Model Fit

Abhishek Pandey

Table of Contents

[1. Base case](#sec-1)

[2. With Animal Reservoir](#sec-2)

# Base case

* Sample Size = 109
* Best Par = [0.3909 0.1612 0.6503 0.5468]
* Maximal Kill Rate = 18.1230
* Sub Sample Size = 61
* 2013 Incidence range = 0.0015 (0.0008,0.0019)
* Log likelihood = 26.5076
* AIC = -47.1052
* Tsetse Prevalence = 0.0000183 (0.000016,0.000034)
* Parameters

|  |  |
| --- | --- |
| βVH | 0.3909 (0.1698,0.5418) |
| βH | 0.1612 (0.0841,0.8550) |
| ζ | 0.5529 (0.2488,0.6950) |

* Prob. of Elimination by 2020

|  |  |  |  |
| --- | --- | --- | --- |
| Control | 0 | 25 | 50 |
| VC | 1 | 0.8228 | 0.0098 |
| VC + AC | 1 | 1 | 0.6206 |
| VC + BAC | 1 | 1 | 0.1596 |

* Years to Eradication

|  |  |  |  |
| --- | --- | --- | --- |
| Control | 0 | 25 | 50 |
| VC | 2023 | 2025 | 2030 |
| VC + AC | 2020 | 2022 | 2025 |
| VC + BAC | 2021 | 2023 | 2027 |

# With Animal Reservoir

* Sample Size = 348
* Best Par = [0.3934 0.0416 0.6022 0.5069 0.1132]
* Maximal Kill Rate = 18.1211
* Sub Sample Size = 132
* 2013 Incidence range = 0.0017 (0.0006,0.0021)
* Loglik = 26.2320
* AIC = -44.4640
* Tsetse Prevalence = 0.00081 (0.00001,0.0045)
* Animal Prevalence = 0.0029 (0.000004,0.0098)
* Parameters

|  |  |
| --- | --- |
| βVH | 0.3574 (0.1021,0.5932) |
| βH | 0.0074 (0.0011,0.4439) |
| ζ | 0.5564 (0.2715,0.6665) |
| βVL | 0.1427 (0.0315,0.6619) |

* Prob. of Elimination by 2020

|  |  |  |  |
| --- | --- | --- | --- |
| Control | 0 | 25 | 50 |
| VC | 0.7693 | 0.6668 | 0.4910 |
| VC + AC | 0.9832 | 0.8092 | 0.5340 |
| VC + BAC | 0.8943 | 0.7491 | 0.5340 |