Table S1. Mosquito strains and corresponding experiments.

Experiment	Mosquito Line
Diet and waste container lab experiments	Aus *w*Mel
Kiribati field test	Kiribati wild-type

Table S2. Liquid diet feeding regime followed per 150 larvae.

Days Post-hatch	Number of Tetramin Tablets	Amount of Liquid Food (beef liver powder-, cricket- or black soldier fly-based)
0	0.5 tablets	4.13 µL
1	0	413 µL in morning and 413 µL in evening
2	0	413 µL
3	0	1.65 mL
4	0.5 tablets	1.65 mL
5	0	1.23 mL
6	0	413 µL
7	0.25 tablets	413 µL

Table S3. qPCR primer and probe sequences. Reference gene *Ribosomal Protein S17 (RpS17)* and target gene *Wolbachia surface protein (wsp)* [44].

Primer Name	Sequence
Rps17_TaqM_Probe	CAGGAGGAGGAACGTGAGCGCAG (FAM-BHQ1)
wspTM-LC640	LC640-TCCTTTGGAACCCGCTGTGAATGA-iowaBlack
wspTM-2F	CATTGGTGTTGGTGTTGGTG
wspTM-2R	ACACCAGCTTTTACTTGACCAG
Rps17_TaqM_FW	TCCGTGGTATCTCCATCAAGCT
Rps17_TaqM_RV	CACTTCCGGCACGTAGTTGTC

Table S4. Statistical indicators for all statistical tests.

Figure	Measurement	Statistical test	Degrees of Freedom	F-statistic	Chi-squared	P-value
1.a	Emergence rate	ANOVA	3	4.0625	na	0.0253
1.b	Wing Length	ANOVA	3	6.985	na	0.0253
1.c	Wolbachia density	Kruskal-Wallis	na	na	3.131	0.3719
2.a	Hatch rate - Fly test	ANOVA	1	3.3569	na	0.0794
2.a	Hatch rate - Cricket test	ANOVA	1	1.3843	na	0.2509
2.b	Emergence rate - Fly test	ANOVA	1	6.0118	na	0.0219
2.b	Emergence rate - Cricket test	ANOVA	1	0.581	na	0.4634
2.c	Wing length - Fly test	Mann-Whitney	na	na	na	0.2268
2.c	Wing length - Cricket test	Mann-Whitney	na	na	na	0.7719
2.d	Wolbachia density - Fly test	Mann-Whitney	na	na	na	0.0151
2.d	Wolbachia density - Cricket test	Mann-Whitney	na	na	na	5.65×10^{-14}
3.a	Emergence rate	ANOVA	3	4.0625	na	0.0253
3.b	Wing Length	ANOVA	3	6.985	na	0.0003
3.c	Wolbachia density	Kruskal-Wallis	4	na	8.3471	0.0797
4.a	Emergence rate	ANOVA	4	0.8384	na	0.5249
4.b	Mosquito death	ANOVA	4	0.542	na	0.708
S2.a	Emergence rate	Kruskal-Wallis	4	na	1.4943	0.8276
S2.b	Wing Length	ANOVA	4	1.475	na	0.218
S2.c	Wolbachia density	Kruskal-Wallis	4	na	8.3356	0.08

Figure S1. Map of field trial location **a.** Kiribati, North and South Tarawa, and **b.** South Tungara hospital.

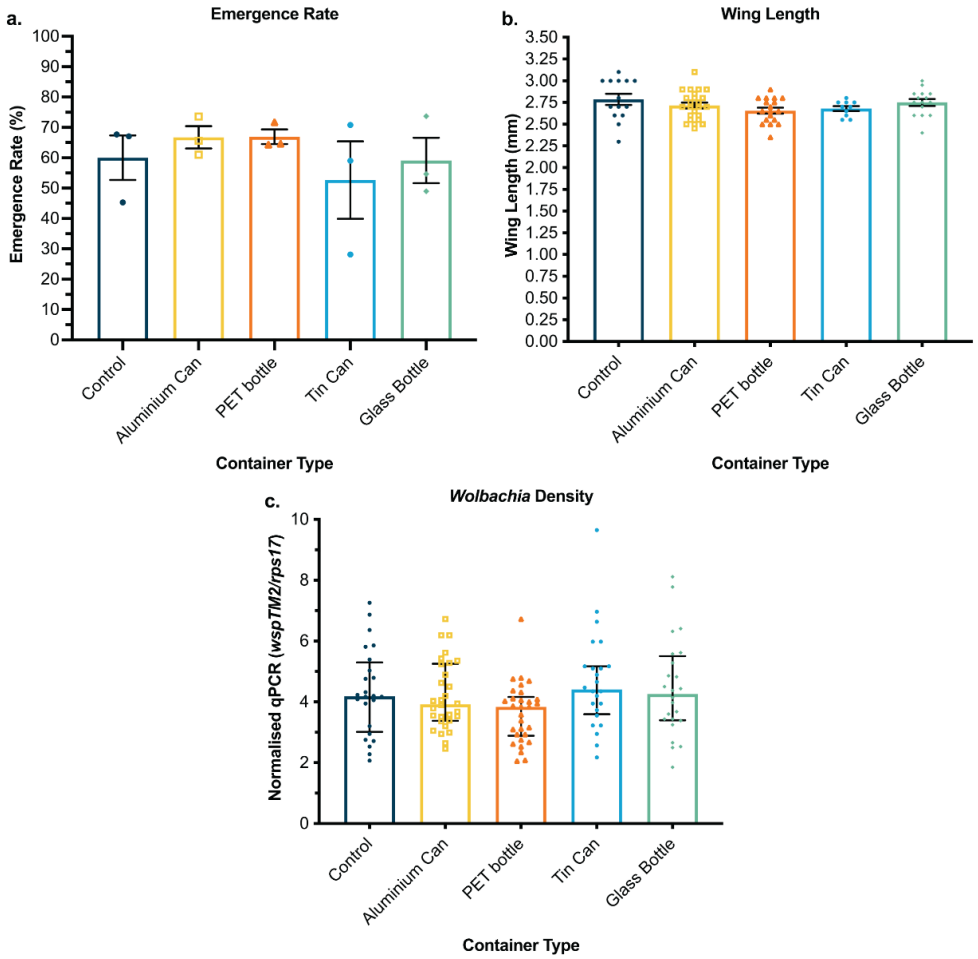

Figure S2. Development and adult fitness comparison between *w*Mel-infected *Ae. aegypti* mosquitoes reared in five different containers. Aus *w*Mel *Ae. aegypti* eggs were fed cricket-based diet inside of capsules. **(a)** Emergence rate **(b)** Wing length and **(c)** *Wolbachia* densities are shown. Each data point represents one cup (emergence), one wing from an individual mosquito (wing length) or one mosquito (*Wolbachia* density). Ordinary one-way analysis of variance was performed on the dataset, followed by Tukey's pairwise comparison test, or Kruskal-Wallis test for Wolbachia density. No significant differences were detected. Error bars represent standard error of the mean.

Figure S3. End-to-end process for each release strategy, including staff and vehicle requirements.