sensi_an_rotations1. Start of sensitivity analysis for rotations.

Andy South and Ian Hastings

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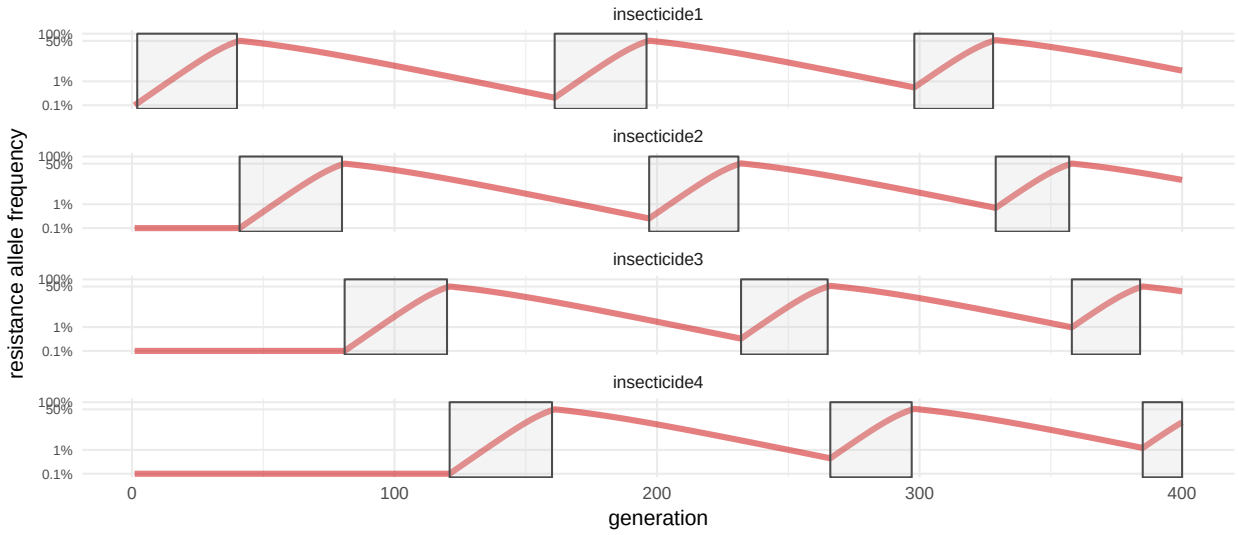
Starting question : is there any benefit to rotations when there are no costs and no migration to an untreated area ?

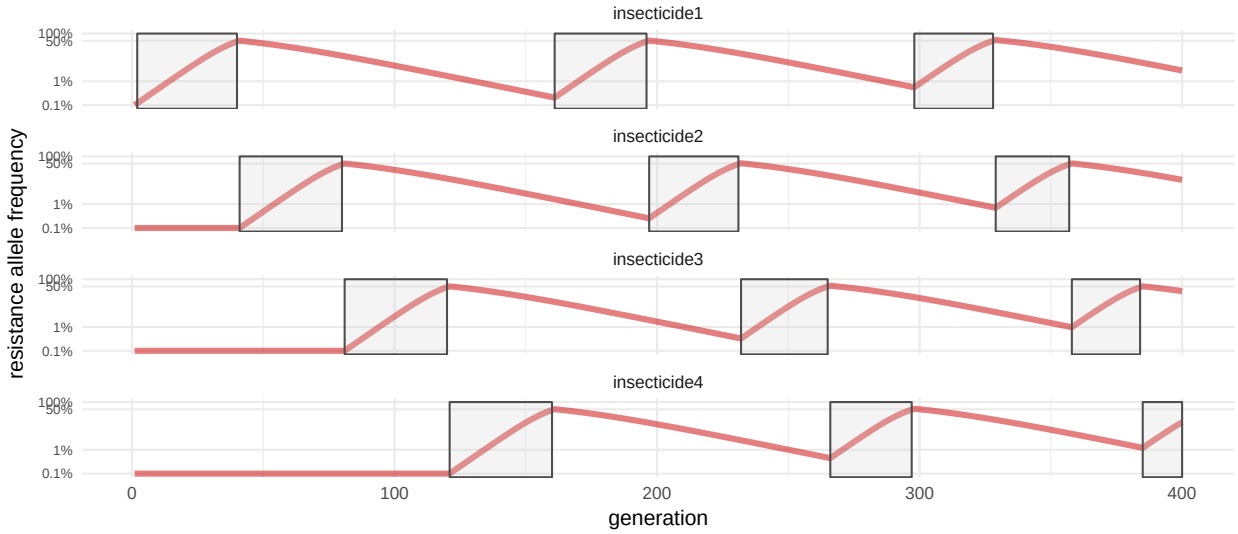
Test 1. No refugia (i.e. Coverage=100%) or fitness costs. Would expect all policies to be equivalent.

Test 2. Dominance of resistance and fitness costs both set to 0.5. I suspect one of the advantages of rotations (and the presence of refugia) is that they maintain lower resistance allele frequencies which slows the spread of recessive resistance alleles. I suspect/guess/intuit that if we make them semi-dominate these effects should disappear and all policies should be the same. I'm probably wrong but it's a nice test. . . ..

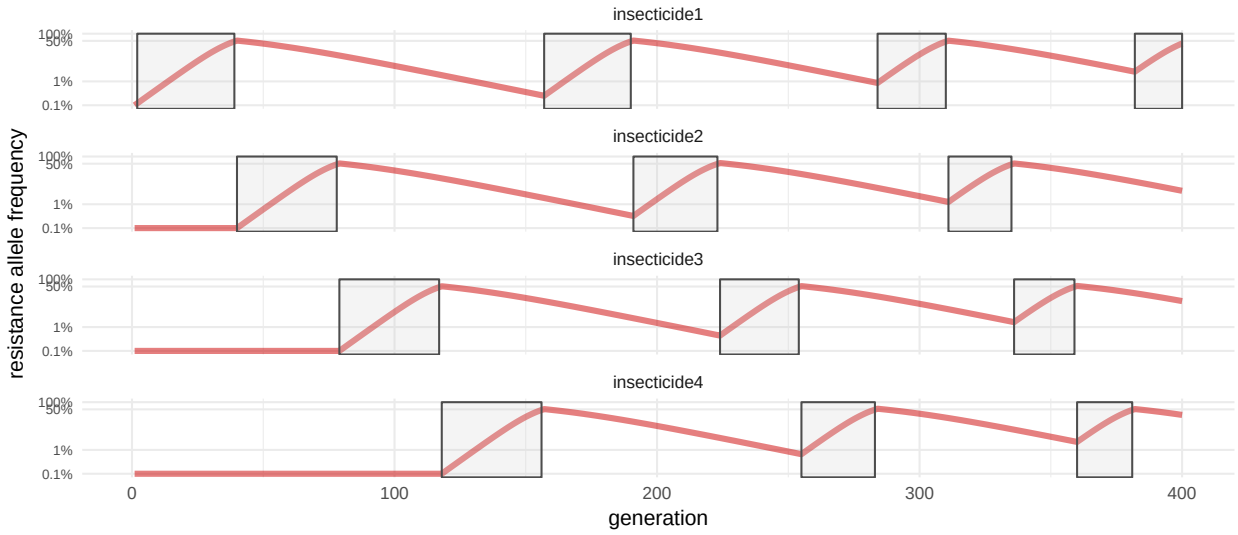
Testing sensitvity analysis to answer question 1. Are sequences and rotations equivalent when coverage 100% and no fitness costs. On each page should see a run with 1 set of inputs first for sequence then for rotation.



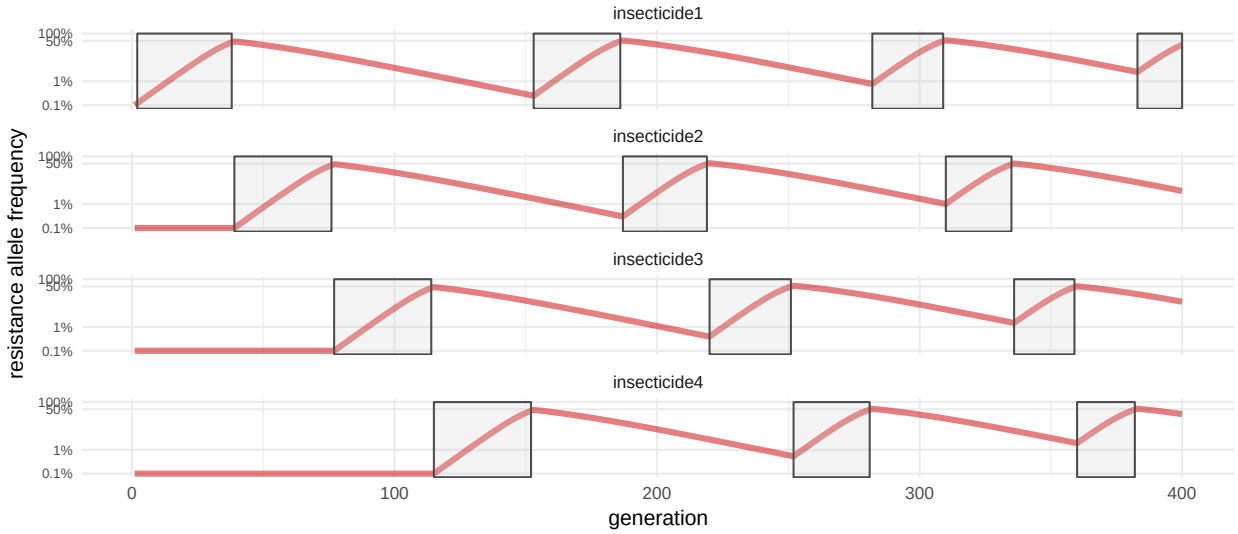

```
## scenario 1  expo_hi 0.7  eff 0.67  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



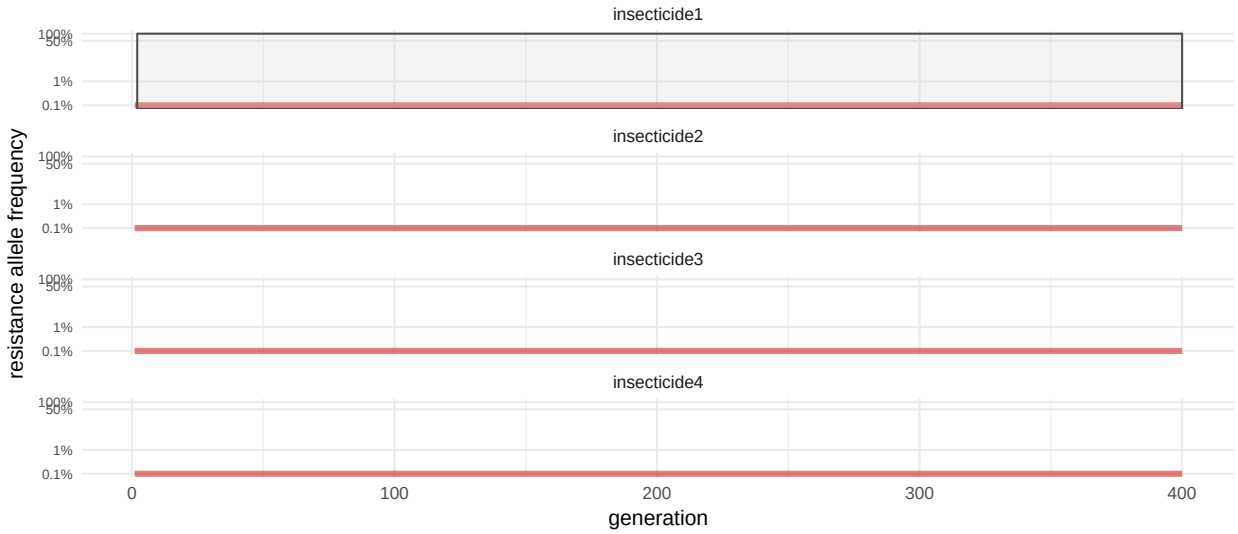

```
## scenario 1  expo_hi 0.7  eff 0.67  rot_interval 49
## tot gens deployed under freq 0.5 = 399
```



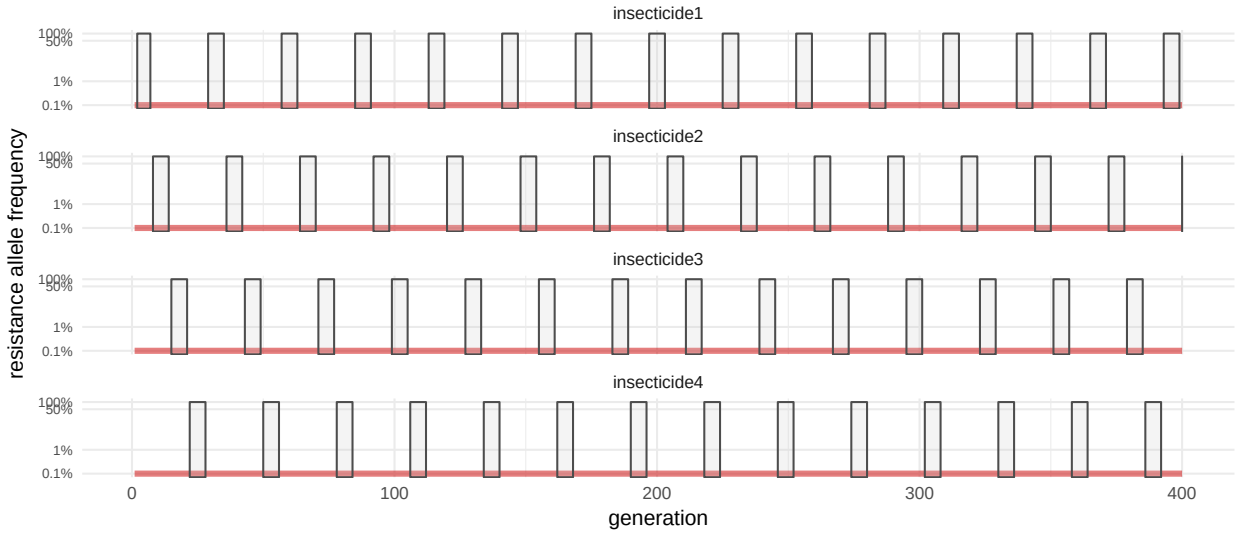

```
## scenario 2  expo_hi 0.52  eff 0.95  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



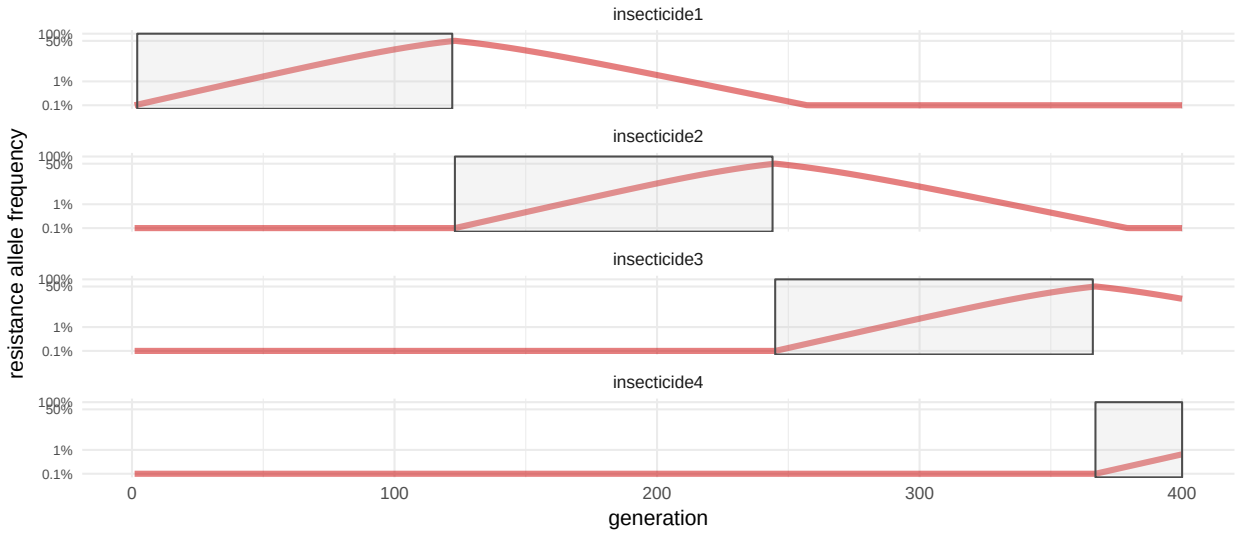

```
## scenario 2  expo_hi 0.52  eff 0.95  rot_interval 38
## tot gens deployed under freq 0.5 = 399
```



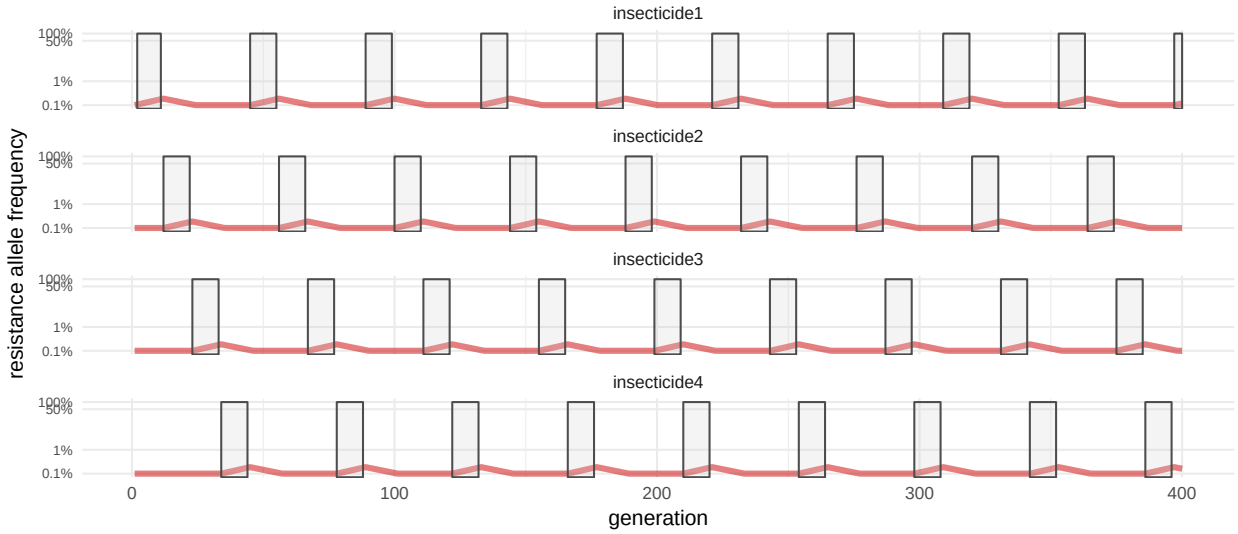

```
## scenario 3  expo_hi 0.3  eff 0.45  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



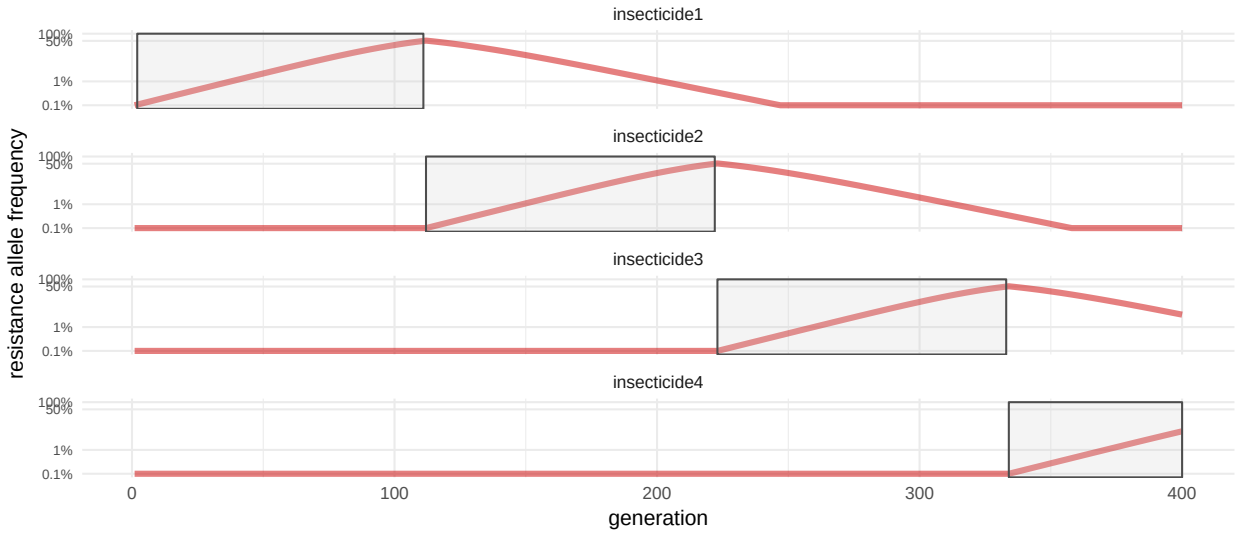

```
## scenario 3  expo_hi 0.3  eff 0.45  rot_interval 7
## tot gens deployed under freq 0.5 = 399
```



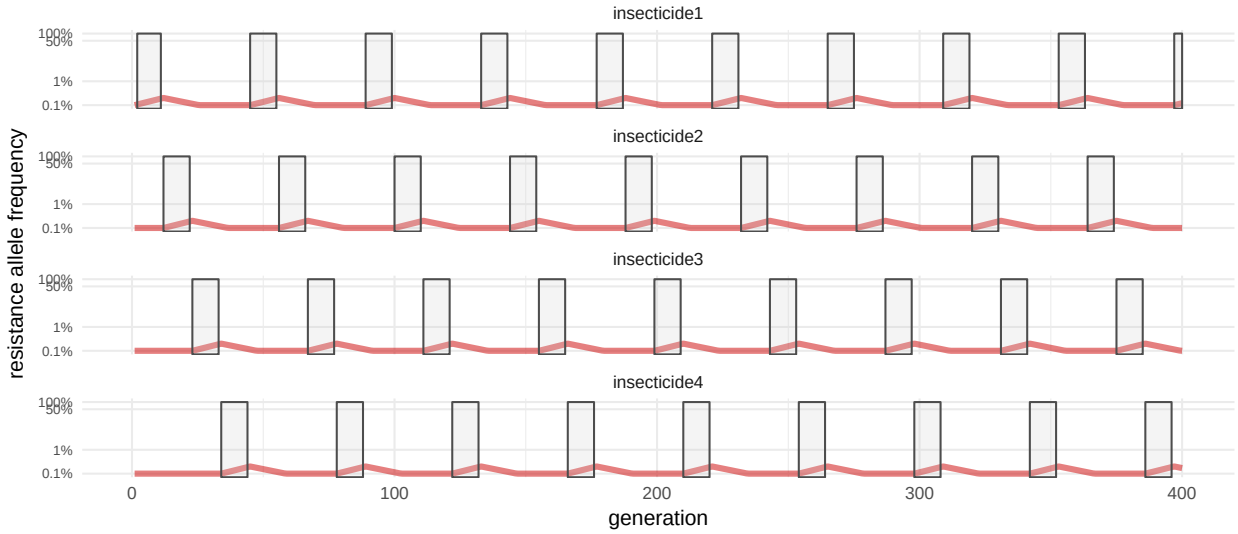

```
## scenario 4  expo_hi 0.48  eff 0.58  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



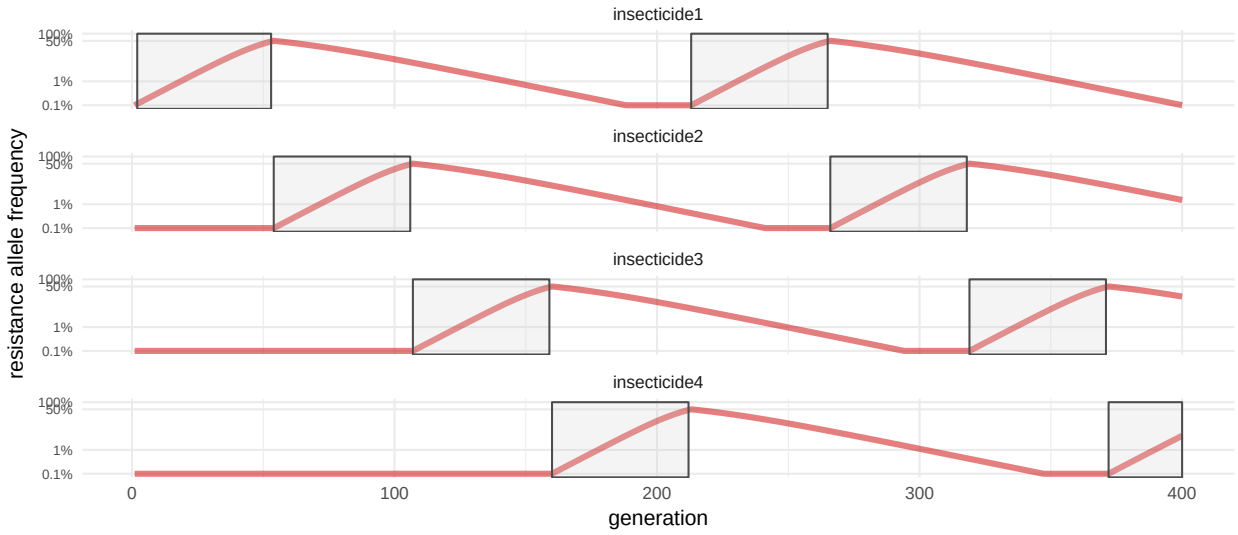

```
## scenario 4  expo_hi 0.48  eff 0.58  rot_interval 11
## tot gens deployed under freq 0.5 = 399
```



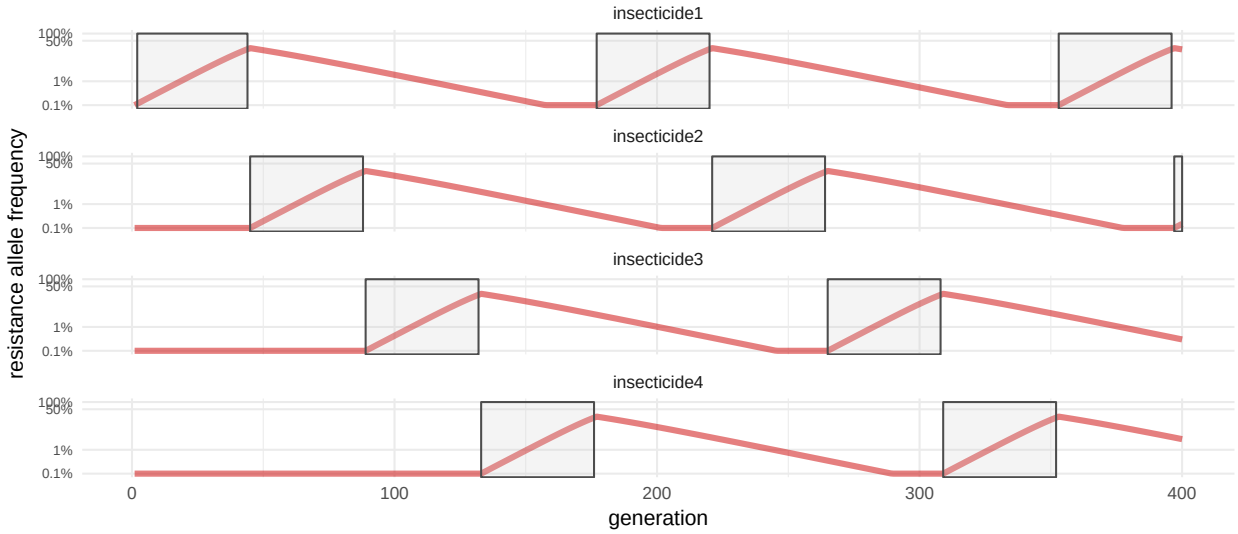

```
## scenario 5  expo_hi 0.52  eff 0.54  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



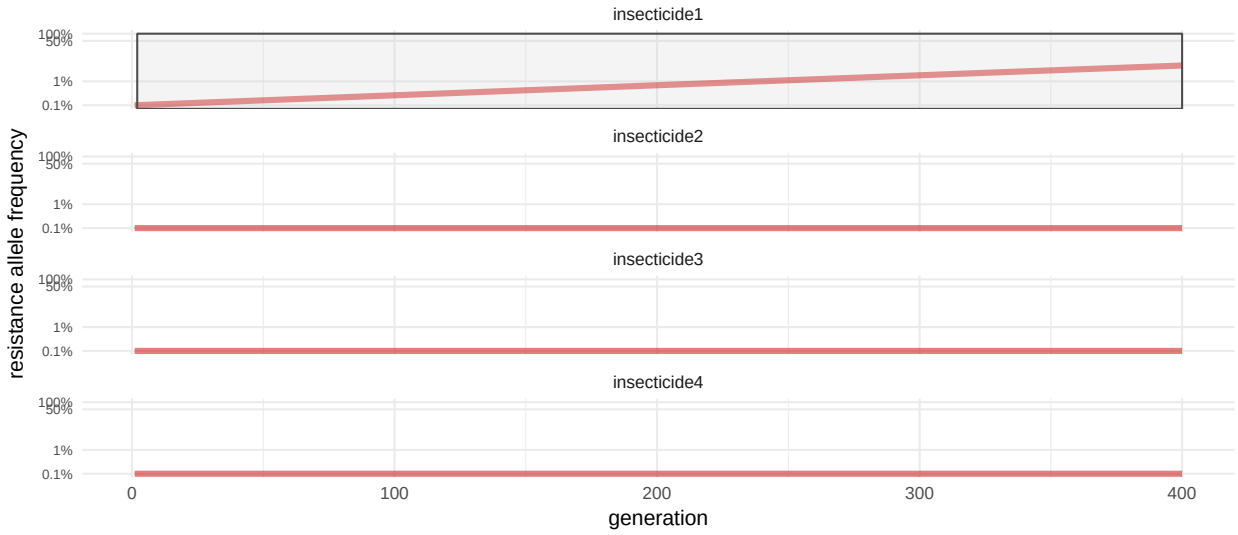

```
## scenario 5  expo_hi 0.52  eff 0.54  rot_interval 11
## tot gens deployed under freq 0.5 = 399
```



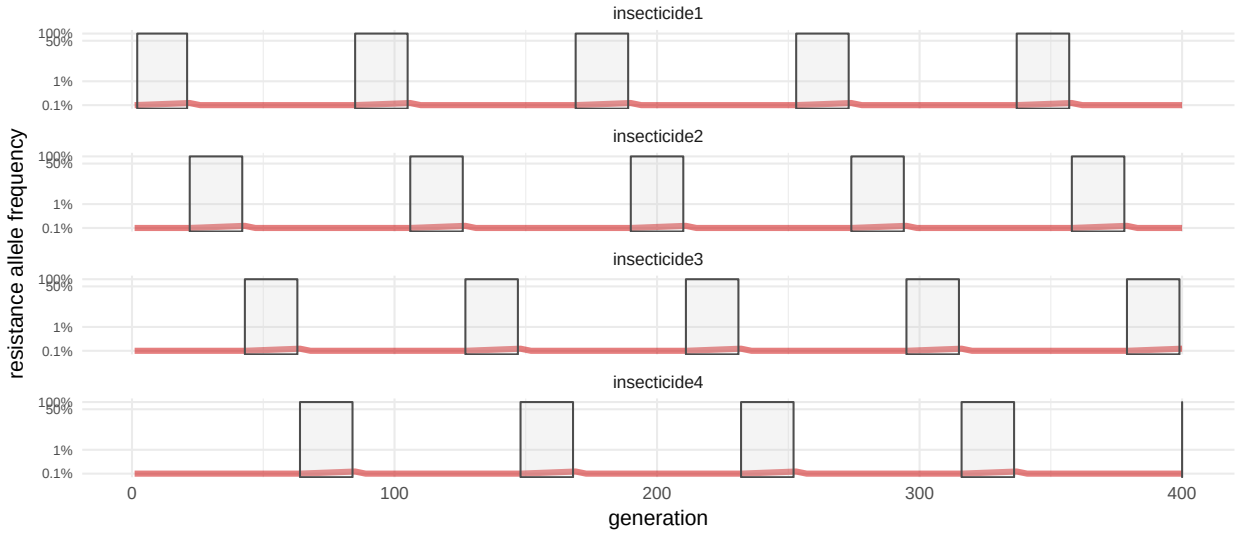

```
## scenario 6  expo_hi 0.63  eff 0.65  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



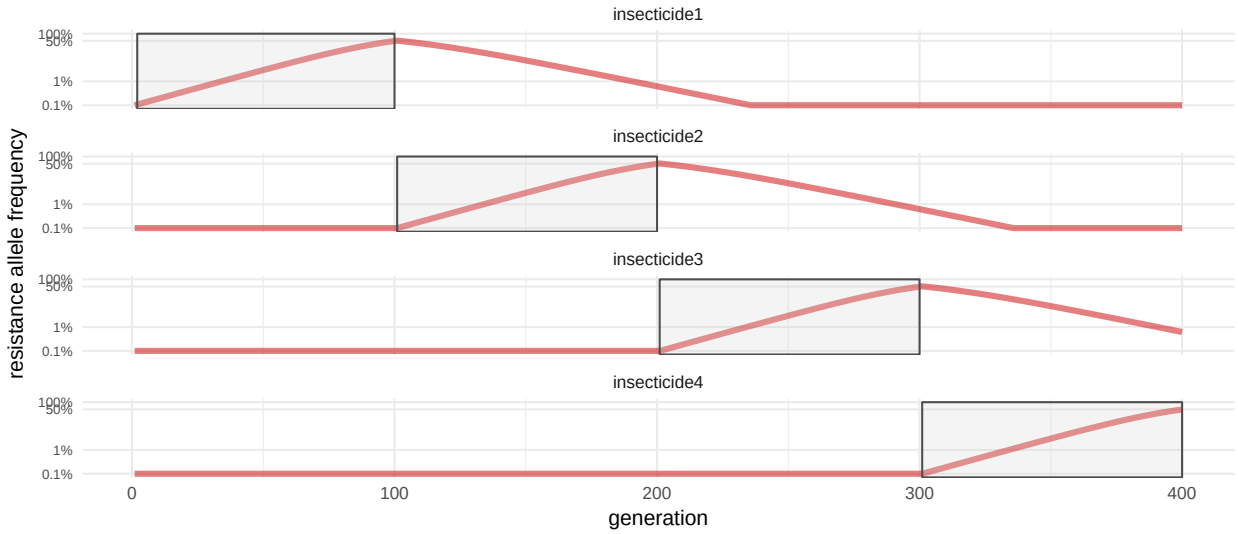

```
## scenario 6  expo_hi 0.63  eff 0.65  rot_interval 44
## tot gens deployed under freq 0.5 = 399
```



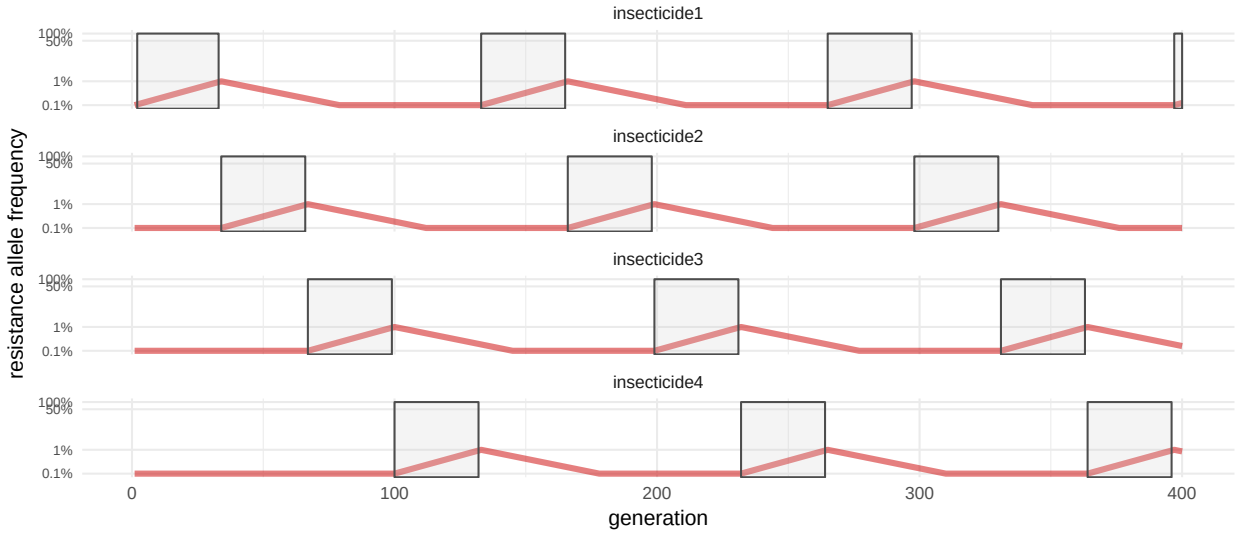

```
## scenario 7  expo_hi 0.25  eff 0.73  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



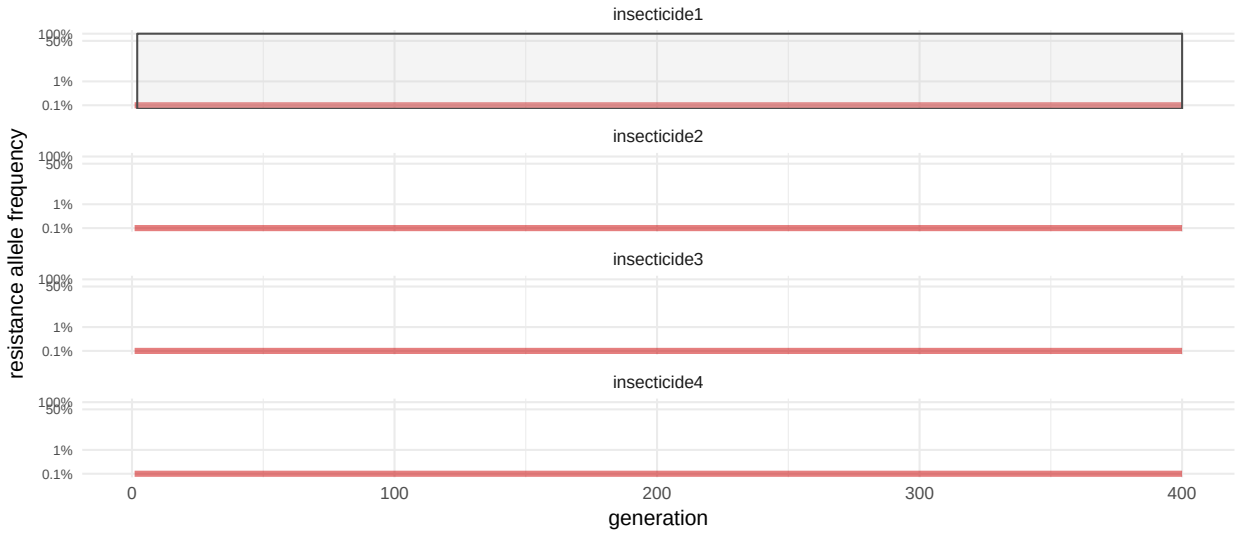

```
## scenario 7  expo_hi 0.25  eff 0.73  rot_interval 21
## tot gens deployed under freq 0.5 = 399
```



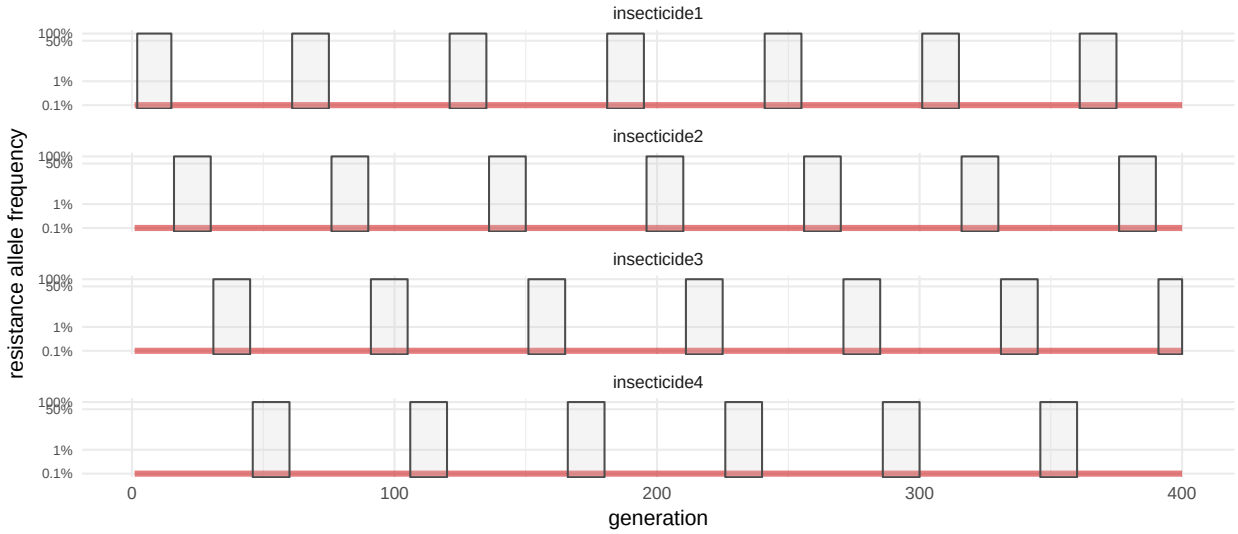

```
## scenario 8  expo_hi 0.82  eff 0.31  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



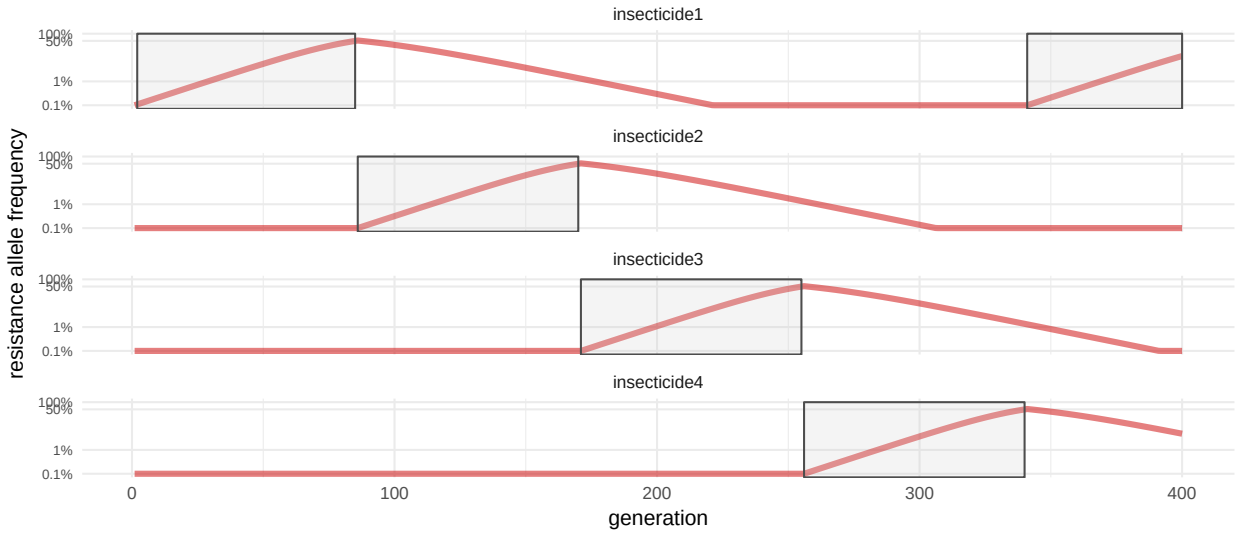

```
## scenario 8  expo_hi 0.82  eff 0.31  rot_interval 33
## tot gens deployed under freq 0.5 = 399
```



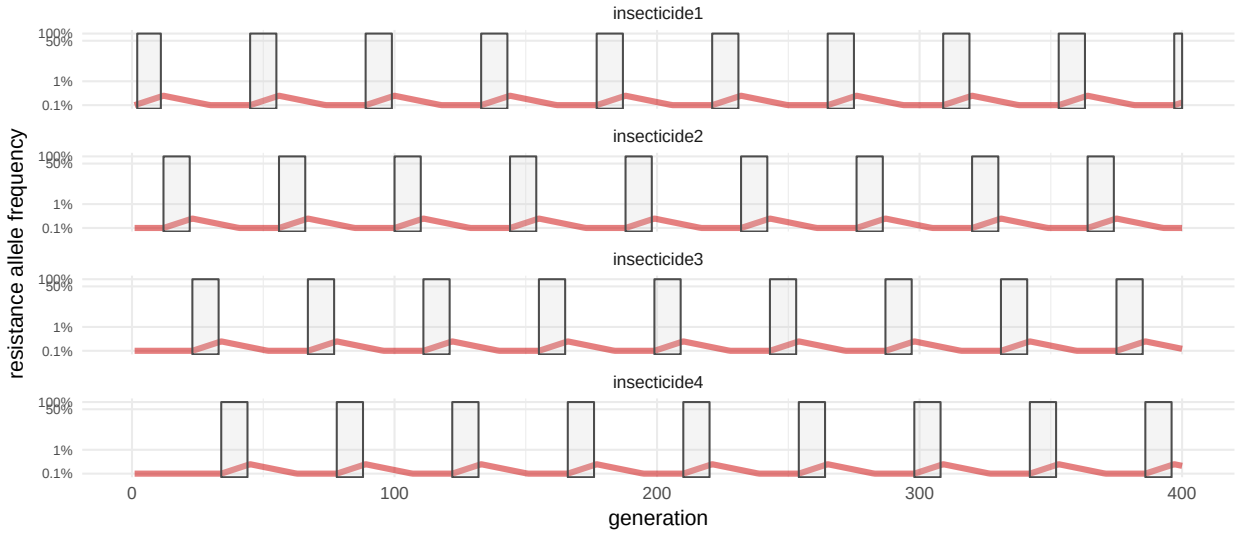

```
## scenario 9  expo_hi 0.29  eff 0.39  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



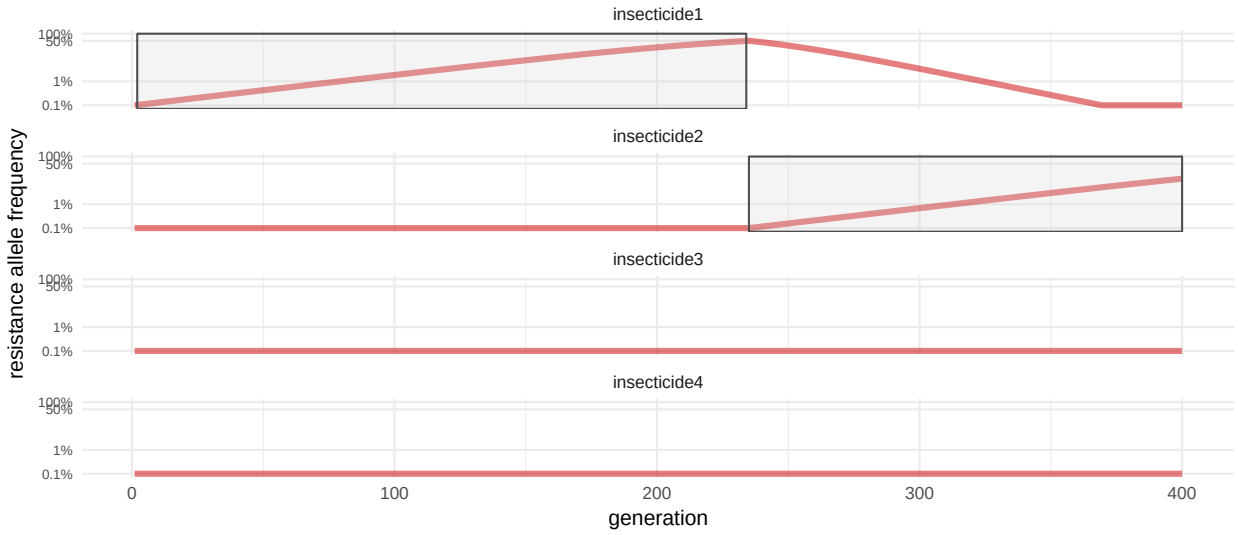

```
## scenario 9  expo_hi 0.29  eff 0.39  rot_interval 15
## tot gens deployed under freq 0.5 = 399
```



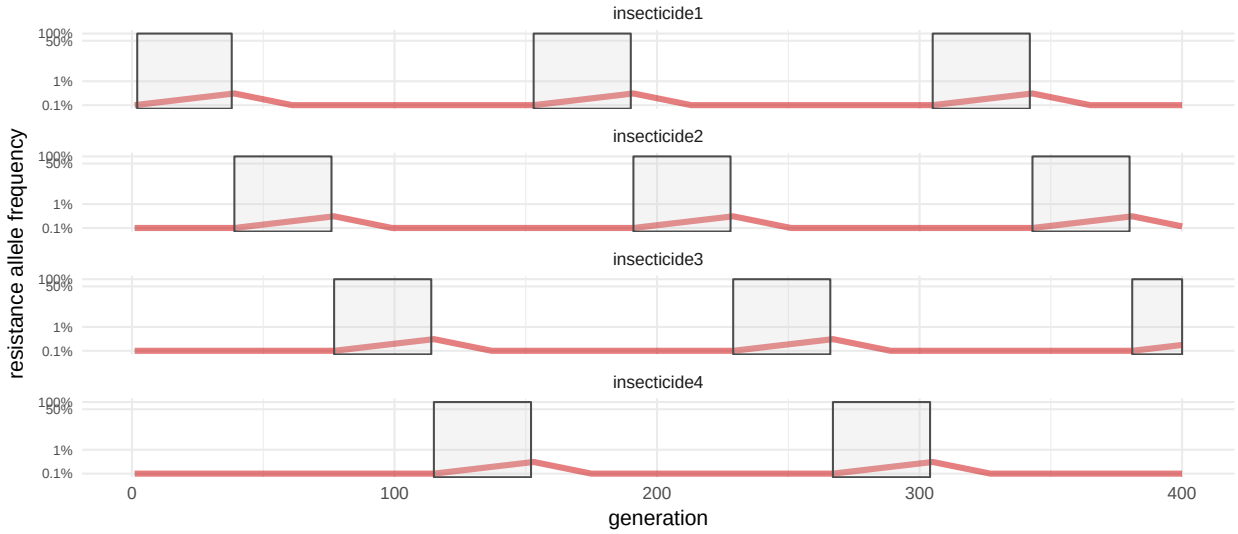

```
## scenario 10  expo_hi 0.88  eff 0.31  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



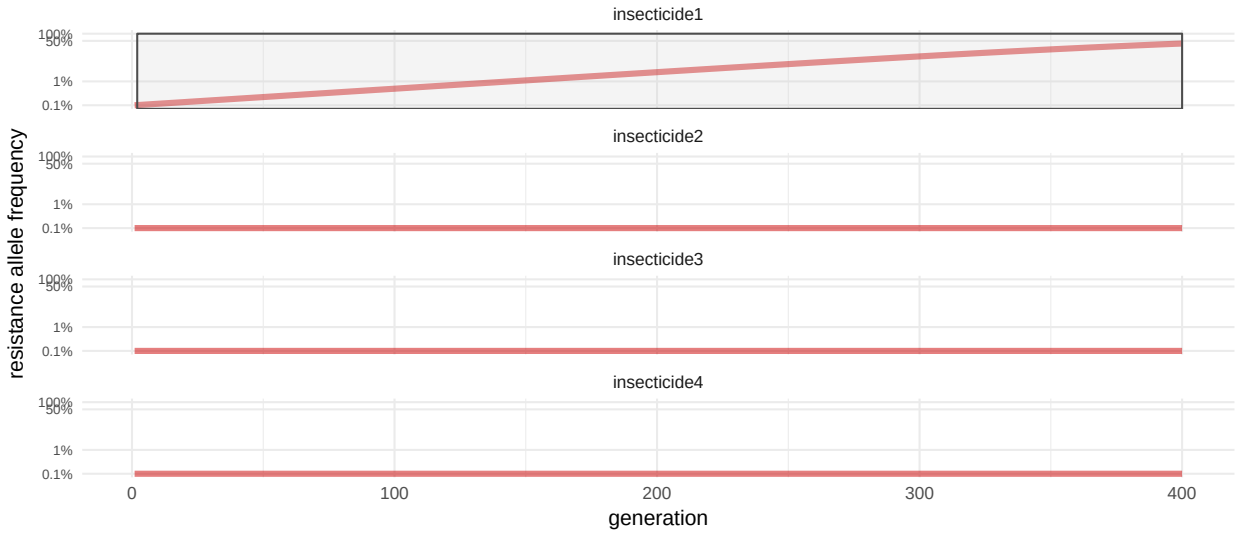

```
## scenario 10  expo_hi 0.88  eff 0.31  rot_interval 11
## tot gens deployed under freq 0.5 = 399
```



