-3xEF1#6 Δ -D	72h	36.04
DR10#4-3xEF1#6 Δ -D	72h	56.29
DR10#4-3xEF1#6 Δ -D	72h	49.02
DR10#4-3xEF1#6 Δ -D	72h	44.02
DR10#4-3xEF1#6 Δ -D	72h	75.12

Table S4. Post-emergence counting of females and males to identify lethality specific to females.

Strain	Males	Female	No emerged
J-06	46	46	8
J-06	46	41	13
J-06	36	46	18
J-06	41	40	19
J-06	52	47	1
J-06	41	46	13
J-06	40	50	10
J-06	52	41	7
J-06	47	49	4
J-06	51	47	2
J-06	45	50	5
J-06	40	52	8
J-06	46	49	5
J-06	46	45	9
J-06	47	38	15
DR9#3-2BxEF1#6 +D	61	33	6
DR9#3-2BxEF1#6 +D	42	47	11
DR9#3-2BxEF1#6 +D	49	46	5
DR9#3-2BxEF1#6 +D	50	39	11
DR9#3-2BxEF1#6 +D	45	44	11
DR9#3-2BxEF1#6 +D	36	40	24
DR9#3-2BxEF1#6 +D	47	42	11
DR9#3-2BxEF1#6 +D	50	48	2
DR9#3-2BxEF1#6 +D	45	46	9
DR9#3-2BxEF1#6 +D	39	47	14
DR9#3-2BxEF1#6 +D	51	37	12
DR9#3-2BxEF1#6 +D	39	32	29
DR9#3-2BxEF1#6 -D	54	0	46
DR9#3-2BxEF1#6 -D	75	0	25
DR9#3-2BxEF1#6 -D	71	0	29
DR9#3-2BxEF1#6 -D	45	1	54
DR9#3-2BxEF1#6 -D	53	2	45
DR9#3-2BxEF1#6 -D	54	0	46
DR9#3-2BxEF1#6 -D	84	4	12
DR9#3-2BxEF1#6 -D	65	1	34
DR9#3-2BxEF1#6 -D	77	2	21

DR9#3-2BxEF1#6 -D	72	0	28
DR9#3-2BxEF1#6 -D	71	7	22
DR9#3-2BxEF1#6 -D	67	4	29
DR10#4-3xEF1#6 +D	47	47	6
DR10#4-3xEF1#6 +D	46	48	6
DR10#4-3xEF1#6 +D	47	51	2
DR10#4-3xEF1#6 +D	53	41	6
DR10#4-3xEF1#6 +D	56	36	8
DR10#4-3xEF1#6 +D	56	36	8
DR10#4-3xEF1#6 +D	46	46	8
DR10#4-3xEF1#6 +D	43	42	15
DR10#4-3xEF1#6 +D	40	32	28
DR10#4-3xEF1#6 +D	43	43	14
DR10#4-3xEF1#6 +D	49	45	6
DR10#4-3xEF1#6 +D	53	42	5
DR10#4-3xEF1#6 +D	39	52	9
DR10#4-3xEF1#6 +D	35	47	18
DR10#4-3xEF1#6 +D	48	48	4
DR10#4-3xEF1#6 +D	43	48	9
DR10#4-3xEF1#6 +D	50	40	10
DR10#4-3xEF1#6 +D	53	41	6
DR10#4-3xEF1#6 -D	48	2	50
DR10#4-3xEF1#6 -D	57	0	43
DR10#4-3xEF1#6 -D	51	1	48
DR10#4-3xEF1#6 -D	54	0	46
DR10#4-3xEF1#6 -D	59	0	41
DR10#4-3xEF1#6 -D	52	0	48
DR10#4-3xEF1#6 -D	53	0	47
DR10#4-3xEF1#6 -D	37	0	63
DR10#4-3xEF1#6 -D	55	0	45
DR10#4-3xEF1#6 -D	45	1	54
DR10#4-3xEF1#6 -D	58	3	39
DR10#5AxEF1#6 +D	44	49	7
DR10#5AxEF1#6 +D	48	41	11
DR10#5AxEF1#6 +D	52	44	4
DR10#5AxEF1#6 +D	57	36	7
DR10#5AxEF1#6 +D	63	34	3
DR10#5AxEF1#6 +D	46	47	7
DR10#5AxEF1#6 +D	44	40	16
DR10#5AxEF1#6 +D	61	37	2

