

Parameter	Temp Range (°C)	Equation/Constant	Source(s)
Egg Development: E_d (proportion of stage completed per day)	$T < 14.5, T > 36$	0	Eisen et al. 2014
	$14.5 \leq T \leq 31$	$0.0012 * T - 0.0171$	
	$31 < T \leq 35$	$-0.0002 * T + 0.0268$	
	$35 < T \leq 36$	$-0.0198 * T + 0.7128$	
Egg Survival: E_s (Proportion surviving each day)	$T \leq 0, T \geq 38$	0	Eisen et al. 2014
	$0 < T < 15$	$0.071 * T - .071$	
	$15 \leq T < 32$	0.98	
	$32 \leq T < 38$	$-0.0141 * T^2 + 0.8278 * T - 11.096$	
Minimum Egg Hatching Temperature: E_m		14°C	Christophers 1960
Larva Development: L_d (proportion of stage completed per day)	$T \leq 14, T > 38$	0	Eisen et al. 2014
	$14 < T < 36$	$0.0076 * \ln(T) - 0.0192$	
	$36 \leq T \leq 38$	$-0.0027 * T + 0.1041$	
Larva Density Independent Survival: L_s (Proportion surviving each day)	$T \leq 4, T \geq 38$	0	Eisen et al. 2014
	$4 < T < 15$	$0.0876 * T - .3502$	
	$15 \leq T < 35$	0.98	
	$35 \leq T < 38$	$-0.1863 * T + 7.4581$	
Larva Density Dependent Survival: L_{ds} (Proportion surviving each day)	< Carry Cap	1	
	> Carry Cap	$(CC * \text{Habitable Water}) / (L(t) + P(t))$	
Carrying Capacity : CC (Maximum larvae/pupae per ml water)		0.5, 1.0	Barbosa et al. 1972, Moore and Whitacre 1972
Pupae Development: P_d (proportion of stage completed per day)	$T \leq 12, T \geq 39$	0	Eisen et al. 2014
	$12 < T < 33$	$.0014 * T - .0155$	
	$33 \leq T < 39$	$-0.0004 * T^2 + 0.0286 * T - 0.4777$	
Pupae Survival: P_s (Proportion surviving each day)	$T \leq 4, T > 39$	0	Eisen et al. 2014
	$4 < T < 15$	$-0.0068 * T^2 + 0.2201 * T - 0.7794$	
	$15 \leq T < 33$	0.99	
	$33 \leq T \leq 39$	$-0.1585 * T + 6.2021$	
Ovarian Development: O_d (proportion of stage completed per day)	$T \leq 20$	0	Christophers 1960, Focks et al. 1993
	$T > 20$	Sharpe and DeMichele	
Adult Daily Survival Rate: A_s (Daily survival Rate)	$T < 1, T > 40$.01	Muir and Kay 1998, Conway et al. 1974
	$1 \leq T \leq 40$	0.86, 0.88	

Minimum Thermal Oviposition Limit: O_l		18°C	Christophers 1960
Adult Biting Rate: A_b	$T < 17, T > 39$	0	Christophers 1960, Author Observations
(Proportion of adults that feed)	$17 \leq T \leq 39$	$-0.0066 * T^2 + 0.3694 * T - 4.2222$	
Fertilization Rate (Age: 1, 2, 3 days): A_f	$T < 17$	0	Christophers 1960
	$T \geq 17$	0.33, 0.5, 1.0	
Egg Batch Size: E_b		100	Christophers 1960
EIP Progress: EIP	$T < 21$	0	Tjaden et al. 2013
(Proportion of EIP complete per day)	$T \geq 21$	$(1 / (100.33 * \exp(T * -0.077))) / 24$	
Vector Infection Probability: I_v	$T < 17$	0	Watts et al. 1987
(Probability of infection)	$T \geq 17$	$-0.0023 * T^2 + 0.1655 * T - 2.0568$	
Length of Exposed Stage (days): H_e			Kuno 1995, Chan and Johansson 2012, Nishiura and Halstead 2007
		5	
Length of Infectious Period (days): H_i		5, 7	Same at H_e
Background Infection Rate: I_b		0.00004, 0.00006, 0.00008	Sensitivity Analysis, CDC data
(Proportion of infectious humans)			
Host Infection Probability: I_h	$T < 21$	0	Tjaden et al. 2013
	$21 \leq T \leq 32$	$(0.0022 * T^2 - 0.0627 * T + 0.6232) * 0.5, 1$	
	$T > 32$	0.5, 1	
Container Height: C_h		8cm, 12 cm	Sensitivity Analysis
Container Habitat Area (cm ²): C_a		Low = 8E+6, 10E+6, 12E+6, 14E+6 Med Low = 16E+6, 18E+6, 20E+6, 22E+6 Med = 24E+6, 26E+6, 28E+6, 30E+6 Med High = 40E+6, 50E+6, 60E+6, 70E+6 High = 80E+6, 90E+6, 100E+6, 100E+6	Sensitivity Analysis
(All 20 values were used separately but results were grouped into five categories for analysis)			
Container Habitat Composition: C_c		0.1, 0.3, 0.5, 0.7, 0.9	Sensitivity Analysis
(Proportion Open Containers)			
Evaporation (cm/day): E_v		Hamon's Equation	Hamon 1961
Daylight Hours: DL		See Reference	Forsythe et al. 1995
Population: P		395,326	US Census Bureau
Latitude: L		18.43° N	Weather Station Location

*T = Temperature, Eq = Equation