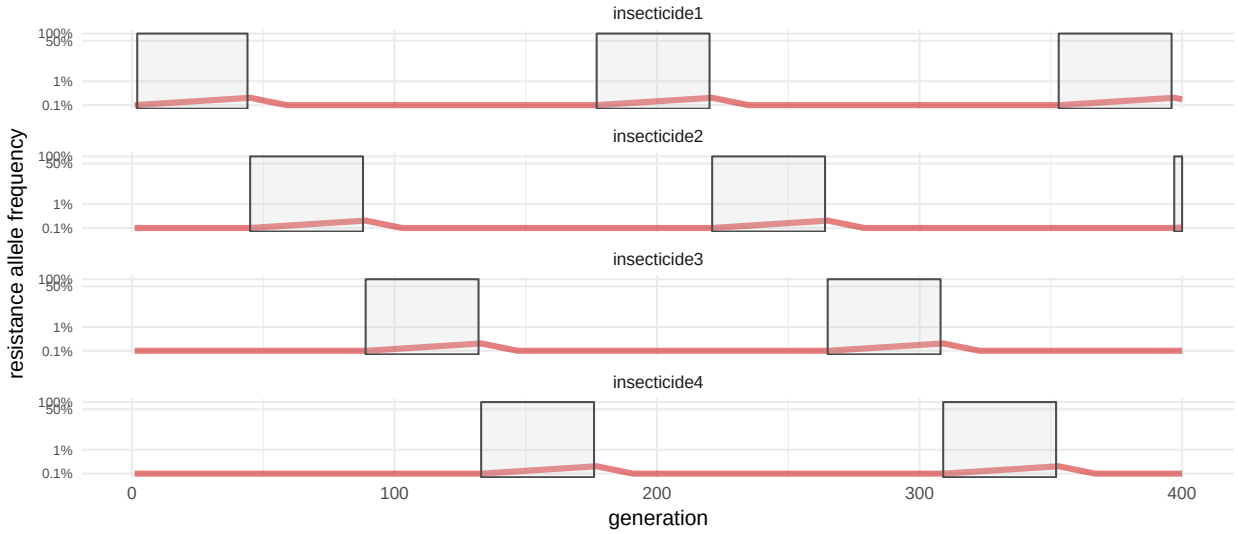

```
## scenario 11  expo_hi 0.43  eff 0.48  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



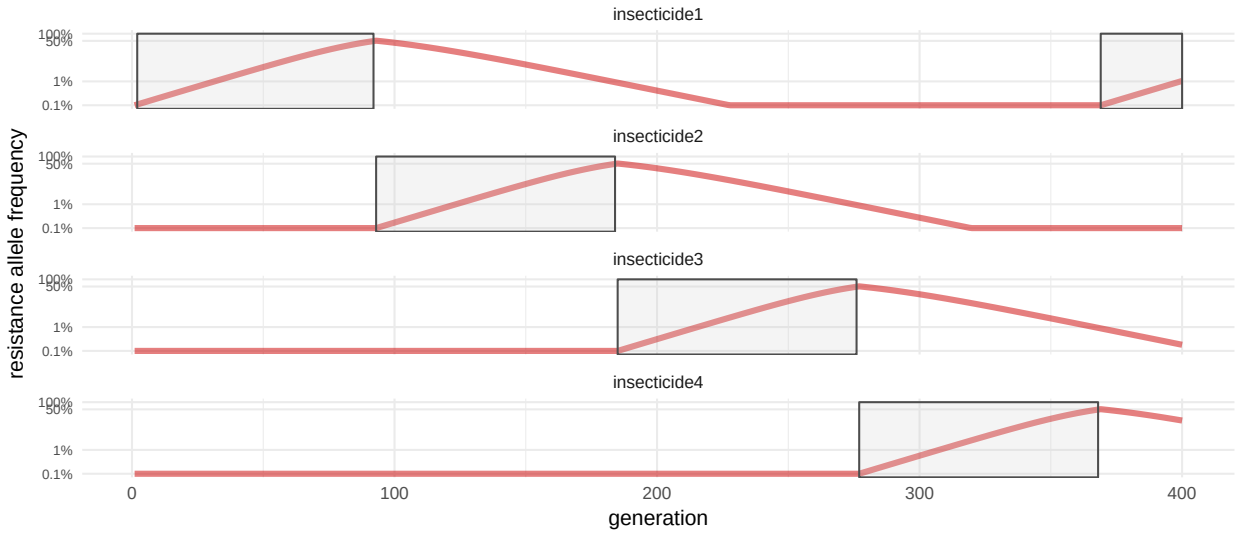

```
## scenario 11  expo_hi 0.43  eff 0.48  rot_interval 38
## tot gens deployed under freq 0.5 = 399
```



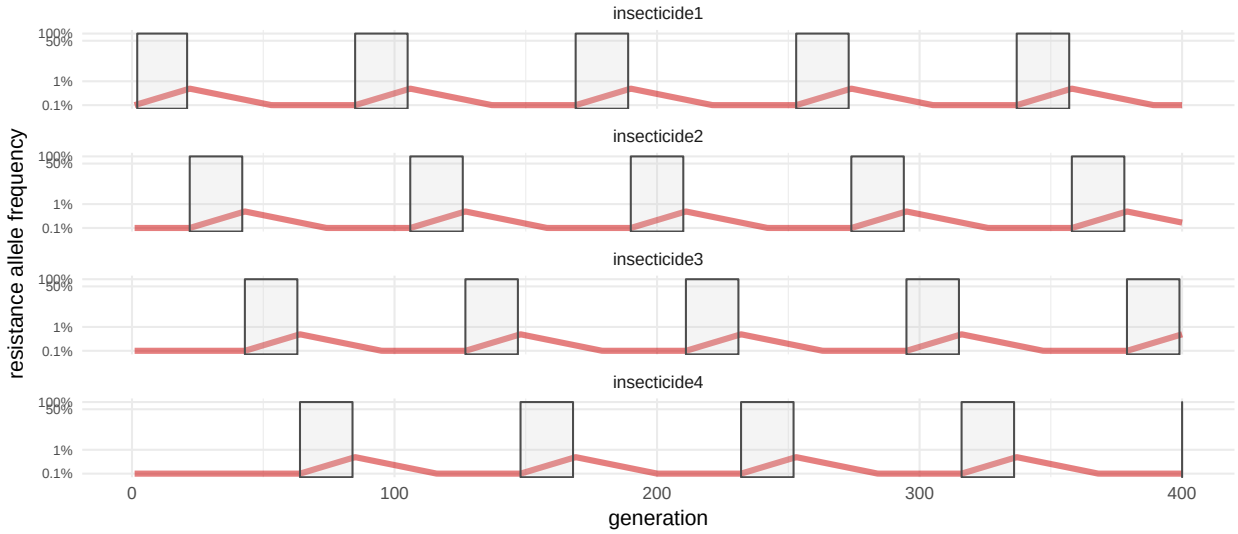

```
## scenario 12  expo_hi 0.4  eff 0.43  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



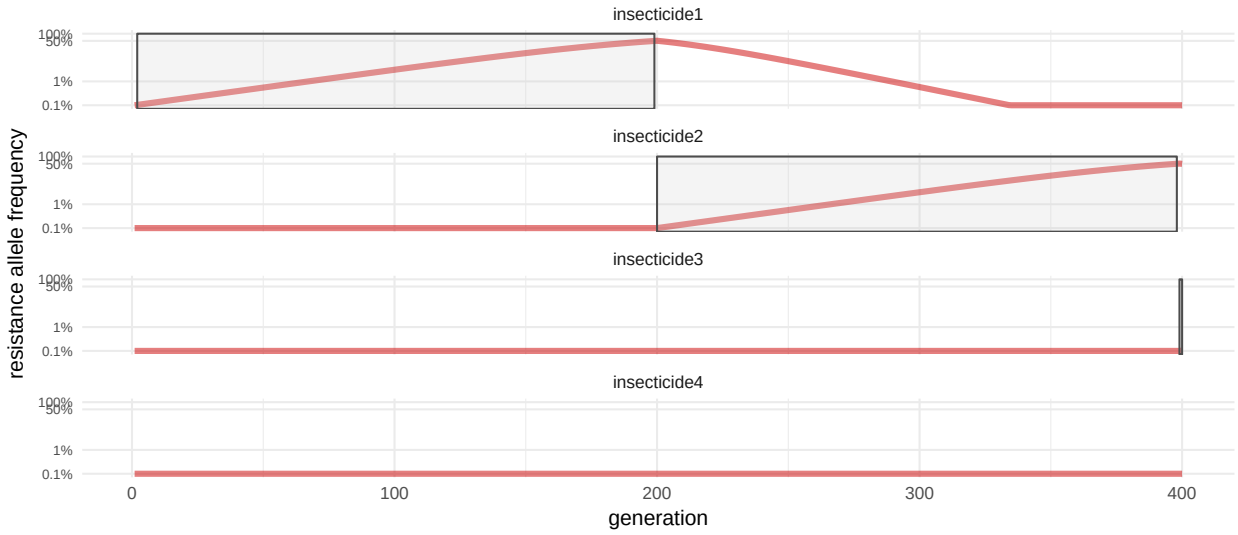

```
## scenario 12  expo_hi 0.4  eff 0.43  rot_interval 44
## tot gens deployed under freq 0.5 = 399
```



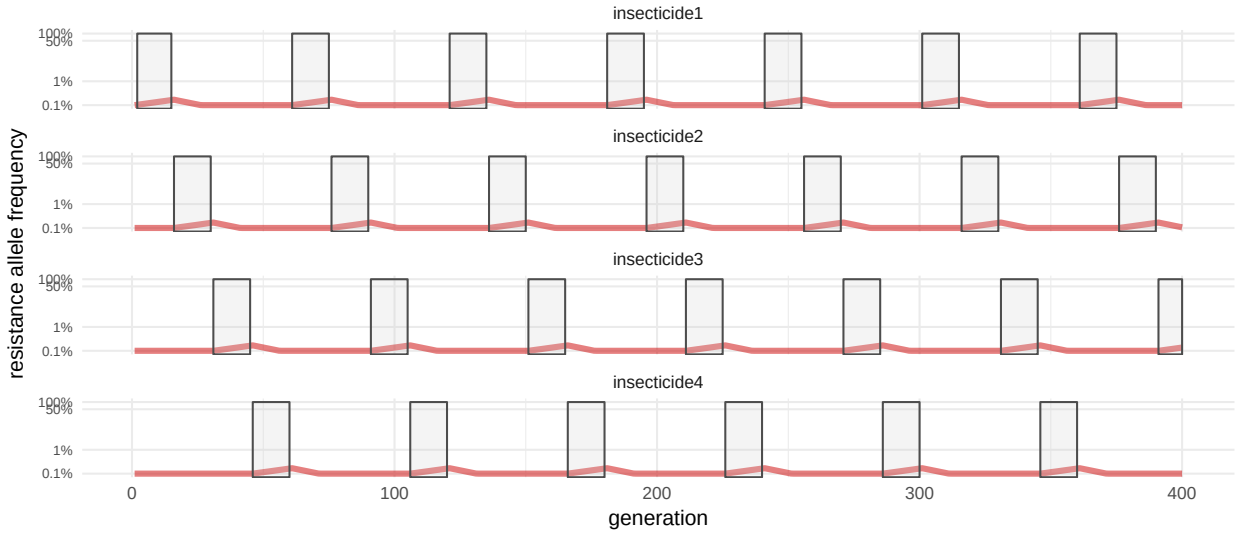

```
## scenario 13  expo_hi 0.49  eff 0.65  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



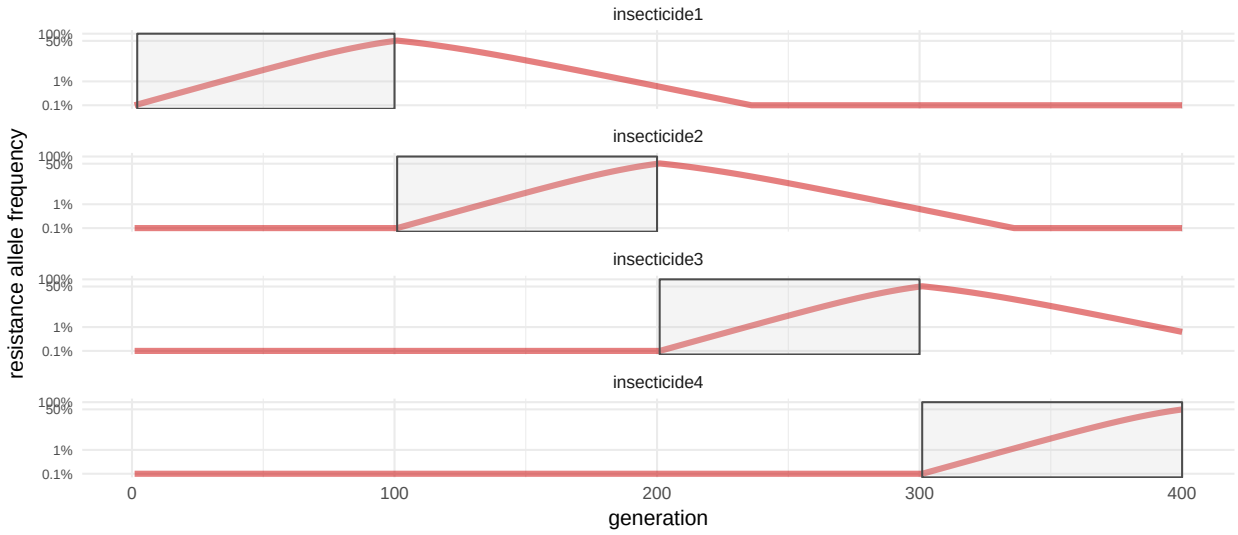

```
## scenario 13  expo_hi 0.49  eff 0.65  rot_interval 21
## tot gens deployed under freq 0.5 = 399
```



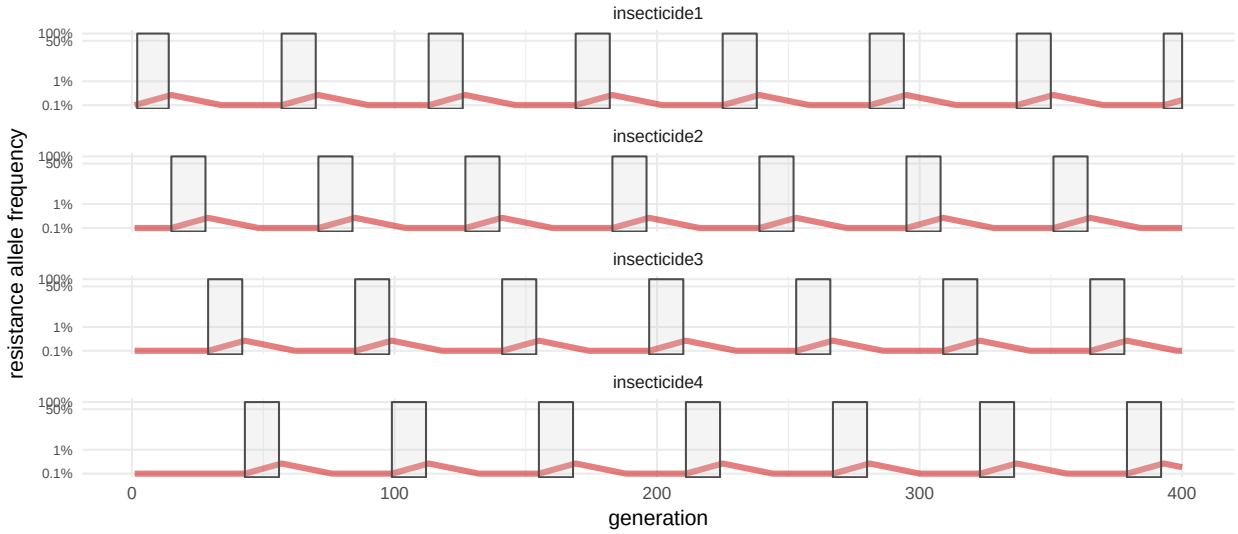

```
## scenario 14  expo_hi 0.26  eff 0.96  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



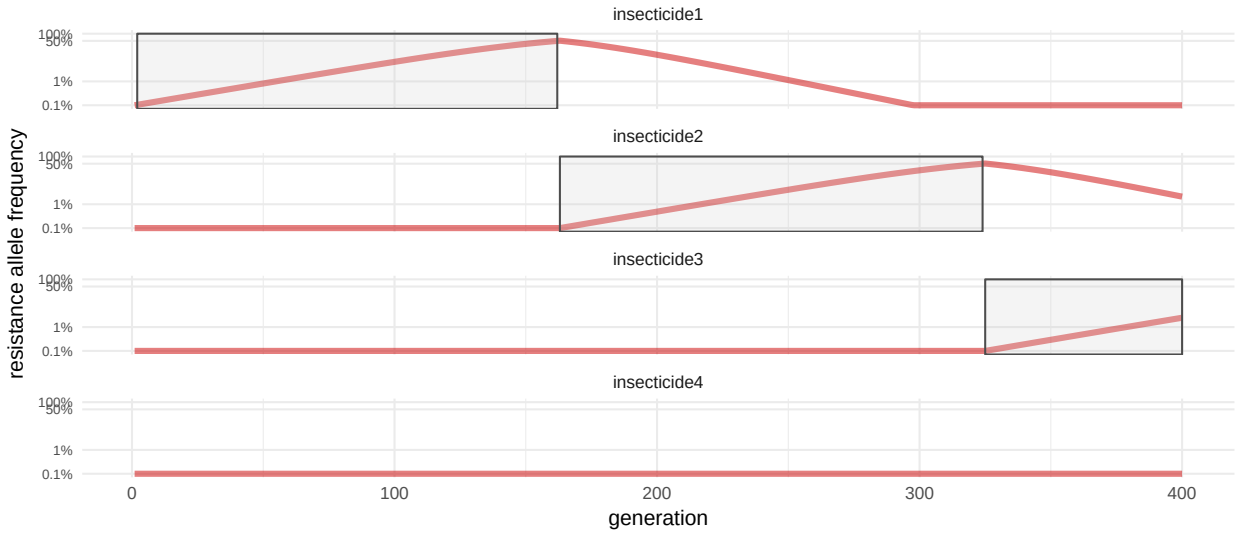

```
## scenario 14  expo_hi 0.26  eff 0.96  rot_interval 15
## tot gens deployed under freq 0.5 = 399
```



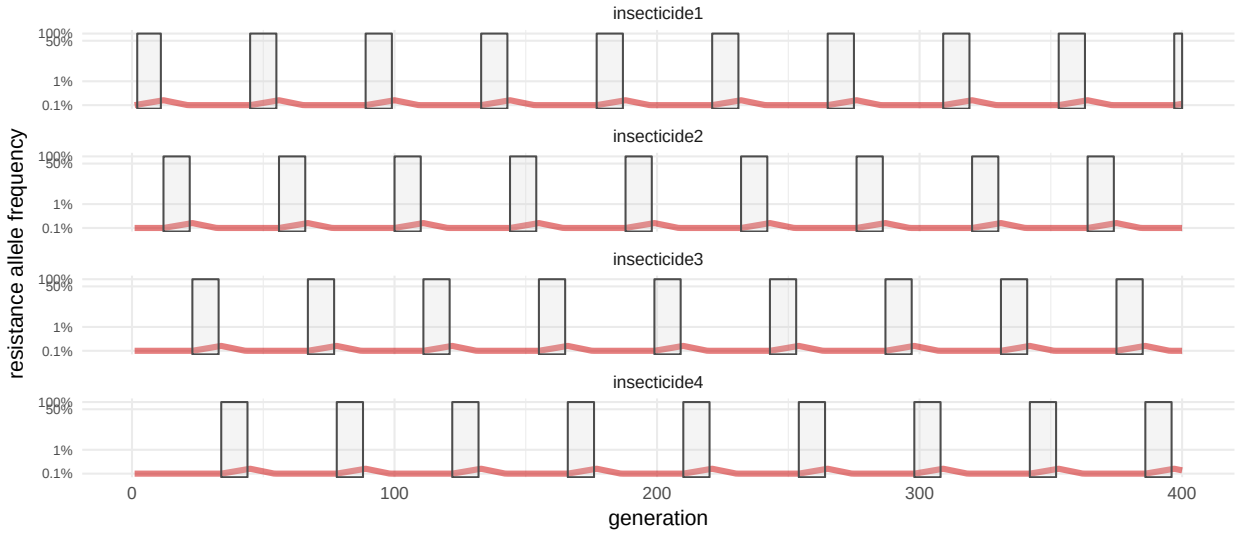

```
## scenario 15  expo_hi 0.38  eff 0.86  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



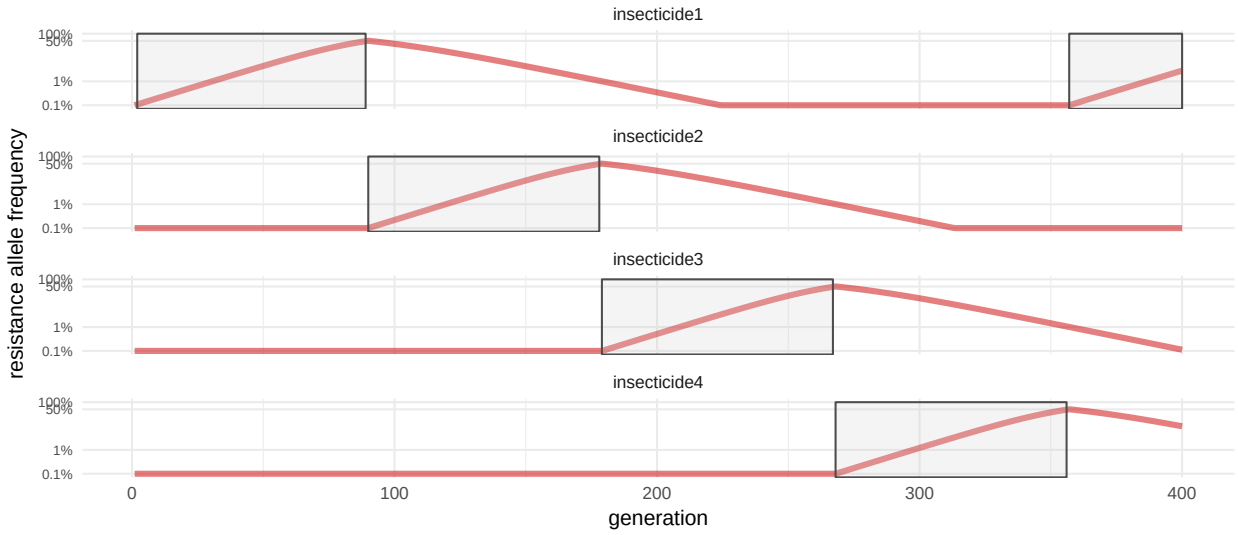

```
## scenario 15  expo_hi 0.38  eff 0.86  rot_interval 14
## tot gens deployed under freq 0.5 = 399
```



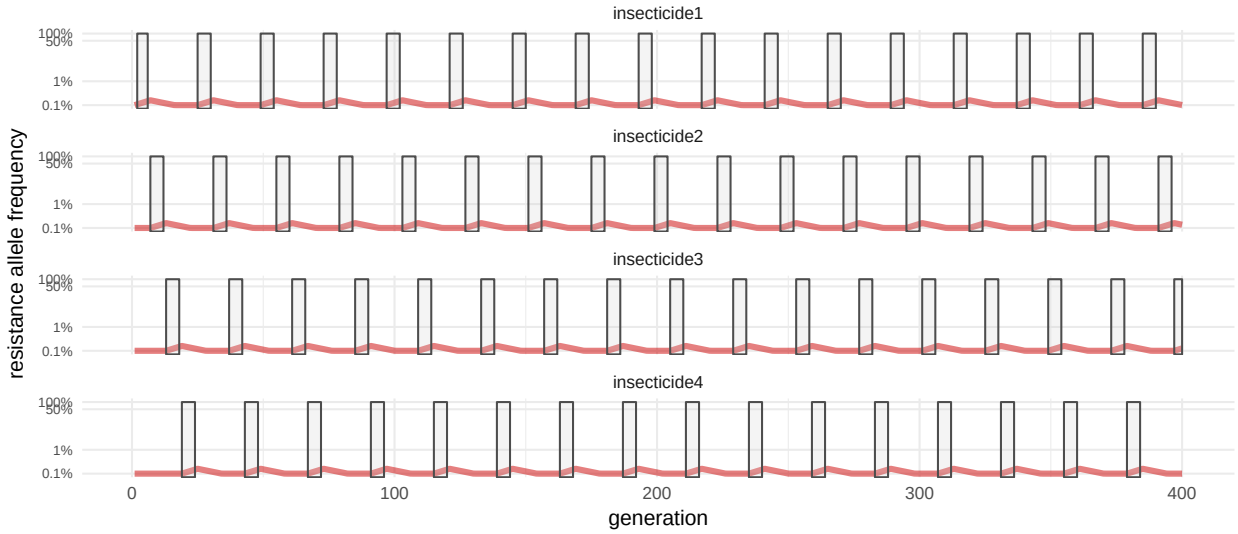

```
## scenario 16  expo_hi 0.6  eff 0.36  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



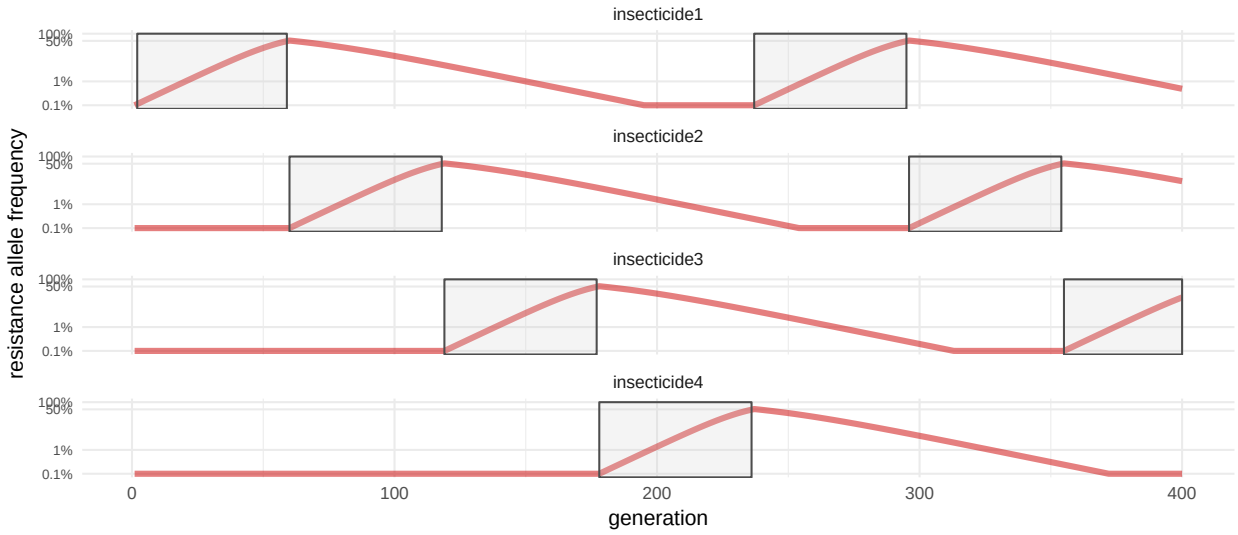

```
## scenario 16  expo_hi 0.6  eff 0.36  rot_interval 11
## tot gens deployed under freq 0.5 = 399
```



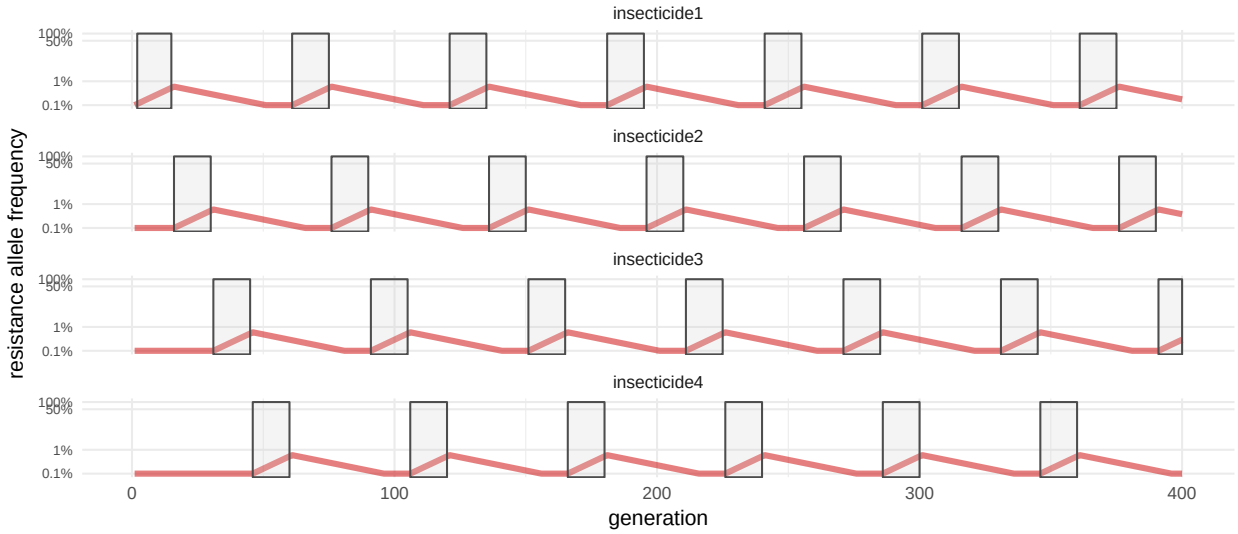

```
## scenario 17  expo_hi 0.68  eff 0.43  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



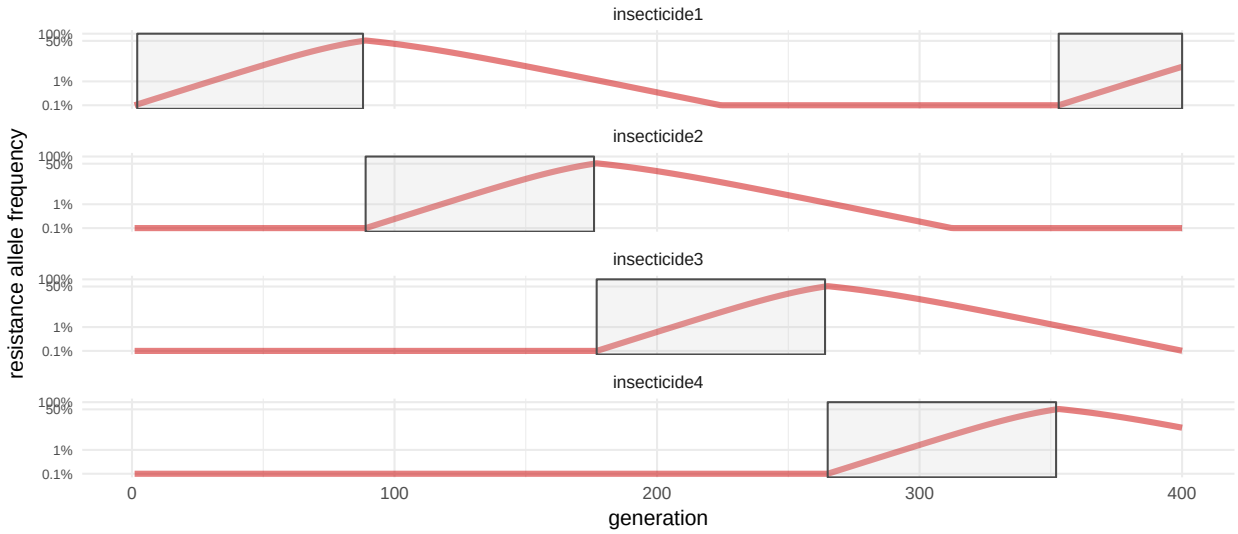

```
## scenario 17  expo_hi 0.68  eff 0.43  rot_interval 6
## tot gens deployed under freq 0.5 = 399
```



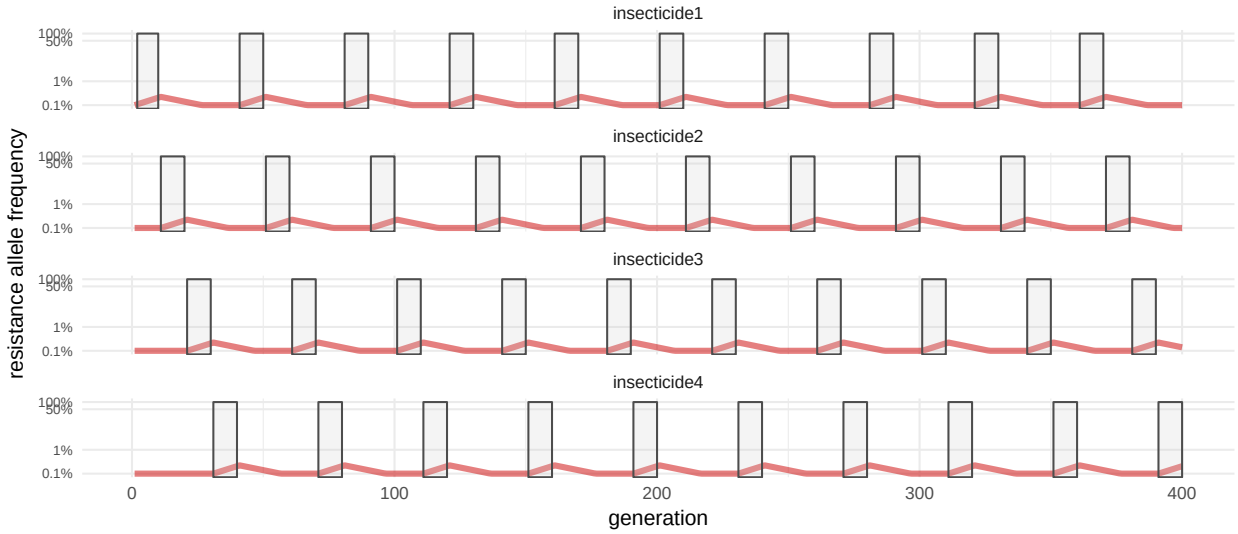

```
## scenario 18  expo_hi 0.86  eff 0.41  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



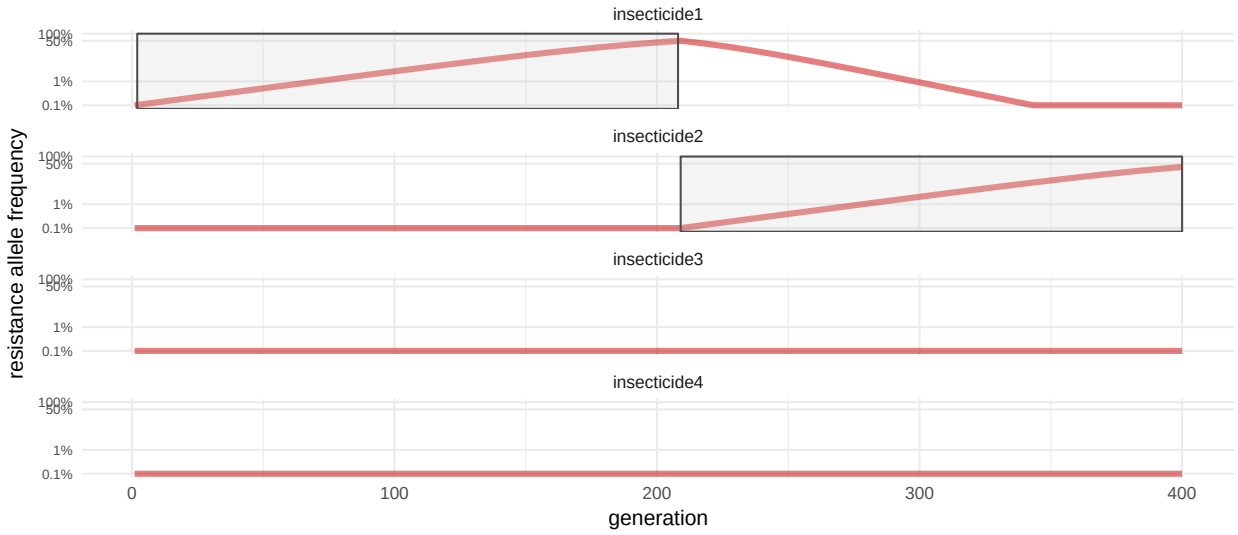

```
## scenario 18  expo_hi 0.86  eff 0.41  rot_interval 15
## tot gens deployed under freq 0.5 = 399
```



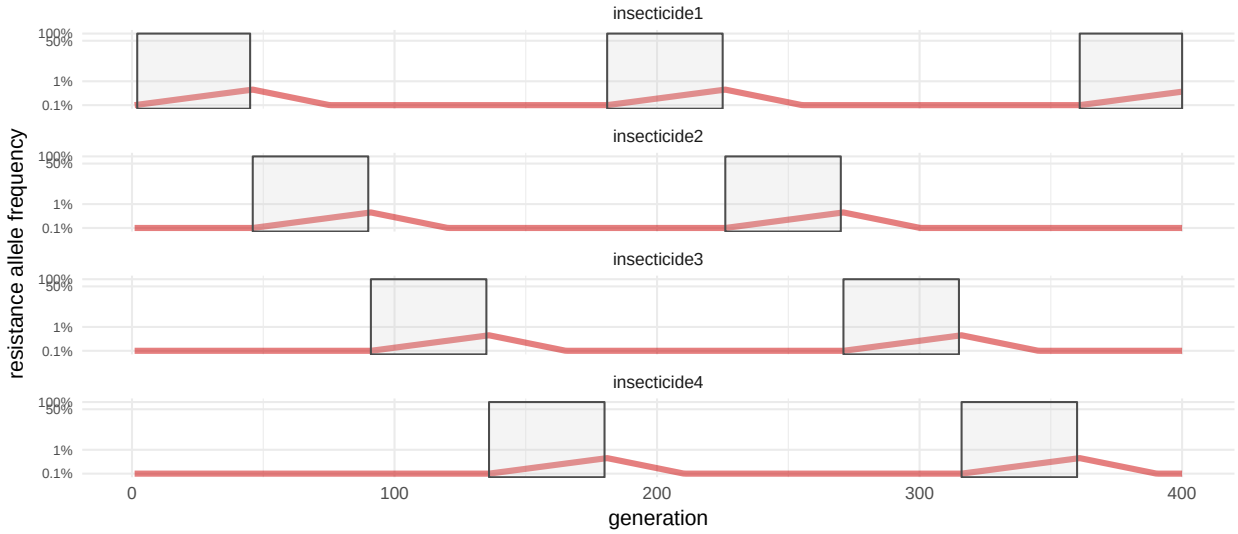

```
## scenario 19  expo_hi 0.48  eff 0.69  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



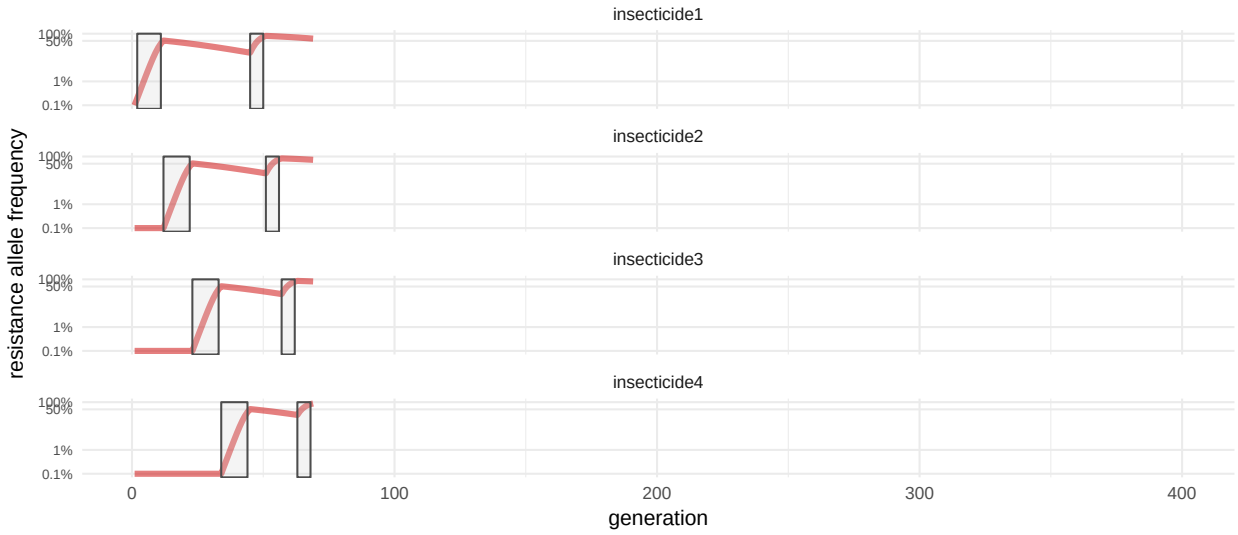

```
## scenario 19  expo_hi 0.48  eff 0.69  rot_interval 10
## tot gens deployed under freq 0.5 = 399
```



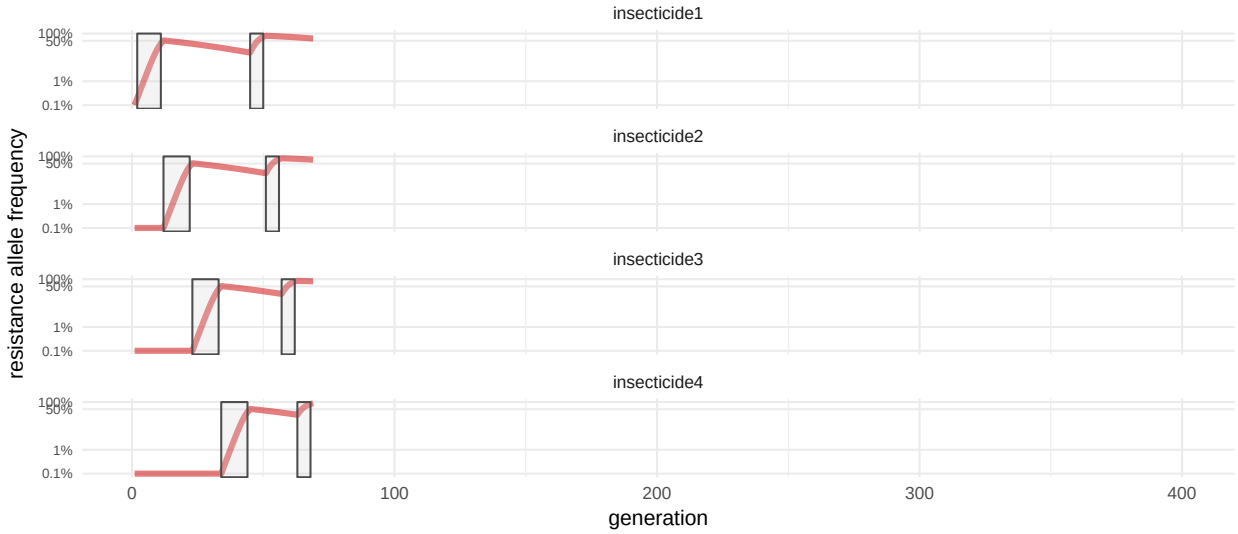

```
## scenario 20  expo_hi 0.61  eff 0.3  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



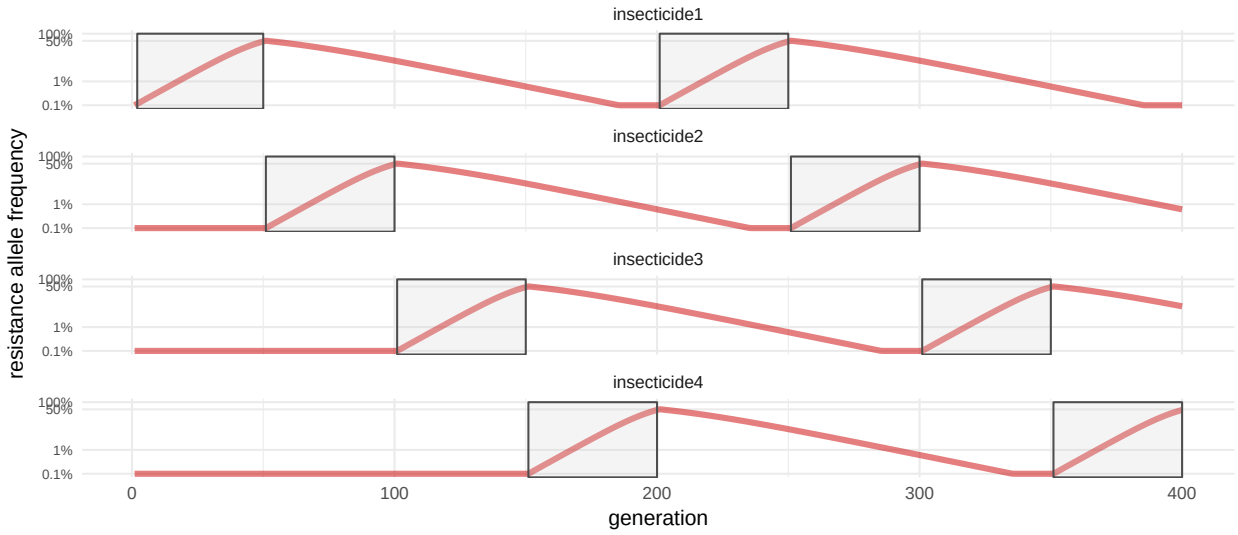

```
## scenario 20  expo_hi 0.61  eff 0.3  rot_interval 45
## tot gens deployed under freq 0.5 = 399
```



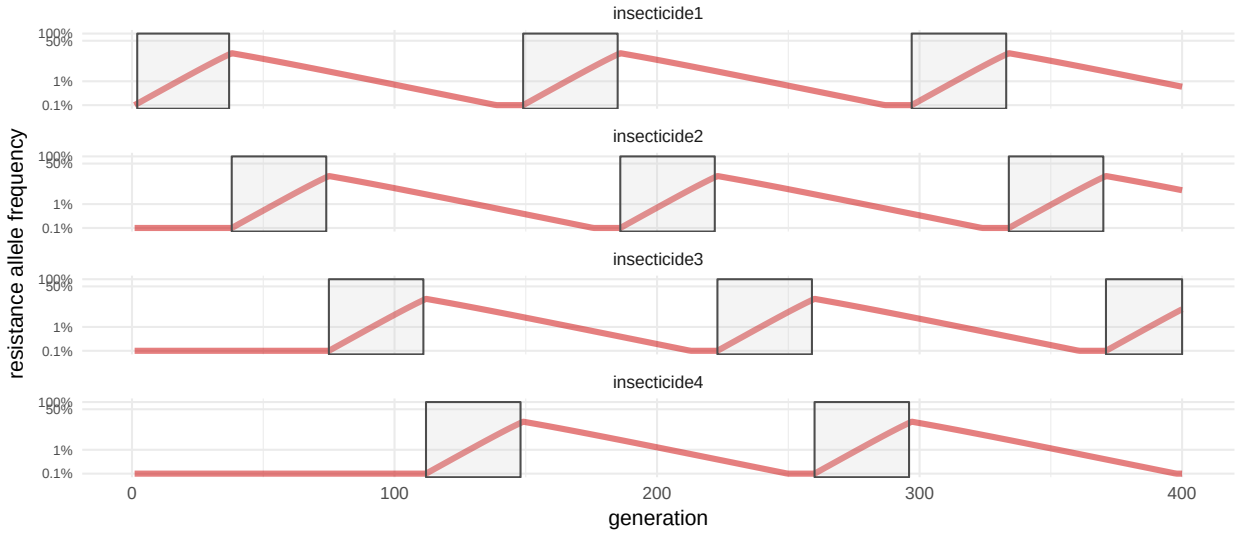

```
## scenario 21  expo_hi 0.87  eff 0.92  rot_interval 0
## tot gens deployed under freq 0.5 = 54
```



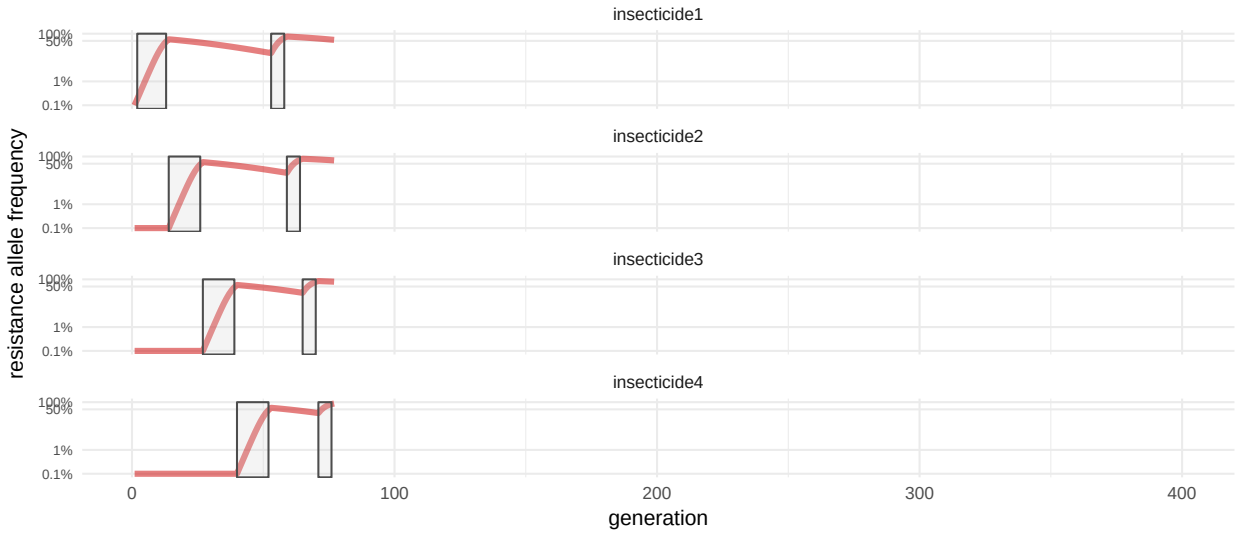

```
## scenario 21  expo_hi 0.87  eff 0.92  rot_interval 32
## tot gens deployed under freq 0.5 = 54
```