DR10#5AxEF1#6 +D	45	44	11
DR10#5AxEF1#6 -D	87	0	13
DR10#5AxEF1#6 -D	90	0	10
DR10#5AxEF1#6 -D	84	0	16
DR10#5AxEF1#6 -D	74	0	26
DR10#5AxEF1#6 -D	78	0	22
DR10#5AxEF1#6 -D	70	0	30
DR10#5AxEF1#6 -D	95	0	5
DR10#5AxEF1#6 -D	87	0	13
DR10#5AxEF1#6 -D	80	0	20
DR9#3-2BxEF1#6 Δ+D	50	44	6
DR9#3-2BxEF1#6 Δ+D	42	27	31
DR9#3-2BxEF1#6 Δ+D	47	31	22
DR9#3-2BxEF1#6 Δ+D	48	41	11
DR9#3-2BxEF1#6 Δ+D	34	50	16
DR9#3-2BxEF1#6 Δ+D	41	51	8
DR9#3-2BxEF1#6 Δ+D	49	45	6
DR9#3-2BxEF1#6 Δ+D	43	54	3
DR9#3-2BxEF1#6 Δ+D	35	57	8
DR9#3-2BxEF1#6 Δ+D	51	35	14
DR9#3-2BxEF1#6 Δ+D	46	42	12
DR9#3-2BxEF1#6 Δ+D	47	42	11
DR9#3-2BxEF1#6 Δ+D	42	54	4
DR9#3-2BxEF1#6 Δ+D	60	34	6
DR9#3-2BxEF1#6 Δ-D	66	0	34
DR9#3-2BxEF1#6 Δ-D	77	0	23
DR9#3-2BxEF1#6 Δ-D	87	0	13
DR9#3-2BxEF1#6 Δ-D	77	0	23
DR9#3-2BxEF1#6 Δ-D	62	0	38
DR9#3-2BxEF1#6 Δ-D	93	0	7
DR9#3-2BxEF1#6 Δ-D	93	0	7
DR9#3-2BxEF1#6 Δ-D	66	0	34
DR9#3-2BxEF1#6 Δ-D	83	0	17
DR9#3-2BxEF1#6 Δ-D	83	0	17
DR9#3-2BxEF1#6 Δ-D	85	0	15
DR9#3-2BxEF1#6 Δ-D	79	0	21
DR9#3-2BxEF1#6 Δ-D	82	0	18
DR9#3-2BxEF1#6 Δ-D	80	0	20
DR9#4-1xEF1#6 Δ+D	43	36	21
DR9#4-1xEF1#6 Δ+D	47	44	9

DR9#4-1xEF1#6 Δ +D	48	42	10
DR9#4-1xEF1#6 Δ +D	53	34	13
DR9#4-1xEF1#6 Δ +D	44	50	6
DR9#4-1xEF1#6 Δ +D	42	45	13
DR9#4-1xEF1#6 Δ +D	42	41	17
DR9#4-1xEF1#6 Δ +D	54	33	13
DR9#4-1xEF1#6 Δ +D	36	40	24
DR9#4-1xEF1#6 Δ -D	51	0	49
DR9#4-1xEF1#6 Δ -D	88	0	12
DR9#4-1xEF1#6 Δ -D	74	3	23
DR9#4-1xEF1#6 Δ -D	88	0	12
DR9#4-1xEF1#6 Δ -D	90	0	10
DR9#4-1xEF1#6 Δ -D	88	0	12
DR9#4-1xEF1#6 Δ -D	77	0	22
DR9#4-1xEF1#6 Δ -D	81	0	19
DR9#4-1xEF1#6 Δ -D	78	0	22
DR10#4-3xEF1#6 Δ +D	16	19	65
DR10#4-3xEF1#6 Δ +D	44	44	12
DR10#4-3xEF1#6 Δ +D	44	38	18
DR10#4-3xEF1#6 Δ +D	35	58	7
DR10#4-3xEF1#6 Δ +D	43	50	7
DR10#4-3xEF1#6 Δ +D	54	42	4
DR10#4-3xEF1#6 Δ +D	38	46	0
DR10#4-3xEF1#6 Δ +D	48	39	7
DR10#4-3xEF1#6 Δ +D	62	37	9
DR10#4-3xEF1#6 Δ -D	57	1	43
DR10#4-3xEF1#6 Δ -D	59	1	41
DR10#4-3xEF1#6 Δ -D	53	0	47
DR10#4-3xEF1#6 Δ -D	51	9	40
DR10#4-3xEF1#6 Δ -D	63	0	37
DR10#4-3xEF1#6 Δ -D	49	4	47
DR10#4-3xEF1#6 Δ -D	47	0	53
DR10#4-3xEF1#6 Δ -D	46	1	53
DR10#4-3xEF1#6 Δ -D	52	0	48

Table S5. Male mating success.

