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Ecological effects on underdominance threshold drives for vector control

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**Highlights**

- Two engineered underdominance systems for mosquito control are investigated
- Male-only releases must be larger than bi-sex releases to trigger the gene drive
- Female-specific lethality averts more disease cases than bi-sex lethality
- Genetic lethality efficiency is less important than ambient transgene fitness cost
- Mating success and longevity of engineered insects strongly governs drive success

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