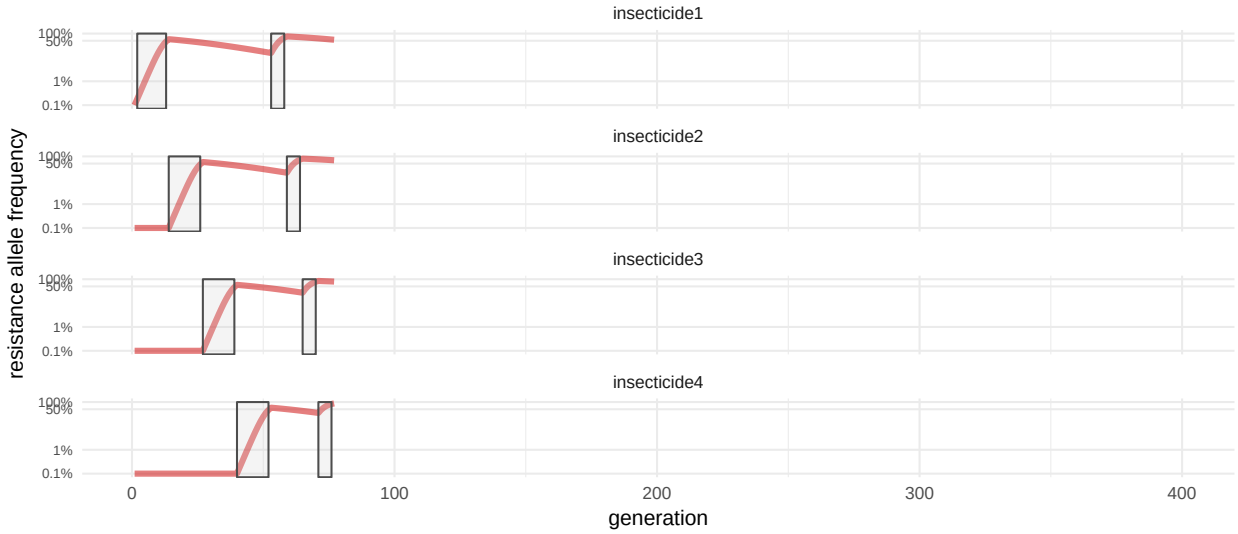

```
## scenario 22  expo_hi 0.81  eff 0.49  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



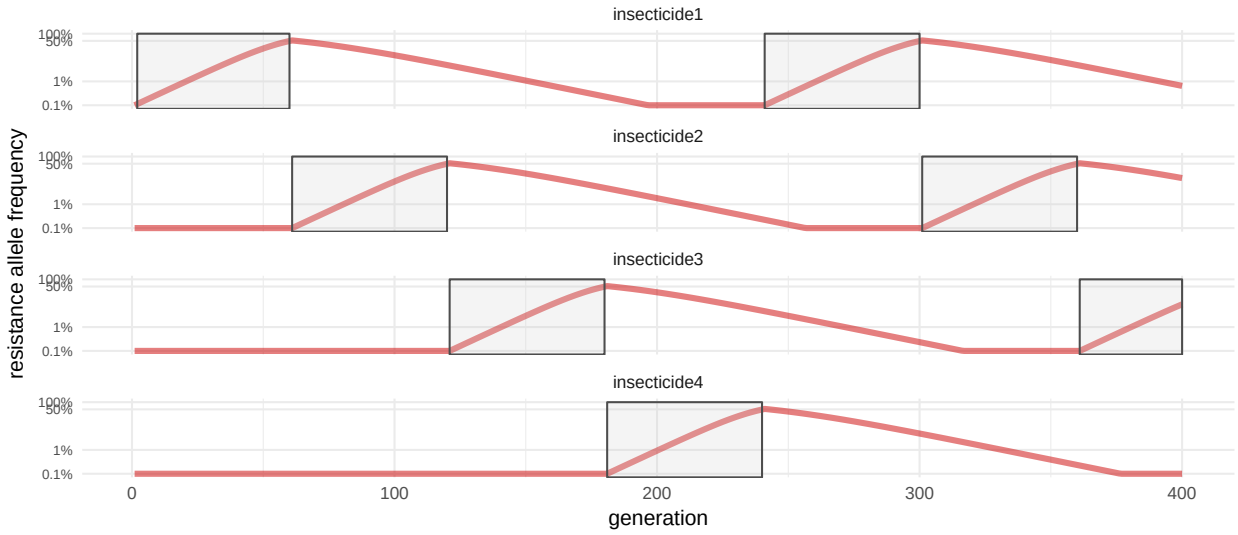

```
## scenario 22  expo_hi 0.81  eff 0.49  rot_interval 37
## tot gens deployed under freq 0.5 = 399
```



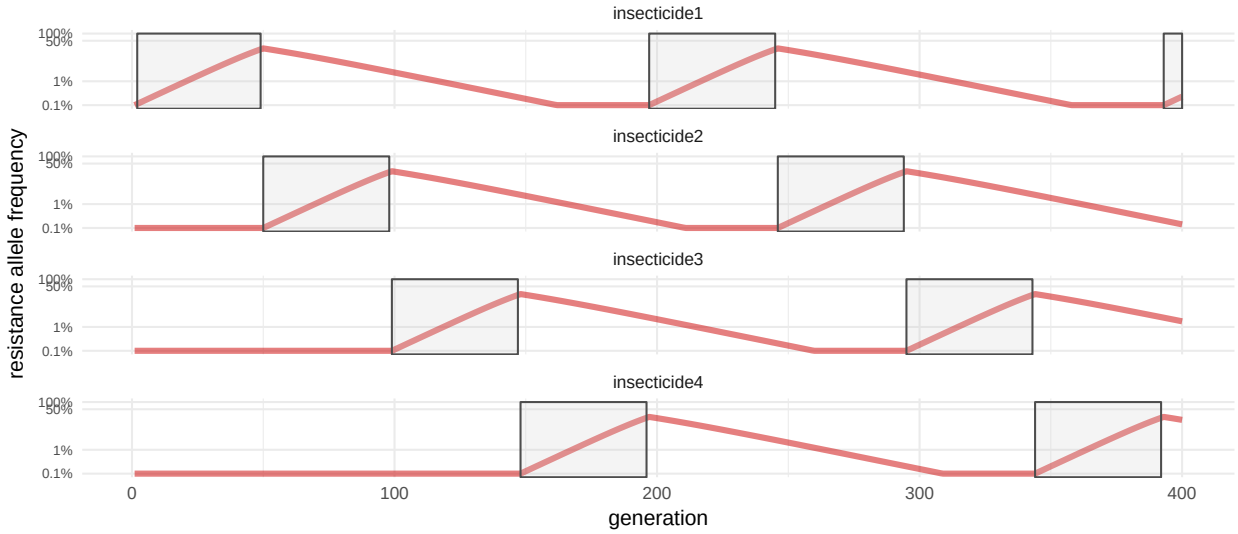

```
## scenario 23  expo_hi 0.83  eff 0.93  rot_interval 0
## tot gens deployed under freq 0.5 = 62
```



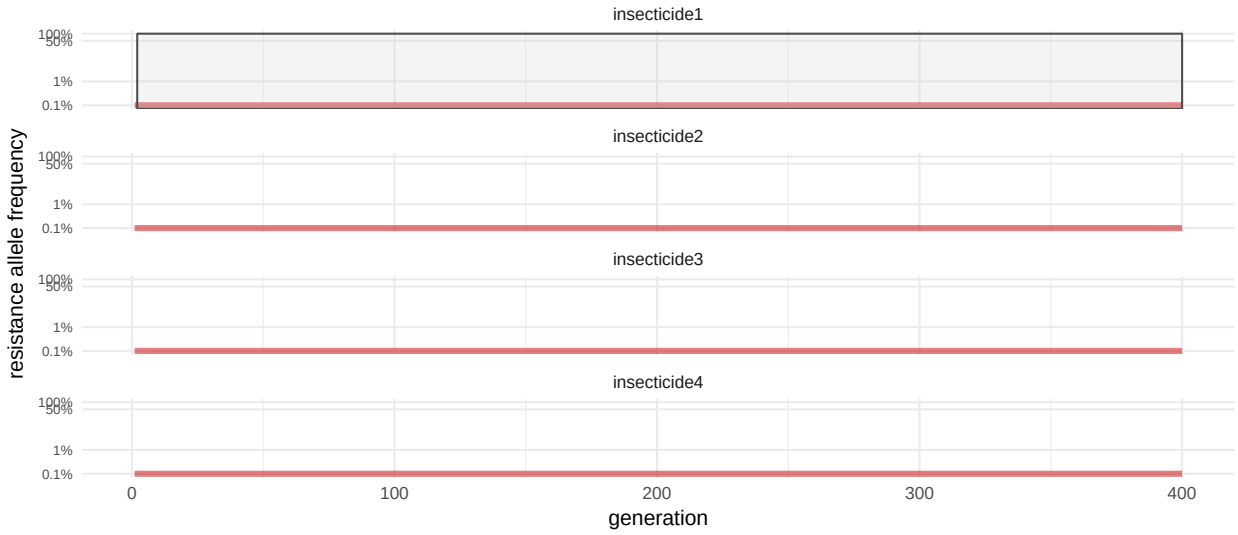

```
## scenario 23  expo_hi 0.83  eff 0.93  rot_interval 27
## tot gens deployed under freq 0.5 = 62
```



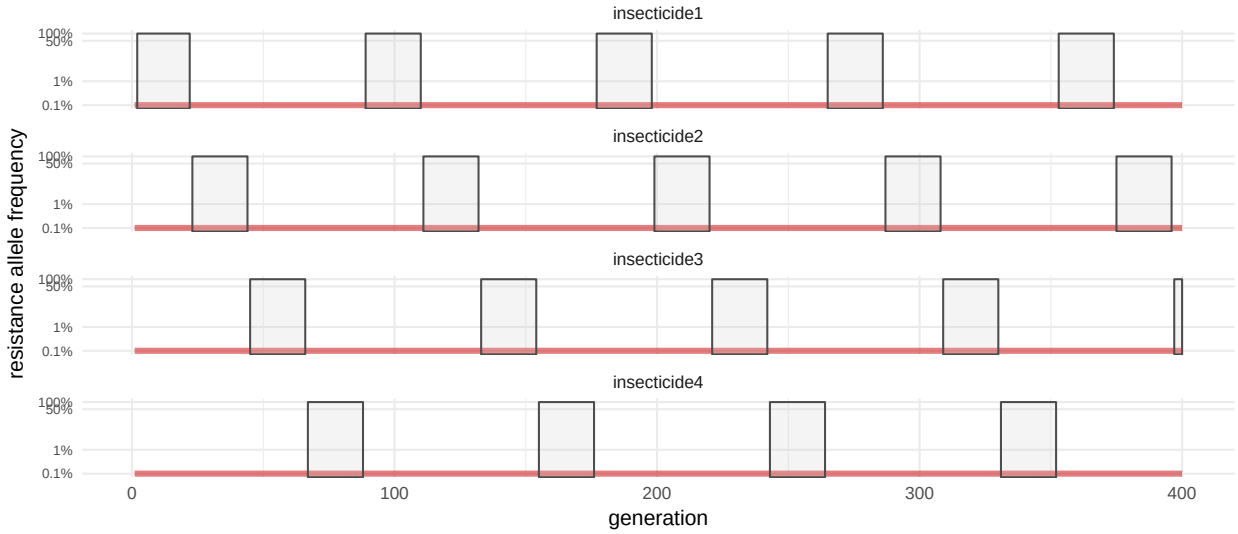

```
## scenario 24  expo_hi 0.59  eff 0.66  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



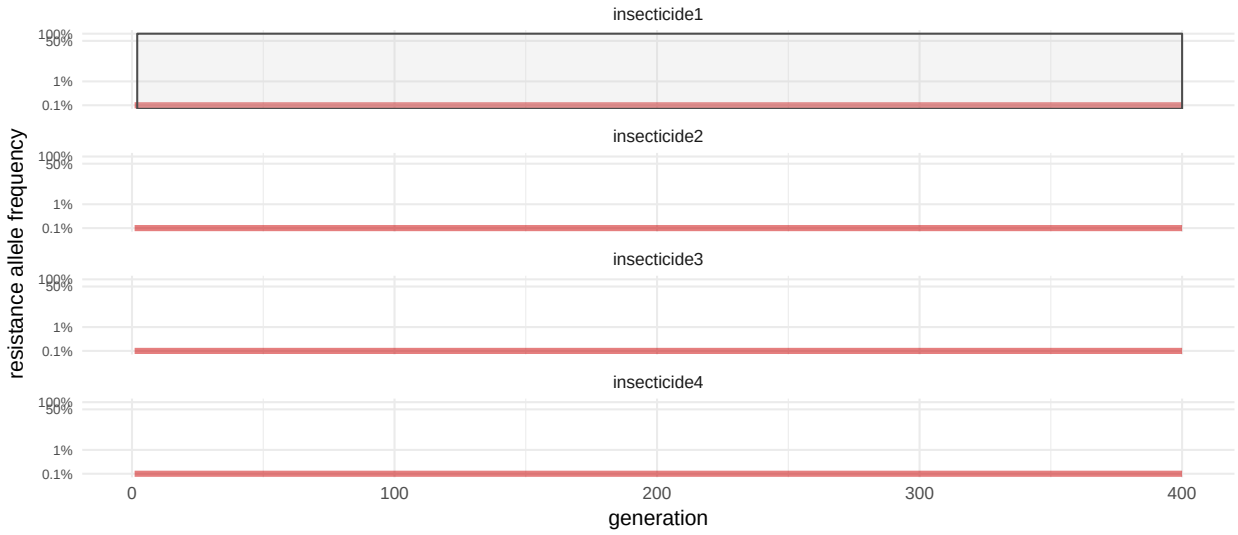

```
## scenario 24  expo_hi 0.59  eff 0.66  rot_interval 49
## tot gens deployed under freq 0.5 = 399
```



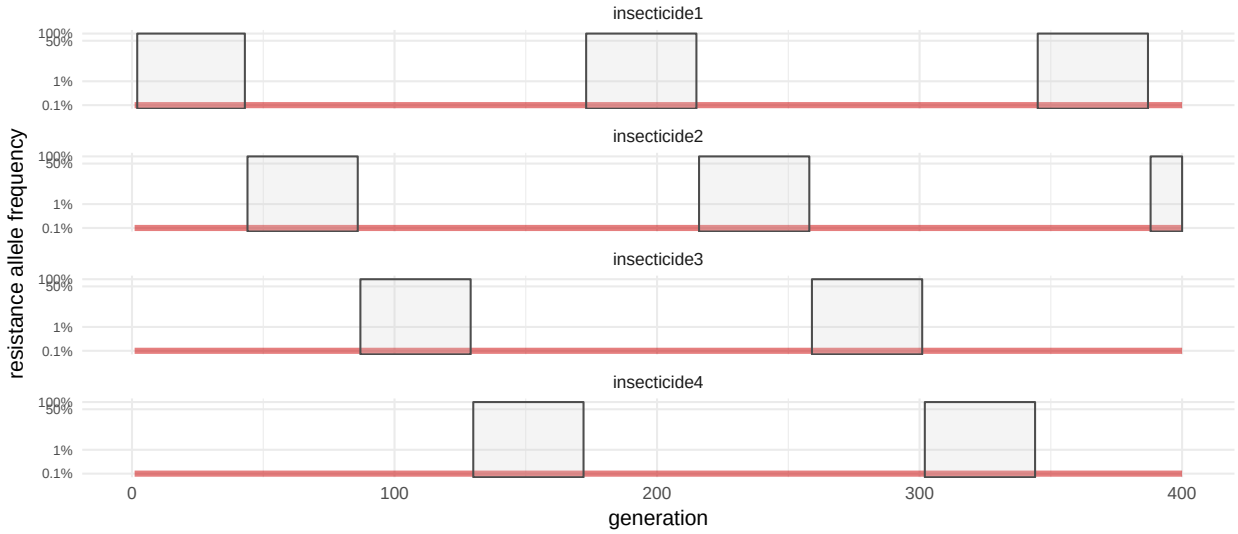

```
## scenario 25  expo_hi 0.22  eff 0.54  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



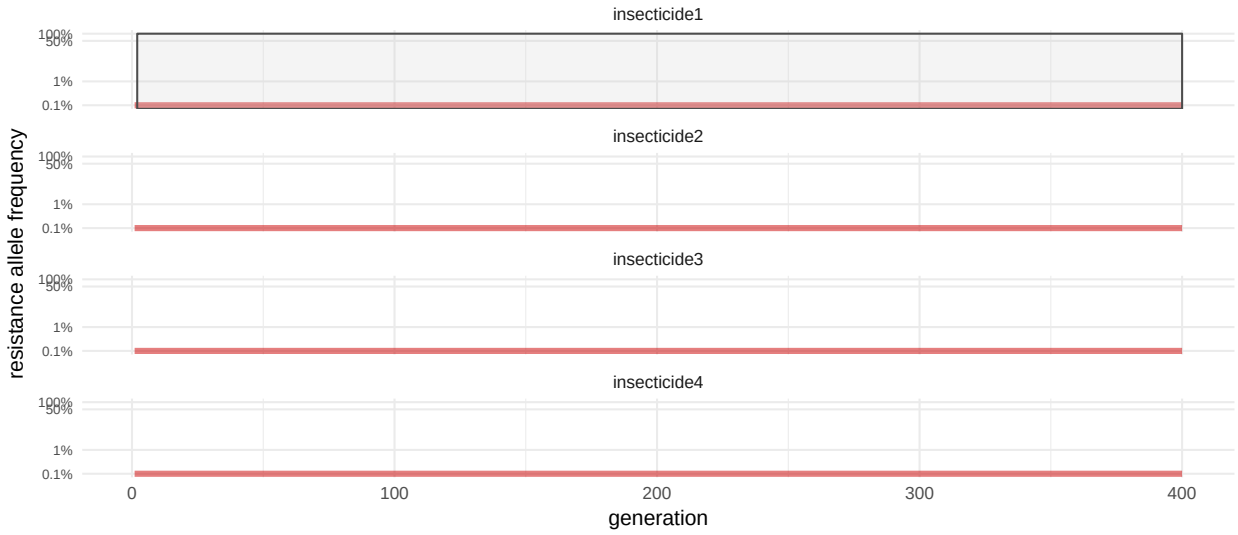

```
## scenario 25  expo_hi 0.22  eff 0.54  rot_interval 22
## tot gens deployed under freq 0.5 = 399
```



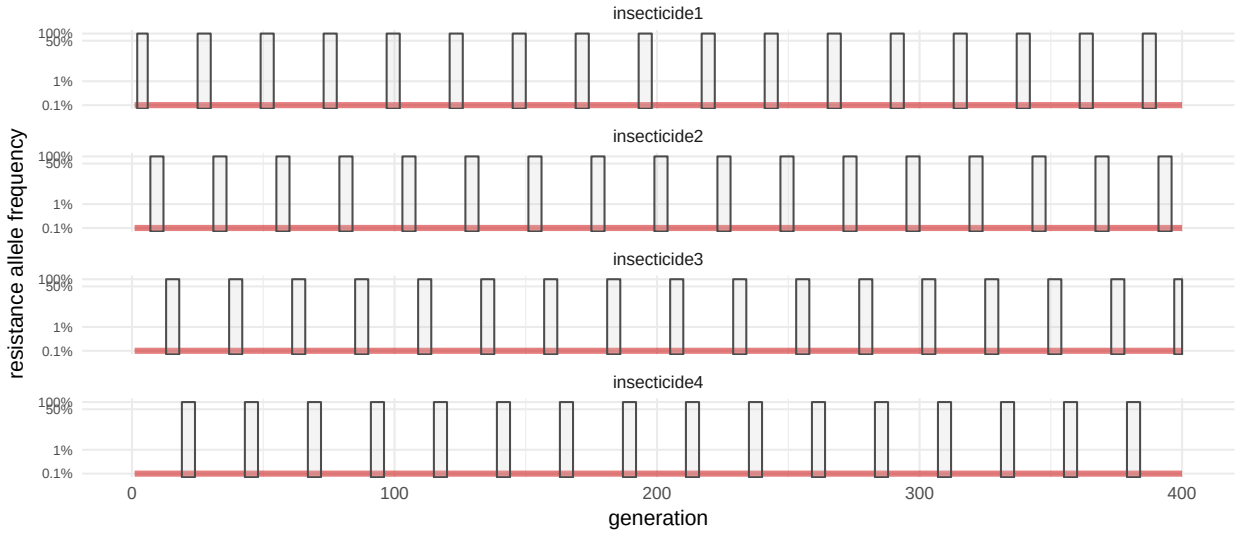

```
## scenario 26  expo_hi 0.12  eff 0.48  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



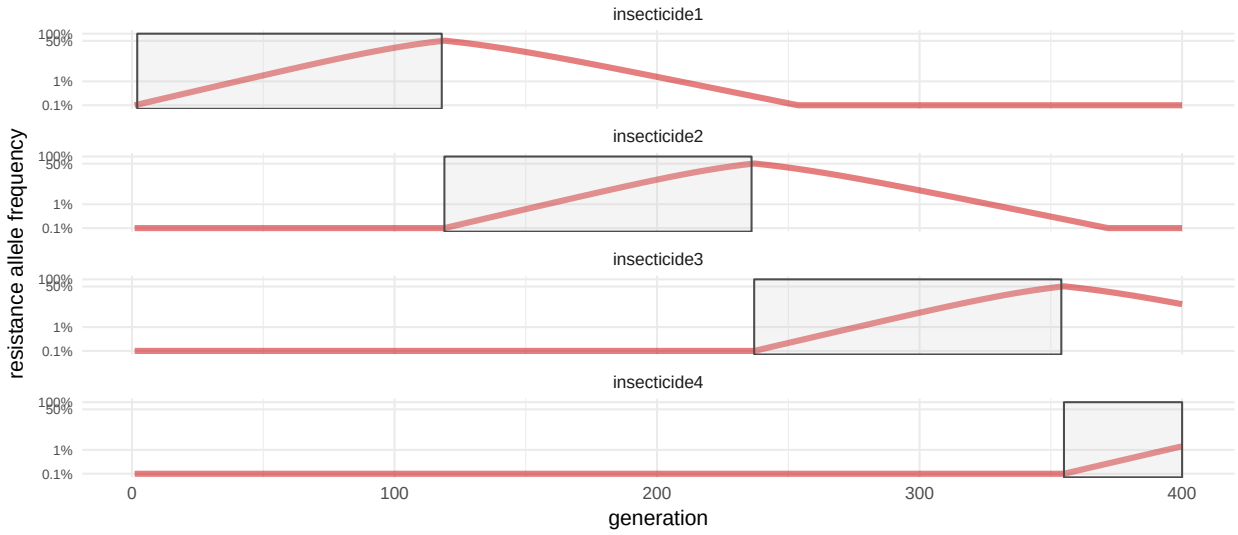

```
## scenario 26  expo_hi 0.12  eff 0.48  rot_interval 43
## tot gens deployed under freq 0.5 = 399
```



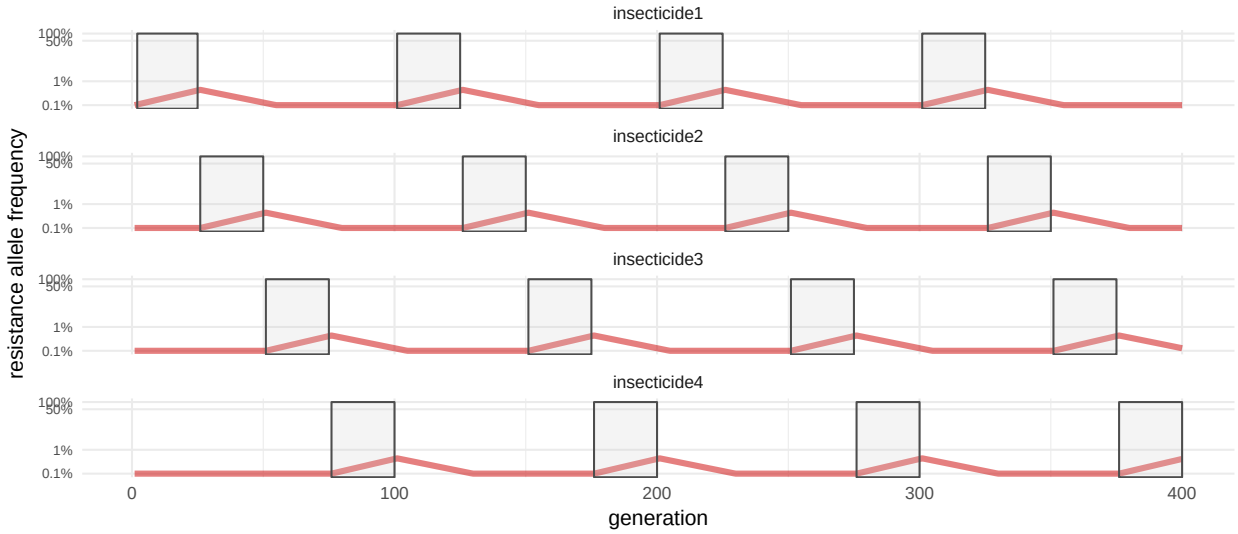

```
## scenario 27  expo_hi 0.11  eff 0.86  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



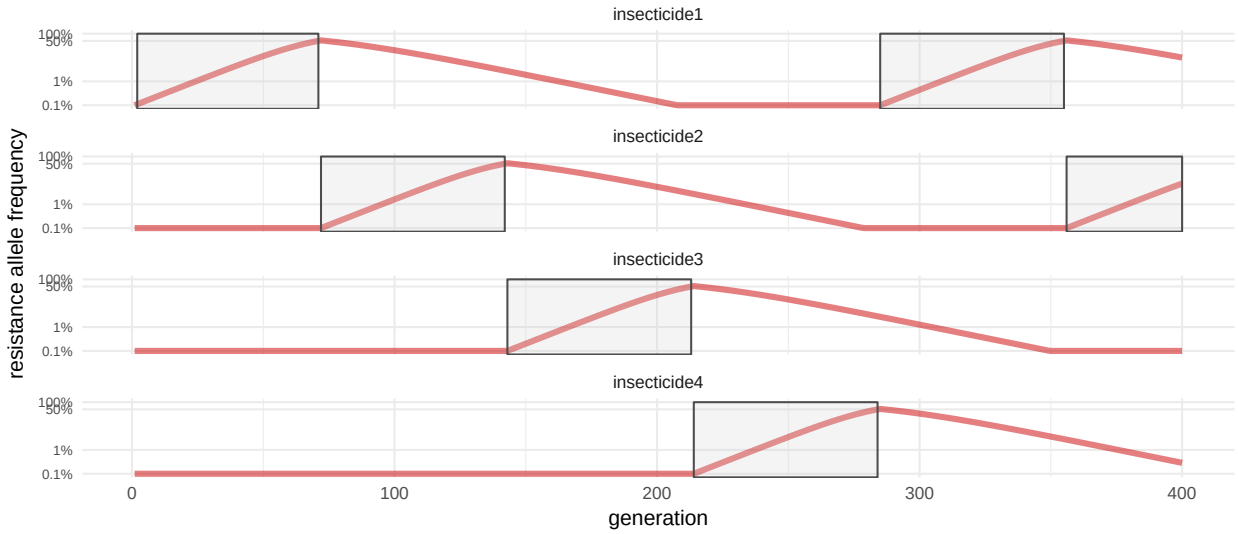

```
## scenario 27  expo_hi 0.11  eff 0.86  rot_interval 6
## tot gens deployed under freq 0.5 = 399
```



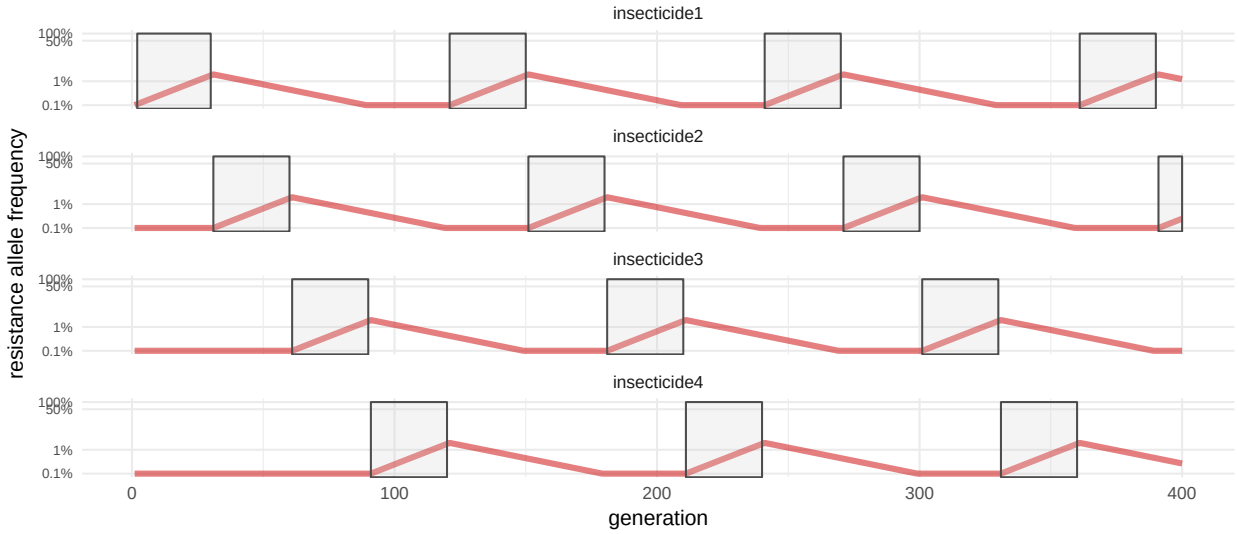

```
## scenario 28  expo_hi 0.51  eff 0.54  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



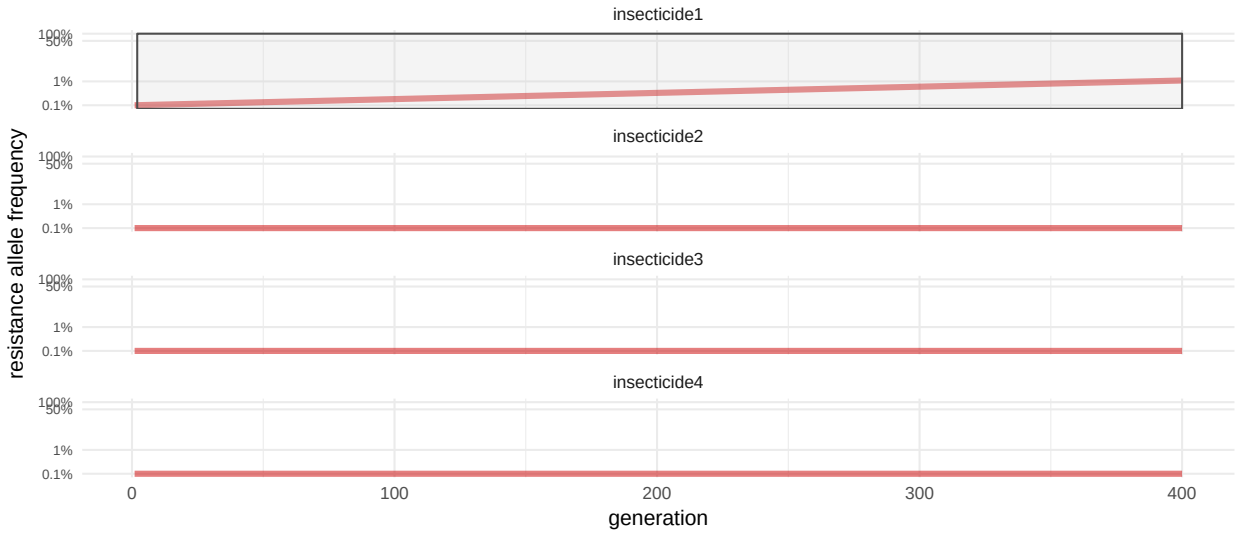

```
## scenario 28  expo_hi 0.51  eff 0.54  rot_interval 25
## tot gens deployed under freq 0.5 = 399
```



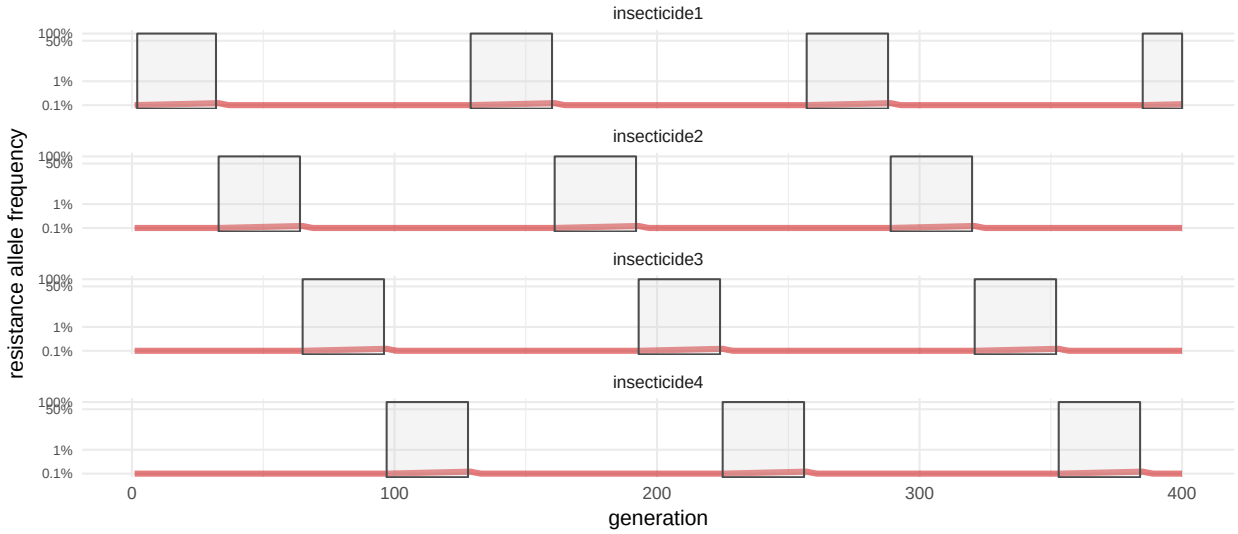

```
## scenario 29  expo_hi 0.8  eff 0.4  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



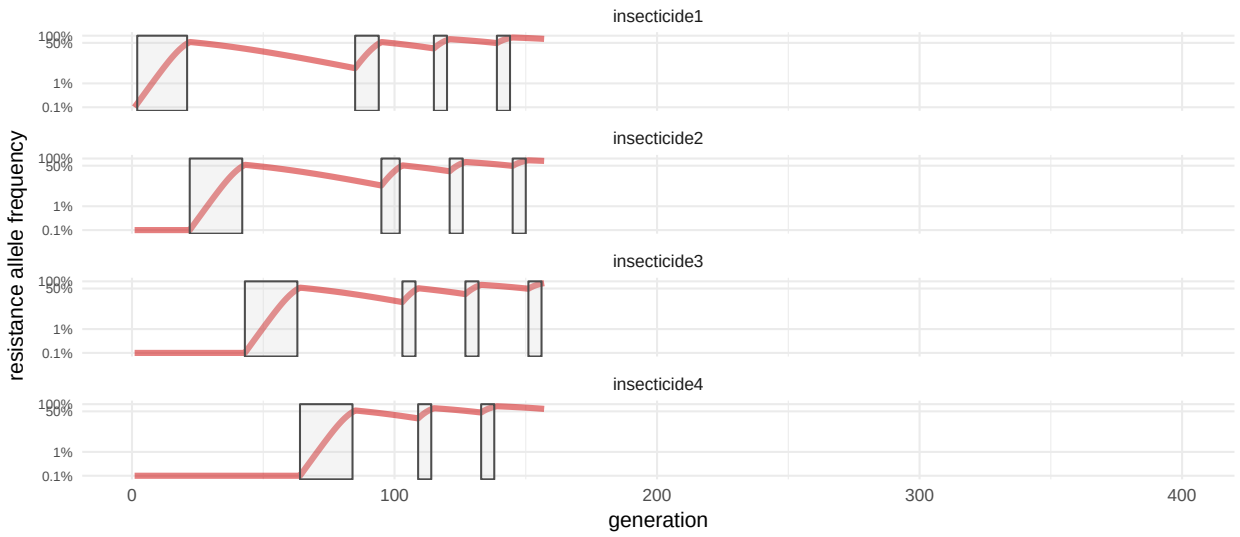

```
## scenario 29  expo_hi 0.8  eff 0.4  rot_interval 30
## tot gens deployed under freq 0.5 = 399
```



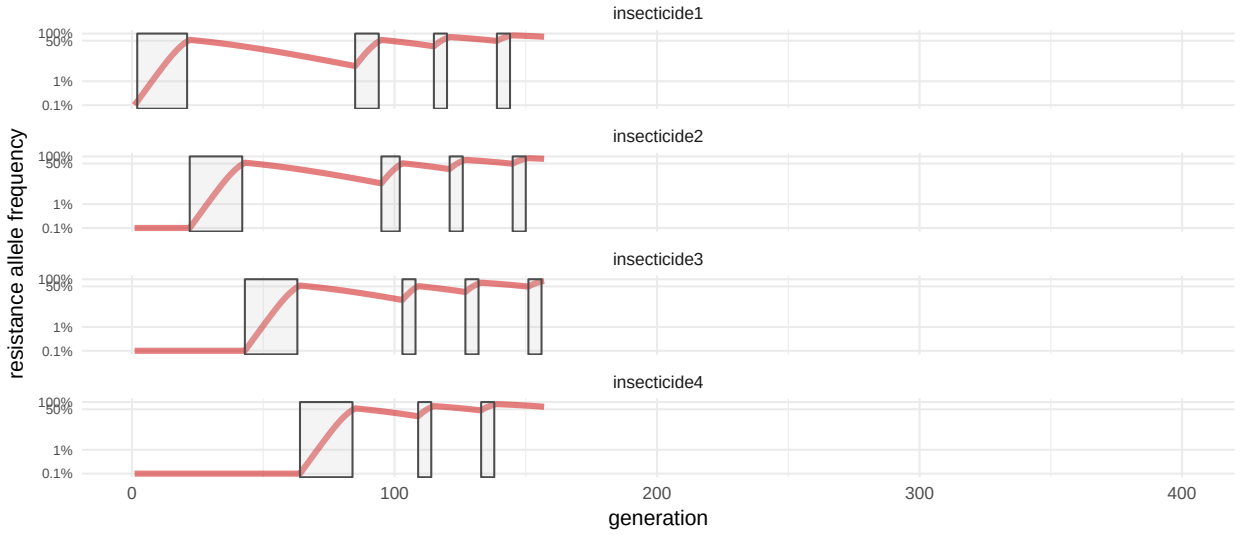

```
## scenario 30  expo_hi 0.31  eff 0.52  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



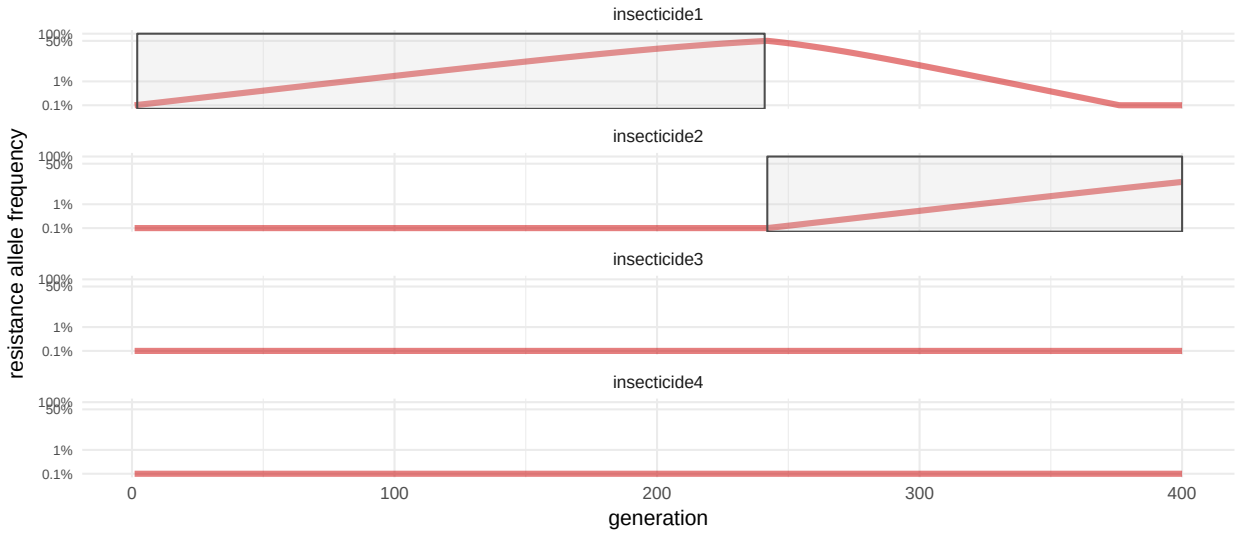

```
## scenario 30  expo_hi 0.31  eff 0.52  rot_interval 32
## tot gens deployed under freq 0.5 = 399
```



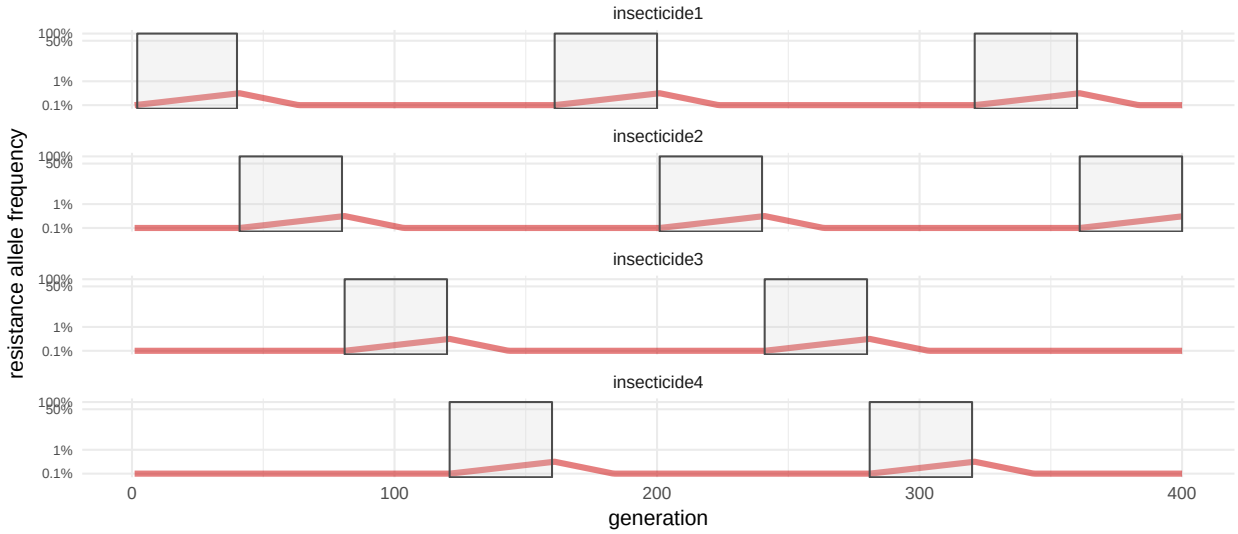

```
## scenario 31  expo_hi 0.87  eff 0.73  rot_interval 0
## tot gens deployed under freq 0.5 = 124
```



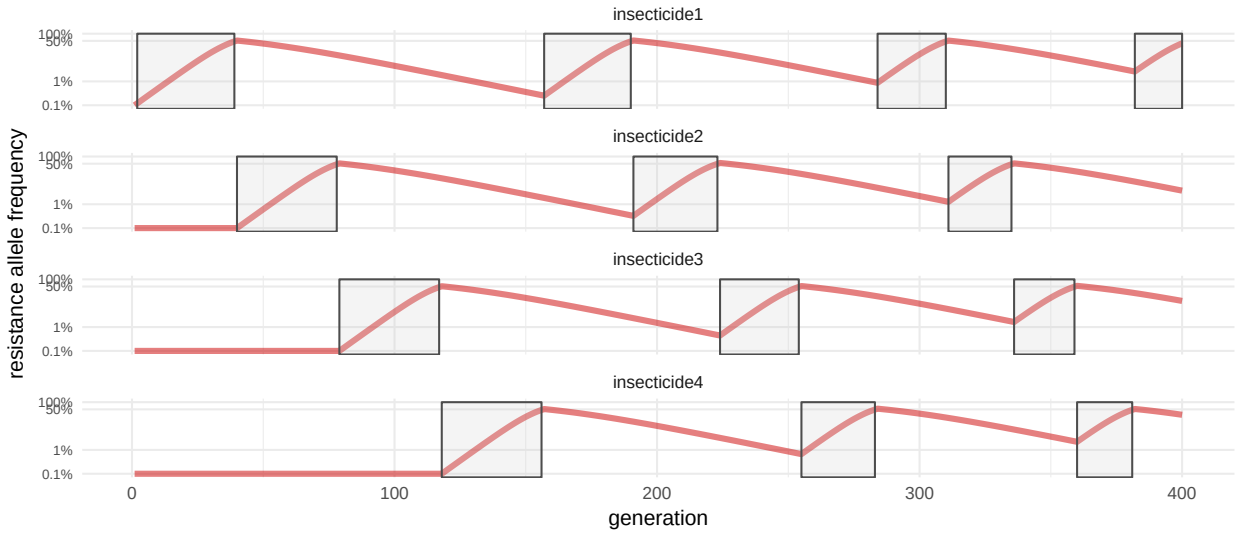

```
## scenario 31  expo_hi 0.87  eff 0.73  rot_interval 31
## tot gens deployed under freq 0.5 = 124
```



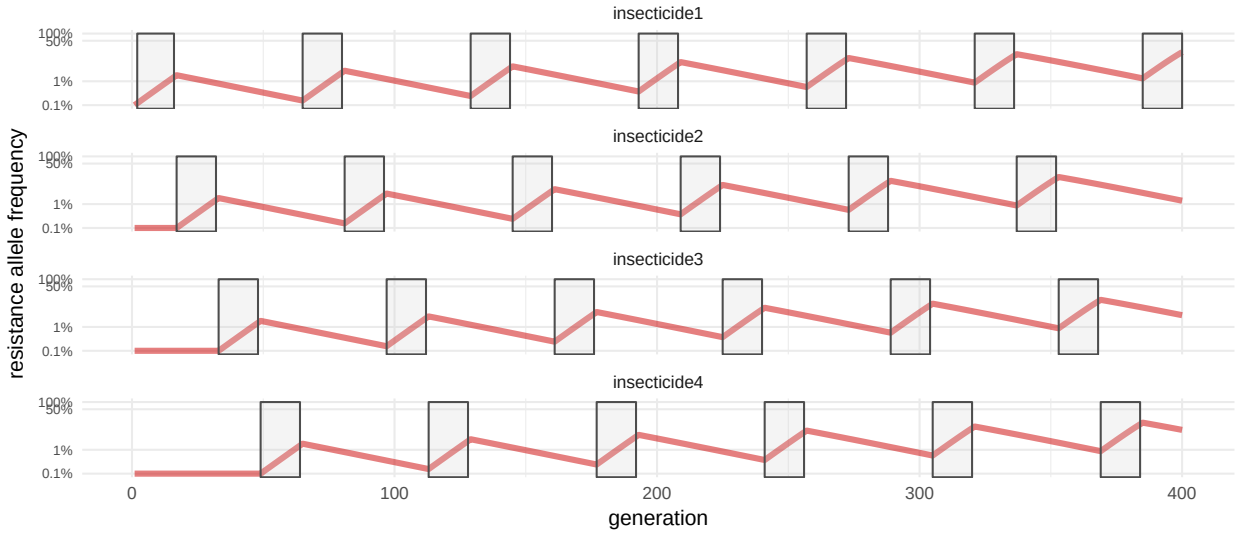

```
## scenario 32  expo_hi 0.57  eff 0.32  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



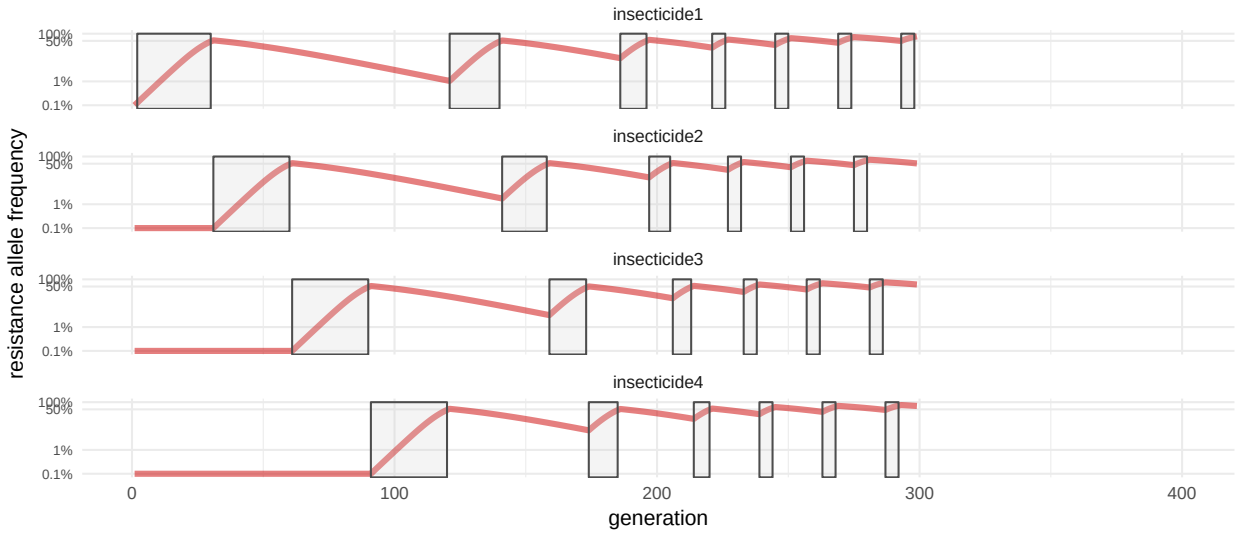

```
## scenario 32  expo_hi 0.57  eff 0.32  rot_interval 40
## tot gens deployed under freq 0.5 = 399
```



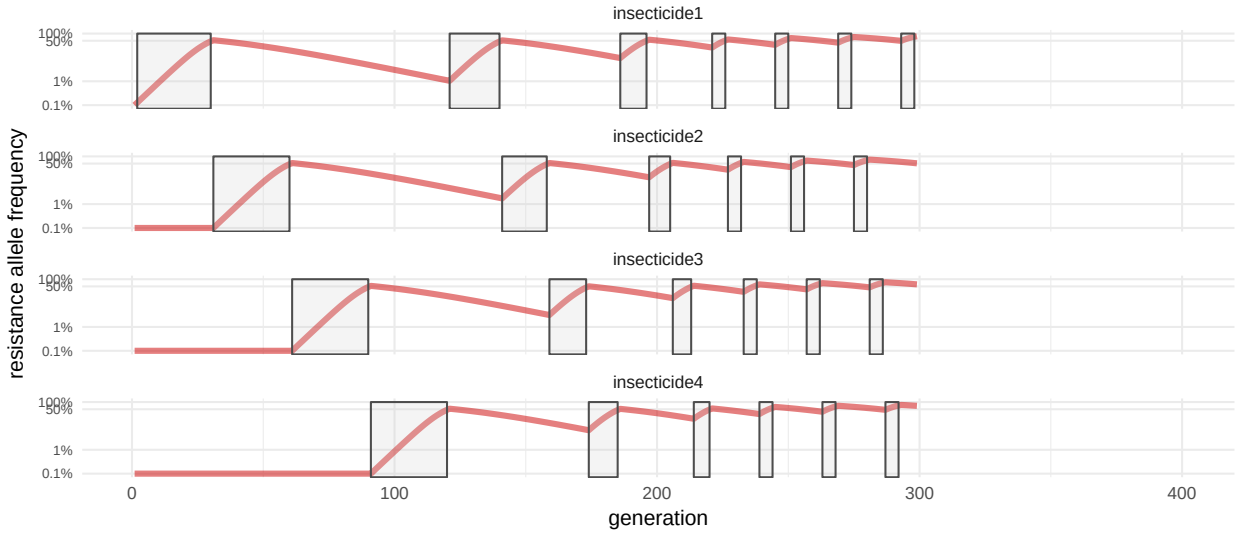

```
## scenario 33  expo_hi 0.88  eff 0.52  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



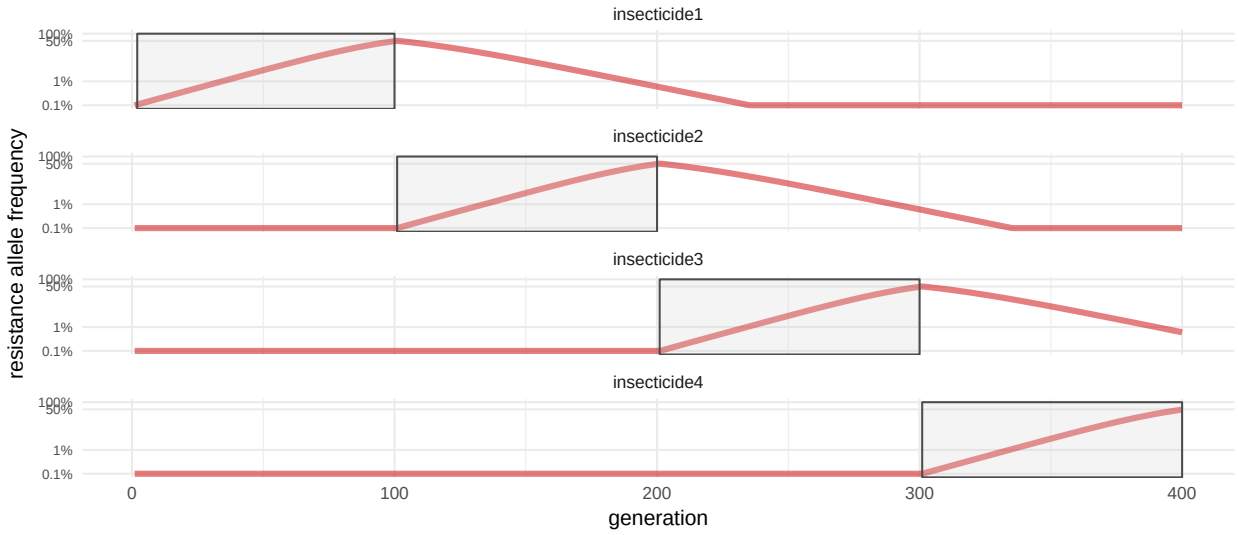

```
## scenario 33  expo_hi 0.88  eff 0.52  rot_interval 16
## tot gens deployed under freq 0.5 = 399
```