Strain	Cage	Females	Spermatheca with sperm	Spermatheca without sperm
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J-06	1	9	9	0
J-06	1	15	11	4
J-06	1	12	8	4
J-06	1	13	11	2
J-06	1	15	13	2
J-06	2	13	10	3
J-06	2	13	7	6
J-06	1	14	11	3
J-06	1	14	13	1
J-06	2	14	11	3
DR9#3-2BxEF1#6 (-D)	1	14	11	3
DR9#3-2BxEF1#6 (-D)	2	14	12	2
DR9#3-2BxEF1#6 (-D)	3	15	11	4
DR9#3-2BxEF1#6 (-D)	1	14	10	4
DR9#3-2BxEF1#6 (-D)	2	14	7	7
DR9#3-2BxEF1#6 (-D)	3	14	6	8
DR9#3-2BxEF1#6 (-D)	1	15	9	6
DR9#3-2BxEF1#6 (-D)	2	15	5	10
DR9#3-2BxEF1#6 (-D)	3	15	5	10
DR10#4-3xEF1#6 (-D)	1	15	10	5
DR10#4-3xEF1#6 (-D)	2	12	11	1
DR10#4-3xEF1#6 (-D)	3	15	7	8
DR10#4-3xEF1#6 (-D)	1	15	9	6
DR10#4-3xEF1#6 (-D)	2	11	9	2
DR10#4-3xEF1#6 (-D)	3	14	10	4
DR10#4-3xEF1#6 (-D)	1	14	8	6
DR10#4-3xEF1#6 (-D)	2	13	8	5
DR10#4-3xEF1#6 (-D)	3	13	11	2
DR10#5AxEF1#6 (-D)	1	15	6	9
DR10#5AxEF1#6 (-D)	2	13	7	6
DR10#5AxEF1#6 (-D)	3	15	7	8
DR10#5AxEF1#6 (-D)	1	15	5	10
DR10#5AxEF1#6 (-D)	2	15	7	8
DR10#5AxEF1#6 (-D)	3	14	5	9
DR10#5AxEF1#6 (-D)	1	13	10	3
DR10#5AxEF1#6 (-D)	2	15	6	9
DR10#5AxEF1#6 (-D)	3	15	10	5

Table S6. Mating competition tests of transgenic male strains versus J-06 males

Strain	Rep	# female mated with transgenic male	#female mated with wild type male	#female that did not mate	MCI	95% CI
DR9#3-2BxEF1#6 -D	1	0	7	2	0.227	(0.132, 0.321)
DR9#3-2BxEF1#6 -D	2	0	7	3		
DR9#3-2BxEF1#6 -D	3	2	6	3		
DR9#3-2BxEF1#6 -D	1	4	6	0		
DR9#3-2BxEF1#6 -D	2	1	6	1		
DR9#3-2BxEF1#6 -D	3	5	4	0		
DR9#3-2BxEF1#6 -D	1	1	8	1		
DR9#3-2BxEF1#6 -D	2	2	8	0		
DR9#3-2BxEF1#6 -D	3	2	6	2		
DR9#3-2BxEF1#6 Δ-D	1	4	5	1	0.266	(0.168, 0.363)
DR9#3-2BxEF1#6 Δ-D	2	2	7	1		
DR9#3-2BxEF1#6 Δ-D	1	0	9	1		
DR9#3-2BxEF1#6 Δ-D	2	5	4	0		
DR9#3-2BxEF1#6 Δ-D	3	1	7	1		
DR9#3-2BxEF1#6 Δ-D	1	1	8	0		
DR9#3-2BxEF1#6 Δ-D	2	1	7	0		
DR9#3-2BxEF1#6 Δ-D	3	3	6	0		
DR9#3-2BxEF1#6 Δ-D	1	0	3	2		
DR9#3-2BxEF1#6 Δ-D	2	4	2	0	0.373	(0.249, 0.496)
DR9#4-1xEF1#6 Δ+D	1	2	4	4		
DR9#4-1xEF1#6 Δ+D	2	1	5	2		
DR9#4-1xEF1#6 Δ+D	3	2	0	6		
DR9#4-1xEF1#6 Δ+D	1	5	4	1		
DR9#4-1xEF1#6 Δ+D	2	3	6	1		
DR9#4-1xEF1#6 Δ+D	3	0	6	3		
DR9#4-1xEF1#6 Δ+D	1	1	3	1		
DR9#4-1xEF1#6 Δ+D	2	4	4	2		
DR9#4-1xEF1#6 Δ+D	3	4	5	1		
DR10#4-3xEF1#6 +D	1	3	5	2	0.479	(0.378, 0.580)
DR10#4-3xEF1#6 +D	2	2	4	2		
DR10#4-3xEF1#6 +D	3	1	5	3		
DR10#4-3xEF1#6 +D	1	2	5	2		
DR10#4-3xEF1#6 +D	2	3	5	0		
DR10#4-3xEF1#6 +D	3	3	5	2		
DR10#4-3xEF1#6 +D	1	6	3	0		
DR10#4-3xEF1#6 +D	2	6	3	0		

