S1 Table. Model parameters. Symbol, description, standard value used, and reference for the parameters found in the model.

Symbol	Description	Value	Reference
Structural parameters			
t_e	Duration of egg stage (days)	3	[1]
t_l	Duration of larval and pupae stages (days)	10	[2]
n_g	Maximum number of gonotrophic cycles	6	[3]
Lifecycle parameters			
d_e	Egg mortality (per day)	0.2	text
d_l^{min}	Baseline larva mortality (per day)	0.035	[4]
d_l^{max}	Maximum larva mortality (per day)	0.4	[4]
d_a	Adult mortality without intervention (per day)	varies	S3 Fig, S2 Table
p_m	Probability of mating before feeding	0.5	[5]
n_e	Number of eggs per batch	60	[6]
K	Larval carry capacity	10,000	text
Malaria parameters			
S	Length of sporogony (days)	12	[7]
b	Risk of transmission from mosquito to human per infectious bite	0.55	[8]
D	Length of infectious period of humans (days)	75	[9]
N	Bites per mosquito per human per day	$2.15*10^{-2}$, $3.78*10^{-3}$, $1.09*10^{-3}$ #	text
q	Maximum risk of transmission from human to feeding mosquito (per day)	0.1	text
Intervention parameters			
h_m	Effective reduction in mating due to DBH	0.25, 0.54, 0.65&	text
h_e	Effective reduction in egg batch size due to DBH	0.26, 0.69, 0.95&	text
h_d	Additional mortality due to DBH	Varies&	S3 Fig, S2 Table
h_s	Effective reduction in *Plasmodium* susceptibility	0.16, 0.56, 0.87&	text
d_c	Additional mortality due to insecticide	0.8	text

#Bites per mosquito per human per day (N) varies with transmission and has three values corresponding to low, moderate and high transmission.

&Intervention parameters (h_m, h_e, h_d, h_s) have three values corresponding to increasing levels of DBH: 0.125 μg DBH, 0.5 μg DBH and 2.0 μg DBH.

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