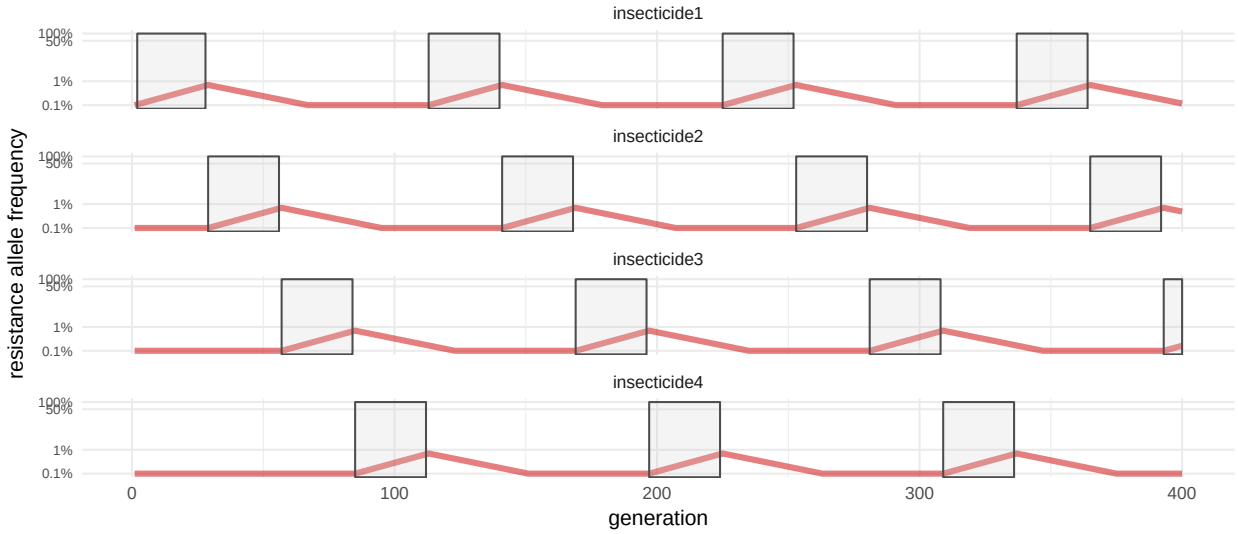

```
## scenario 34  expo_hi 0.88  eff 0.6  rot_interval 0
## tot gens deployed under freq 0.5 = 256
```



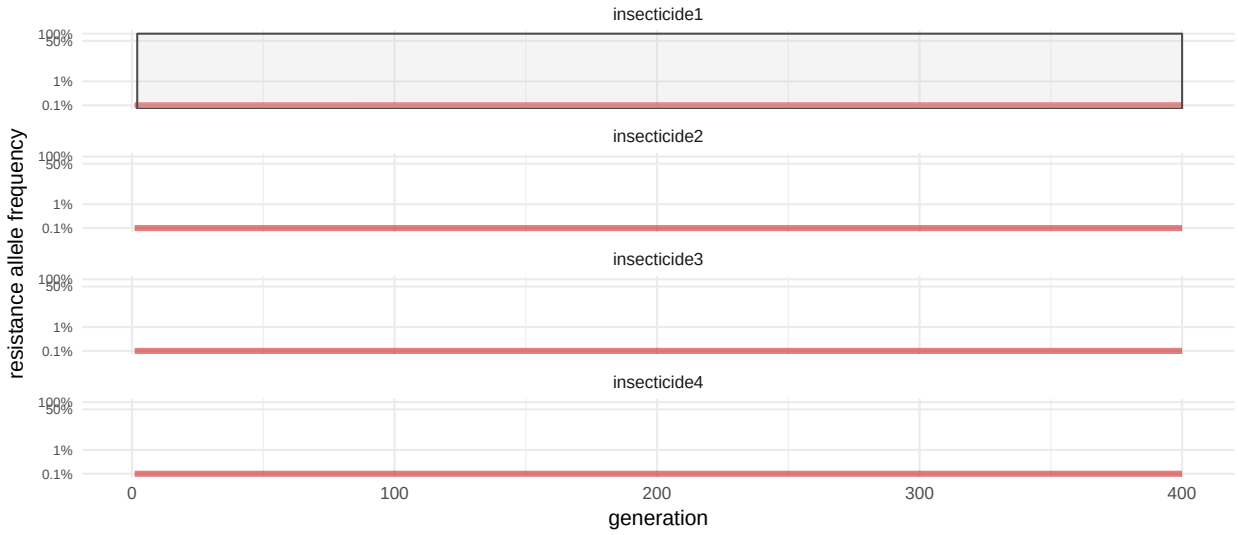

```
## scenario 34  expo_hi 0.88  eff 0.6  rot_interval 33
## tot gens deployed under freq 0.5 = 256
```



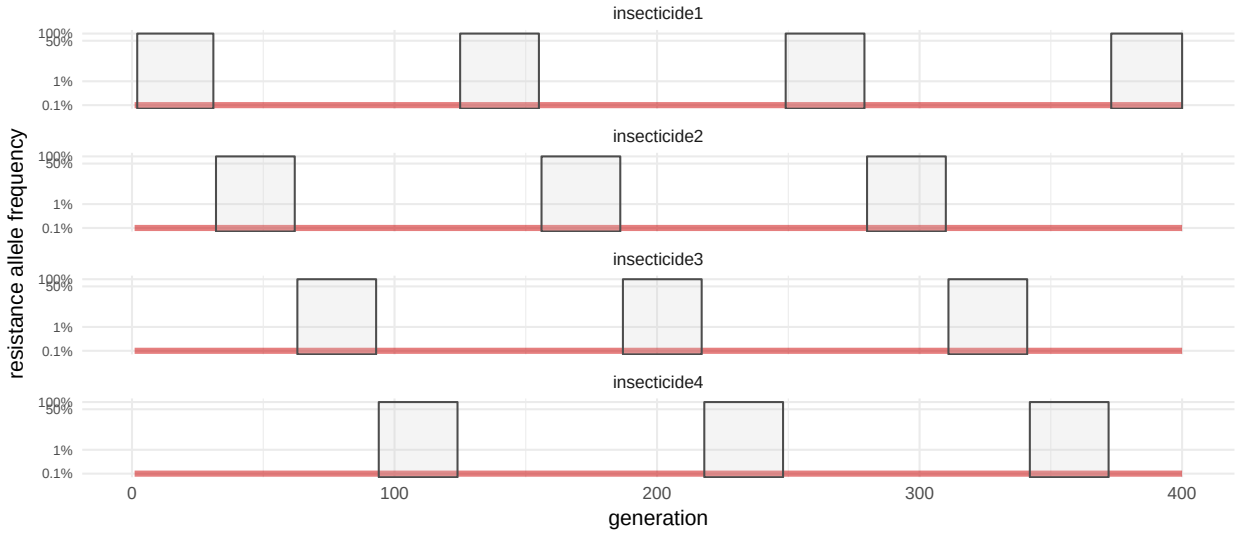

```
## scenario 35  expo_hi 0.35  eff 0.92  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



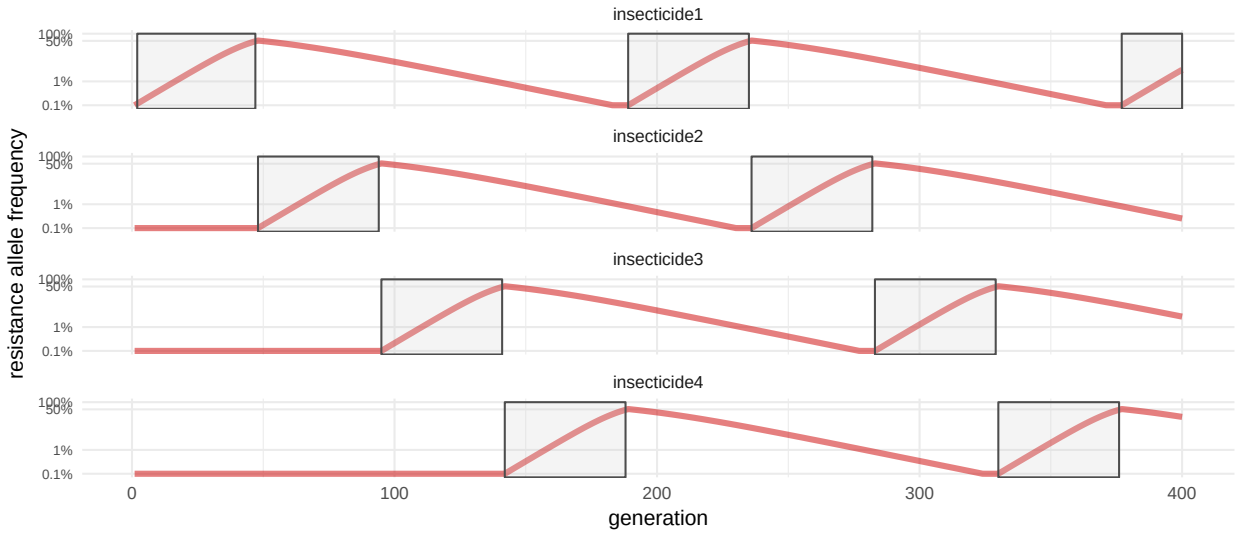

```
## scenario 35  expo_hi 0.35  eff 0.92  rot_interval 28
## tot gens deployed under freq 0.5 = 399
```



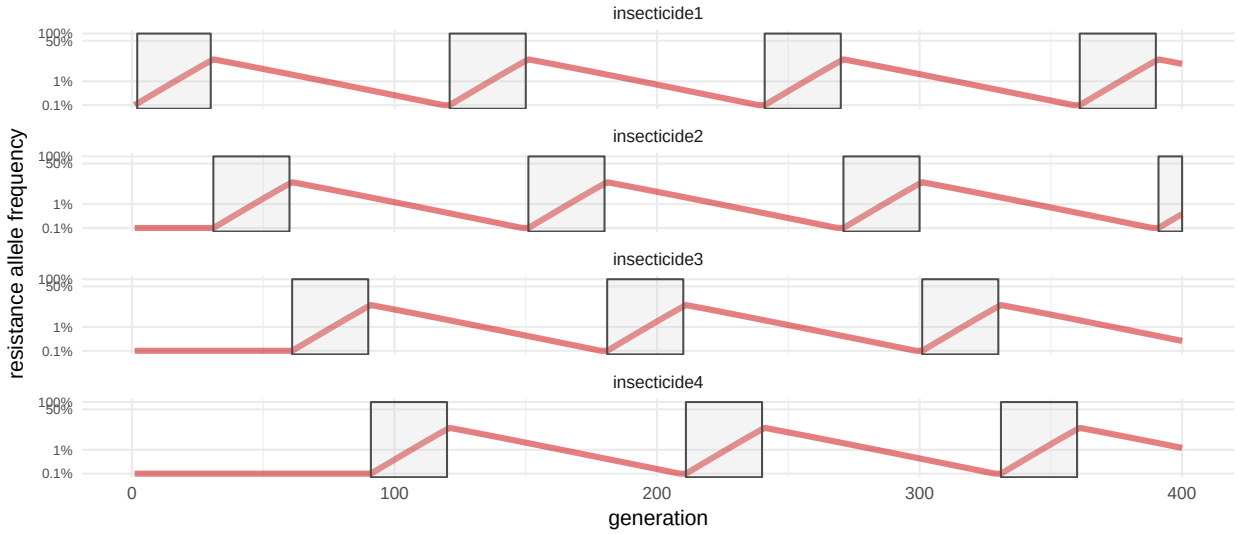

```
## scenario 36  expo_hi 0.18  eff 0.93  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



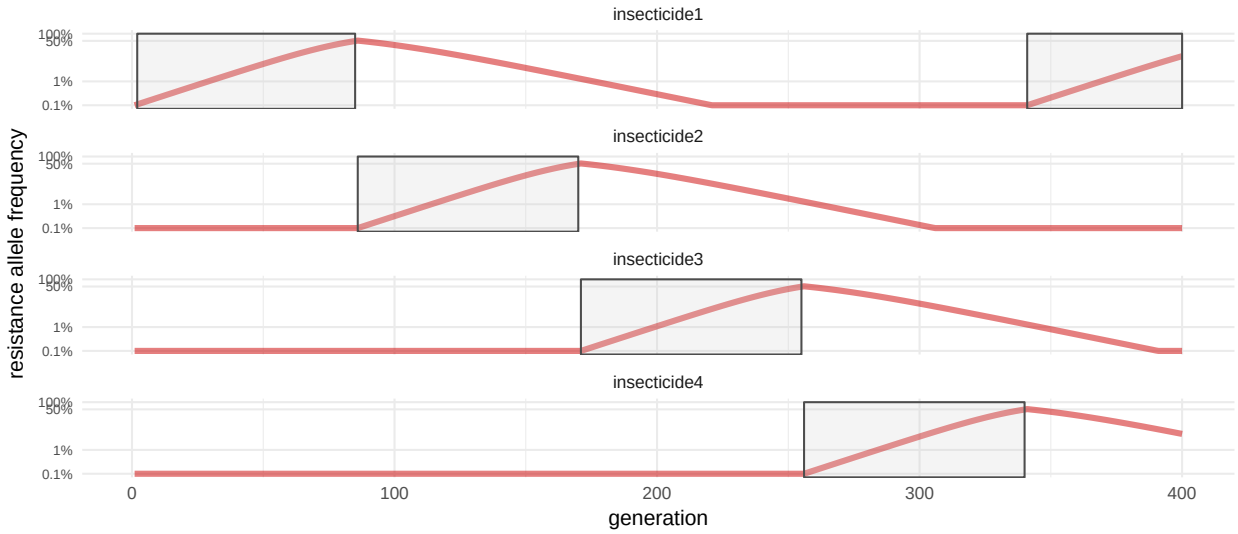

```
## scenario 36  expo_hi 0.18  eff 0.93  rot_interval 31
## tot gens deployed under freq 0.5 = 399
```



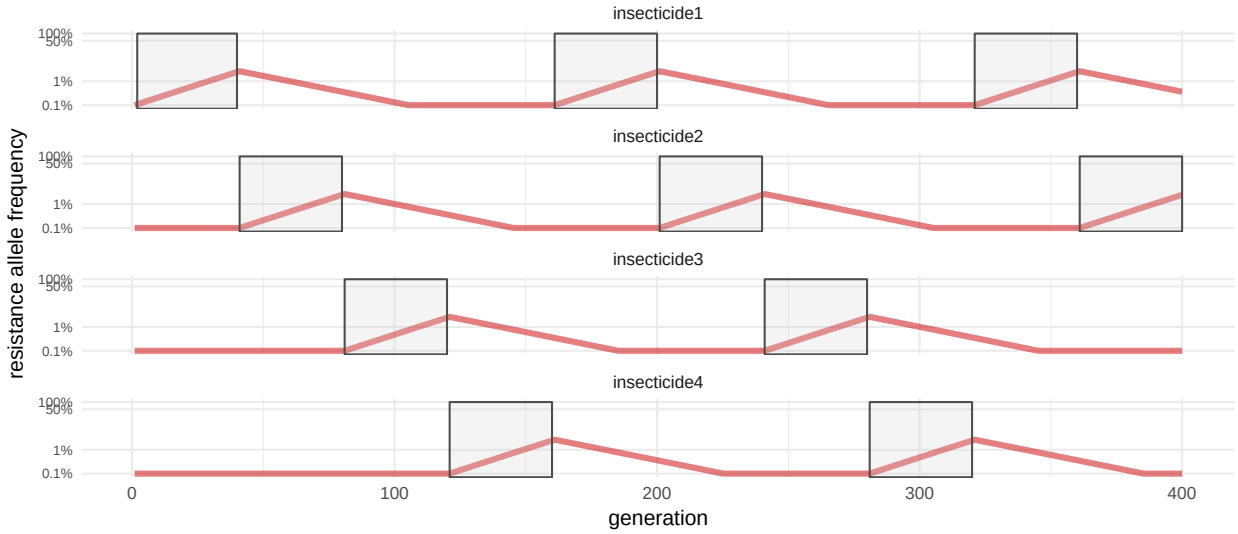

```
## scenario 37  expo_hi 0.79  eff 0.53  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



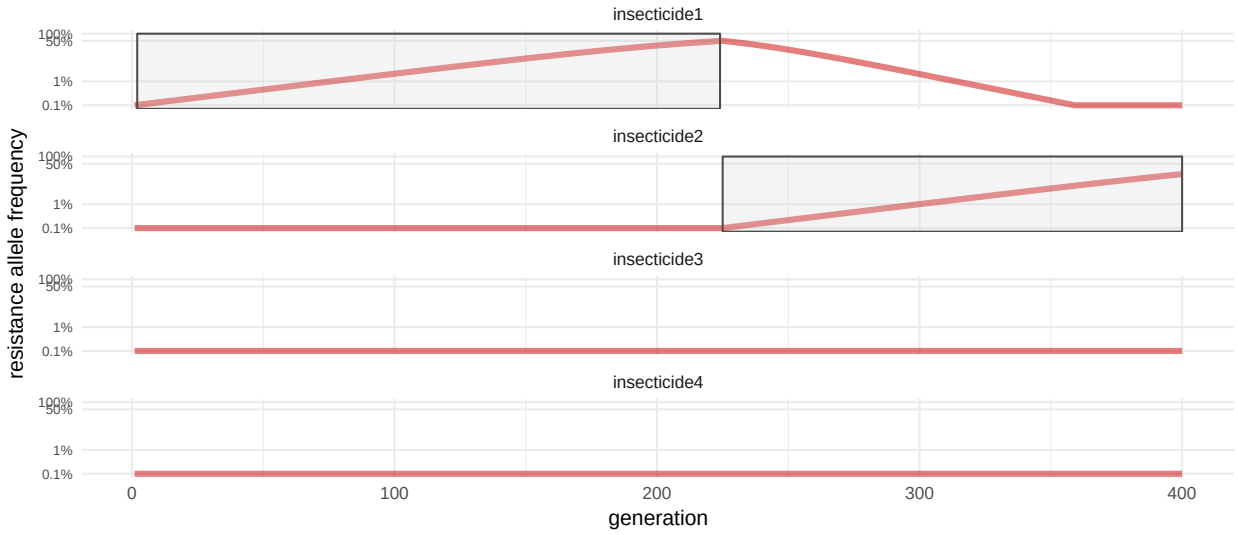

```
## scenario 37  expo_hi 0.79  eff 0.53  rot_interval 30
## tot gens deployed under freq 0.5 = 399
```



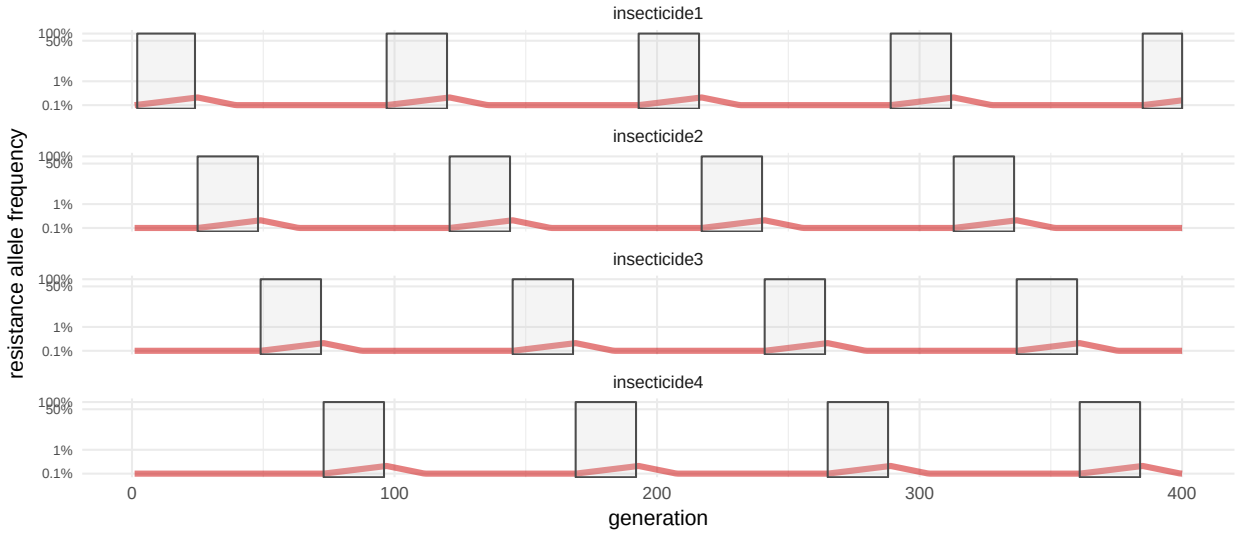

```
## scenario 38  expo_hi 0.39  eff 0.9  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



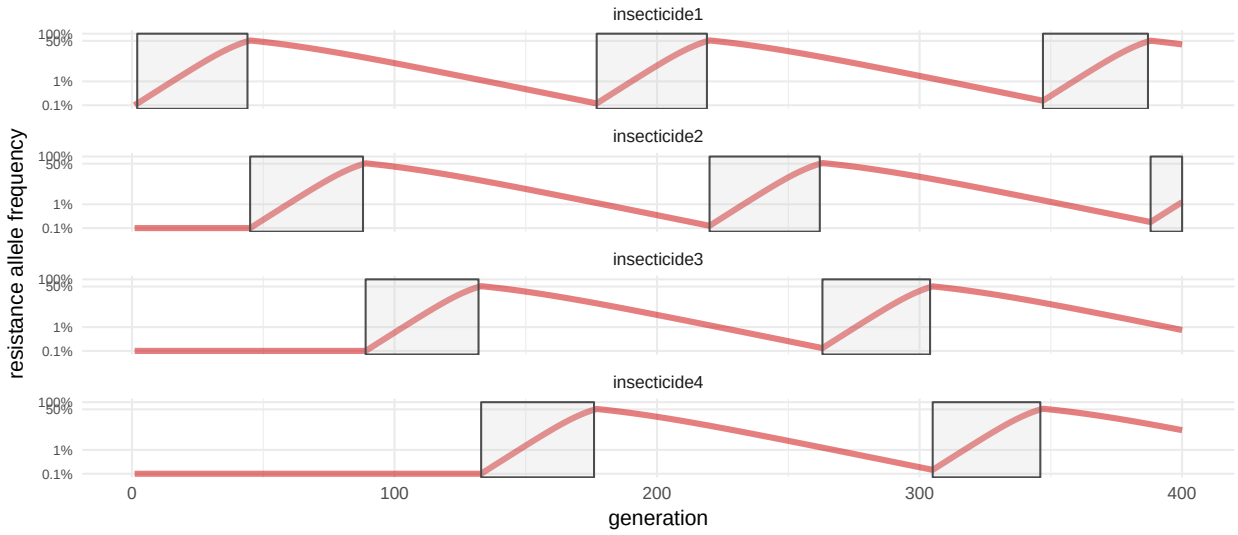

```
## scenario 38  expo_hi 0.39  eff 0.9  rot_interval 40
## tot gens deployed under freq 0.5 = 399
```



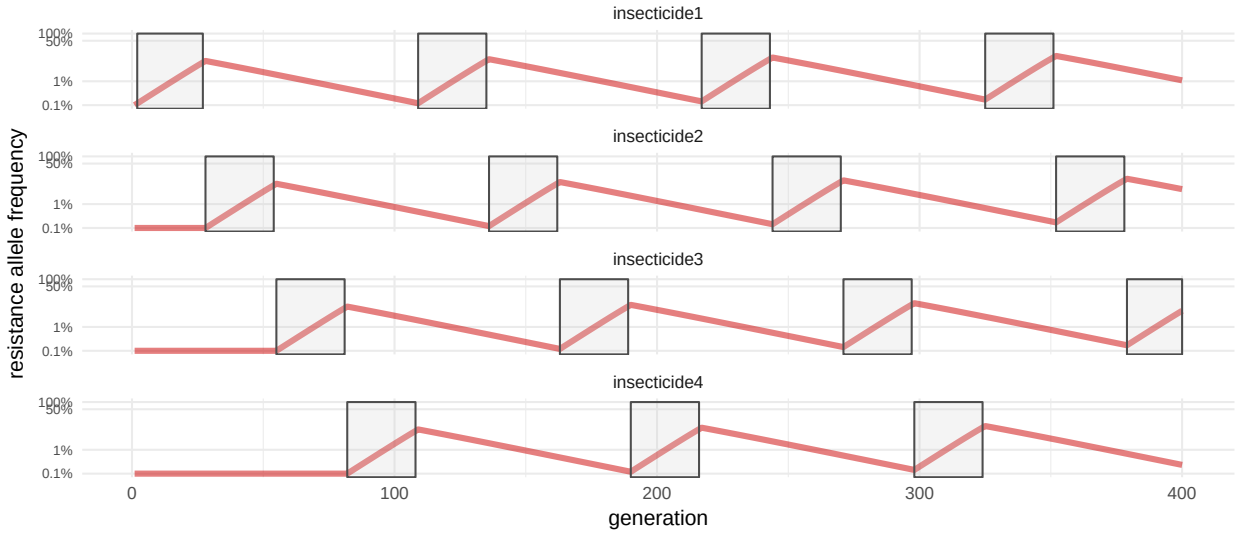

```
## scenario 39  expo_hi 0.31  eff 0.75  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



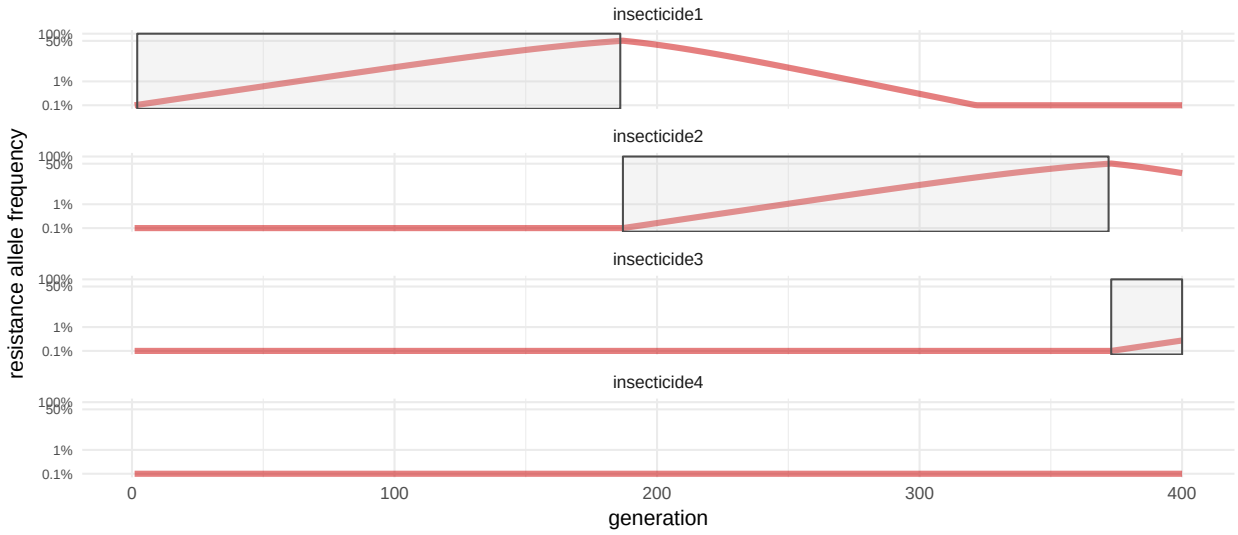

```
## scenario 39  expo_hi 0.31  eff 0.75  rot_interval 24
## tot gens deployed under freq 0.5 = 399
```



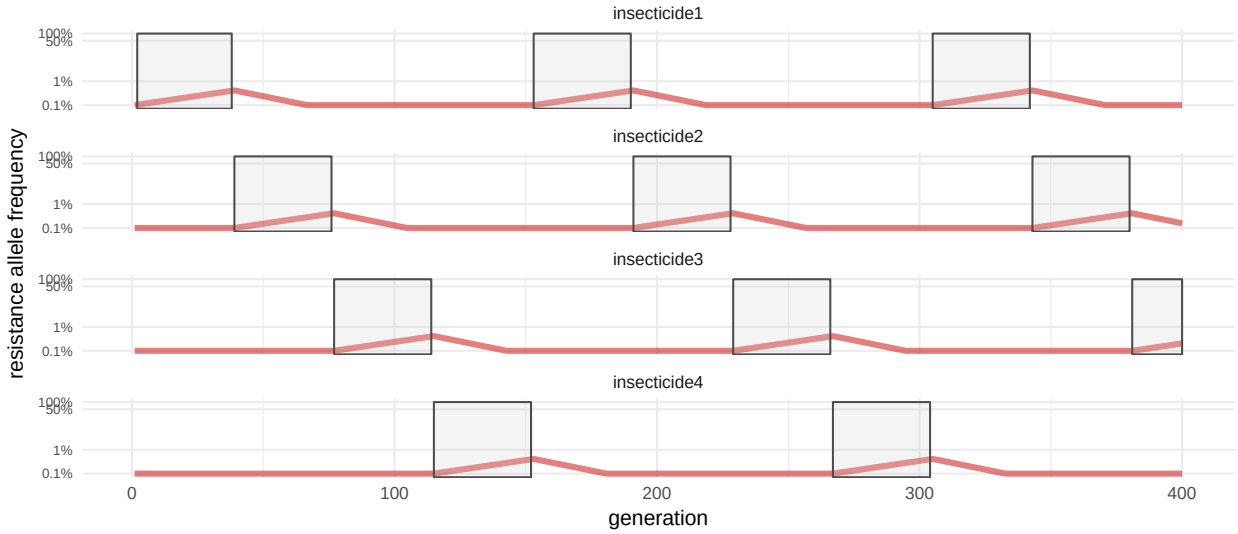

```
## scenario 40  expo_hi 0.49  eff 0.95  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



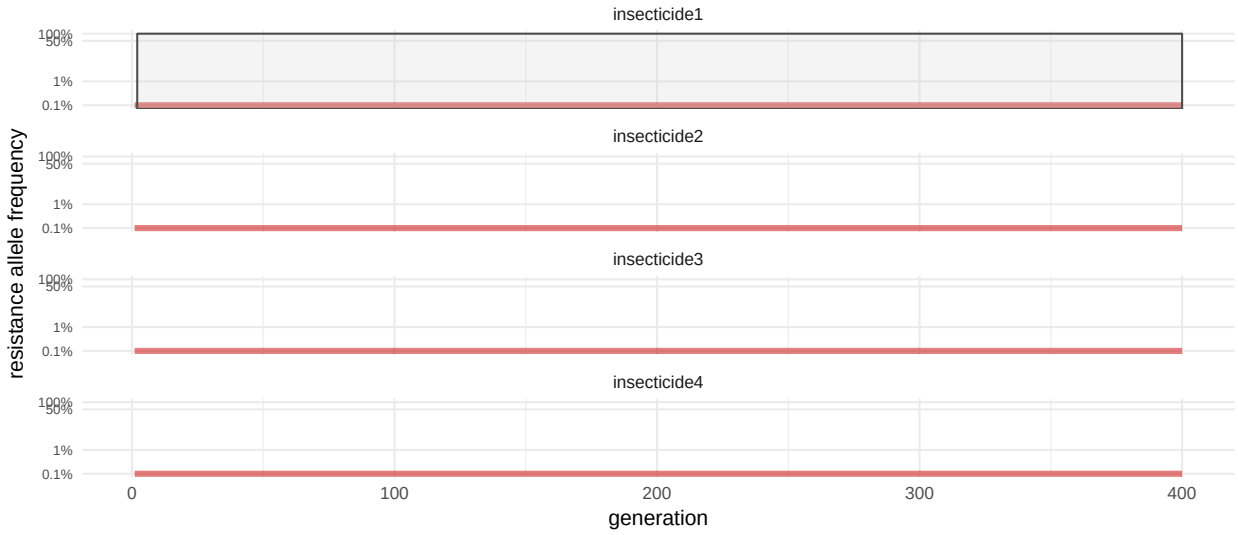

```
## scenario 40  expo_hi 0.49  eff 0.95  rot_interval 27
## tot gens deployed under freq 0.5 = 399
```



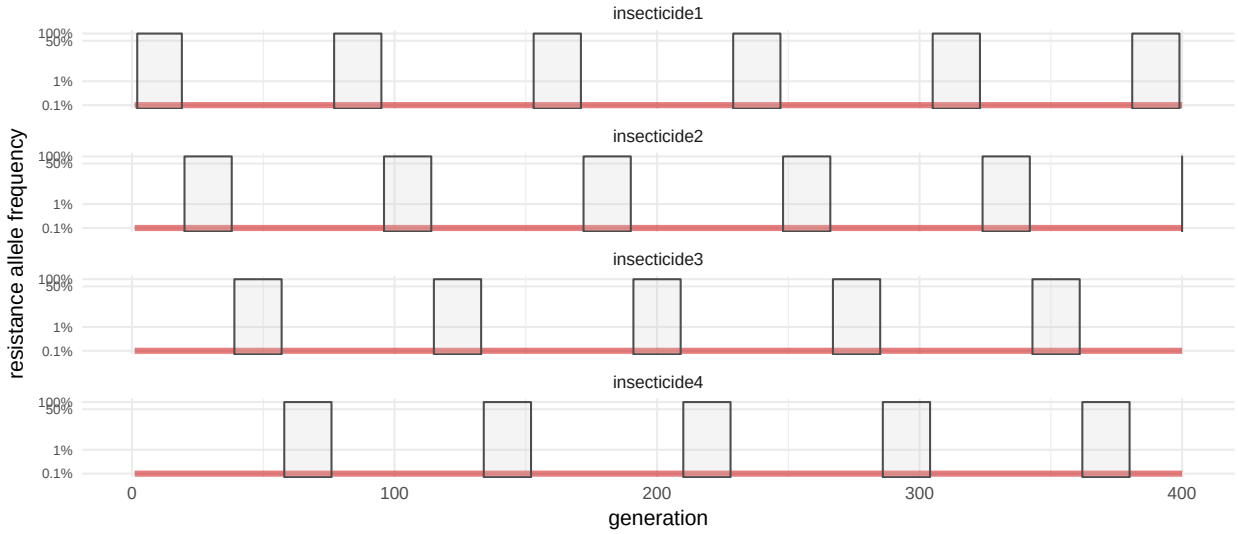

```
## scenario 41  expo_hi 0.39  eff 0.6  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



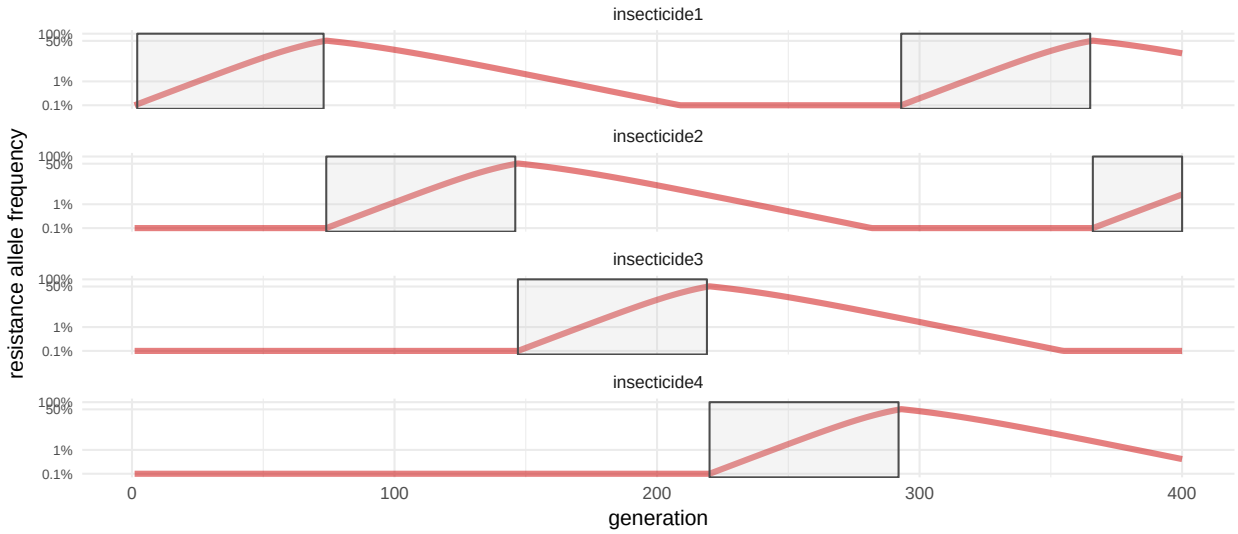

```
## scenario 41  expo_hi 0.39  eff 0.6  rot_interval 38
## tot gens deployed under freq 0.5 = 399
```



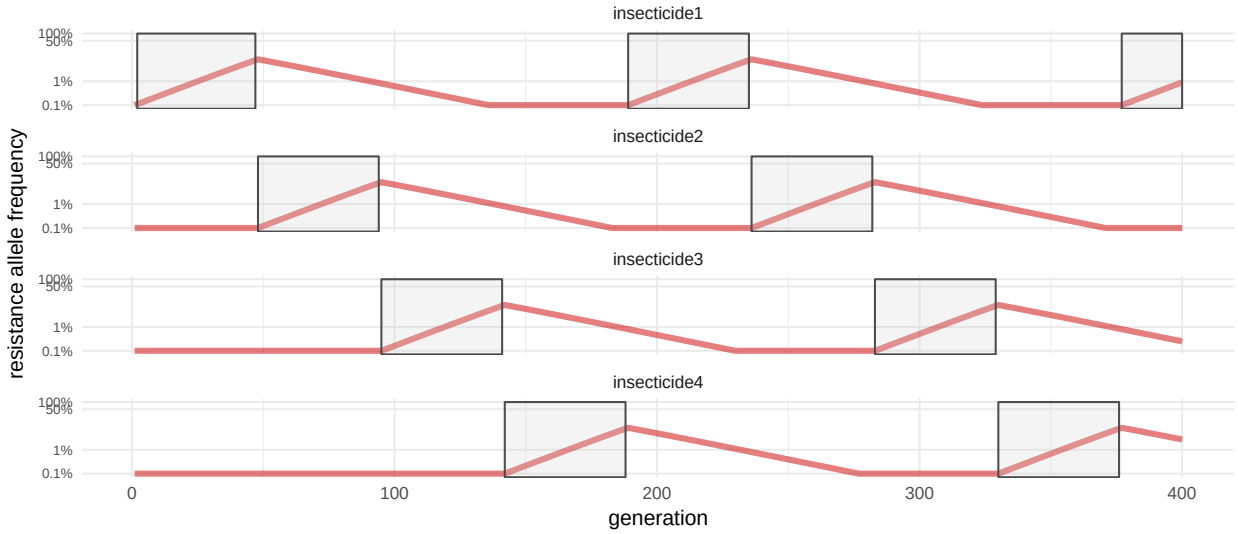

```
## scenario 42  expo_hi 0.27  eff 0.47  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



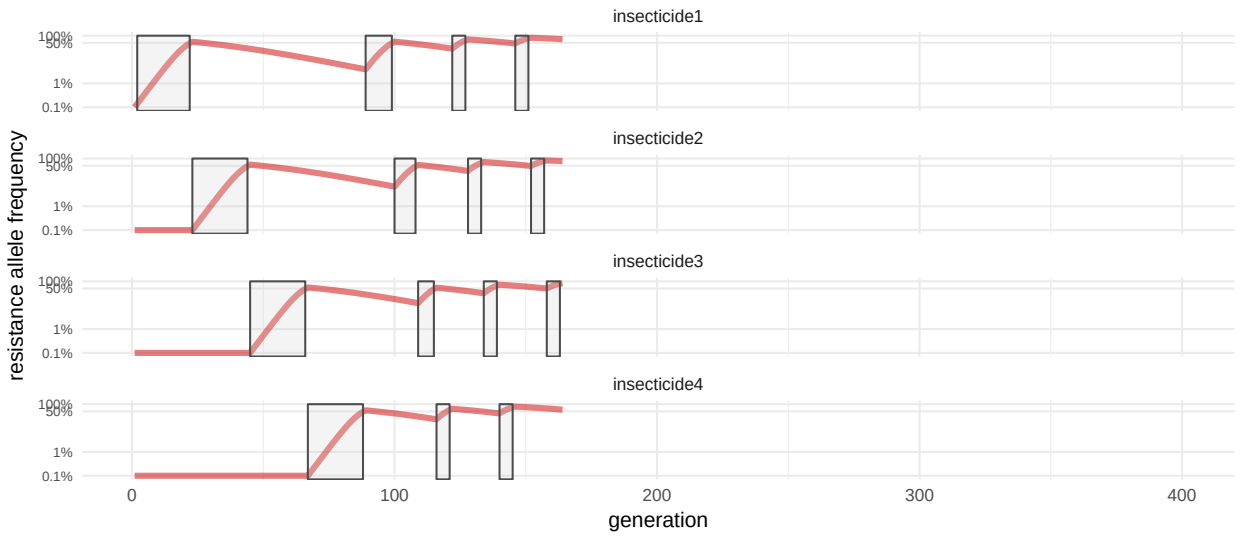

```
## scenario 42  expo_hi 0.27  eff 0.47  rot_interval 19
## tot gens deployed under freq 0.5 = 399
```



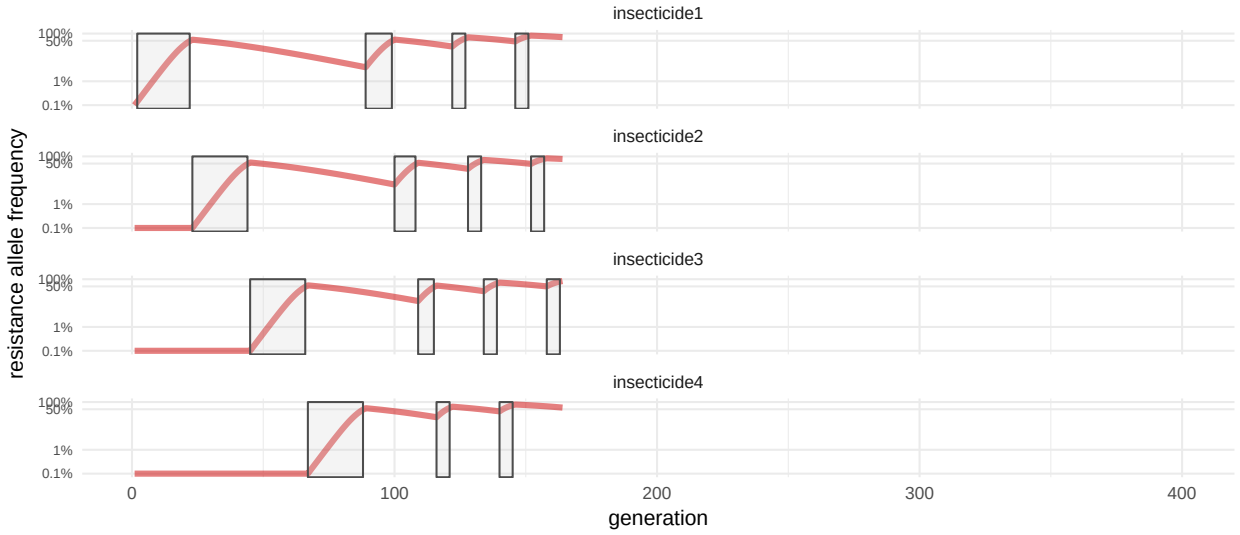

```
## scenario 43  expo_hi 0.52  eff 0.68  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



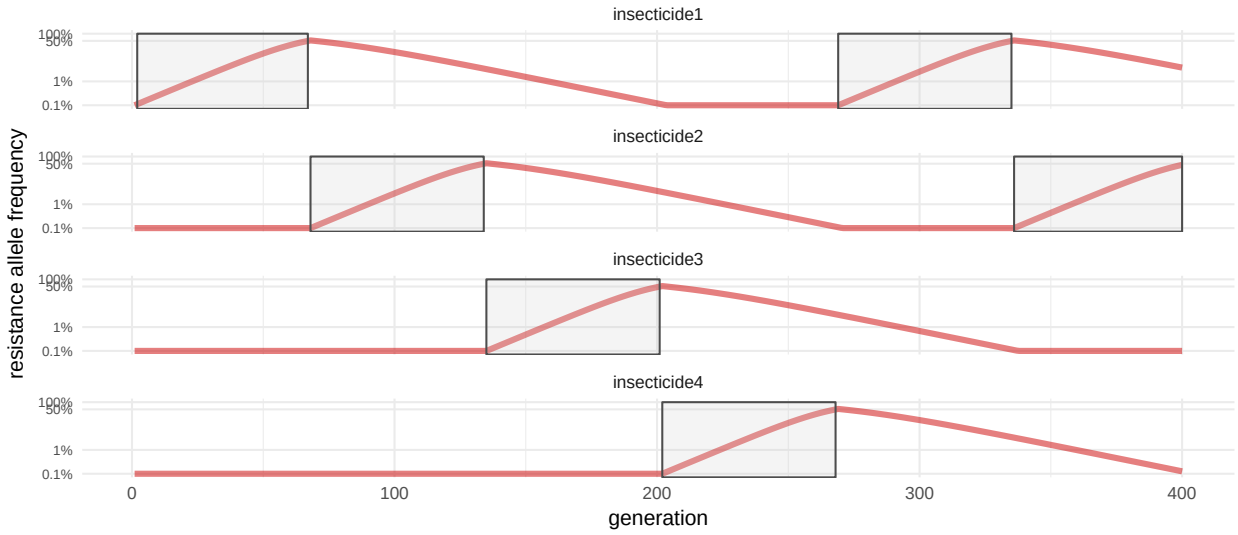

```
## scenario 43  expo_hi 0.52  eff 0.68  rot_interval 47
## tot gens deployed under freq 0.5 = 399
```



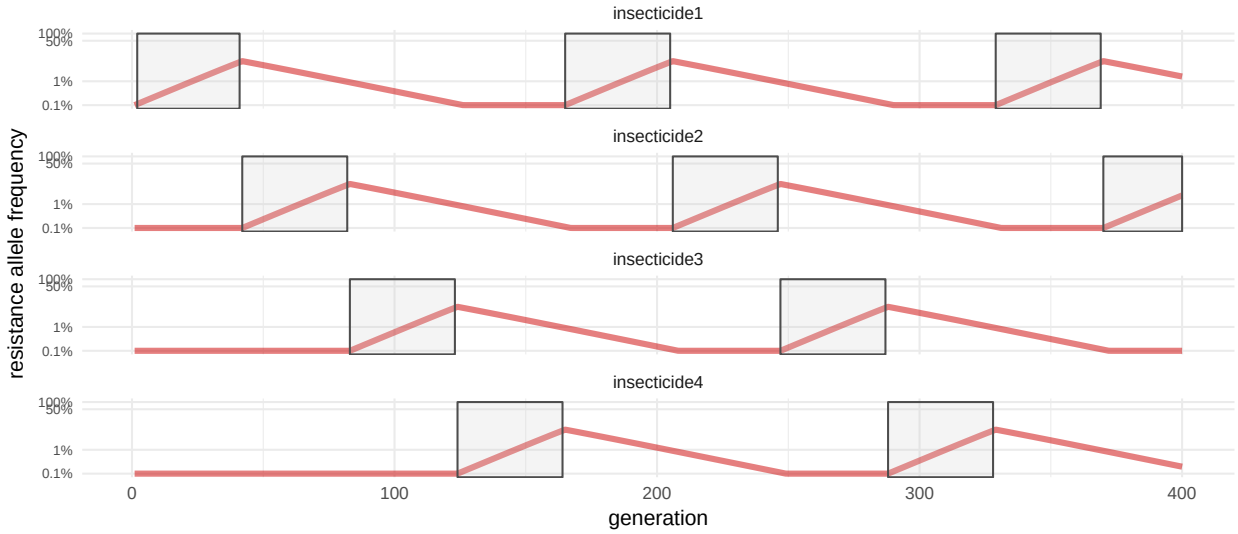

```
## scenario 44  expo_hi 0.77  eff 0.82  rot_interval 0
## tot gens deployed under freq 0.5 = 133
```



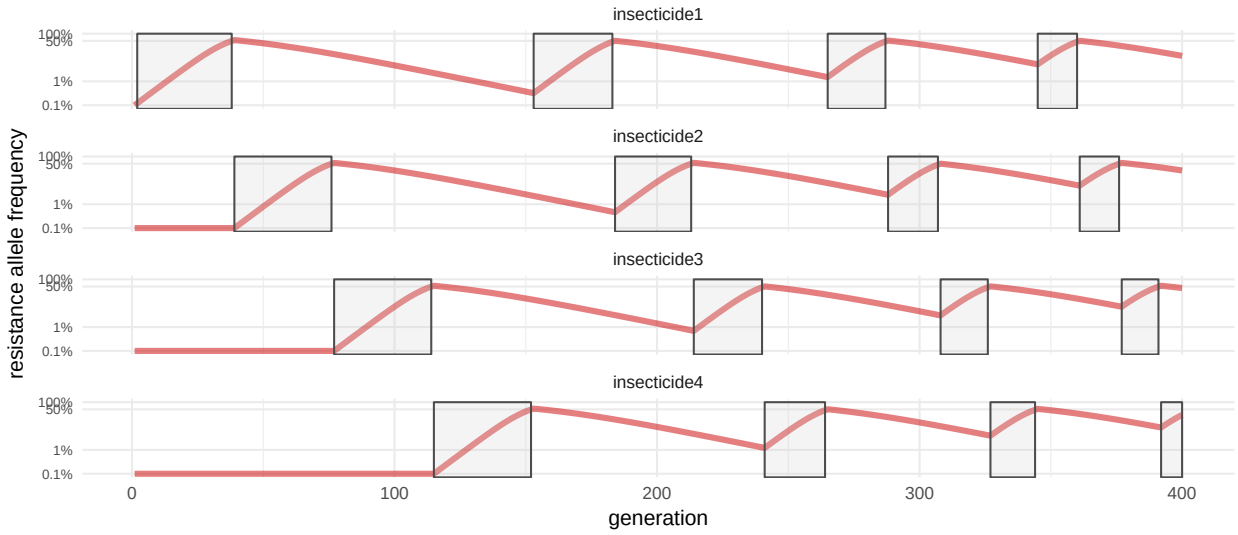