DR10#4-3xEF1#6 +D	3	5	5	0	0.582	(0.464, 0.7)
DR10#4-3xEF1#6 +D	1	4	3	2		
DR10#4-3xEF1#6 +D	2	6	3	1		
DR10#4-3xEF1#6 +D	3	4	3	1		
DR10#4-3xEF1#6 Δ+D	1	3	6	0		
DR10#4-3xEF1#6 Δ+D	2	2	5	0		
DR10#4-3xEF1#6 Δ+D	3	5	3	1		
DR10#4-3xEF1#6 Δ+D	1	6	1	4		
DR10#4-3xEF1#6 Δ+D	2	3	4	3		
DR10#4-3xEF1#6 Δ+D	3	5	1	3		
DR10#4-3xEF1#6 Δ+D	1	4	4	1		
DR10#4-3xEF1#6 Δ+D	2	8	3	0		
DR10#4-3xEF1#6 Δ+D	3	3	1	4		
DR10#5AxEF1#6 -D	1	3	6	0	0.316	(0.211, 0.42)
DR10#5AxEF1#6 -D	2	3	6	0		
DR10#5AxEF1#6 -D	3	4	5	0		
DR10#5AxEF1#6 -D	1	7	3	0		
DR10#5AxEF1#6 -D	2	3	6	0		
DR10#5AxEF1#6 -D	3	0	7	2		
DR10#5AxEF1#6 -D	1	1	8	1		
DR10#5AxEF1#6 -D	2	2	6	1		
DR10#5AxEF1#6 -D	3	1	5	2		
DR10#5AxEF1#6 -D	1	2	3	0		
DR10#5AxEF1#6 -D	2	7	3	0		
DR10#5AxEF1#6 -D	3	3	4	1		

Table S7. List of oligonucleotides used in this study

Name	Sequence (5'-3')	Use
tTA _v -RT-F	TCTTGCGTAATAATGCCAAATCCTTCCG	Measurement of tTA _v RNA
tTA _v -RT-R	CCAACACACAGCCCAATGTAAAATGACC	
DR9_ChHalop_F1	CCTCCTAGTCCTCCTTATTCG	Measurement of <i>Chhalo</i> RNA
DR9_ChHalop_R1	GACACCCAATTTCTCCAGTTT	
DR10_G6451_F1	AGAATTGAGACGCCTTAGGA	Measurement of <i>g6541</i> RNA
DR10_G6451_R1	ATAGTGCGGAATTGTTGCAT	

DR9-F	ATGCCGAGTAATAAACTTAGTTAGGCC	Detection of sex-specific expression of tTA _v in DR9 lines
DR9-R	TGTTGACACAAGAAAGCCAATTGATTTT	
DR10-F	AGACGCAAAATTGTGACCTTAAACAAAA	Detection of sex-specific expression of tTA _v in DR10 lines
DR10-R	ATTTTGTAGCCAATTACGTGTTGTCAA	