```
## scenario 44  expo_hi 0.77  eff 0.82  rot_interval 38
## tot gens deployed under freq 0.5 = 133
```



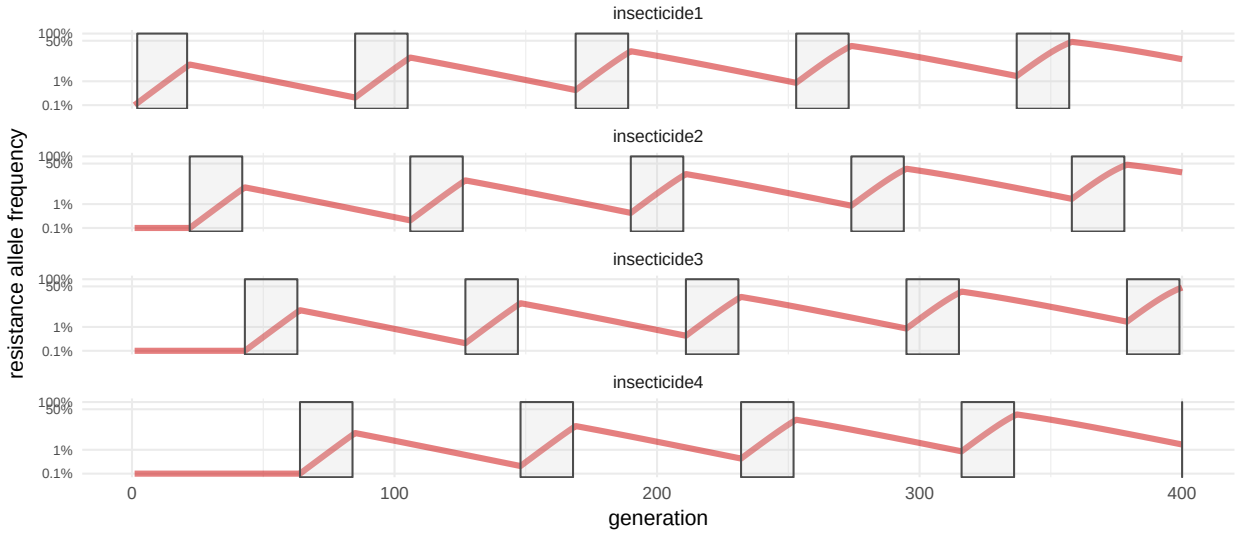

```
## scenario 45  expo_hi 0.89  eff 0.36  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



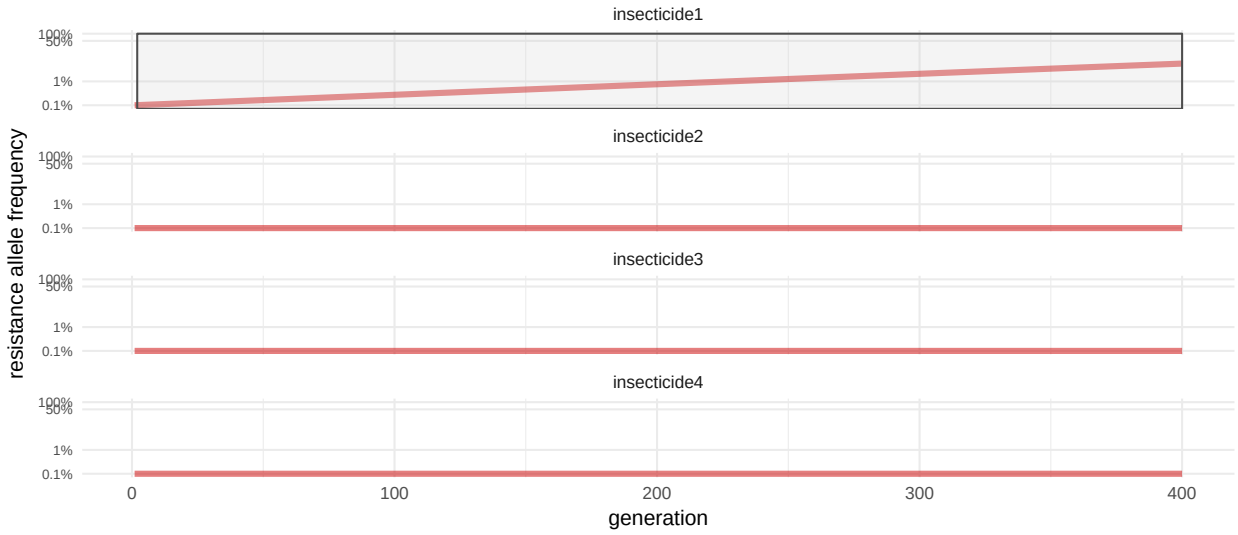

```
## scenario 45  expo_hi 0.89  eff 0.36  rot_interval 41
## tot gens deployed under freq 0.5 = 399
```



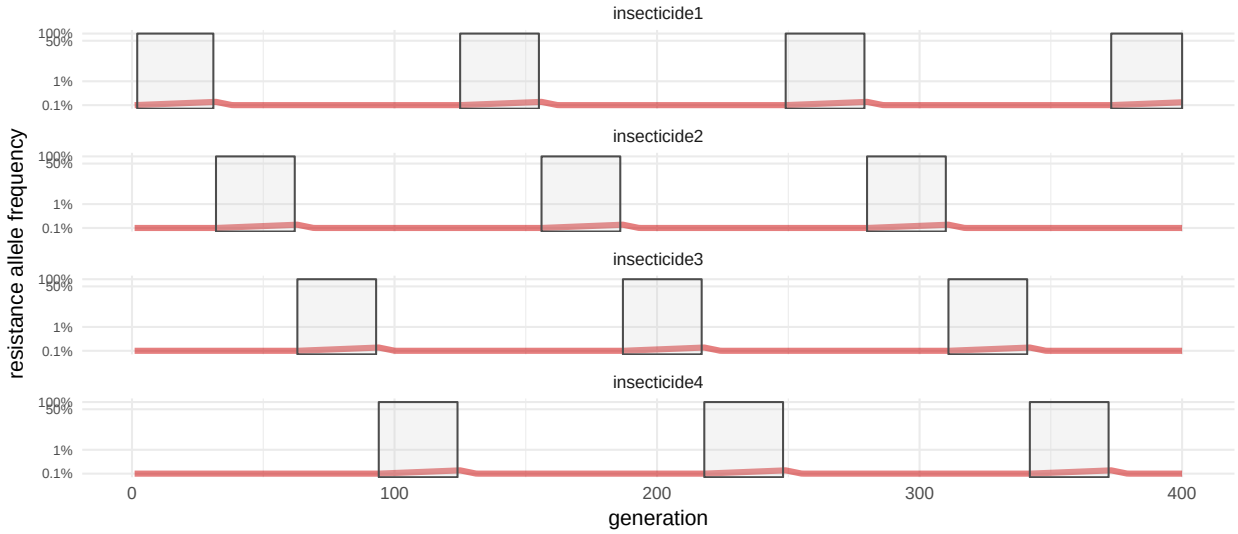

```
## scenario 46  expo_hi 0.68  eff 0.72  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



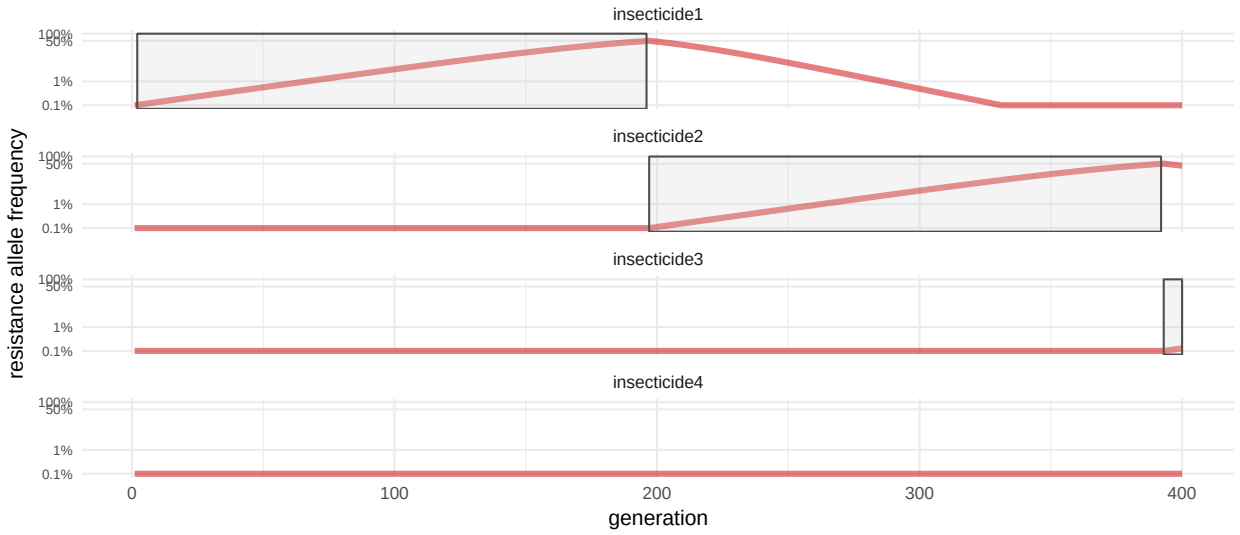

```
## scenario 46  expo_hi 0.68  eff 0.72  rot_interval 21
## tot gens deployed under freq 0.5 = 399
```



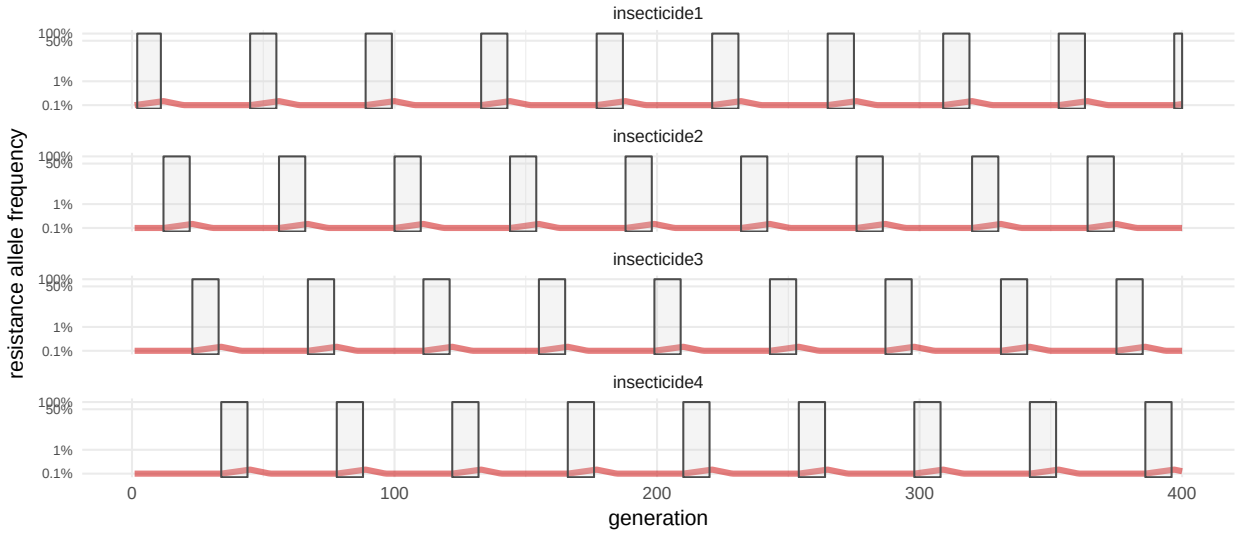

```
## scenario 47  expo_hi 0.45  eff 0.32  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



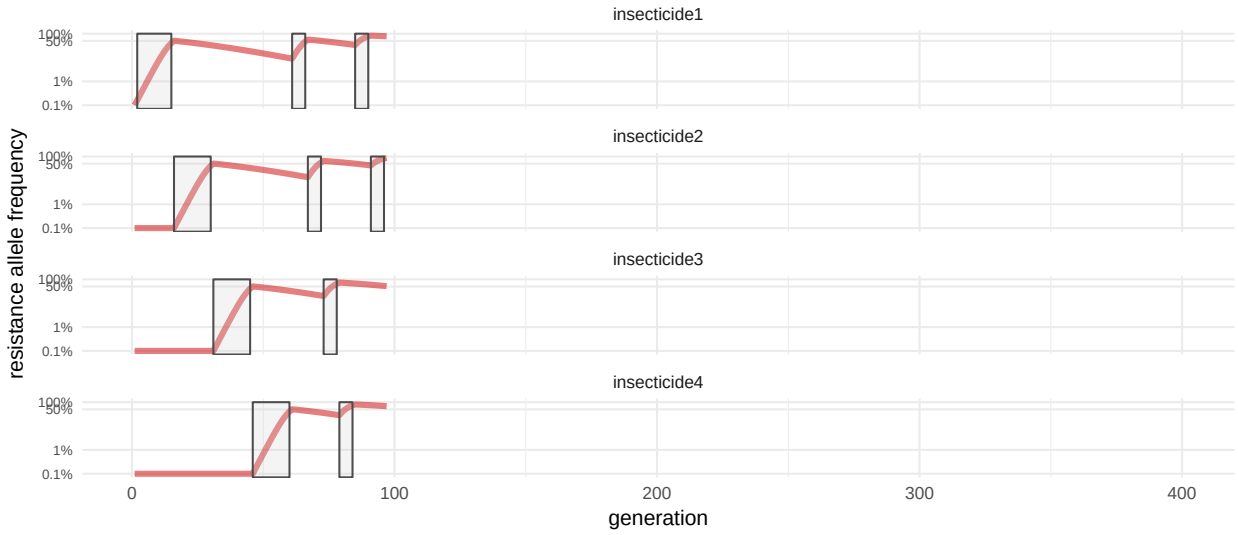

```
## scenario 47  expo_hi 0.45  eff 0.32  rot_interval 31
## tot gens deployed under freq 0.5 = 399
```



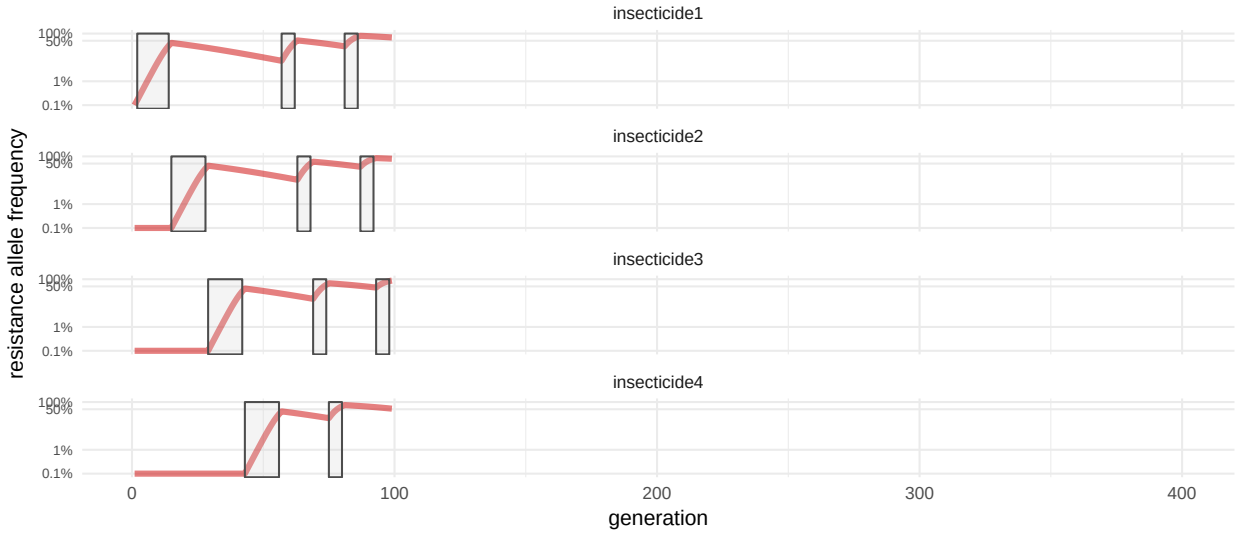

```
## scenario 48  expo_hi 0.26  eff 0.96  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



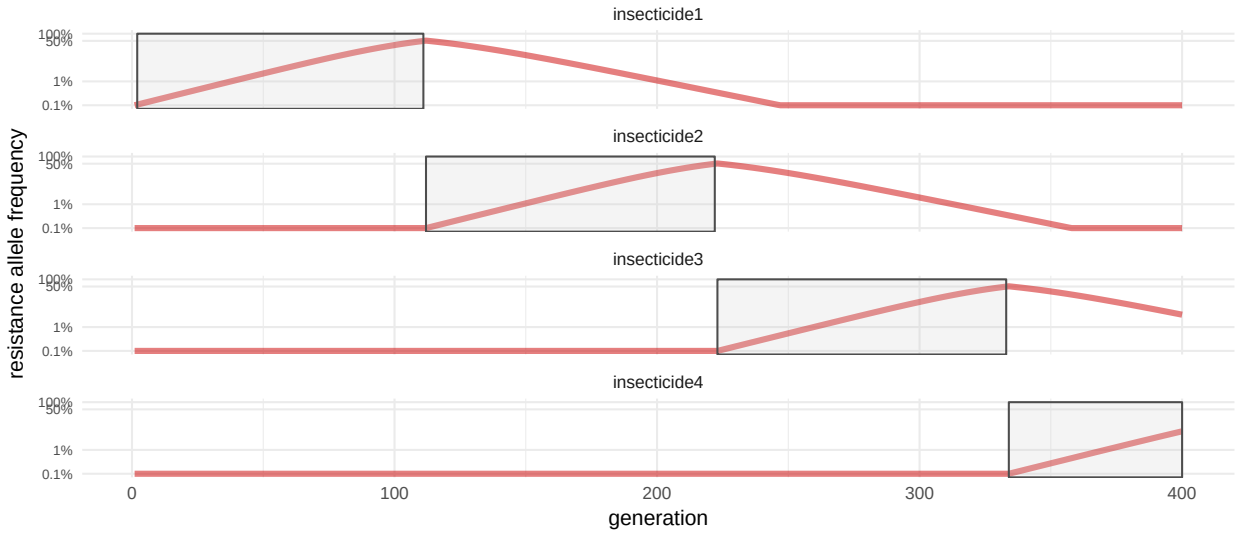

```
## scenario 48  expo_hi 0.26  eff 0.96  rot_interval 11
## tot gens deployed under freq 0.5 = 399
```



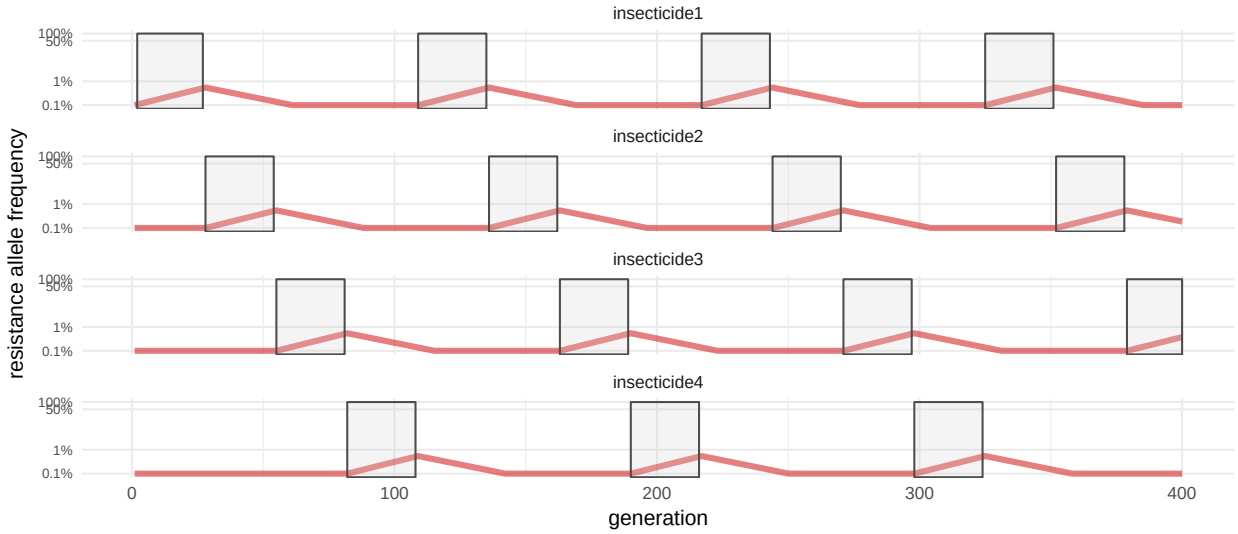

```
## scenario 49  expo_hi 0.83  eff 0.87  rot_interval 0
## tot gens deployed under freq 0.5 = 80
```



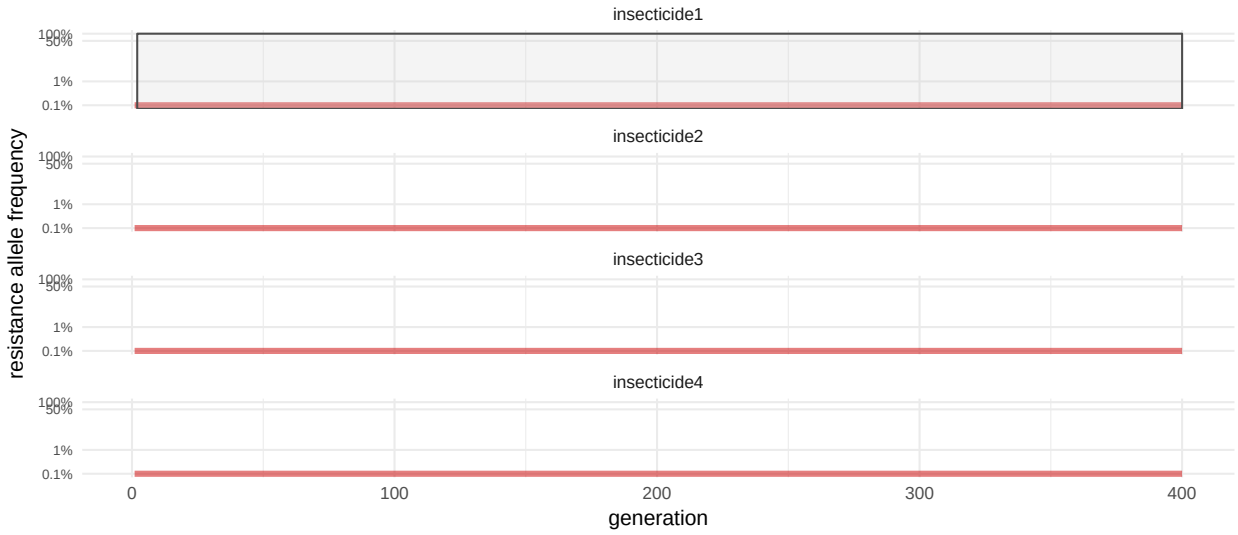

```
## scenario 49  expo_hi 0.83  eff 0.87  rot_interval 14
## tot gens deployed under freq 0.5 = 81
```



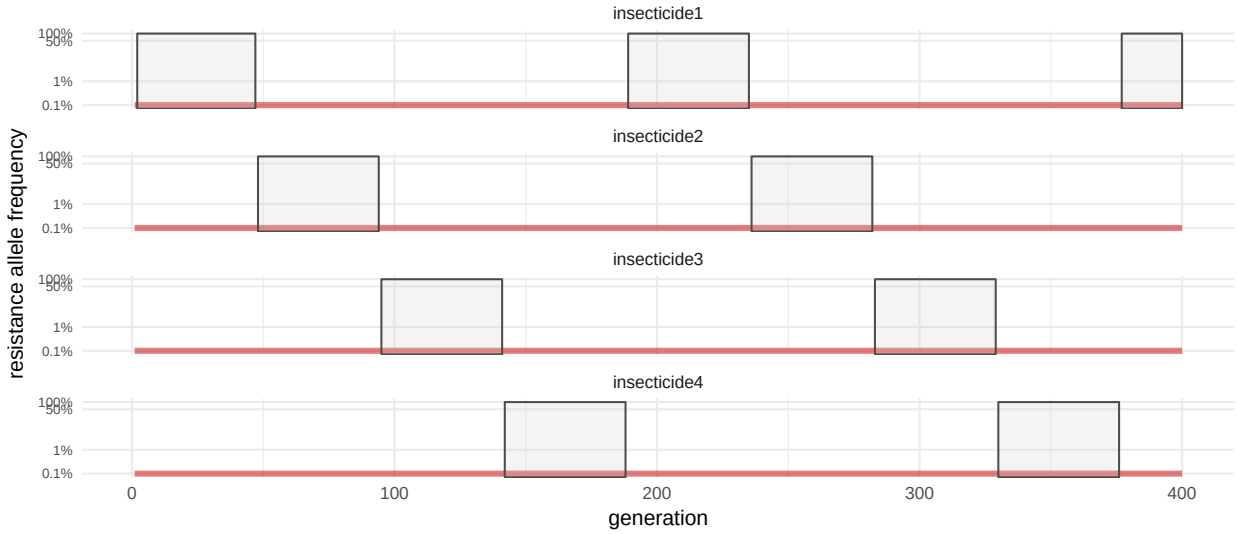

```
## scenario 50  expo_hi 0.5  eff 0.57  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



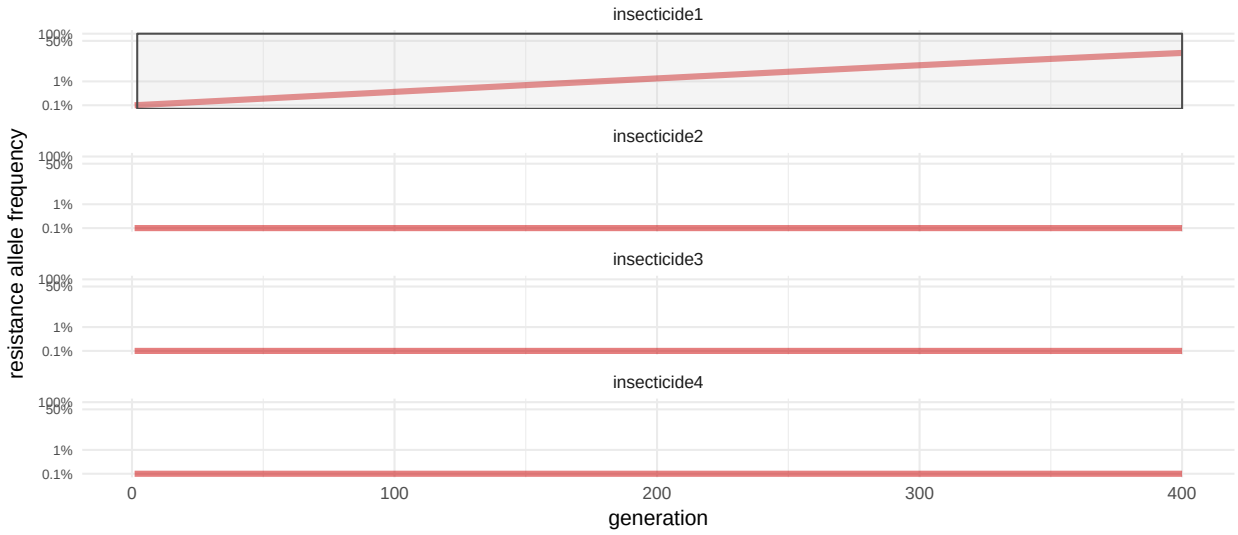

```
## scenario 50  expo_hi 0.5  eff 0.57  rot_interval 27
## tot gens deployed under freq 0.5 = 399
```



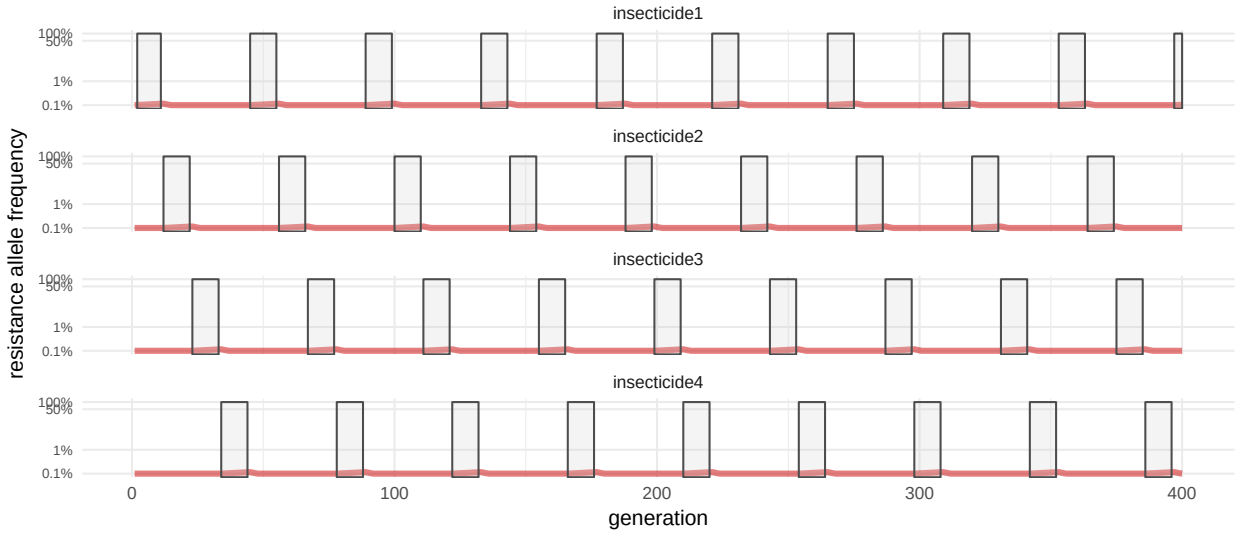

```
## scenario 51  expo_hi 0.13  eff 0.49  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



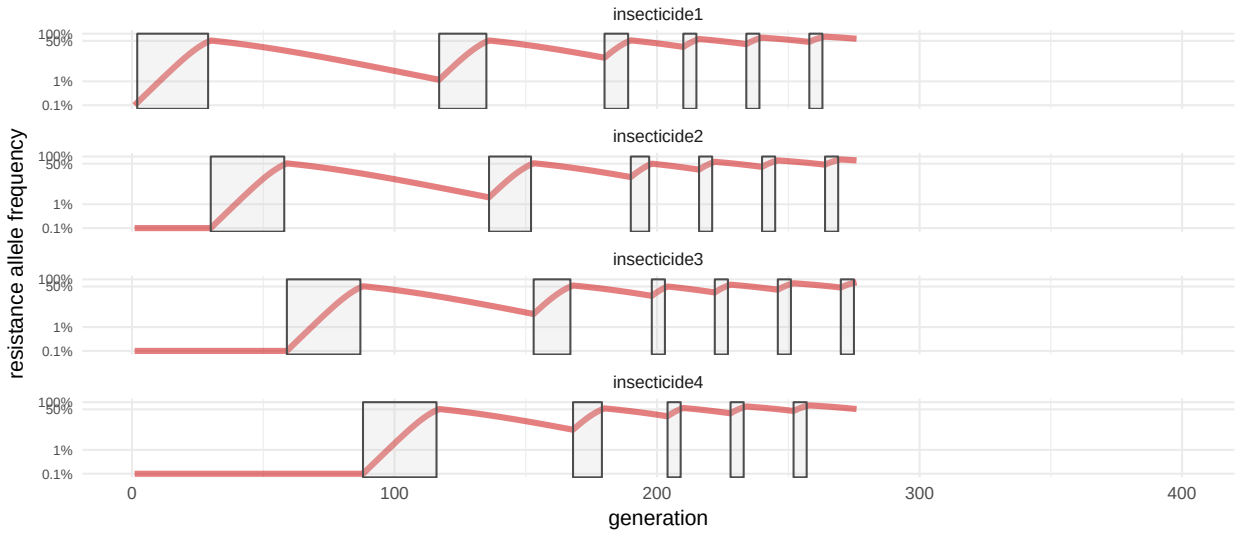

```
## scenario 51  expo_hi 0.13  eff 0.49  rot_interval 47
## tot gens deployed under freq 0.5 = 399
```



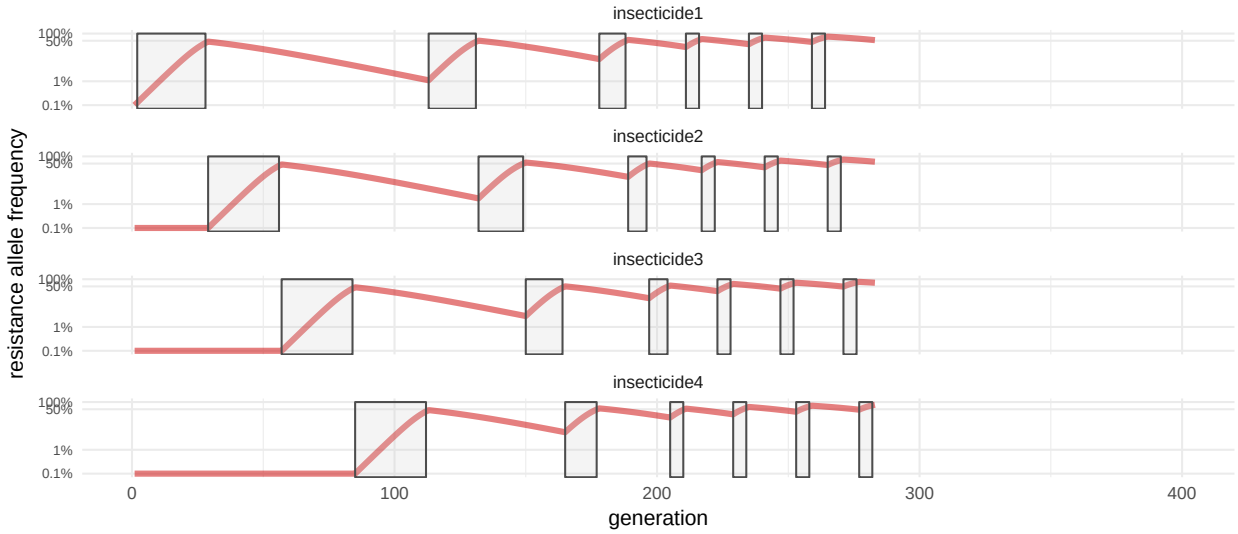

```
## scenario 52  expo_hi 0.28  eff 0.66  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



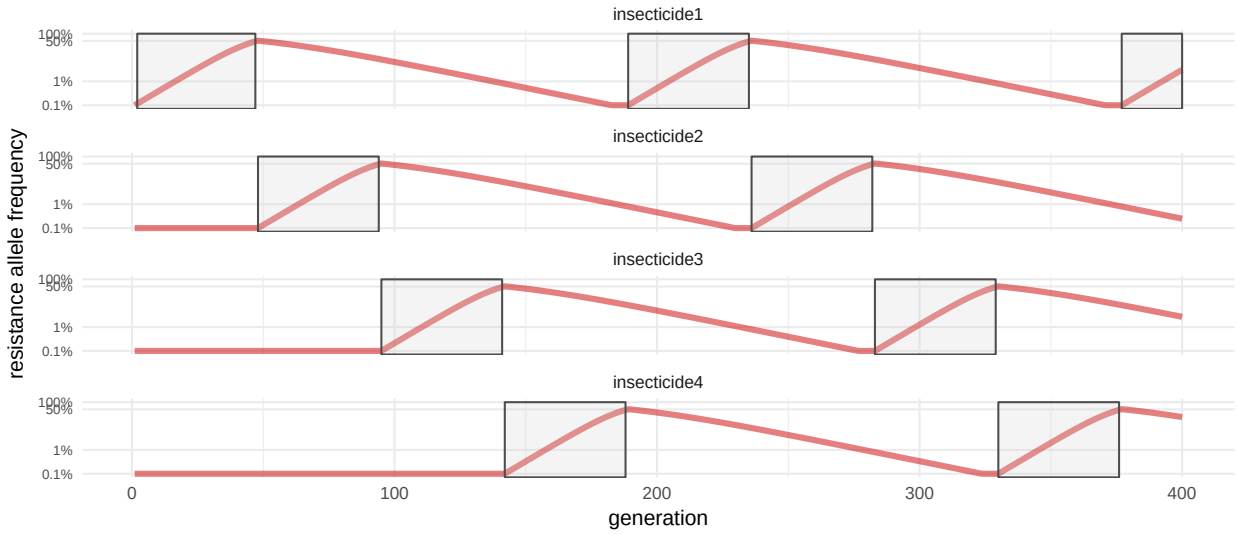

```
## scenario 52  expo_hi 0.28  eff 0.66  rot_interval 11
## tot gens deployed under freq 0.5 = 399
```



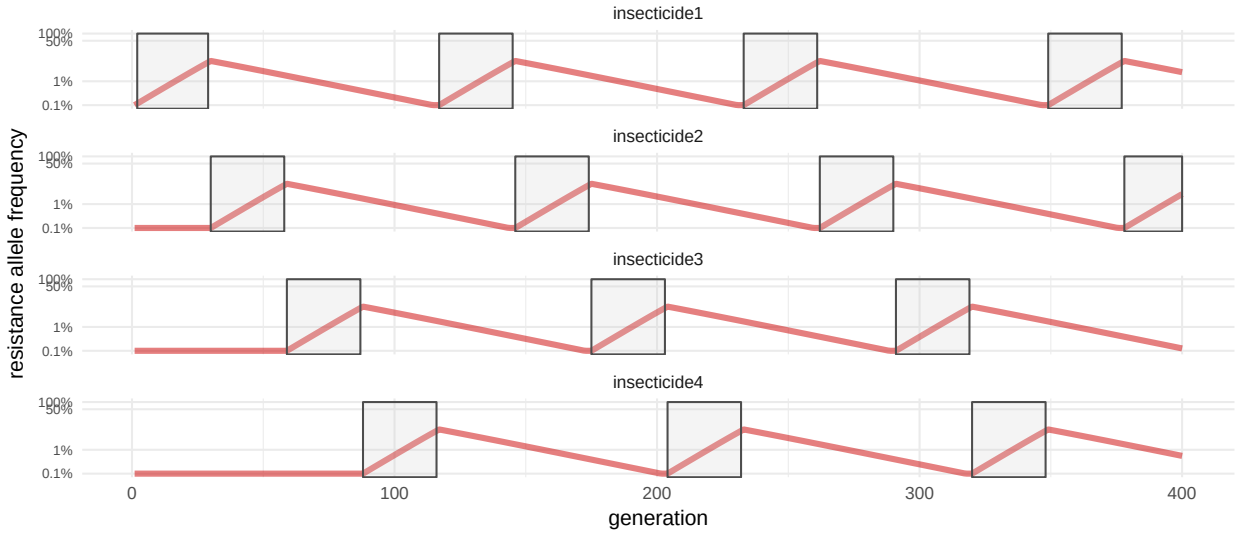

```
## scenario 53  expo_hi 0.69  eff 0.81  rot_interval 0
## tot gens deployed under freq 0.5 = 239
```



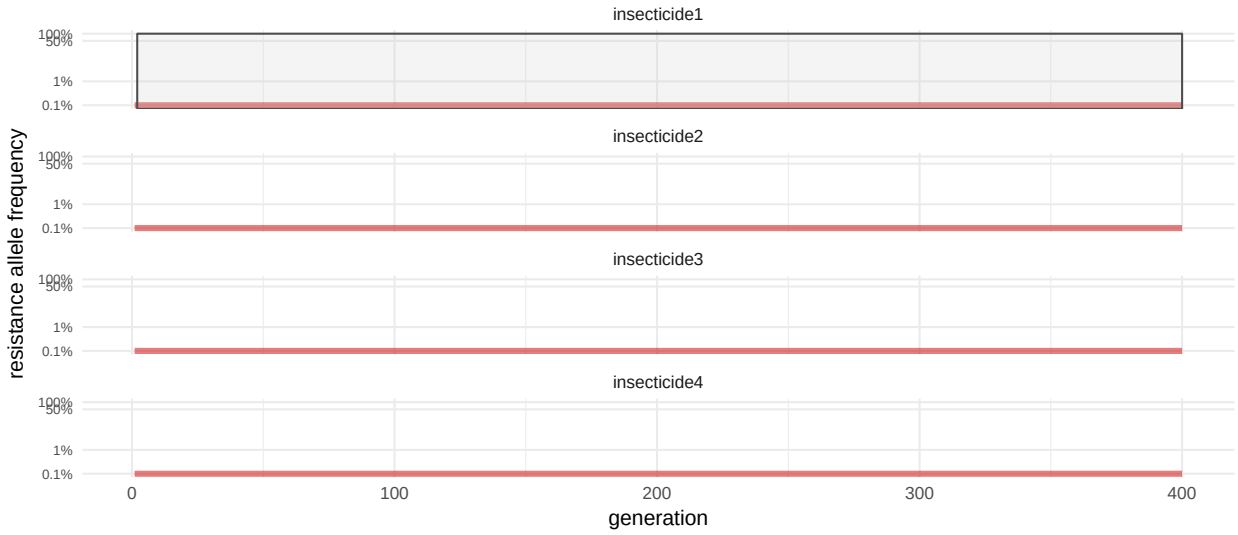

```
## scenario 53  expo_hi 0.69  eff 0.81  rot_interval 28
## tot gens deployed under freq 0.5 = 242
```



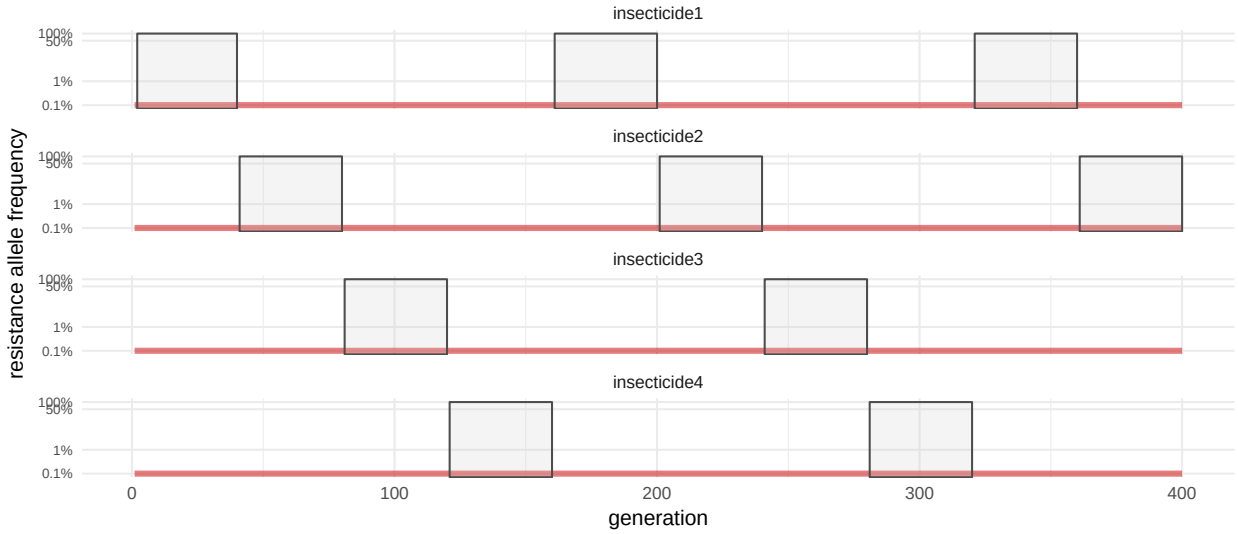

```
## scenario 54  expo_hi 0.69  eff 0.62  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



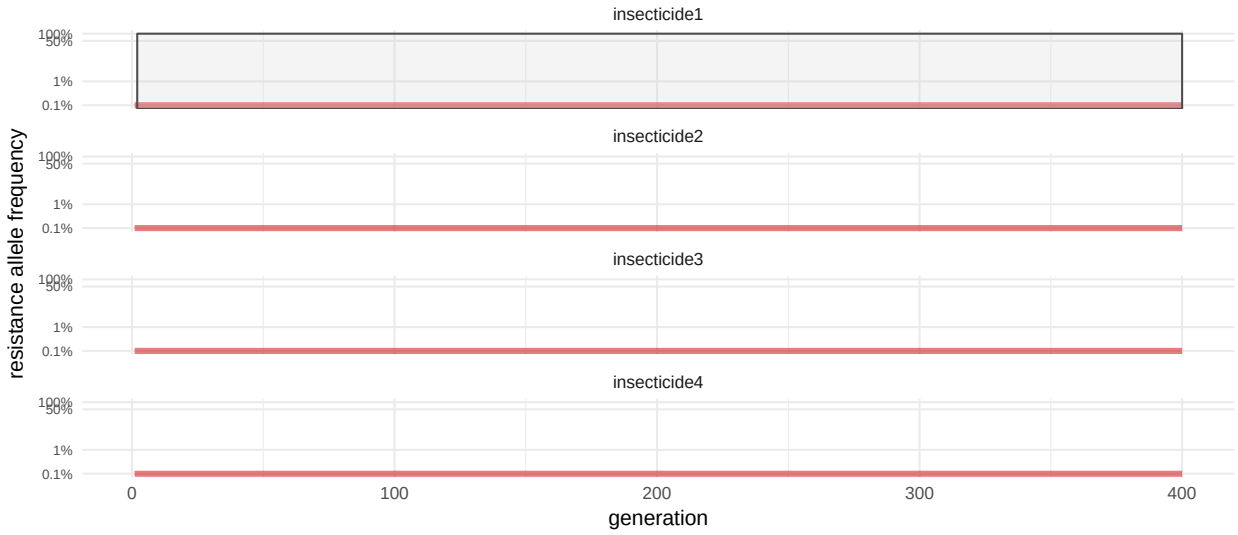

```
## scenario 54  expo_hi 0.69  eff 0.62  rot_interval 29
## tot gens deployed under freq 0.5 = 399
```



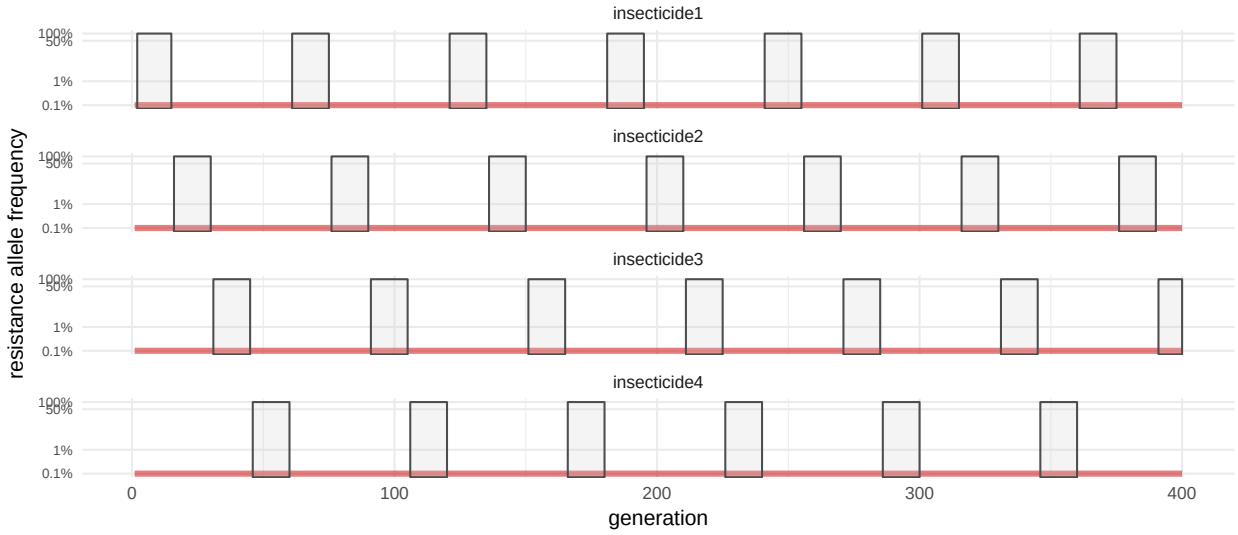

```
## scenario 55  expo_hi 0.11  eff 0.57  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



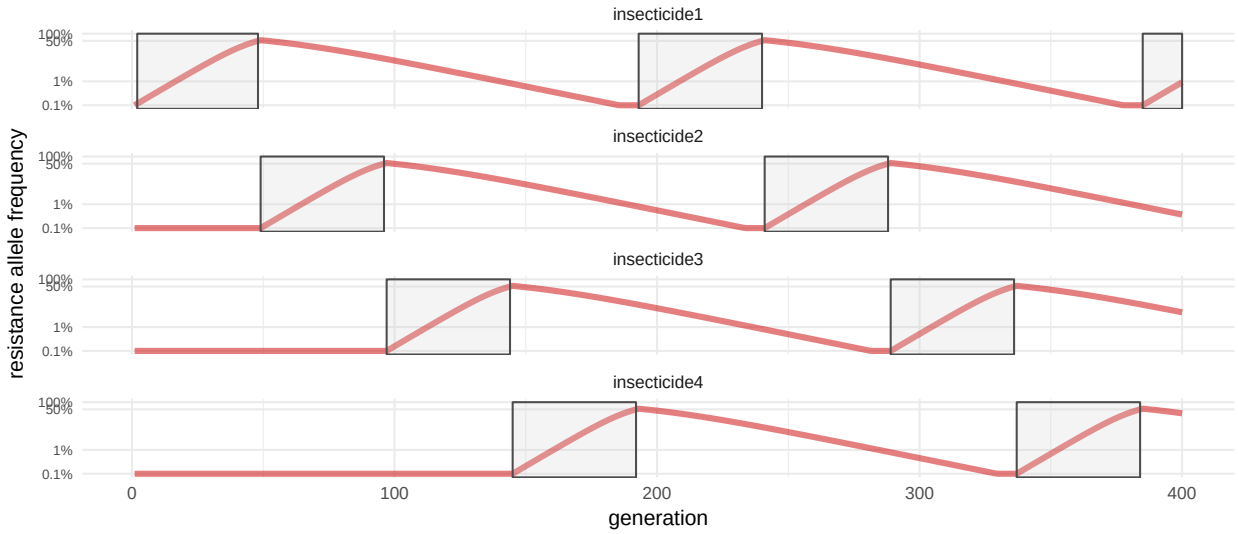

```
## scenario 55  expo_hi 0.11  eff 0.57  rot_interval 40
## tot gens deployed under freq 0.5 = 399
```



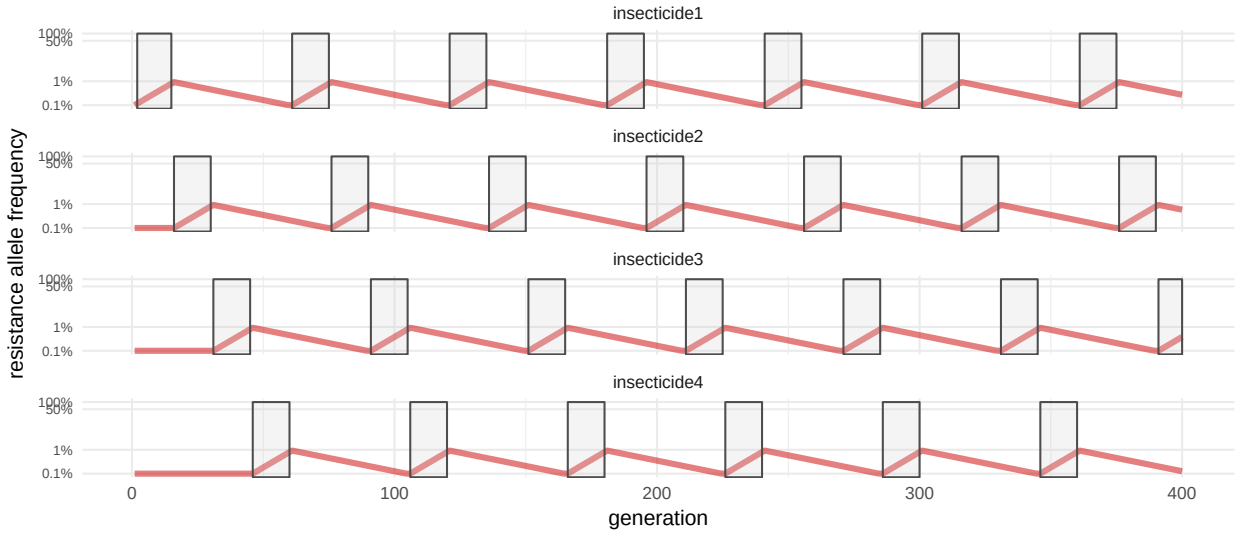

```
## scenario 56  expo_hi 0.2  eff 0.37  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



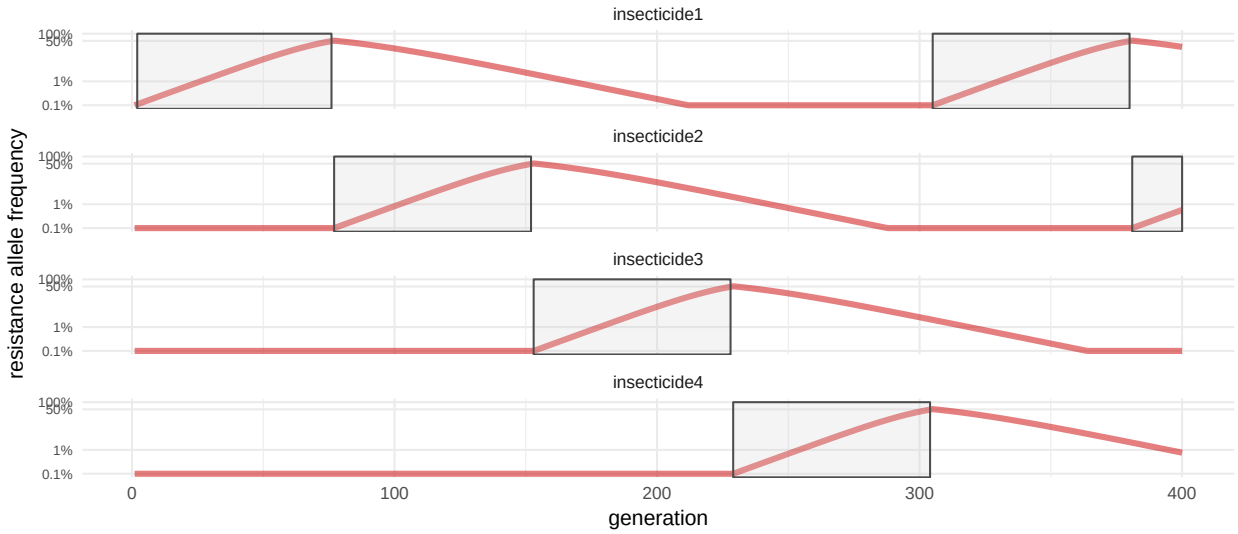

```
## scenario 56  expo_hi 0.2  eff 0.37  rot_interval 15
## tot gens deployed under freq 0.5 = 399
```



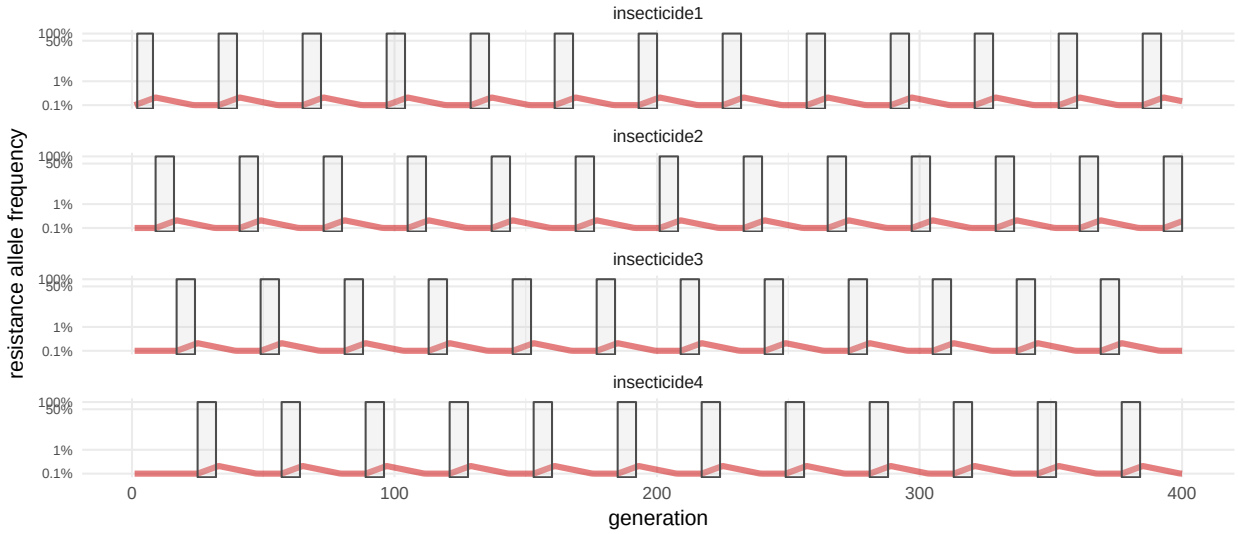

```
## scenario 57  expo_hi 0.54  eff 0.82  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



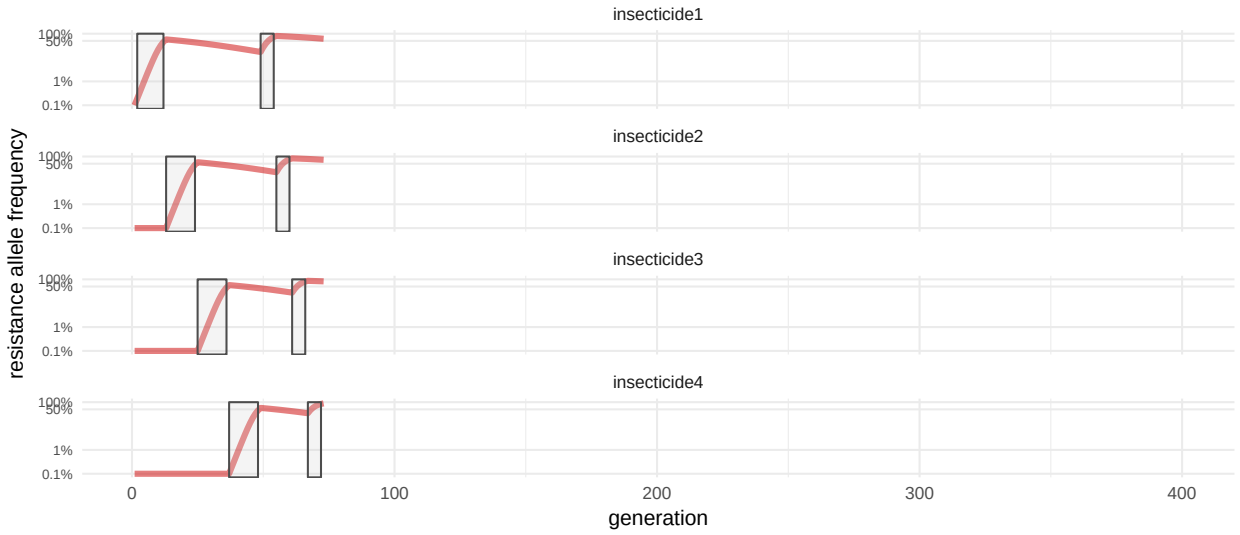

```
## scenario 57  expo_hi 0.54  eff 0.82  rot_interval 15
## tot gens deployed under freq 0.5 = 399
```



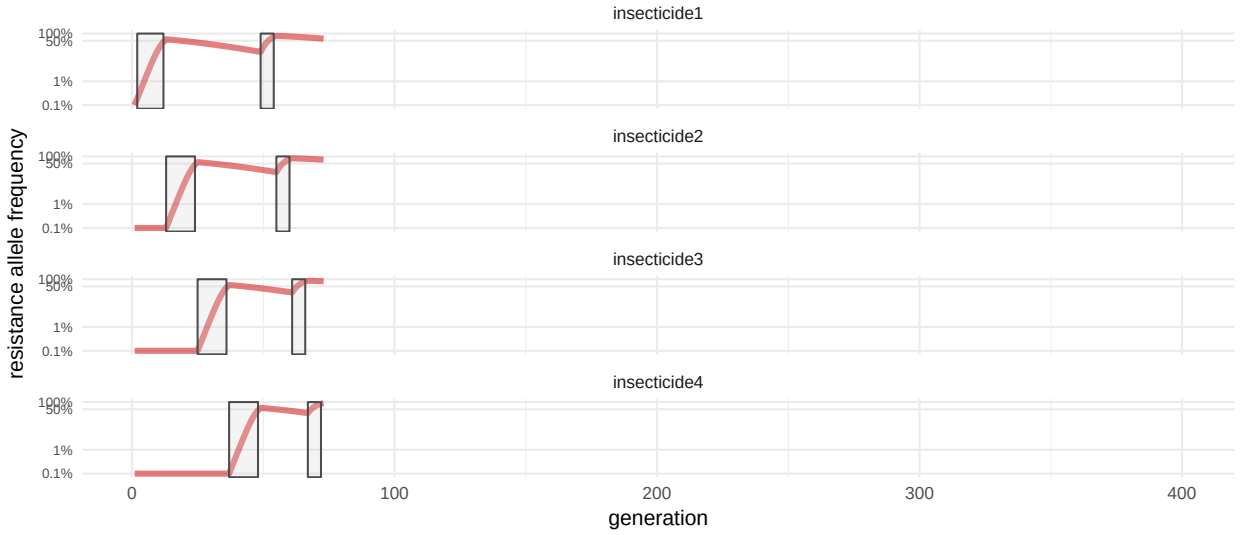

```
## scenario 58  expo_hi 0.72  eff 0.44  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



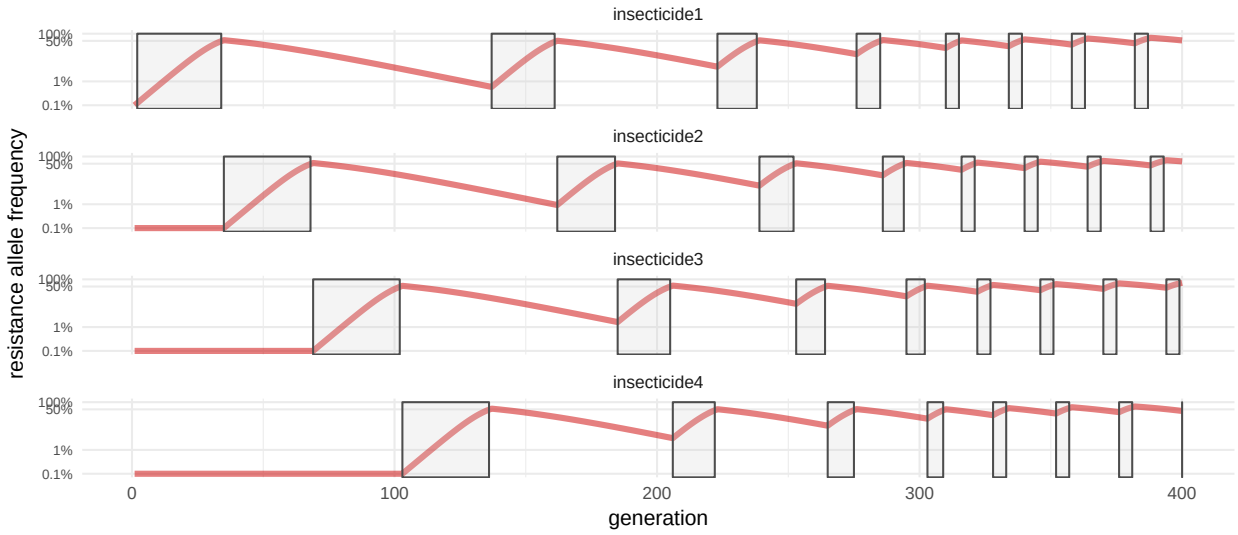

```
## scenario 58  expo_hi 0.72  eff 0.44  rot_interval 8
## tot gens deployed under freq 0.5 = 399
```



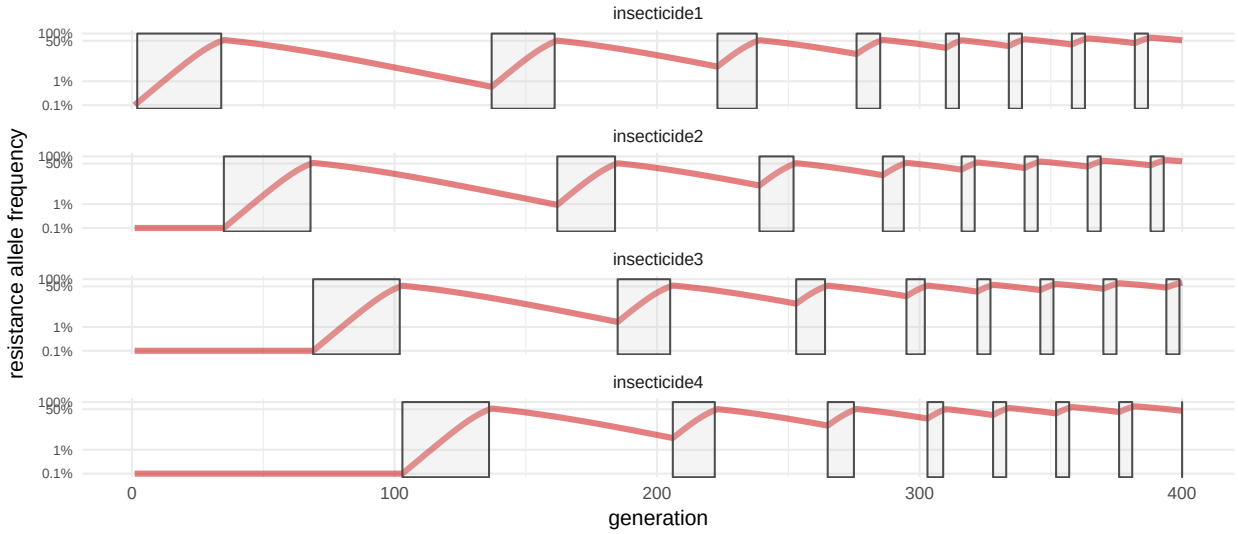

```
## scenario 59  expo_hi 0.89  eff 0.88  rot_interval 0
## tot gens deployed under freq 0.5 = 57
```



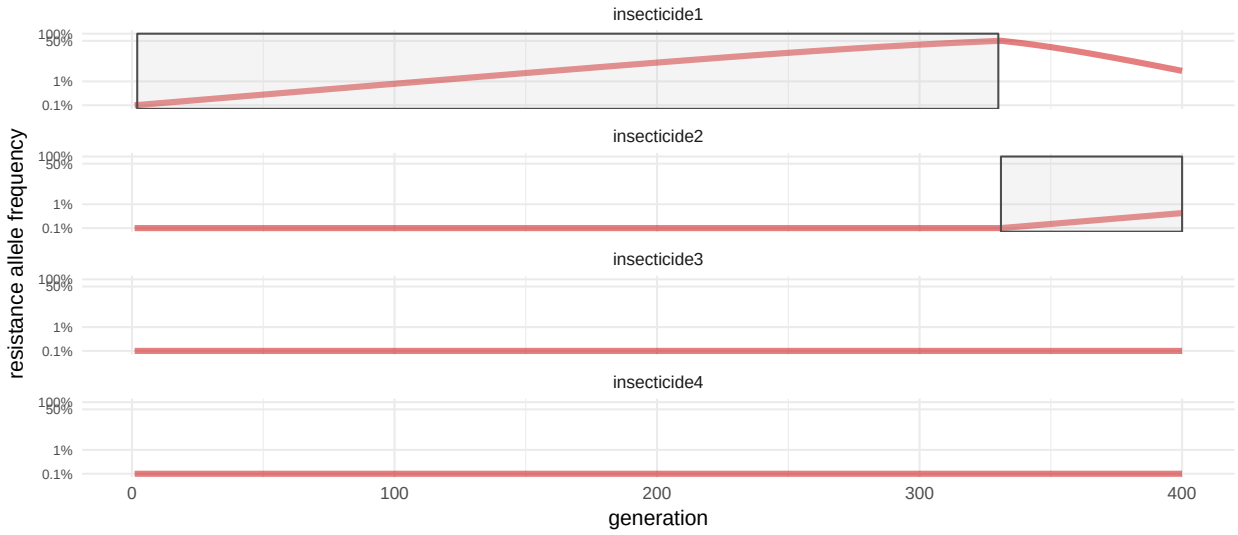

```
## scenario 59  expo_hi 0.89  eff 0.88  rot_interval 32
## tot gens deployed under freq 0.5 = 57
```



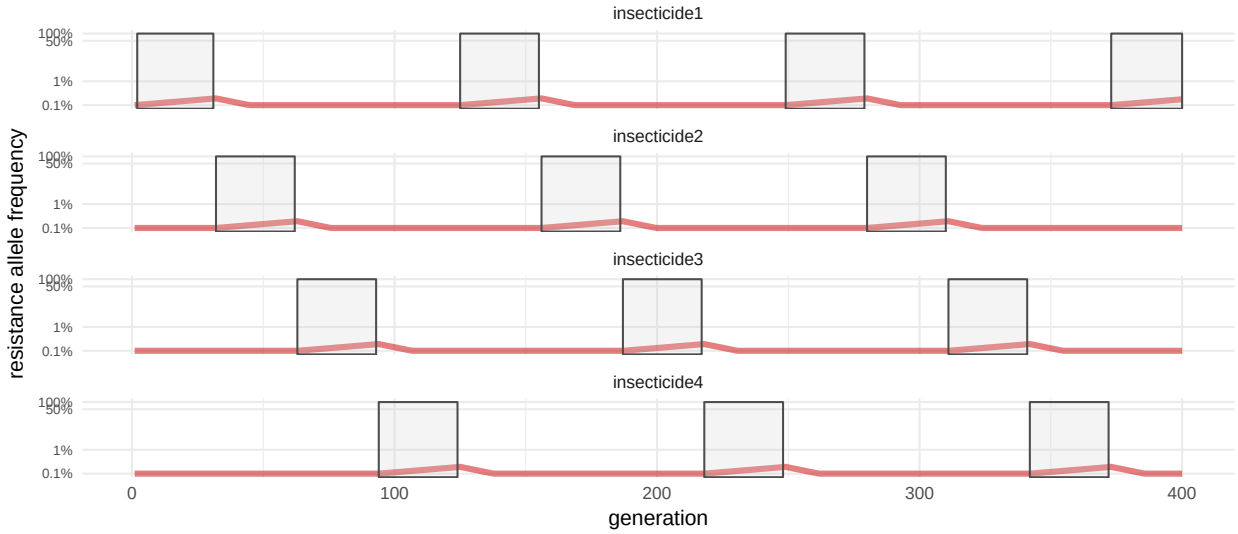

```
## scenario 60  expo_hi 0.7  eff 0.74  rot_interval 0
## tot gens deployed under freq 0.5 = 367
```



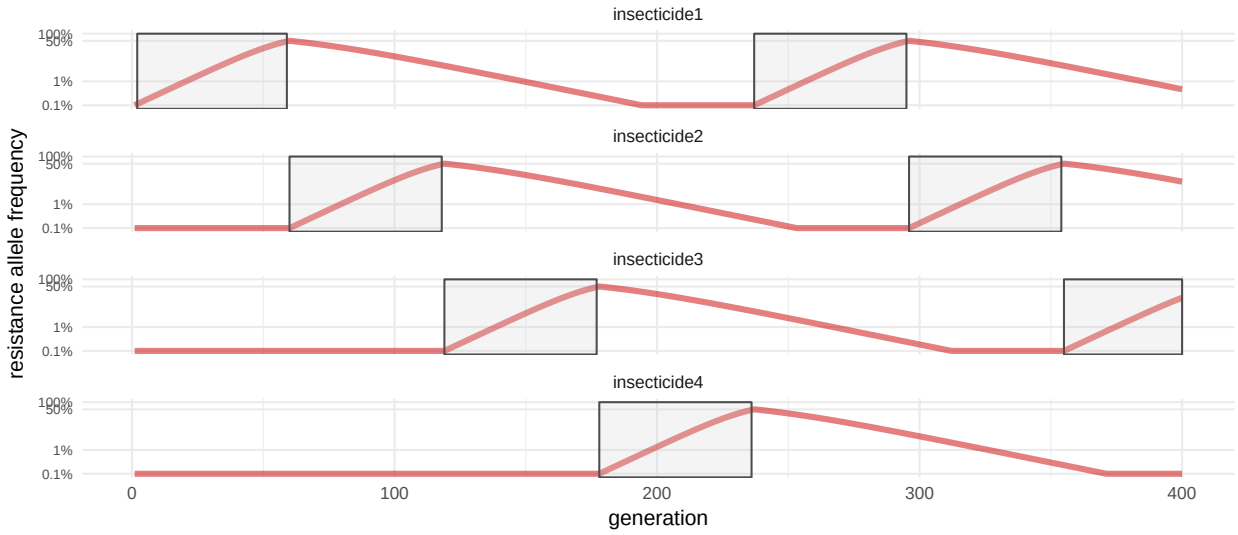

```
## scenario 60  expo_hi 0.7  eff 0.74  rot_interval 41
## tot gens deployed under freq 0.5 = 367
```



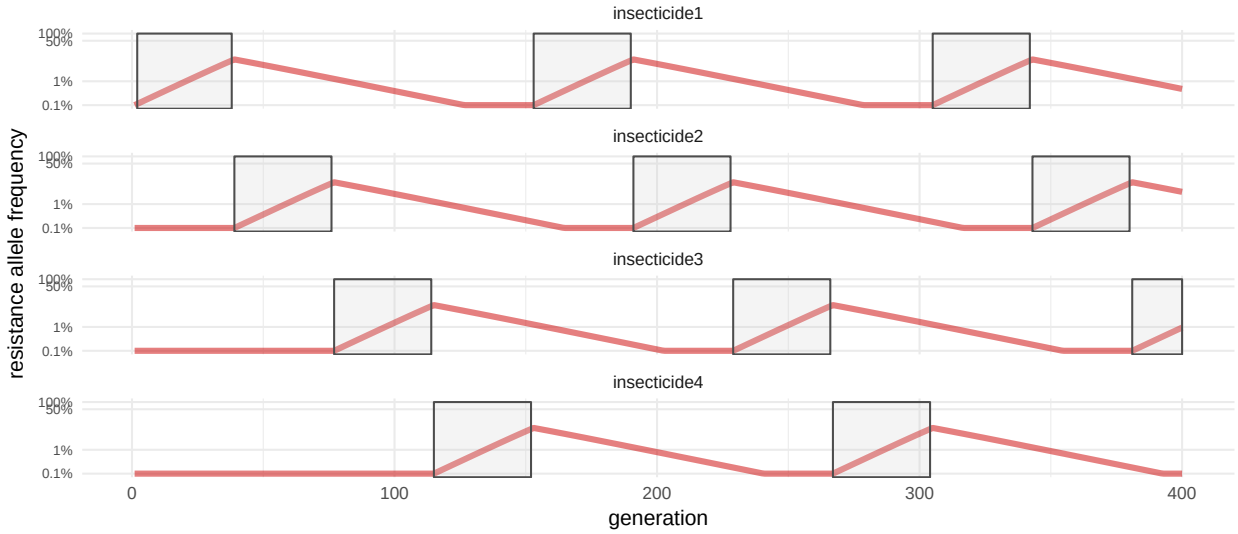

```
## scenario 61  expo_hi 0.25  eff 0.87  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



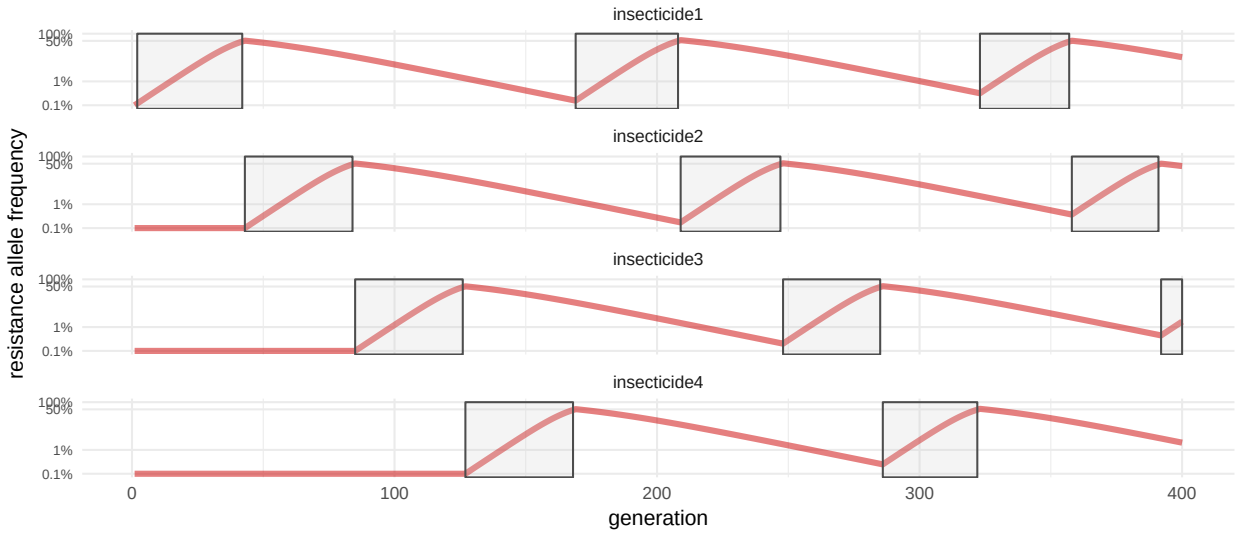

```
## scenario 61  expo_hi 0.25  eff 0.87  rot_interval 31
## tot gens deployed under freq 0.5 = 399
```



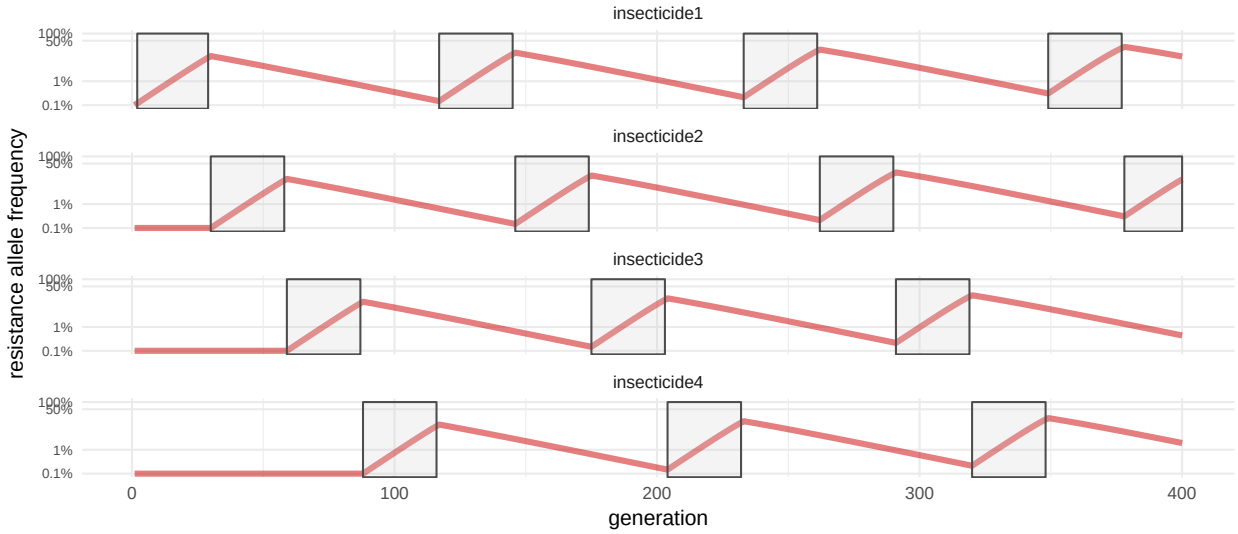

```
## scenario 62  expo_hi 0.48  eff 0.84  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



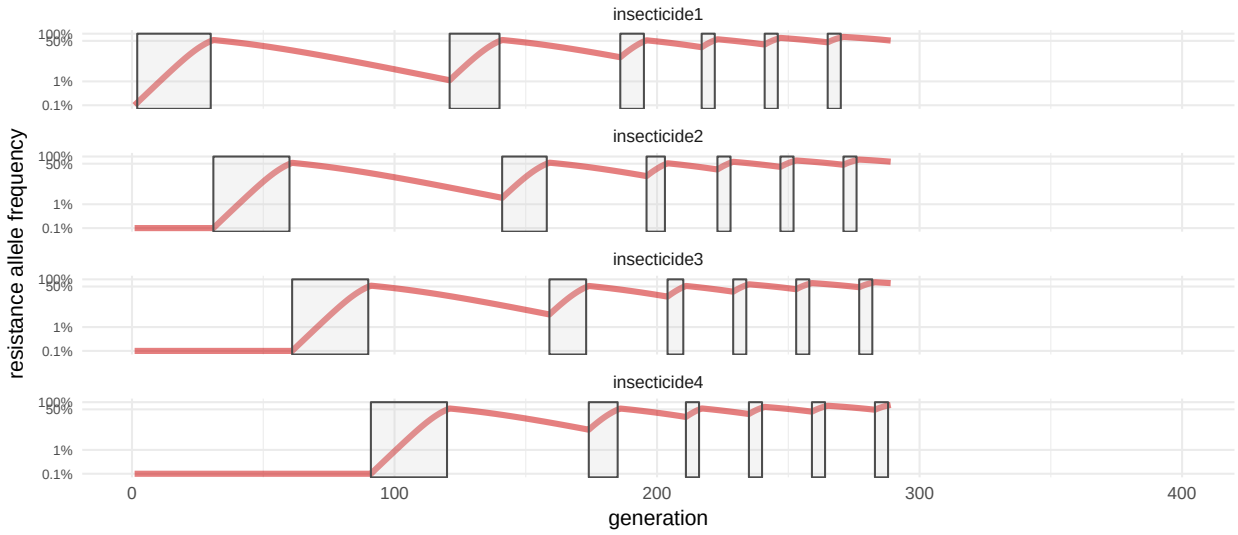

```
## scenario 62  expo_hi 0.48  eff 0.84  rot_interval 38
## tot gens deployed under freq 0.5 = 399
```



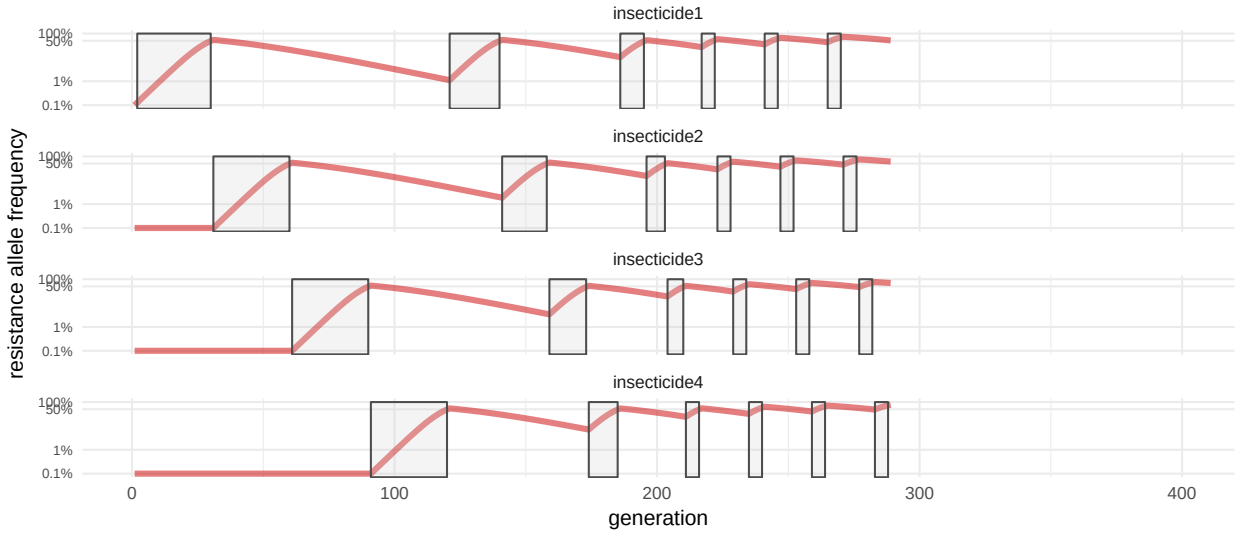

```
## scenario 63  expo_hi 0.66  eff 0.7  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



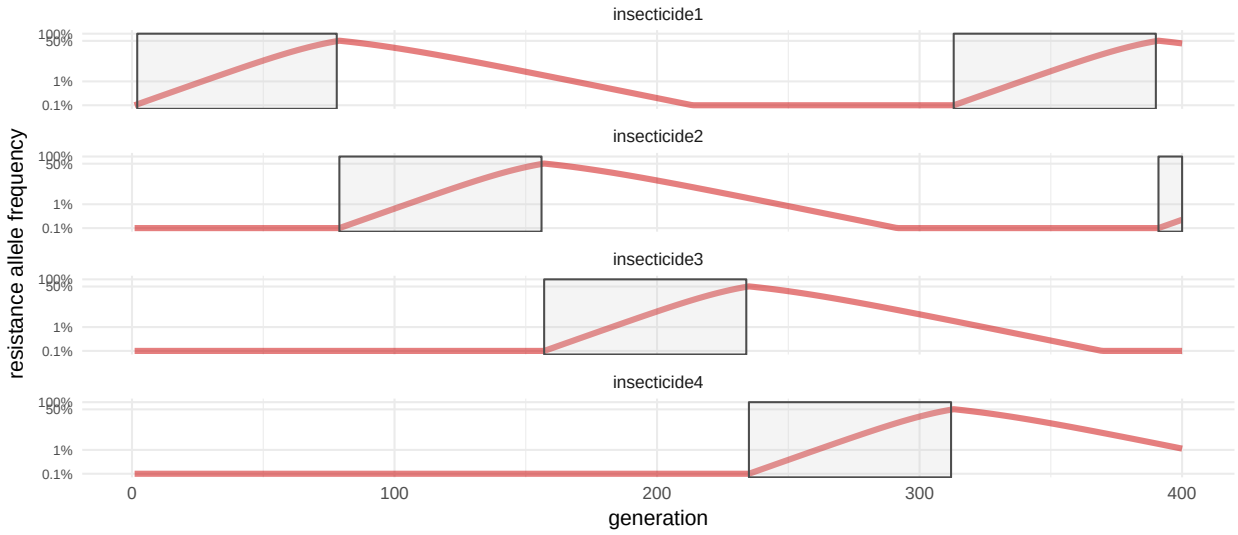

```
## scenario 63  expo_hi 0.66  eff 0.7  rot_interval 29
## tot gens deployed under freq 0.5 = 399
```



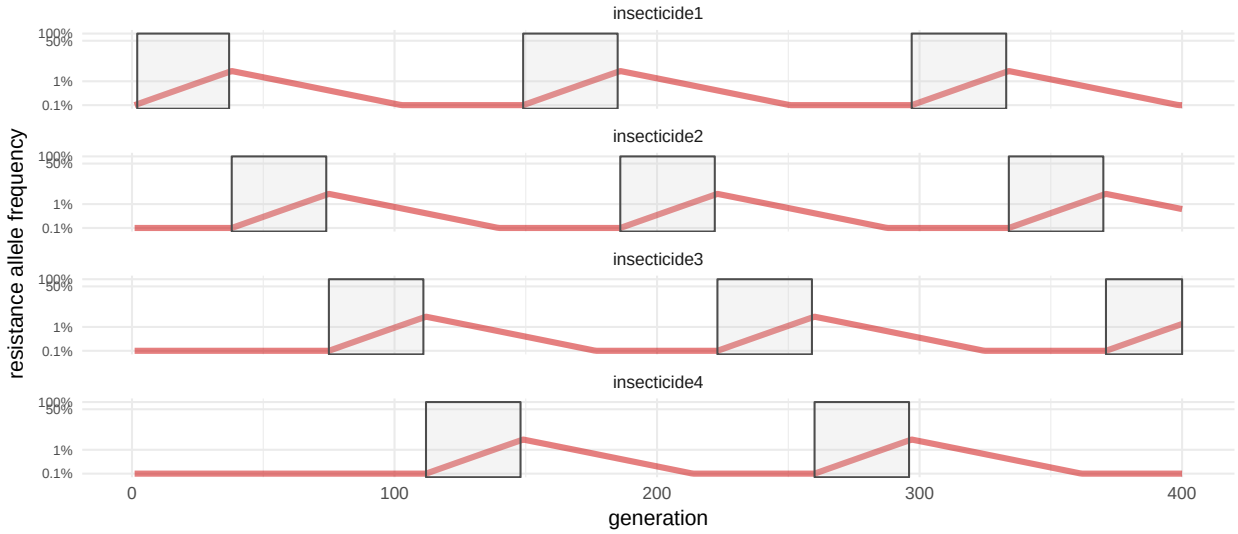

```
## scenario 64  expo_hi 0.65  eff 0.85  rot_interval 0
## tot gens deployed under freq 0.5 = 249
```



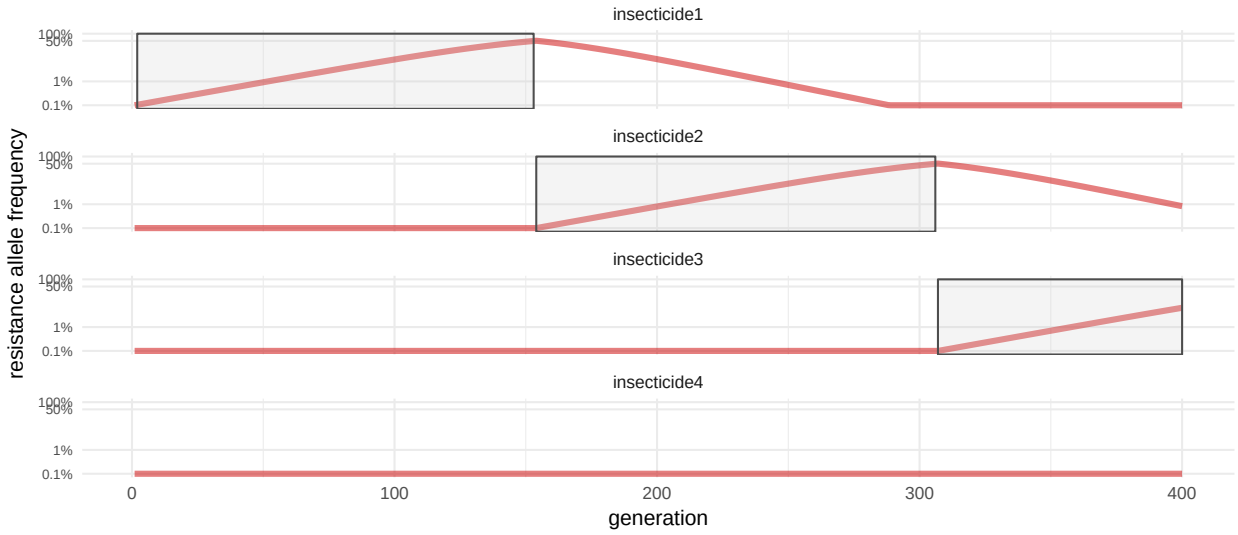

```
## scenario 64  expo_hi 0.65  eff 0.85  rot_interval 45
## tot gens deployed under freq 0.5 = 249
```



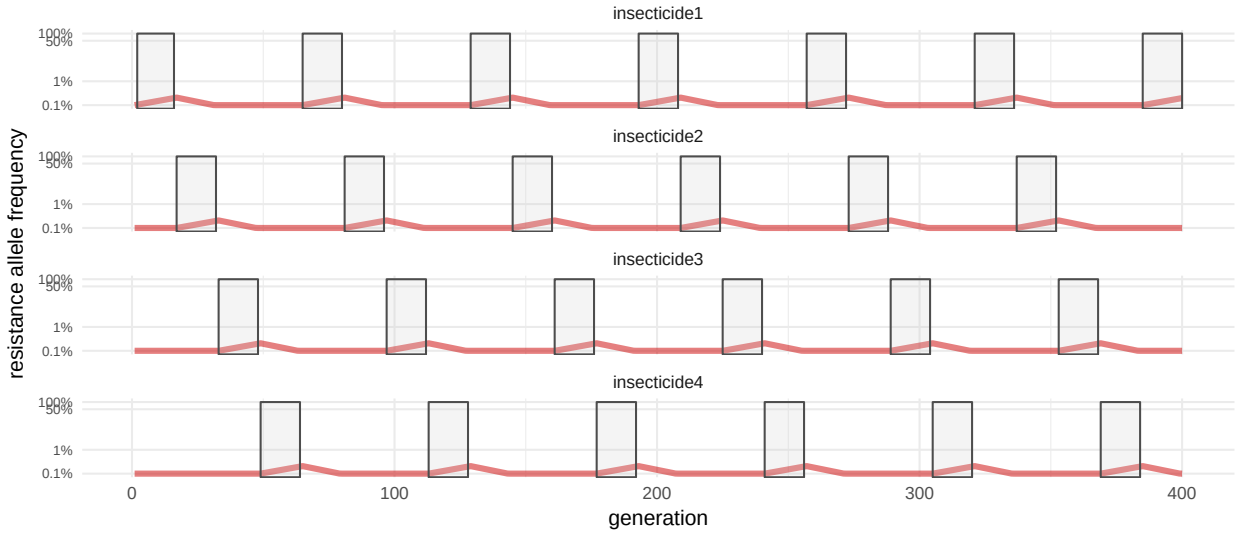

```
## scenario 65  expo_hi 0.63  eff 0.52  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



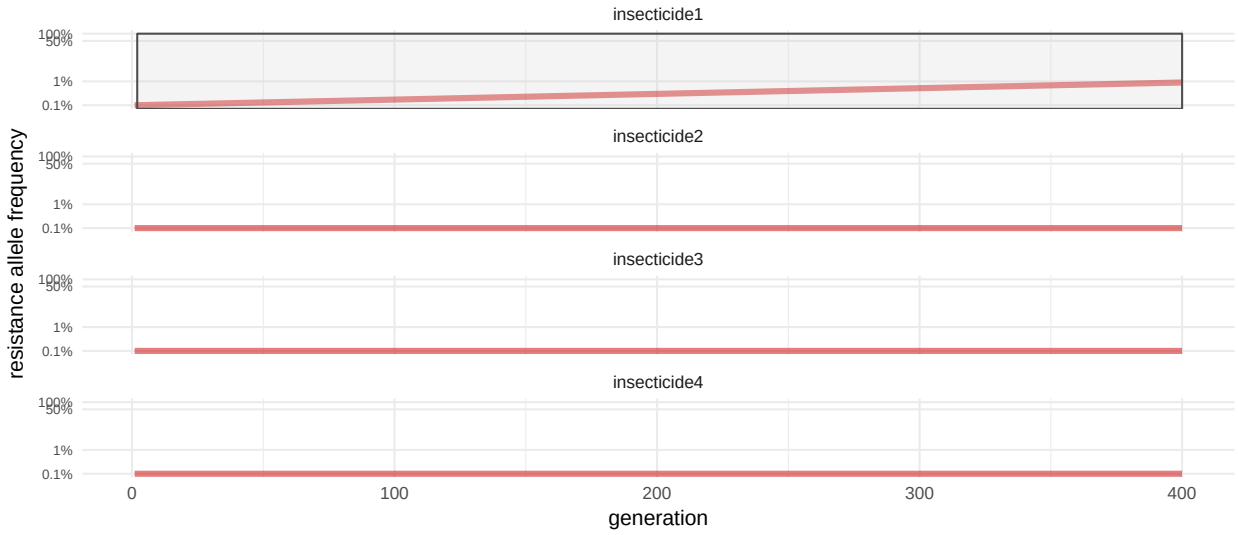

```
## scenario 65  expo_hi 0.63  eff 0.52  rot_interval 37
## tot gens deployed under freq 0.5 = 399
```



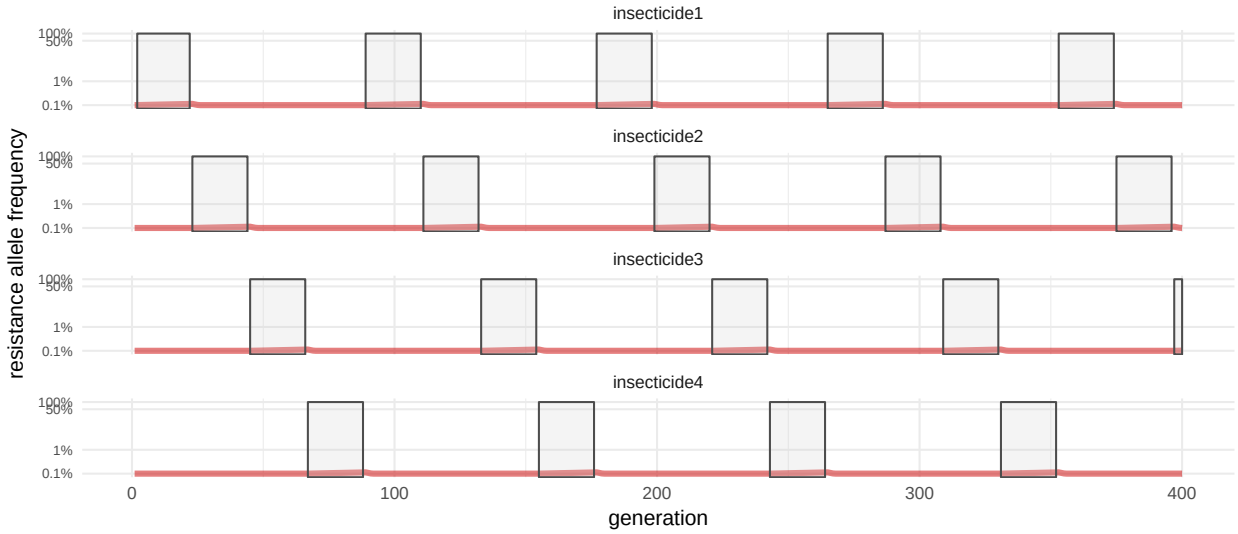

```
## scenario 66  expo_hi 0.49  eff 0.5  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



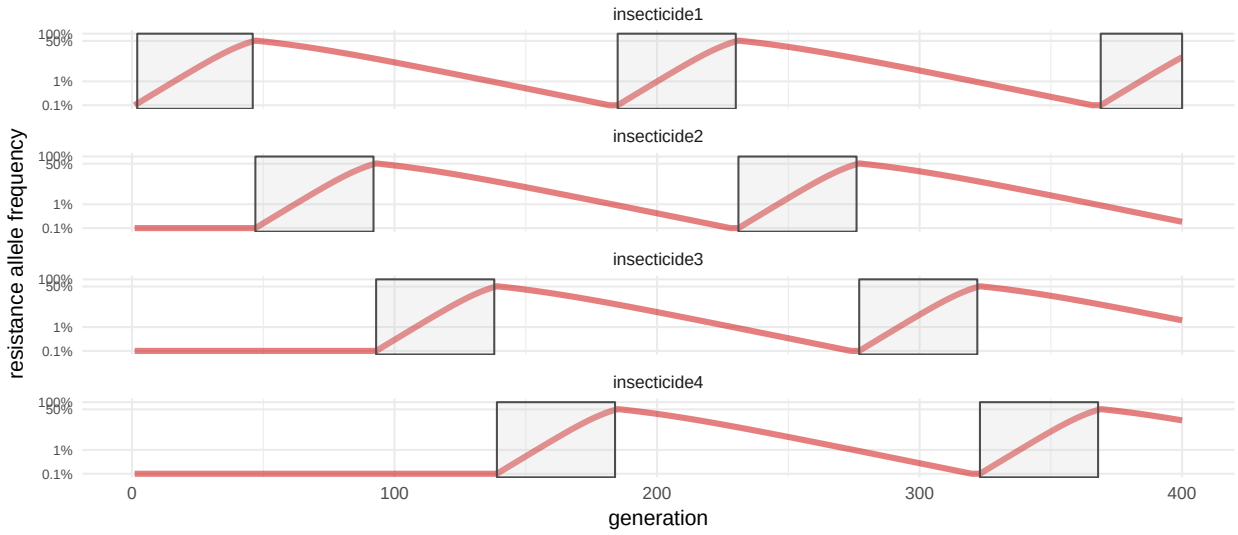

```
## scenario 66  expo_hi 0.49  eff 0.5  rot_interval 16
## tot gens deployed under freq 0.5 = 399
```



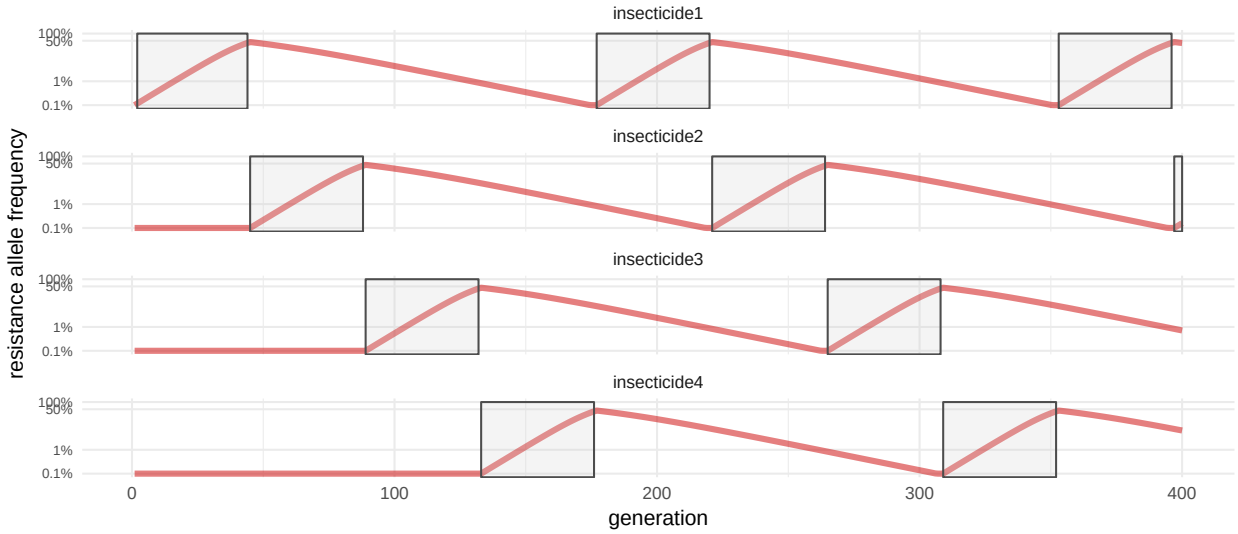

```
## scenario 67  expo_hi 0.44  eff 0.3  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



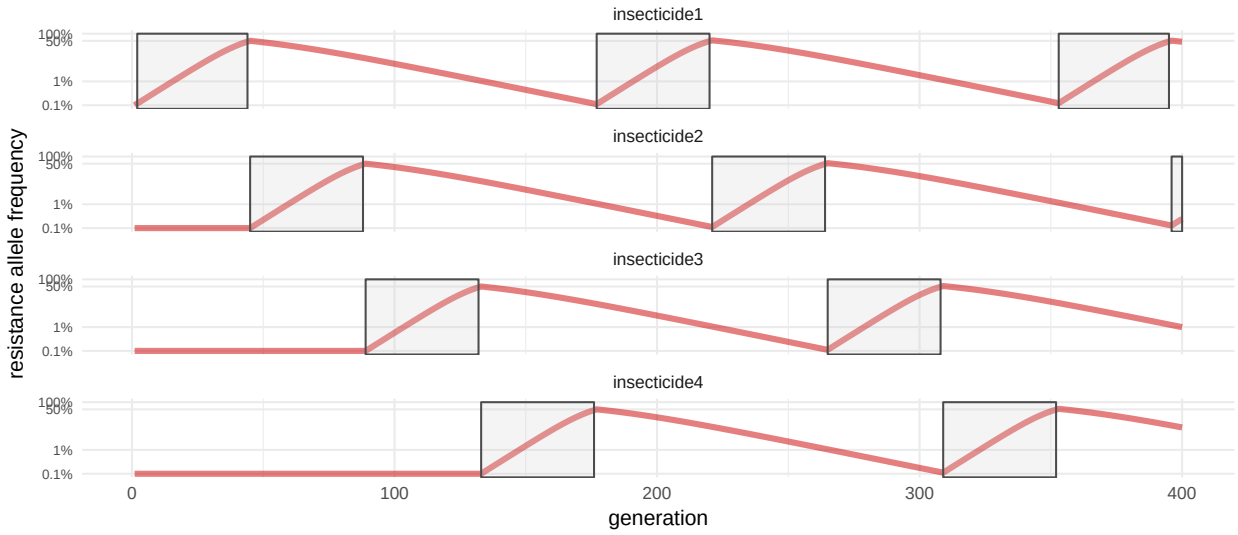

```
## scenario 67  expo_hi 0.44  eff 0.3  rot_interval 22
## tot gens deployed under freq 0.5 = 399
```



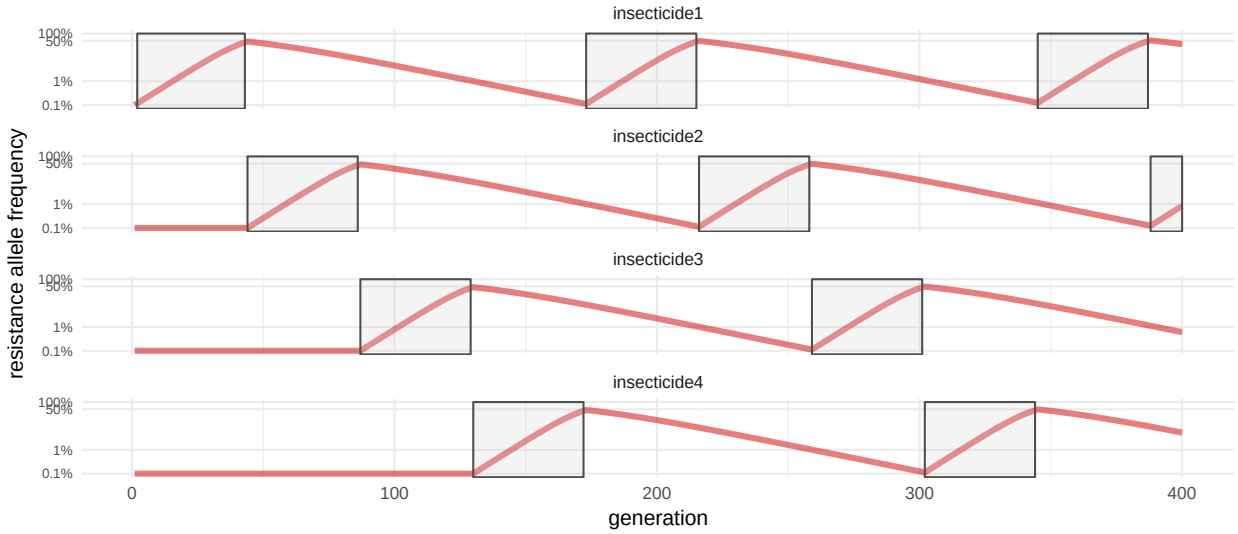

```
## scenario 68  expo_hi 0.58  eff 0.78  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



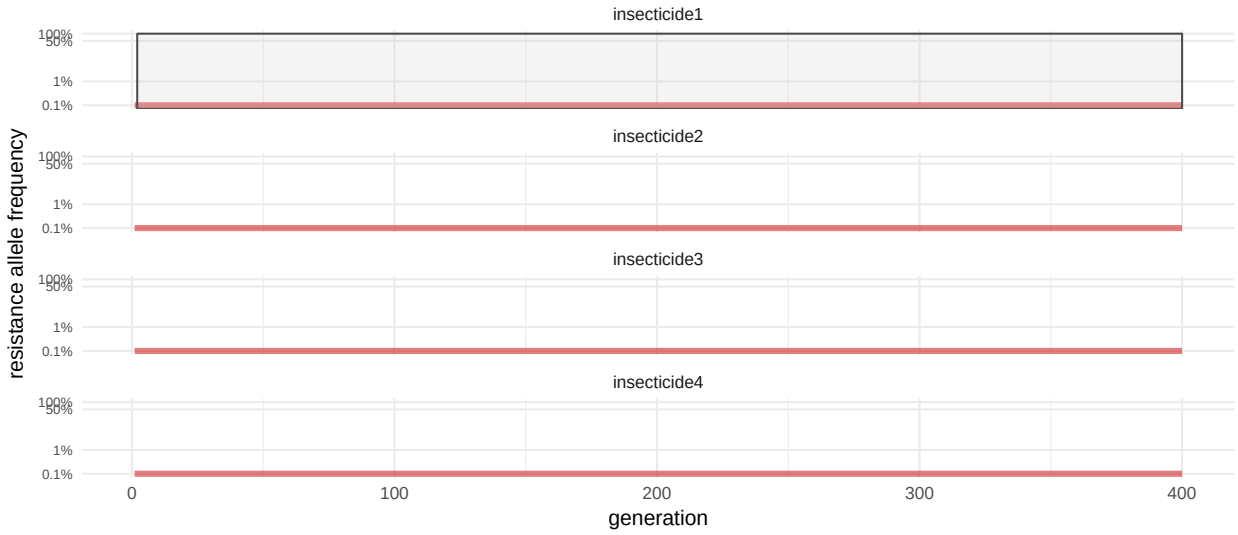

```
## scenario 68  expo_hi 0.58  eff 0.78  rot_interval 44
## tot gens deployed under freq 0.5 = 399
```



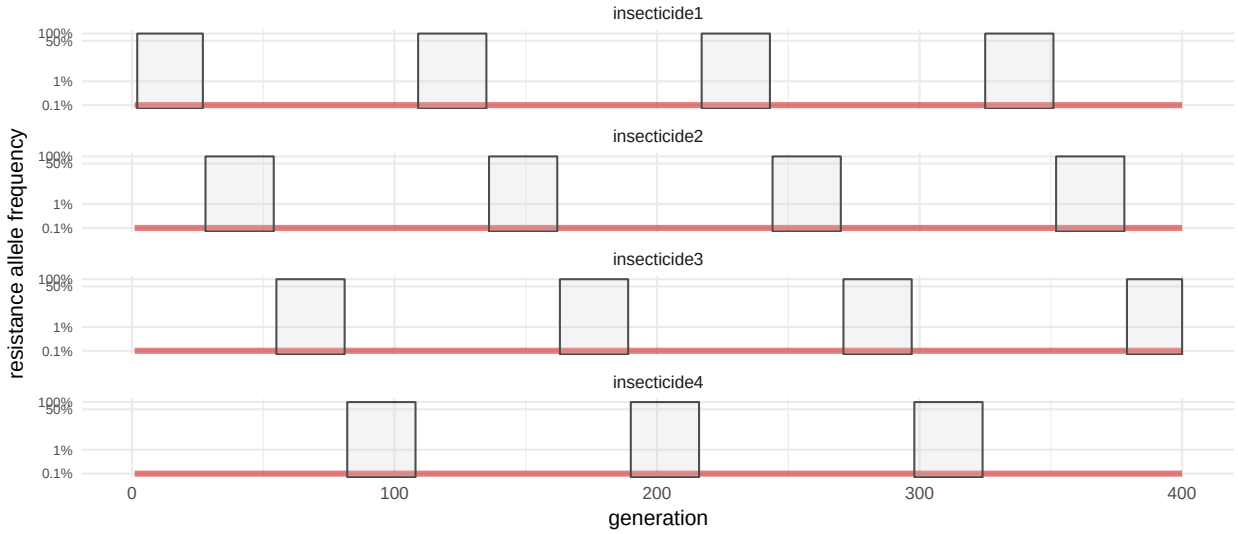

```
## scenario 69  expo_hi 0.48  eff 0.97  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



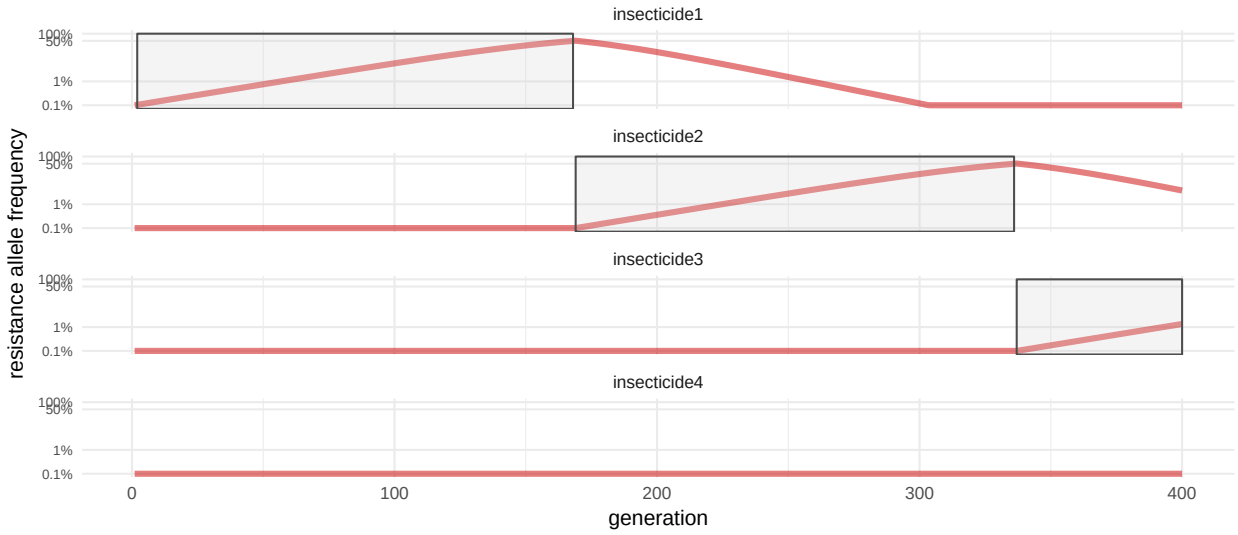

```
## scenario 69  expo_hi 0.48  eff 0.97  rot_interval 43
## tot gens deployed under freq 0.5 = 399
```



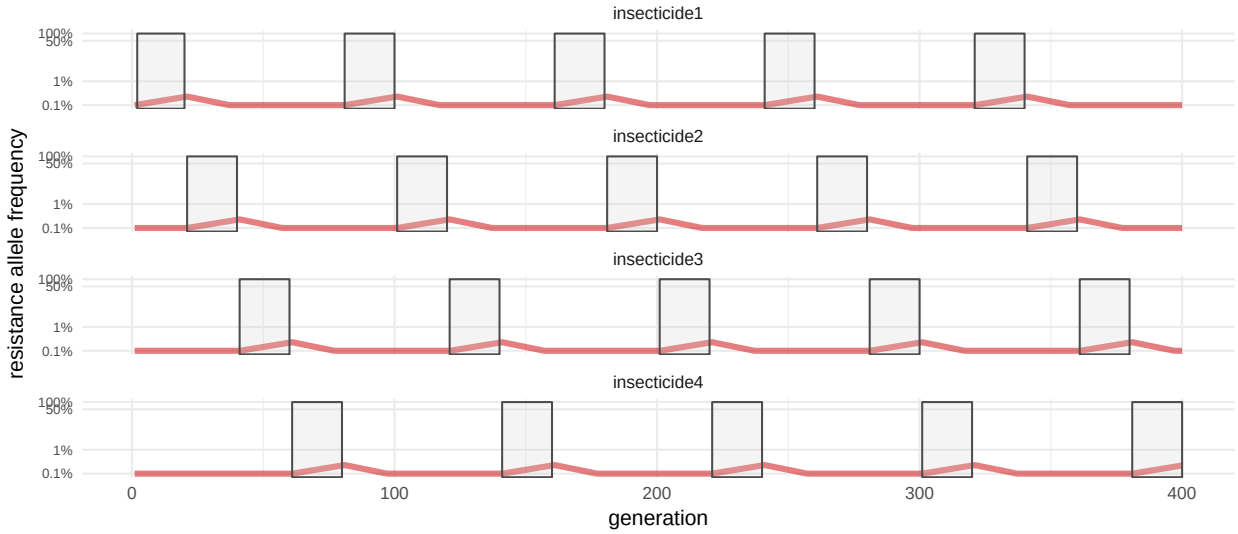

```
## scenario 70  expo_hi 0.11  eff 0.91  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



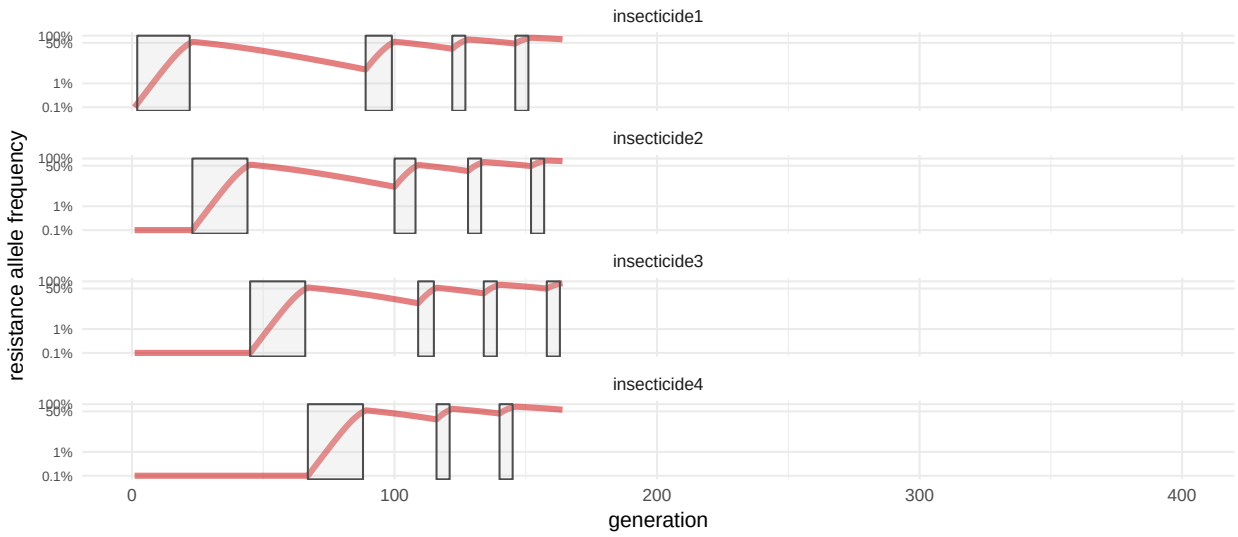

```
## scenario 70  expo_hi 0.11  eff 0.91  rot_interval 27
## tot gens deployed under freq 0.5 = 399
```



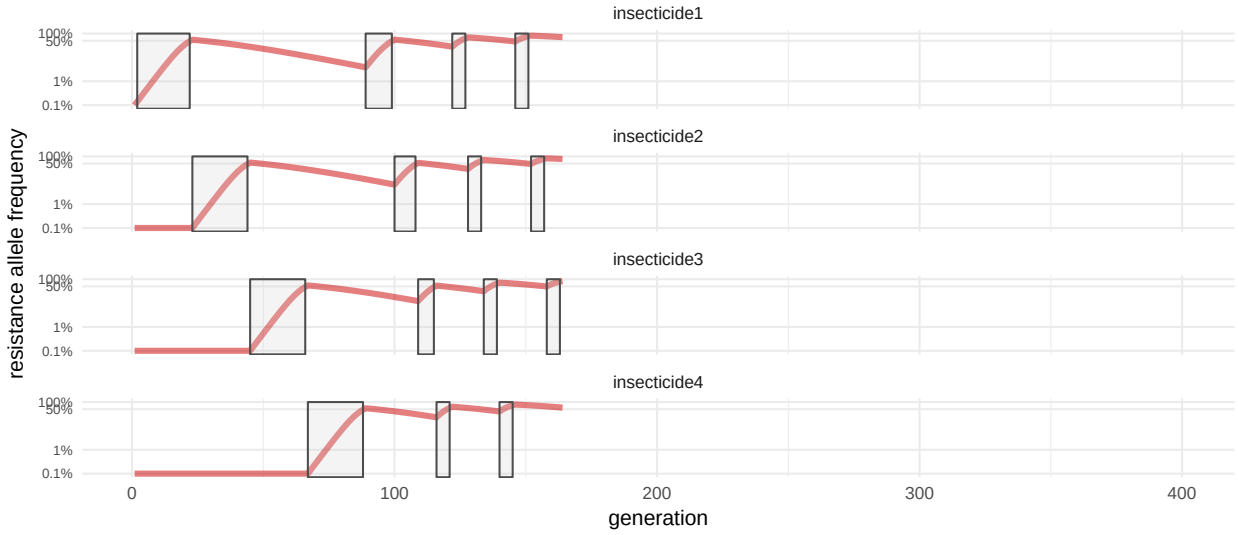

```
## scenario 71  expo_hi 0.42  eff 0.57  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



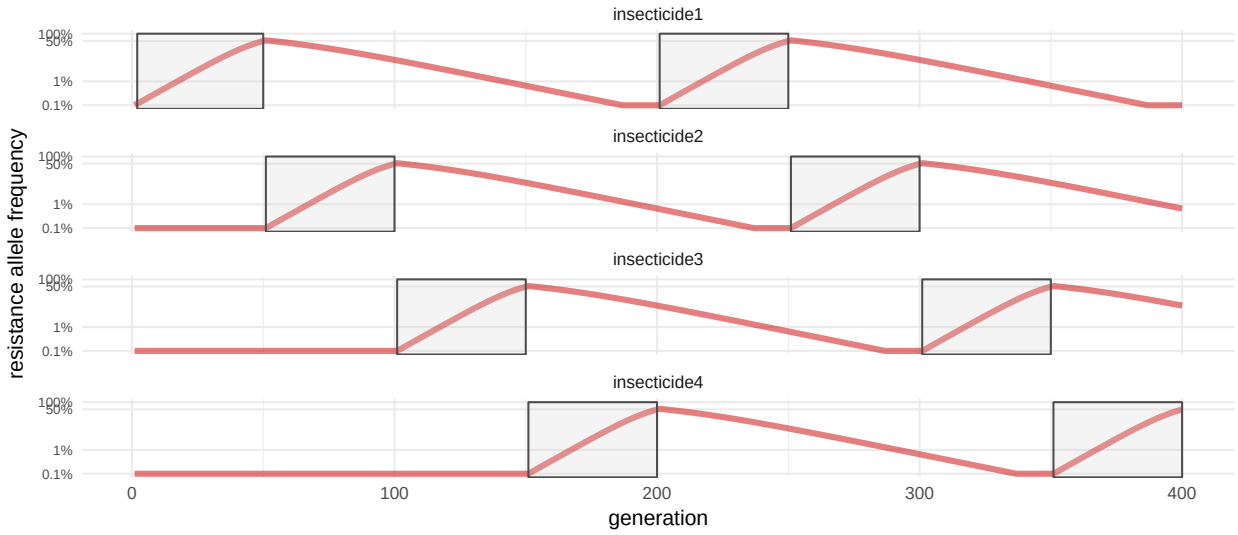

```
## scenario 71  expo_hi 0.42  eff 0.57  rot_interval 20
## tot gens deployed under freq 0.5 = 399
```



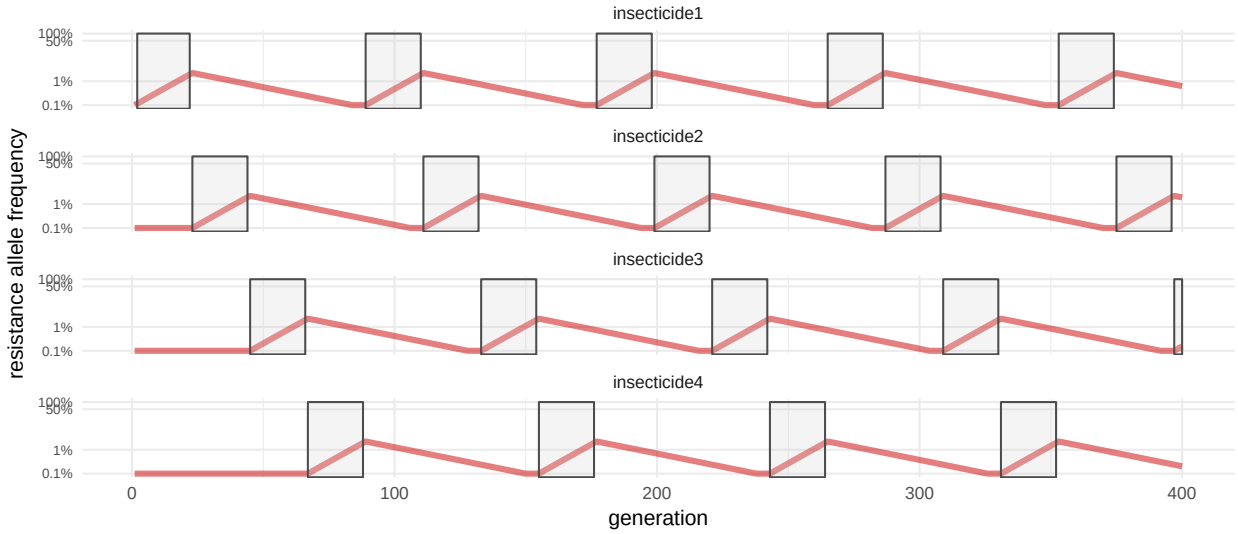

```
## scenario 72  expo_hi 0.65  eff 0.99  rot_interval 0
## tot gens deployed under freq 0.5 = 134
```



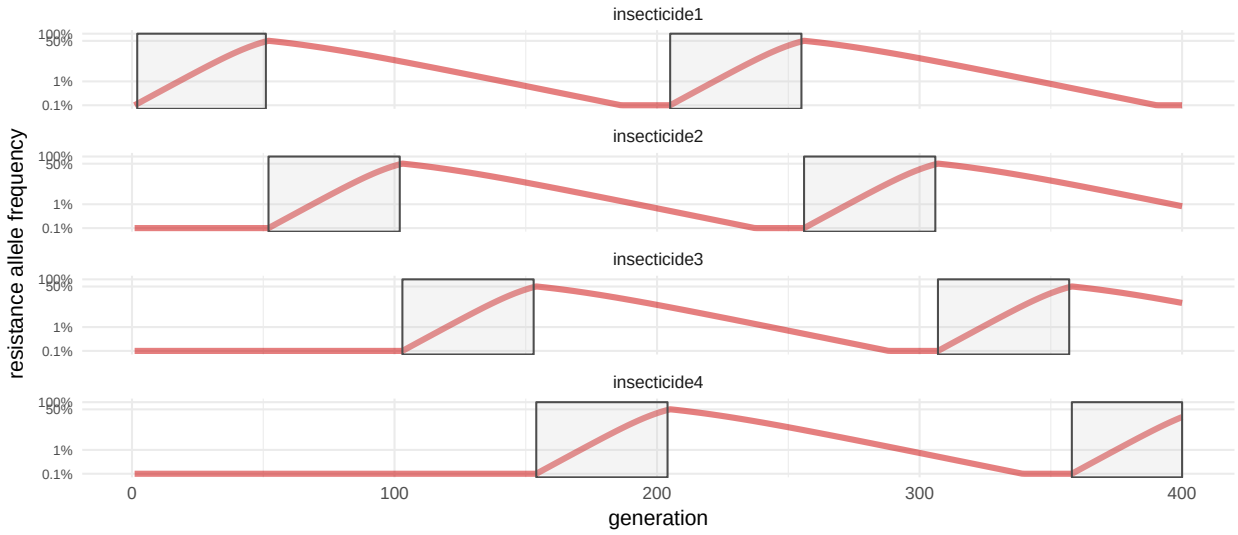

```
## scenario 72  expo_hi 0.65  eff 0.99  rot_interval 22
## tot gens deployed under freq 0.5 = 134
```



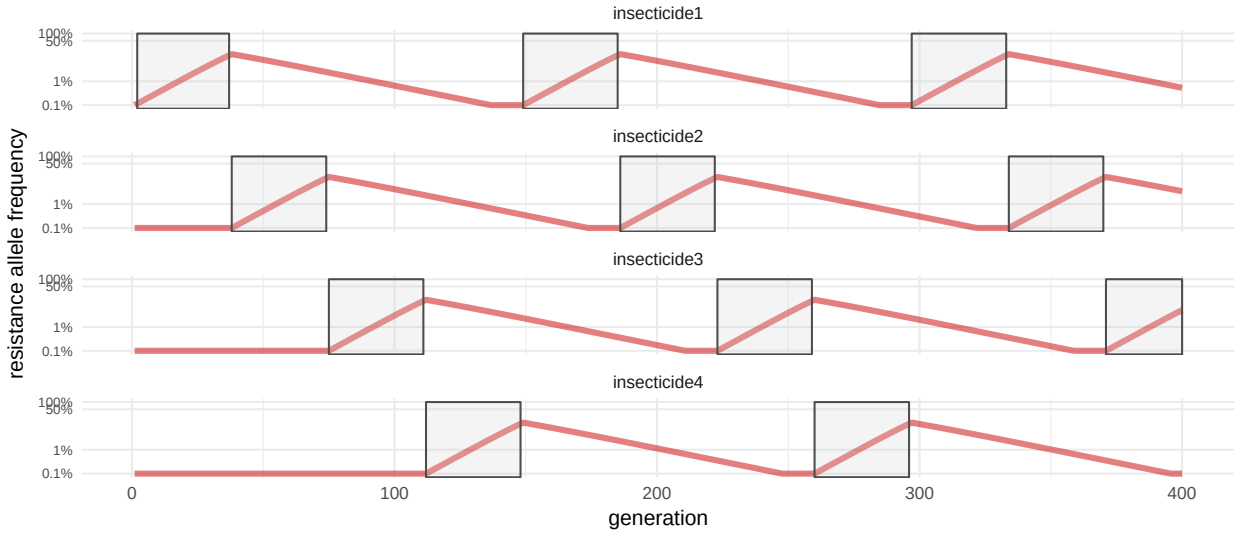

```
## scenario 73  expo_hi 0.54  eff 0.81  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



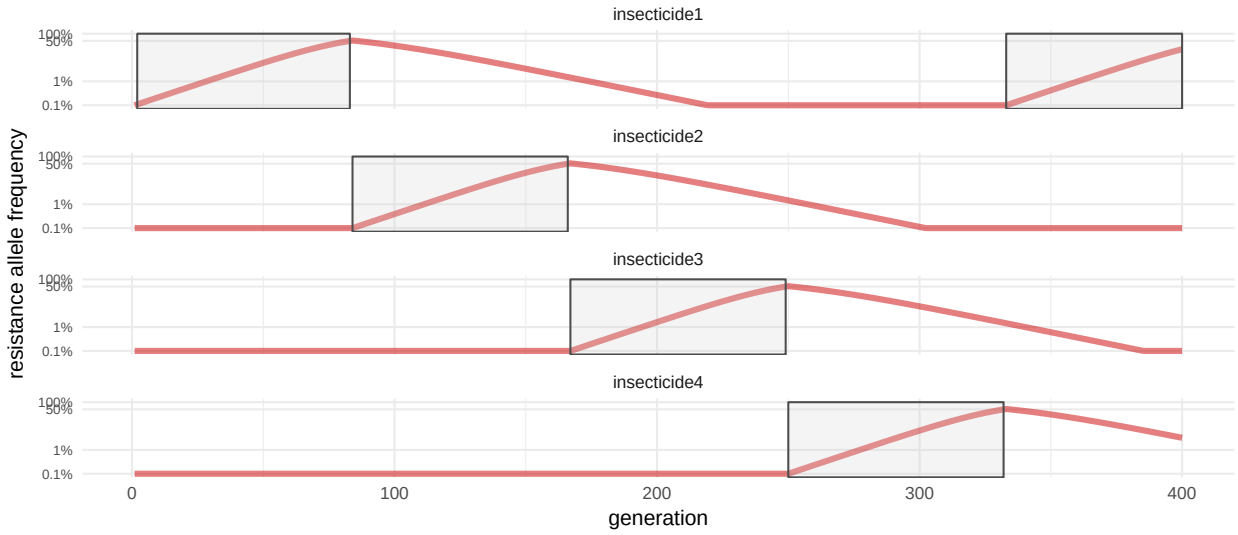

```
## scenario 73  expo_hi 0.54  eff 0.81  rot_interval 22
## tot gens deployed under freq 0.5 = 399
```



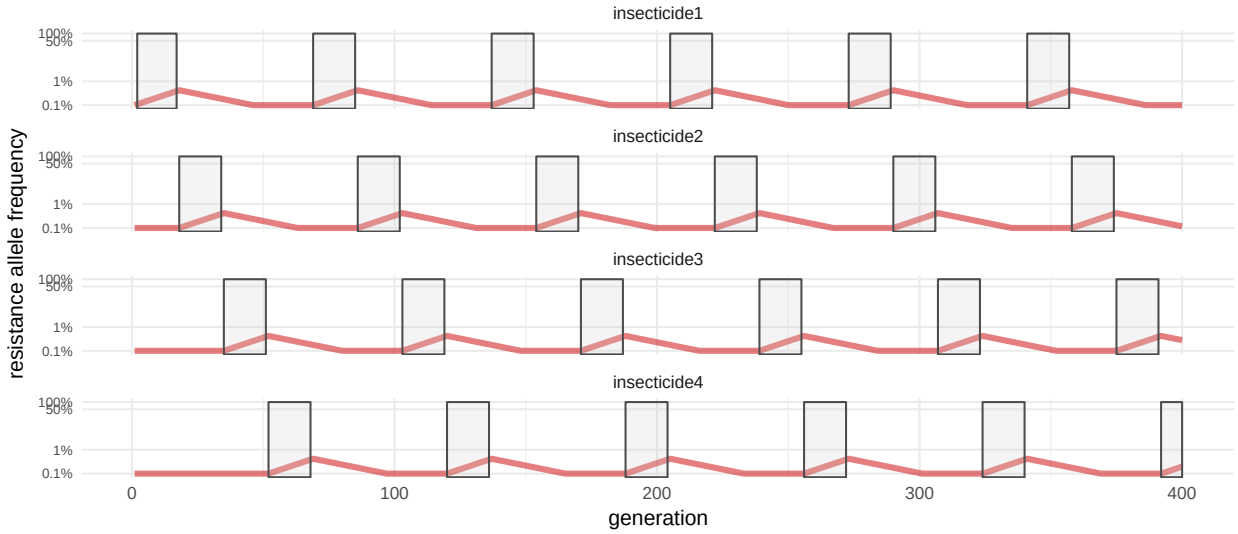

```
## scenario 74  expo_hi 0.62  eff 0.68  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



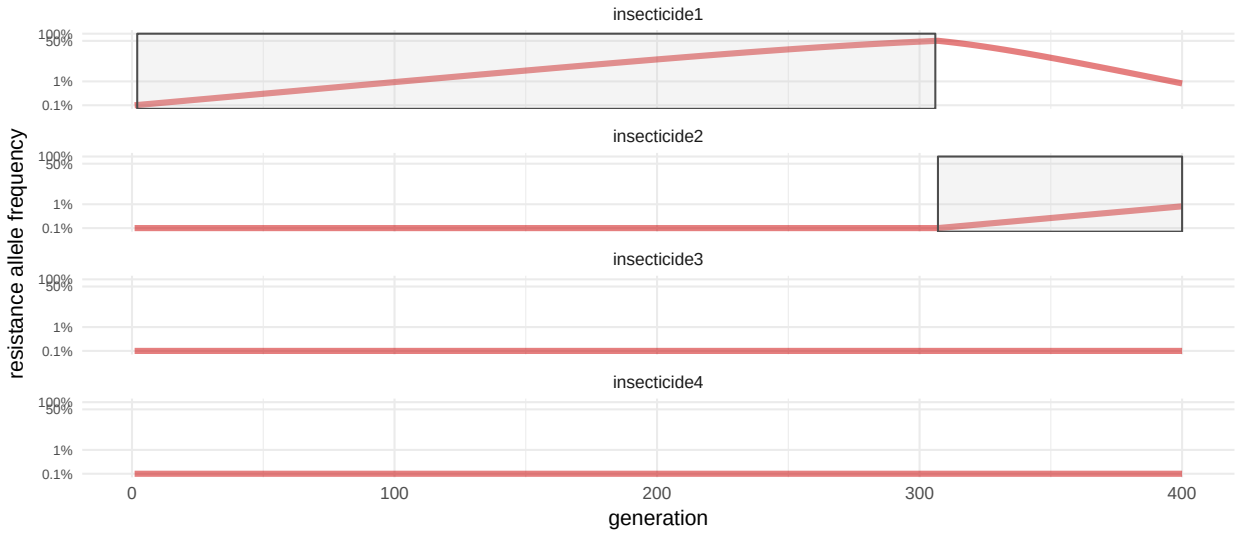

```
## scenario 74  expo_hi 0.62  eff 0.68  rot_interval 37
## tot gens deployed under freq 0.5 = 399
```



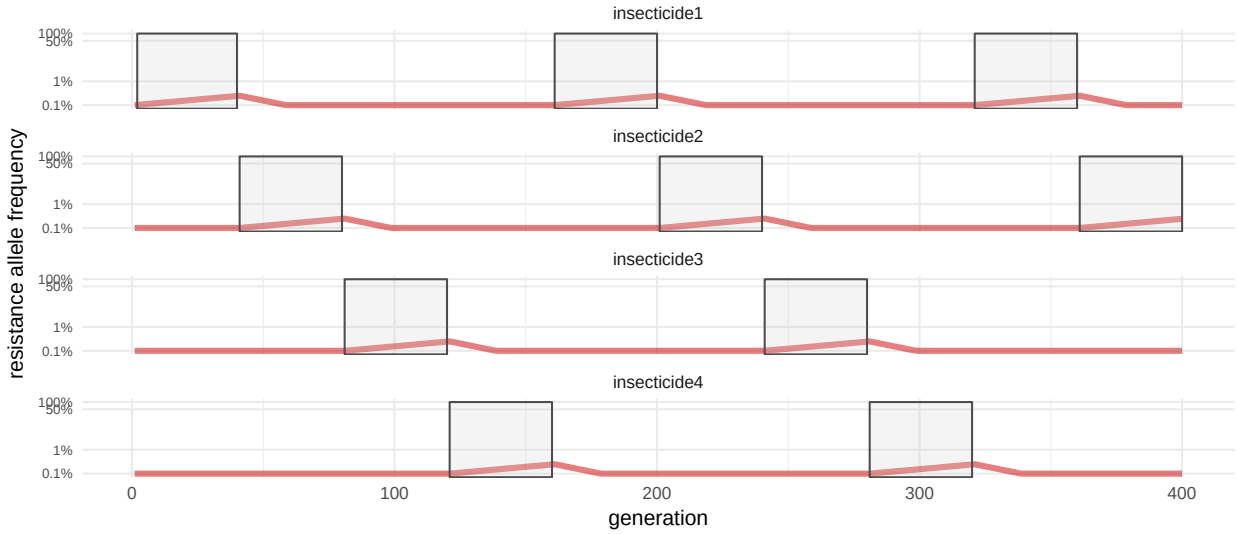

```
## scenario 75  expo_hi 0.45  eff 0.77  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



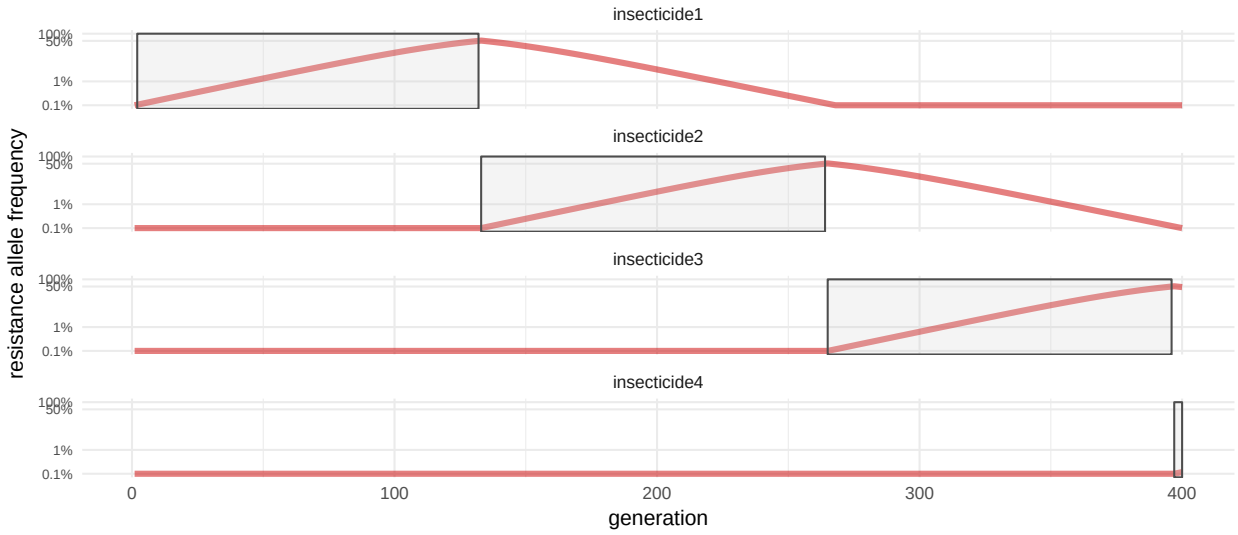

```
## scenario 75  expo_hi 0.45  eff 0.77  rot_interval 17
## tot gens deployed under freq 0.5 = 399
```



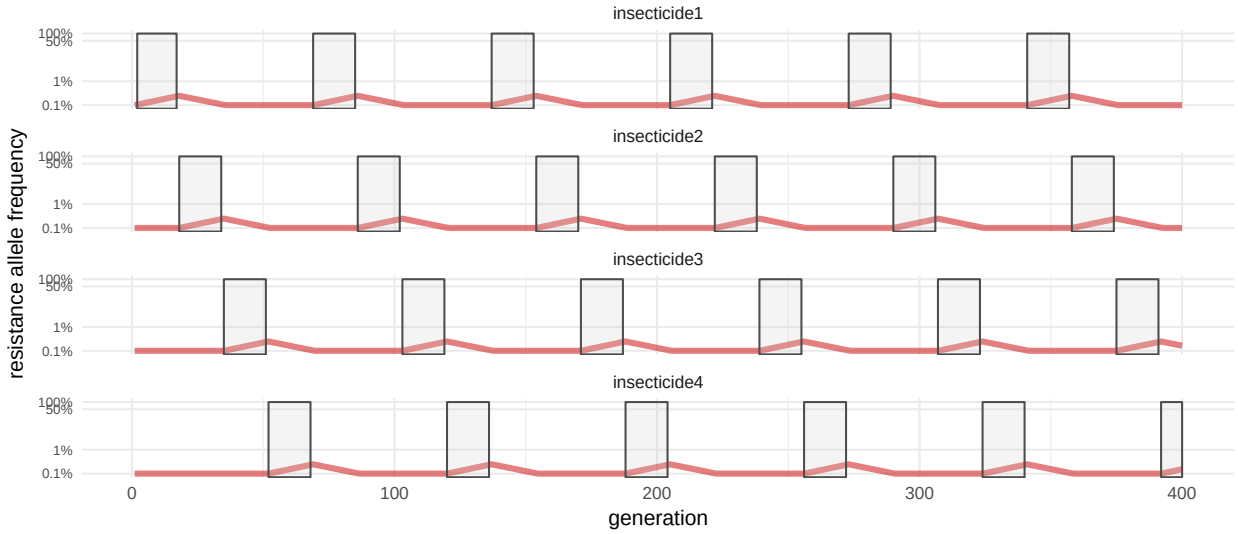

```
## scenario 76  expo_hi 0.49  eff 0.37  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



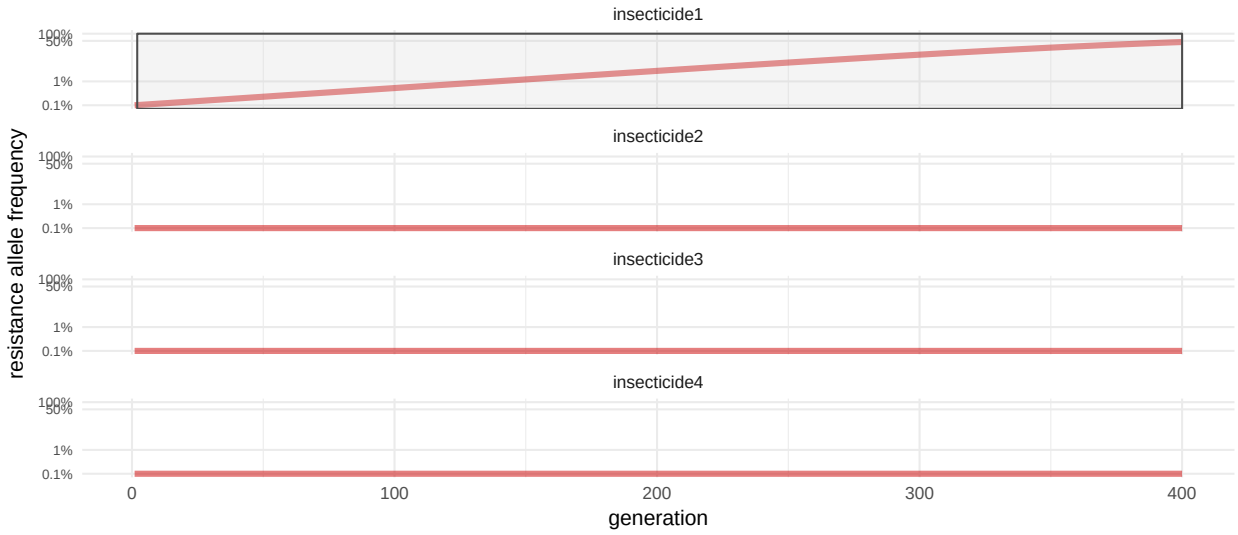

```
## scenario 76  expo_hi 0.49  eff 0.37  rot_interval 40
## tot gens deployed under freq 0.5 = 399
```



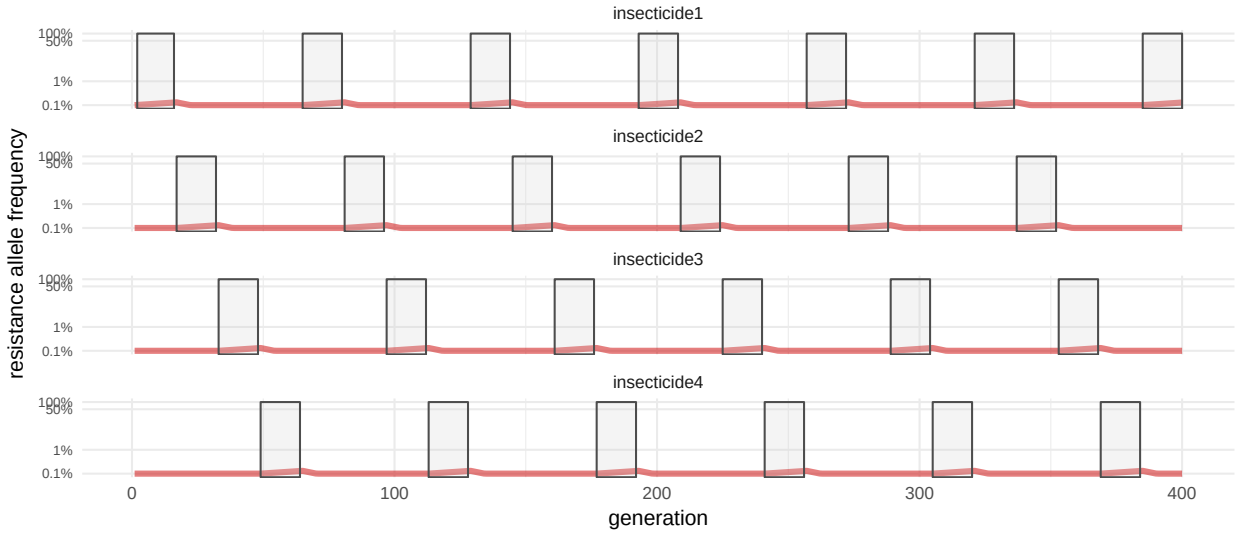

```
## scenario 77  expo_hi 0.45  eff 0.6  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



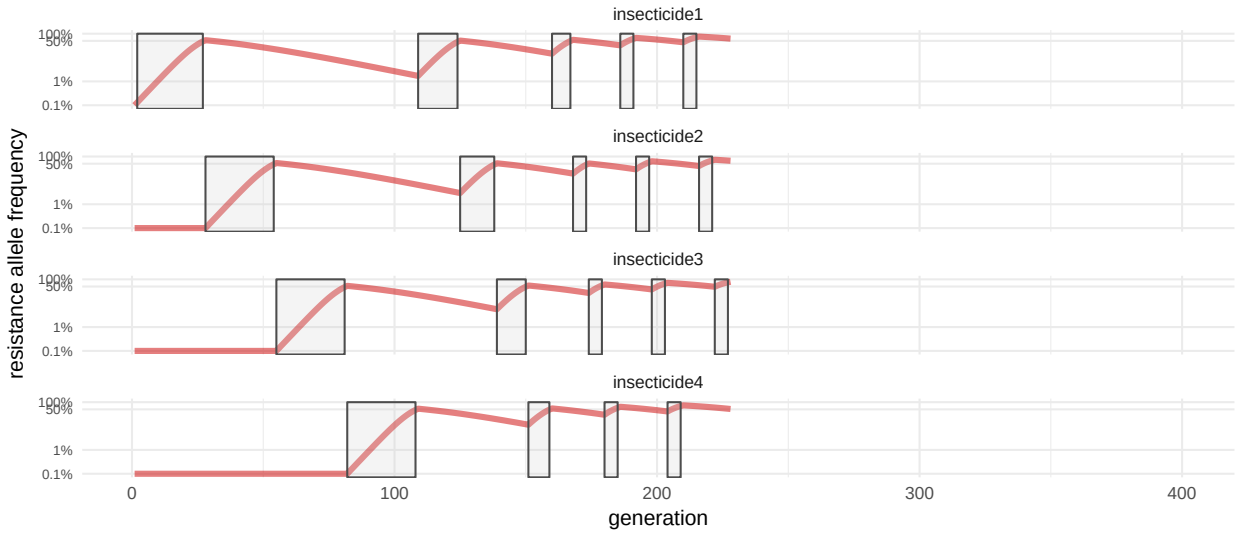

```
## scenario 77  expo_hi 0.45  eff 0.6  rot_interval 17
## tot gens deployed under freq 0.5 = 399
```



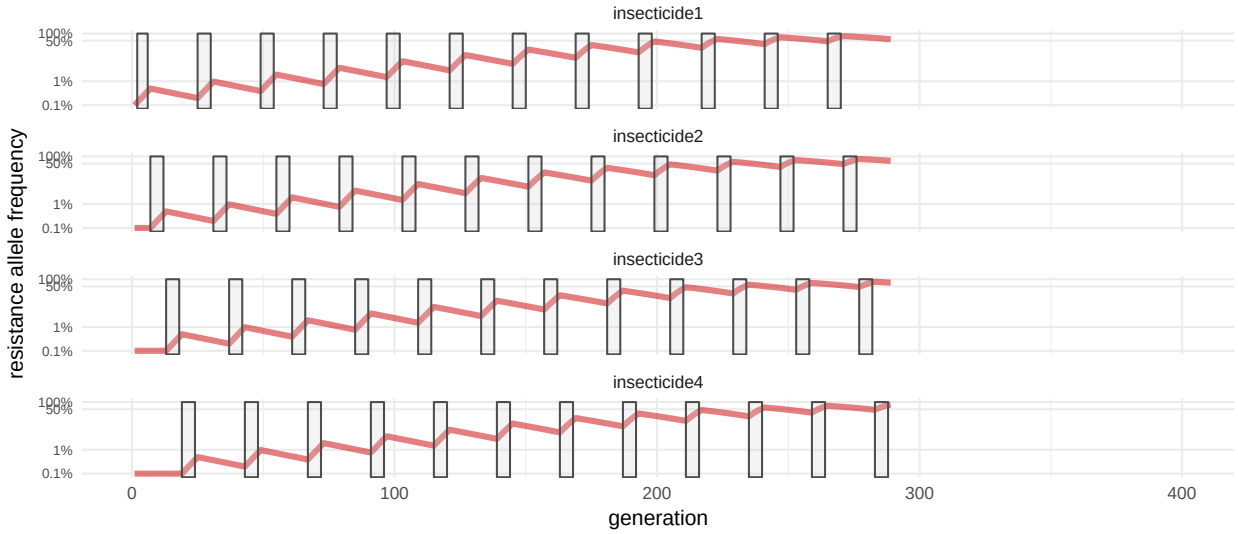

```
## scenario 78  expo_hi 0.22  eff 0.93  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



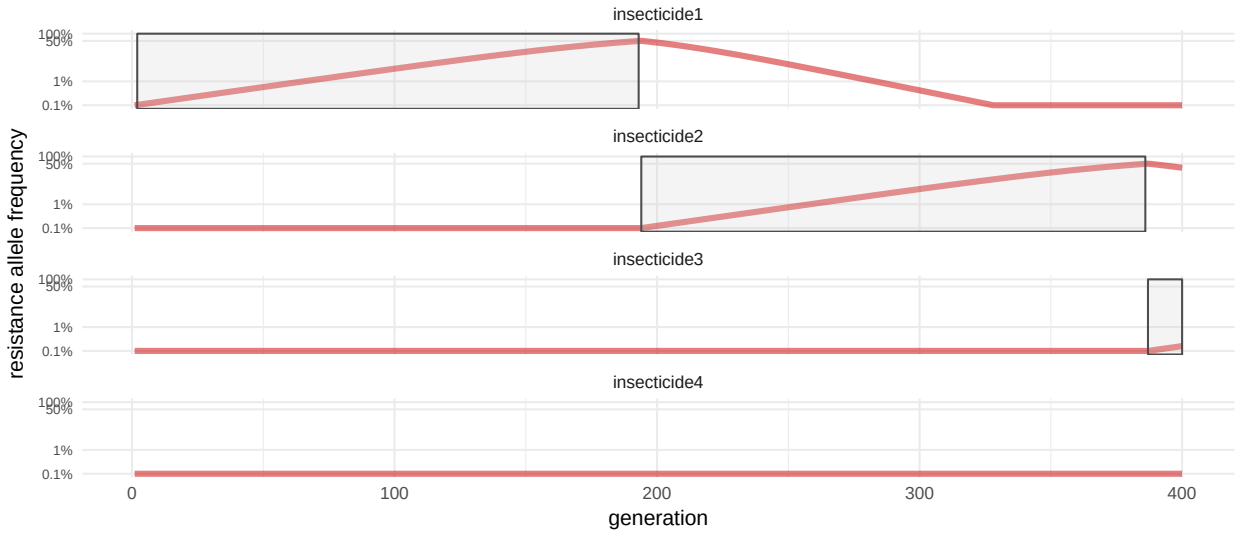

```
## scenario 78  expo_hi 0.22  eff 0.93  rot_interval 16
## tot gens deployed under freq 0.5 = 399
```



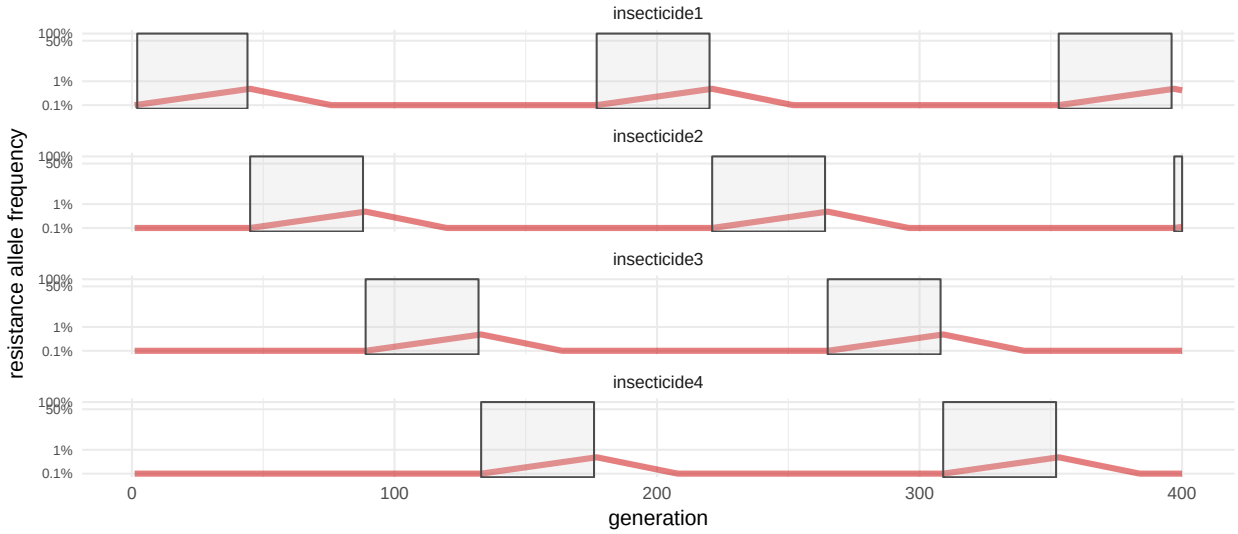

```
## scenario 79  expo_hi 0.79  eff 0.72  rot_interval 0
## tot gens deployed under freq 0.5 = 199
```



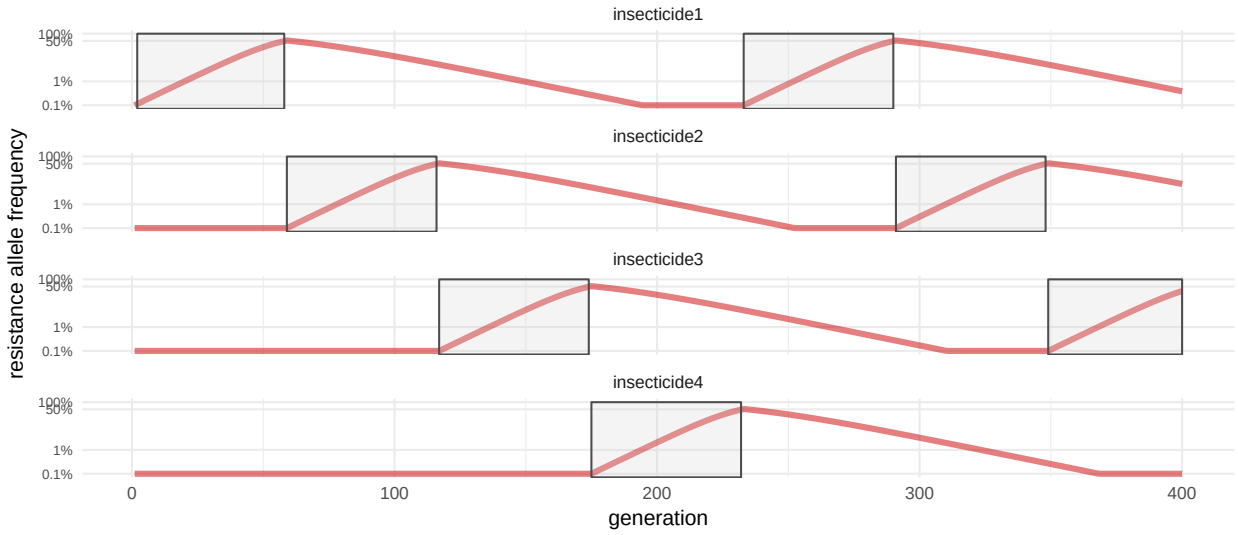

```
## scenario 79  expo_hi 0.79  eff 0.72  rot_interval 6
## tot gens deployed under freq 0.5 = 251
```



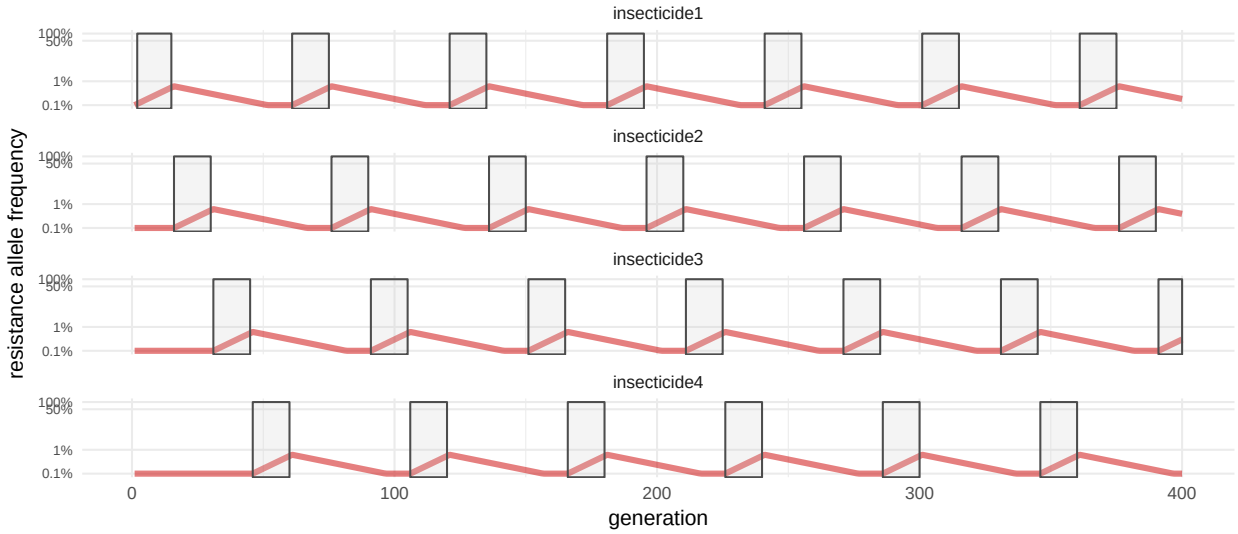

```
## scenario 80  expo_hi 0.62  eff 0.32  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



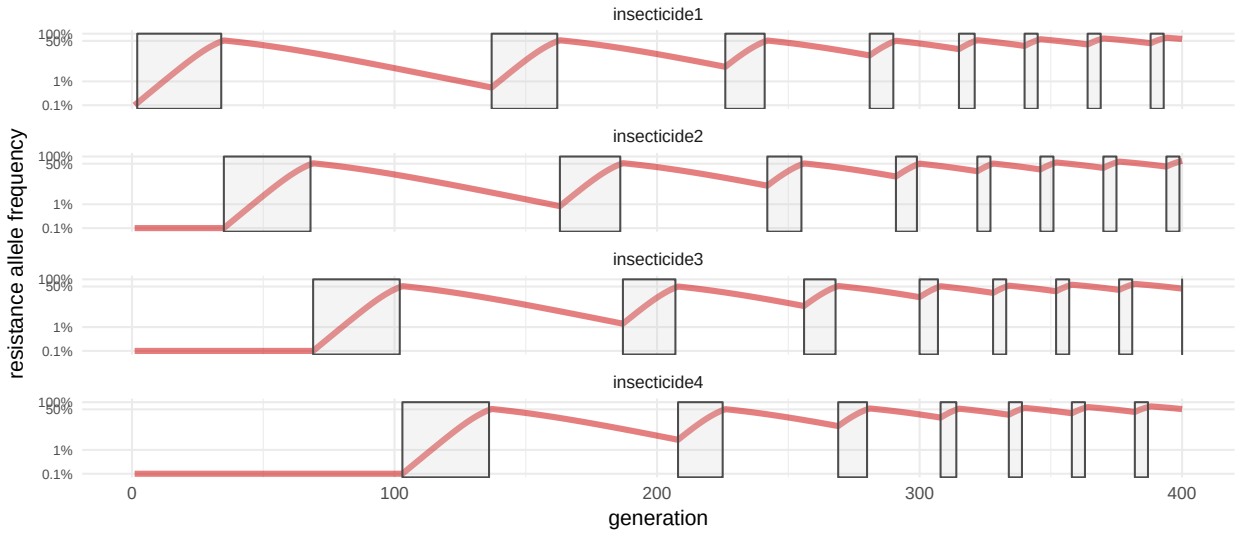

```
## scenario 80  expo_hi 0.62  eff 0.32  rot_interval 44
## tot gens deployed under freq 0.5 = 399
```



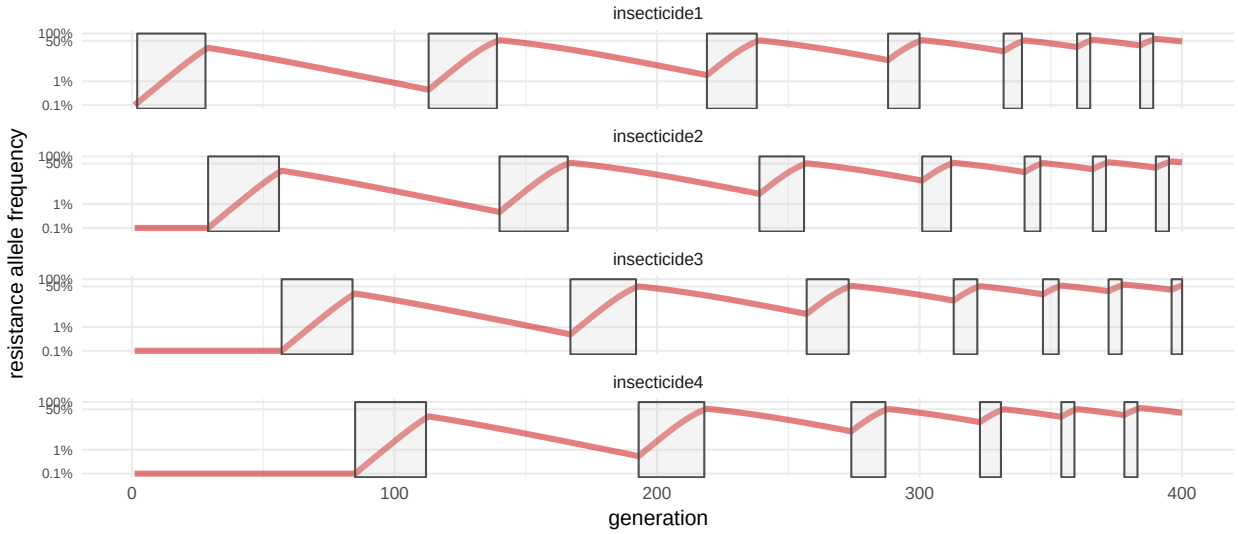

```
## scenario 81  expo_hi 0.88  eff 0.41  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



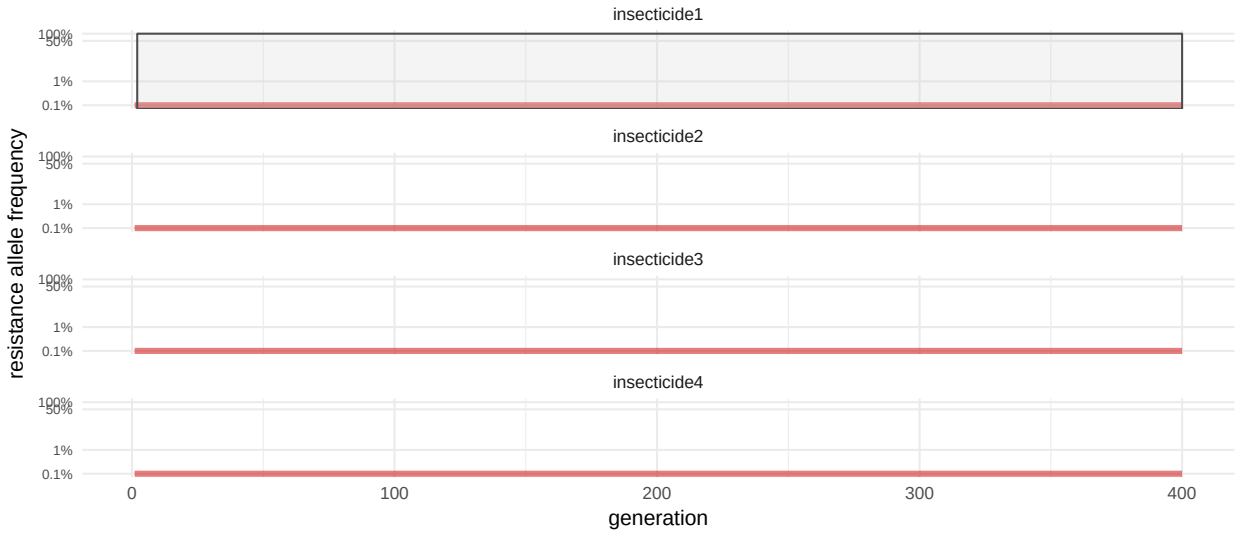

```
## scenario 81  expo_hi 0.88  eff 0.41  rot_interval 15
## tot gens deployed under freq 0.5 = 399
```



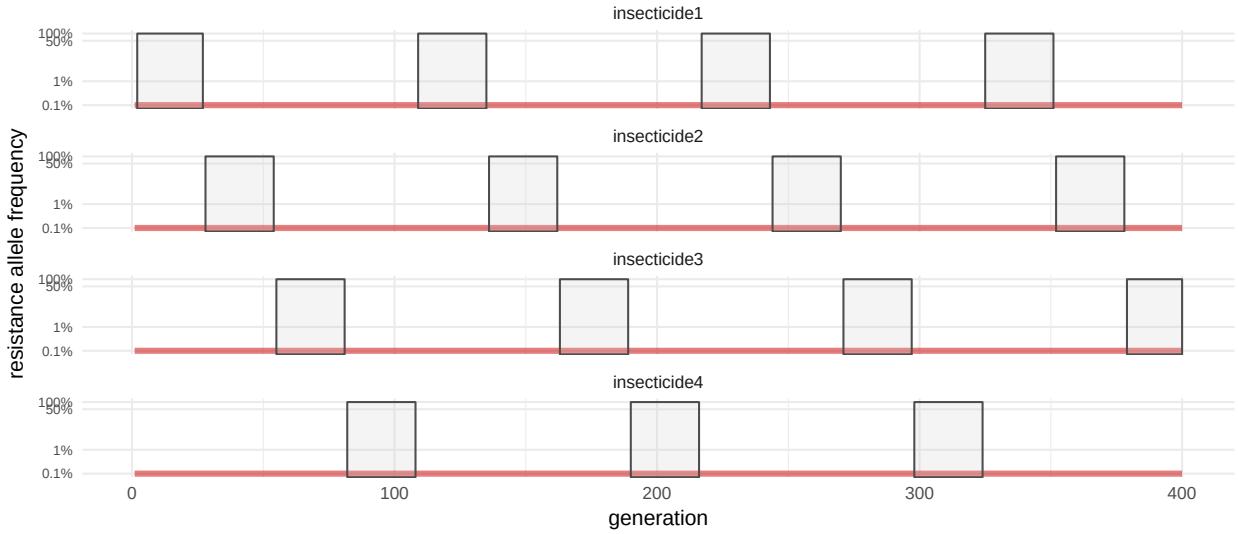

```
## scenario 82  expo_hi 0.55  eff 0.95  rot_interval 0
## tot gens deployed under freq 0.5 = 376
```



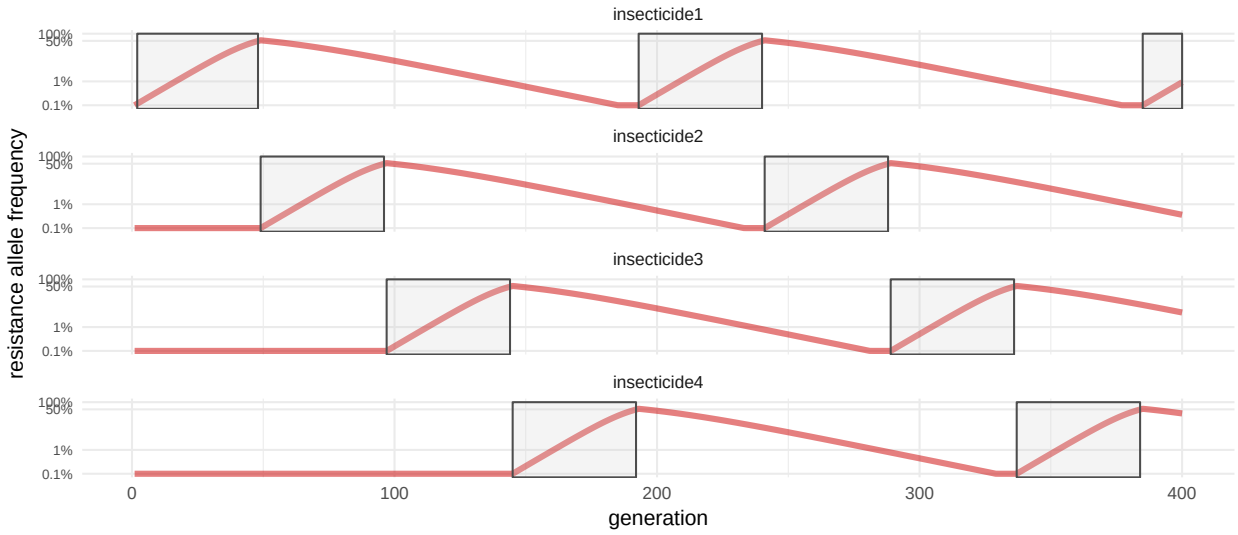

```
## scenario 82  expo_hi 0.55  eff 0.95  rot_interval 28
## tot gens deployed under freq 0.5 = 390
```



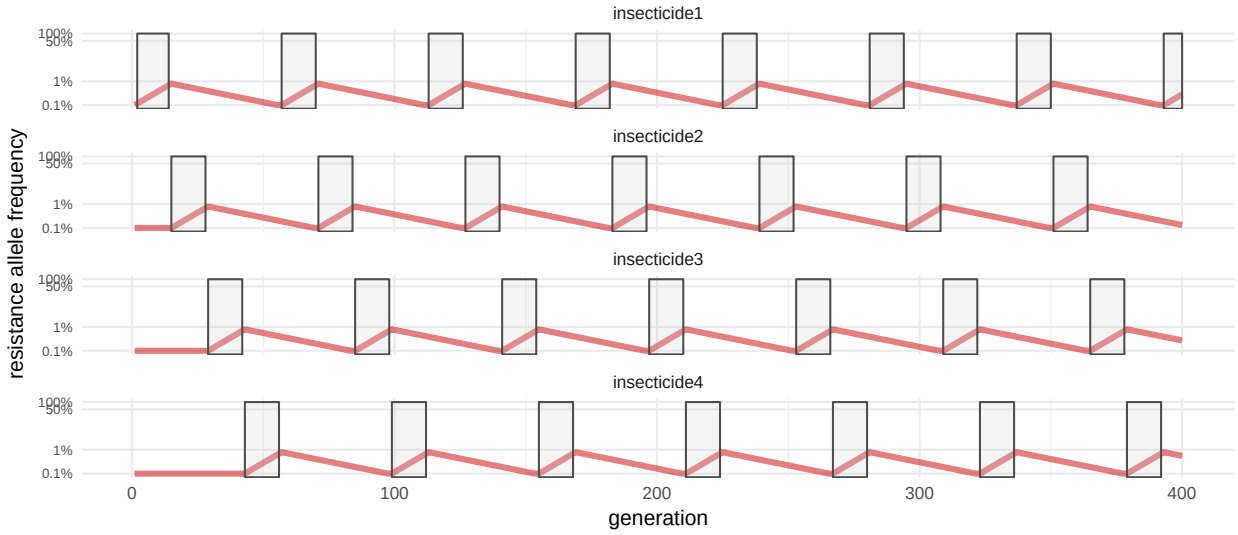

```
## scenario 83  expo_hi 0.16  eff 0.37  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



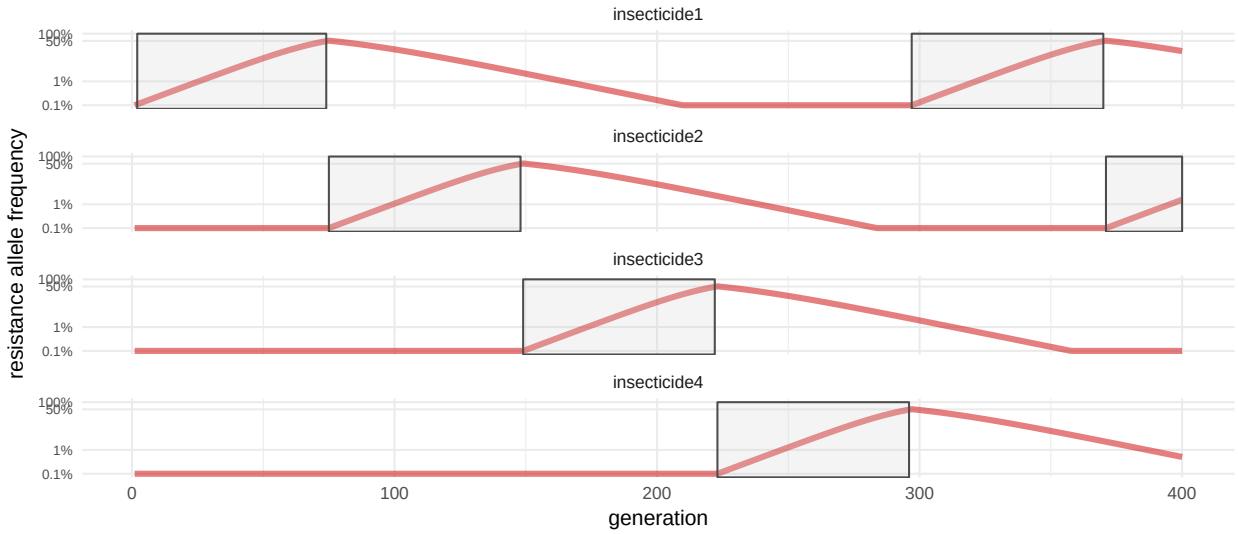

```
## scenario 83  expo_hi 0.16  eff 0.37  rot_interval 27
## tot gens deployed under freq 0.5 = 399
```



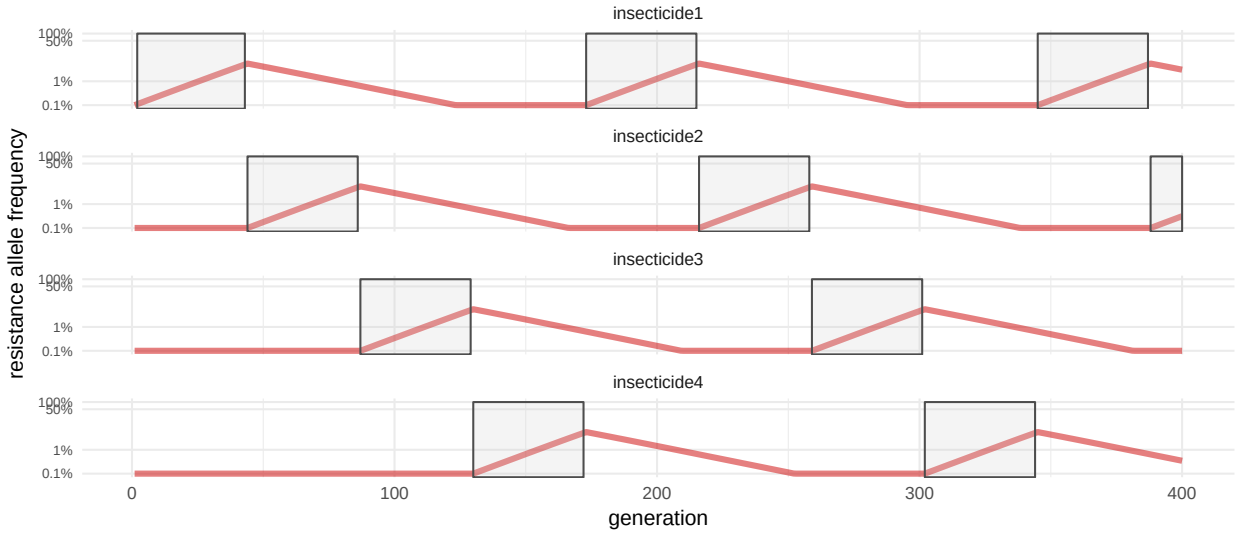

```
## scenario 84  expo_hi 0.59  eff 0.74  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



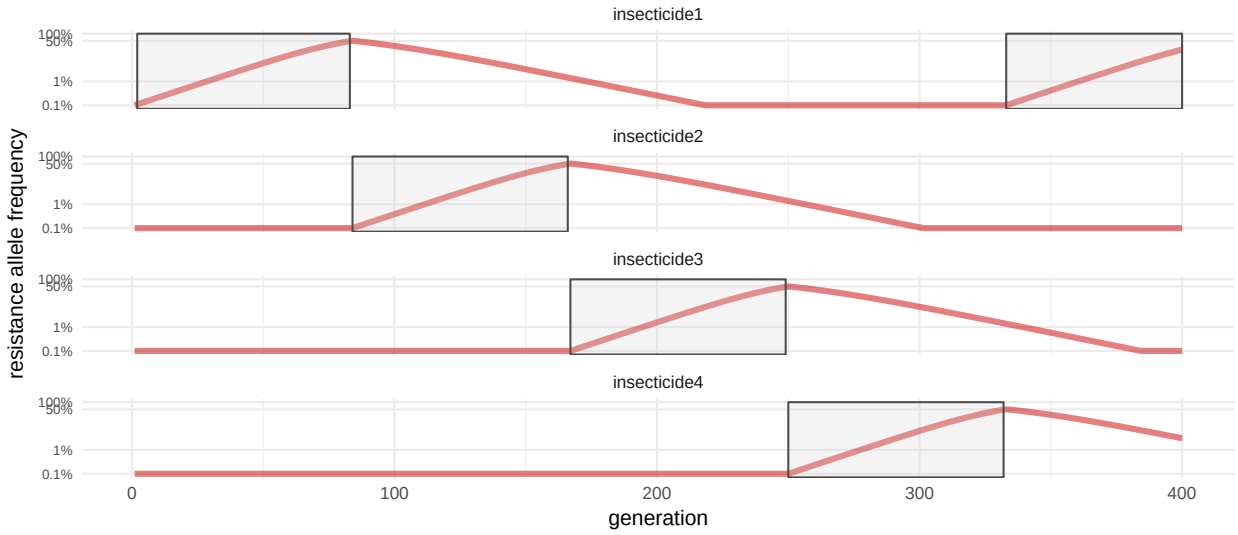

```
## scenario 84  expo_hi 0.59  eff 0.74  rot_interval 14
## tot gens deployed under freq 0.5 = 399
```



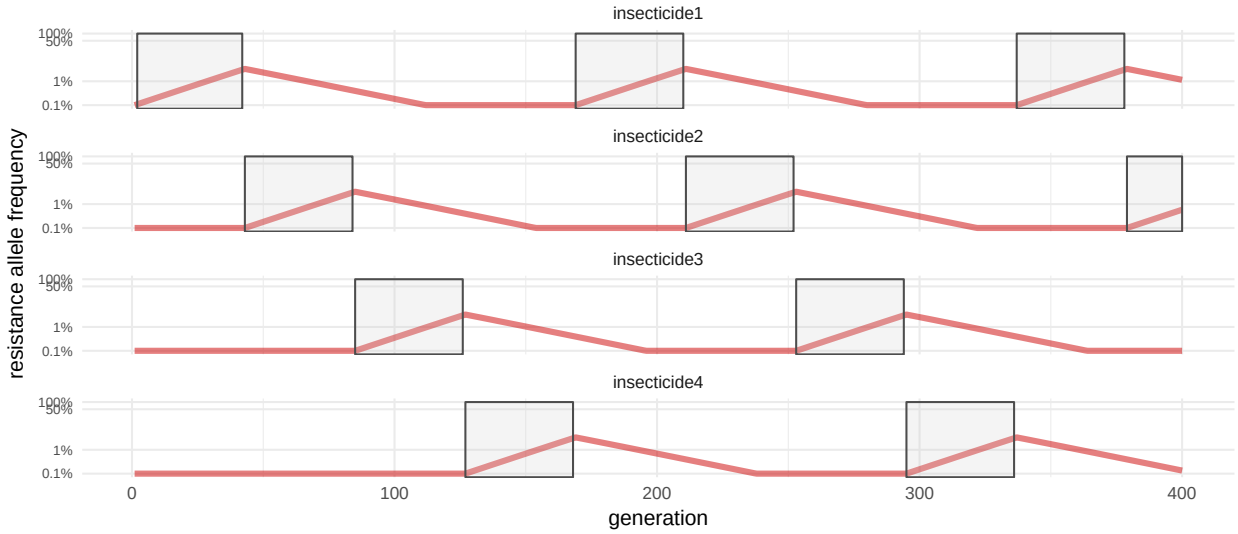

```
## scenario 85  expo_hi 0.57  eff 0.6  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



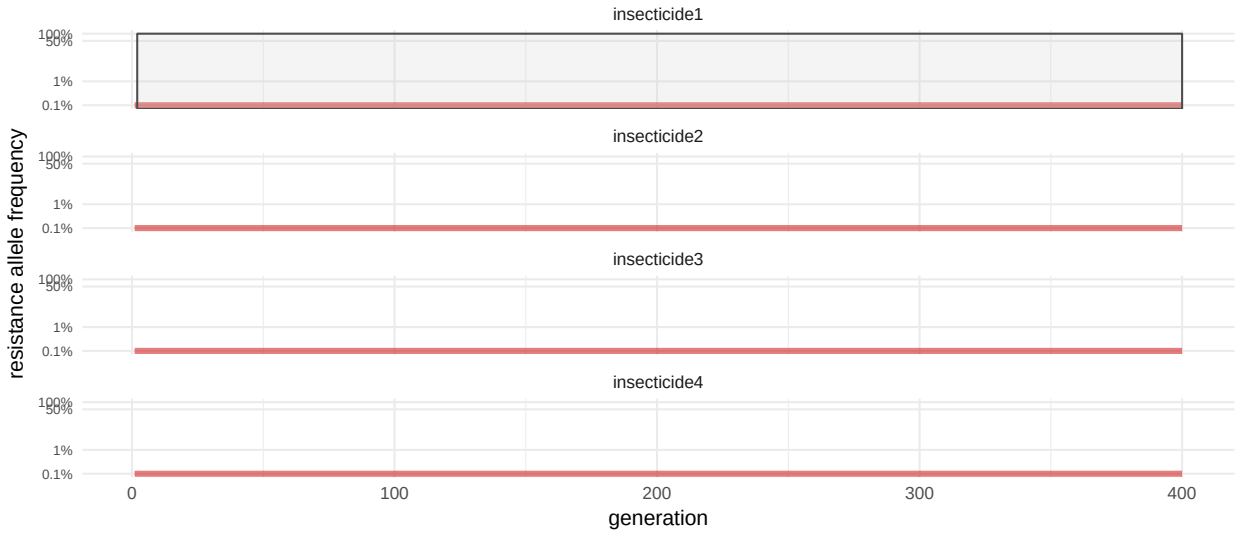

```
## scenario 85  expo_hi 0.57  eff 0.6  rot_interval 43
## tot gens deployed under freq 0.5 = 399
```



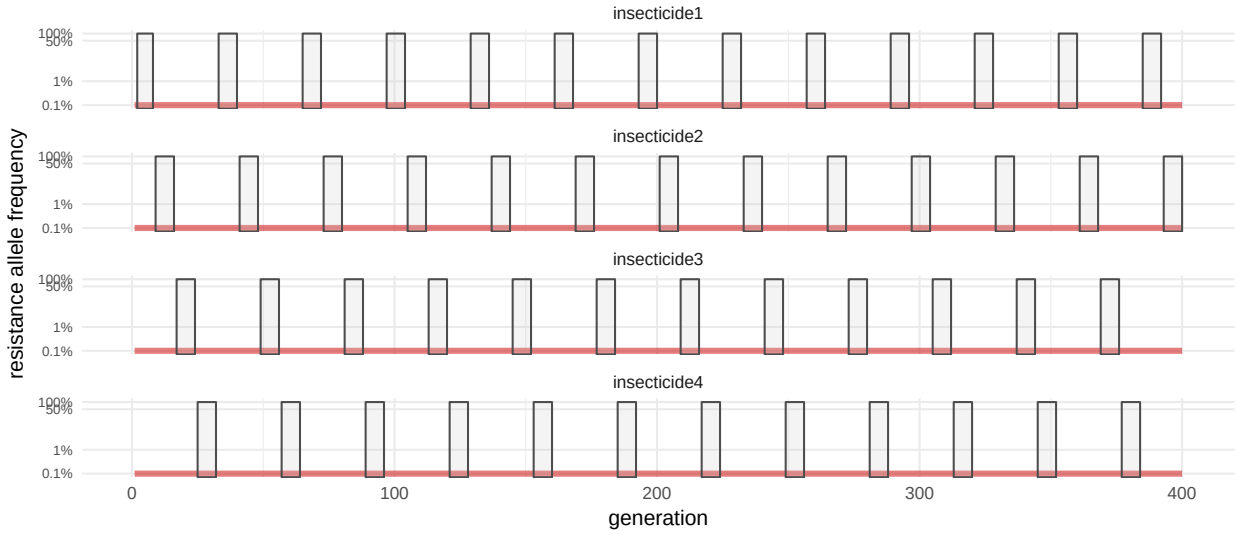

```
## scenario 86  expo_hi 0.86  eff 0.32  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



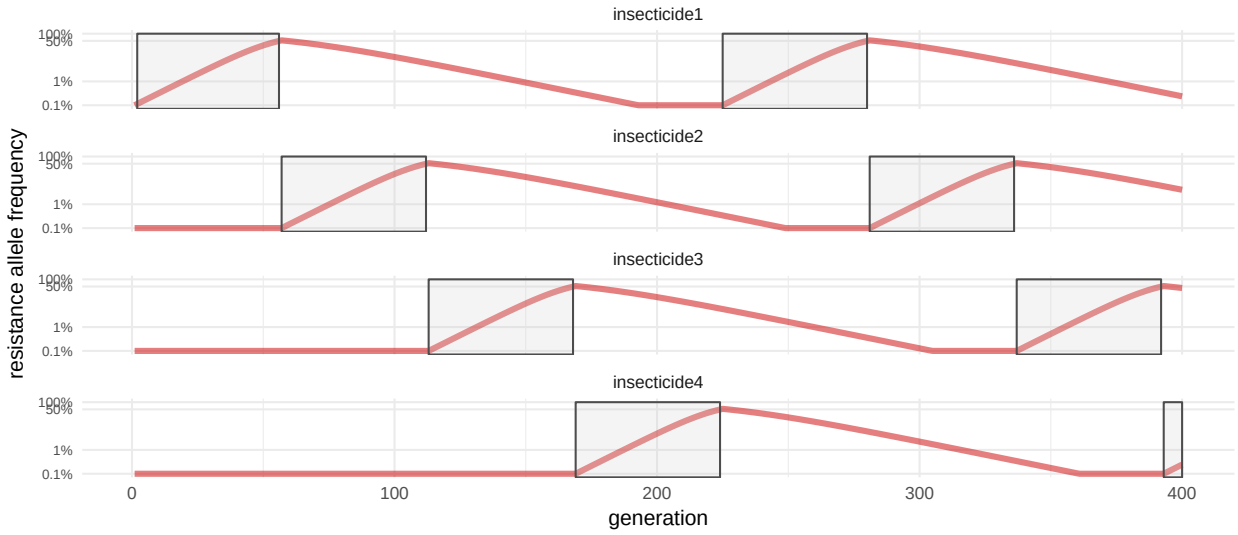

```
## scenario 86  expo_hi 0.86  eff 0.32  rot_interval 42
## tot gens deployed under freq 0.5 = 399
```



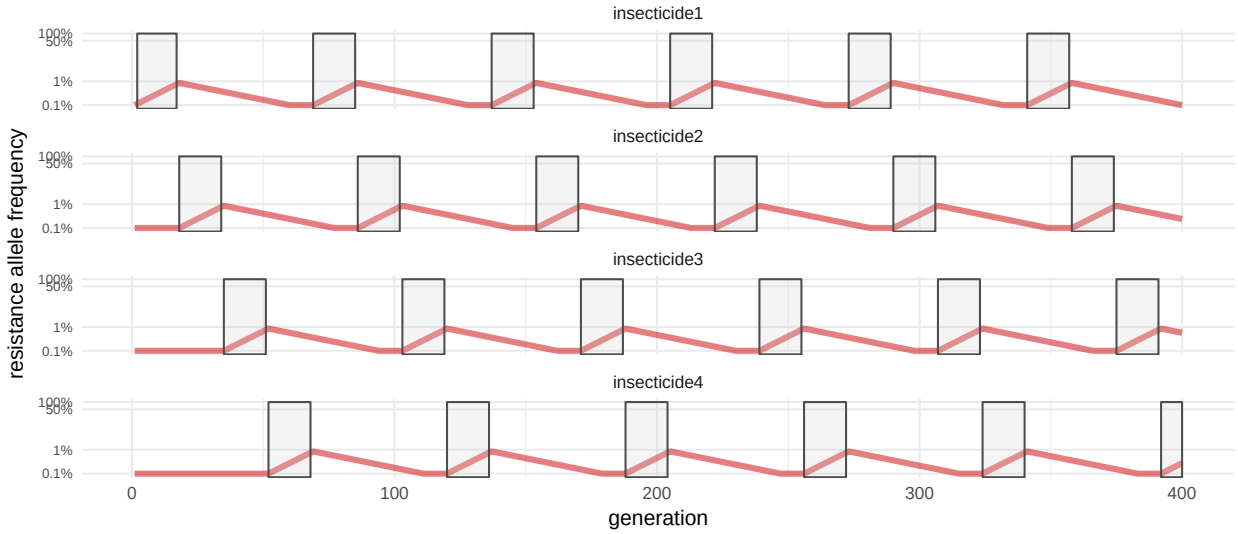

```
## scenario 87  expo_hi 0.13  eff 0.88  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



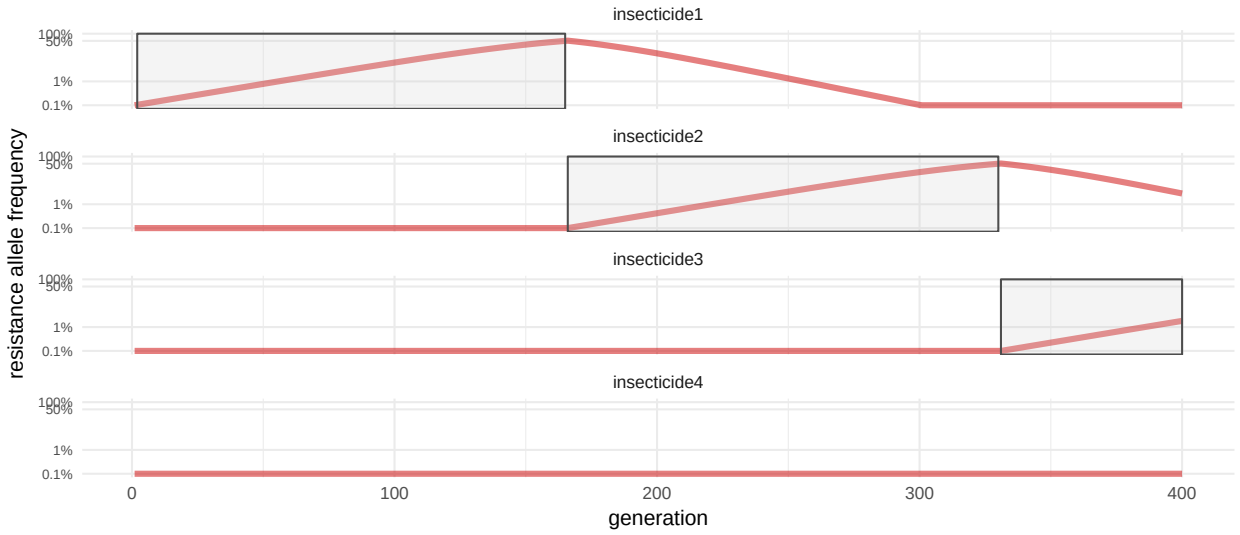

```
## scenario 87  expo_hi 0.13  eff 0.88  rot_interval 8
## tot gens deployed under freq 0.5 = 399
```



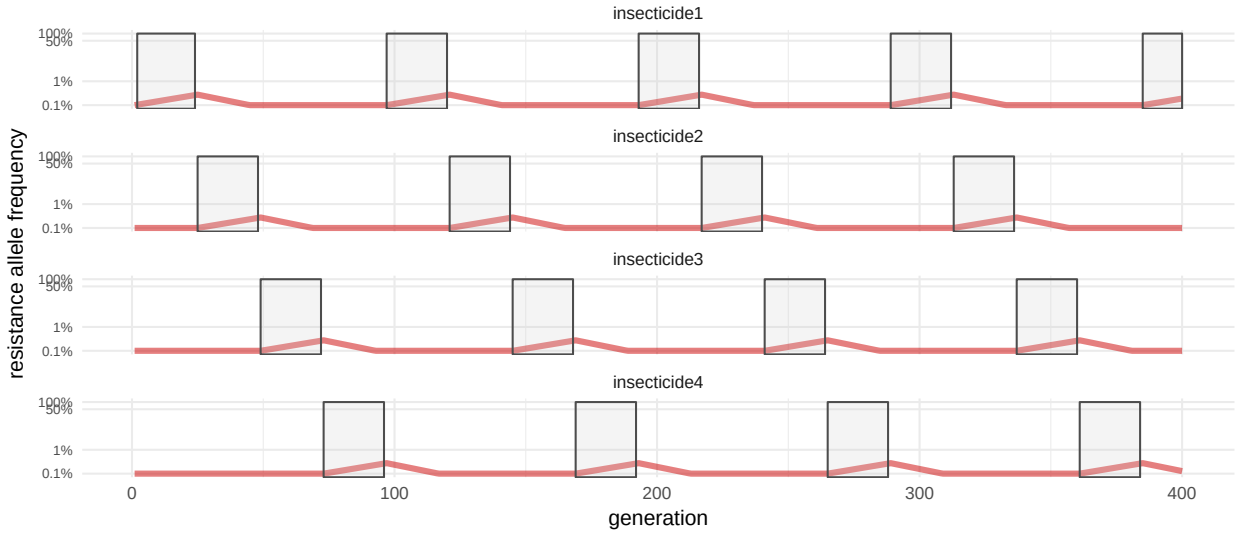

```
## scenario 88  expo_hi 0.86  eff 0.43  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



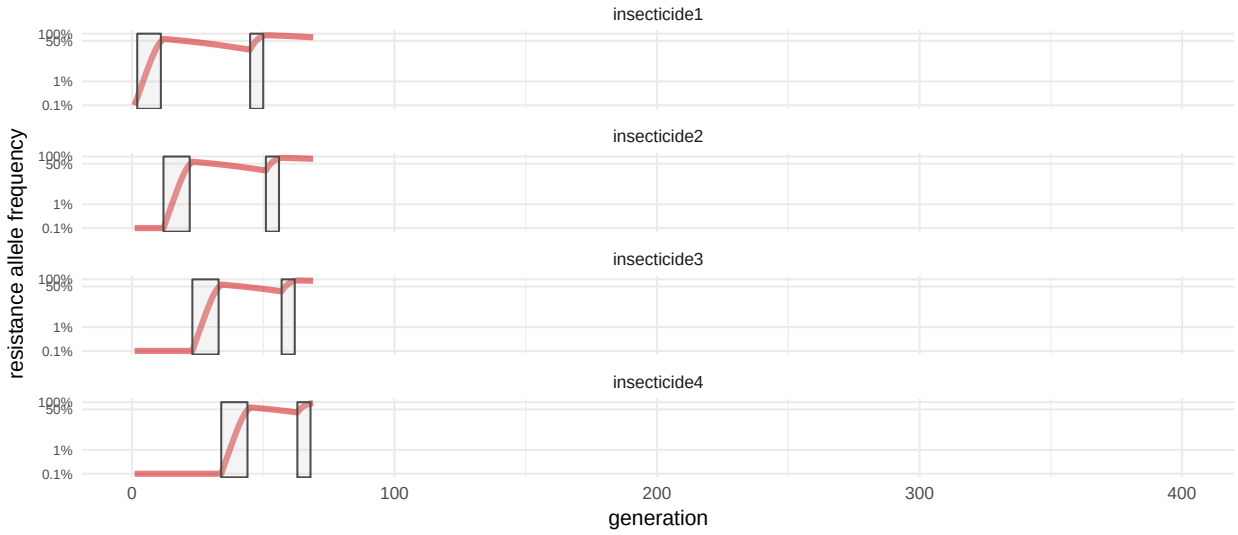

```
## scenario 88  expo_hi 0.86  eff 0.43  rot_interval 17
## tot gens deployed under freq 0.5 = 399
```



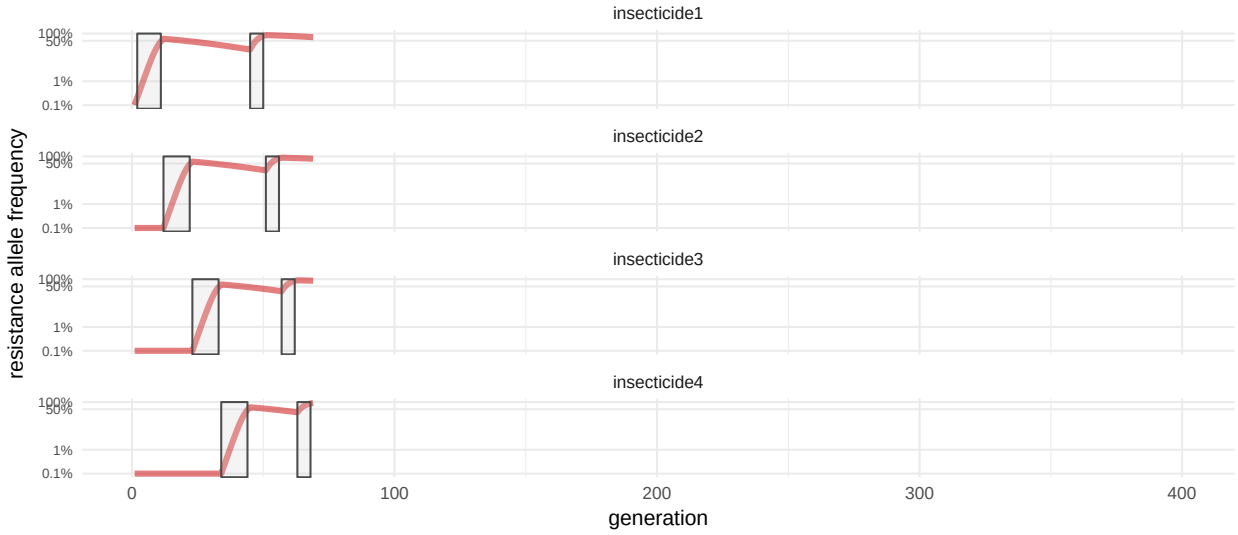

```
## scenario 89  expo_hi 0.6  eff 0.36  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



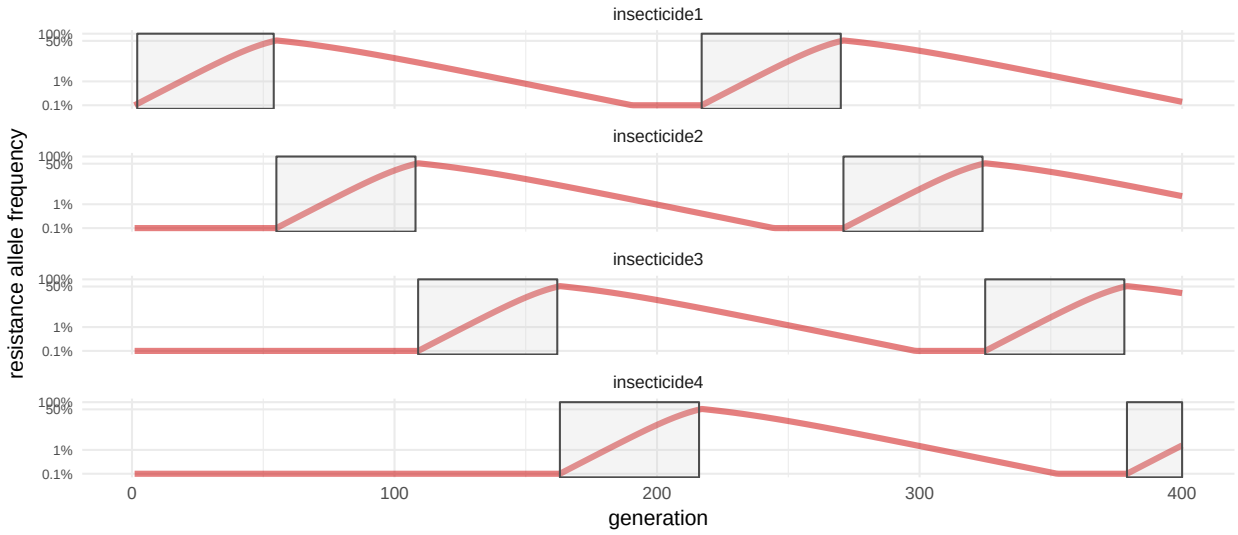

```
## scenario 89  expo_hi 0.6  eff 0.36  rot_interval 24
## tot gens deployed under freq 0.5 = 399
```



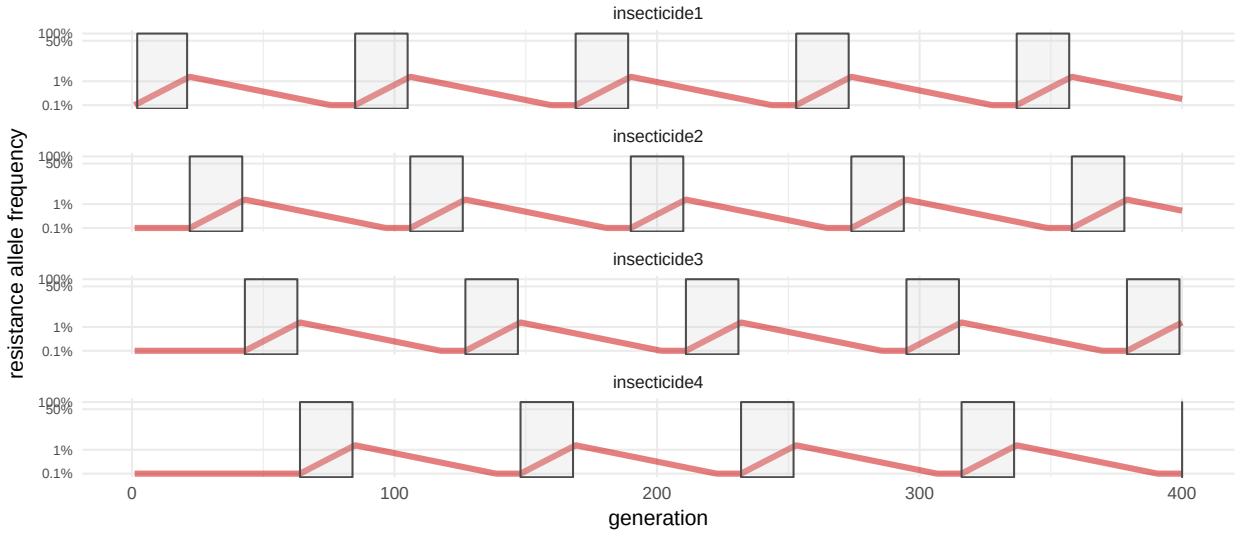

```
## scenario 90  expo_hi 0.84  eff 0.96  rot_interval 0
## tot gens deployed under freq 0.5 = 51
```



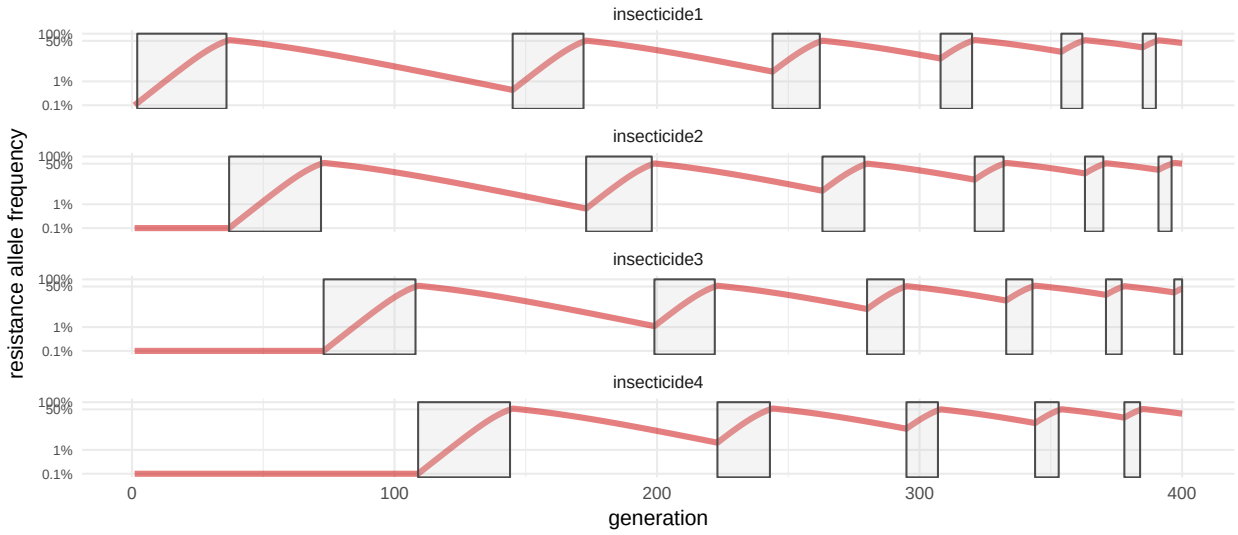

```
## scenario 90  expo_hi 0.84  eff 0.96  rot_interval 26
## tot gens deployed under freq 0.5 = 51
```



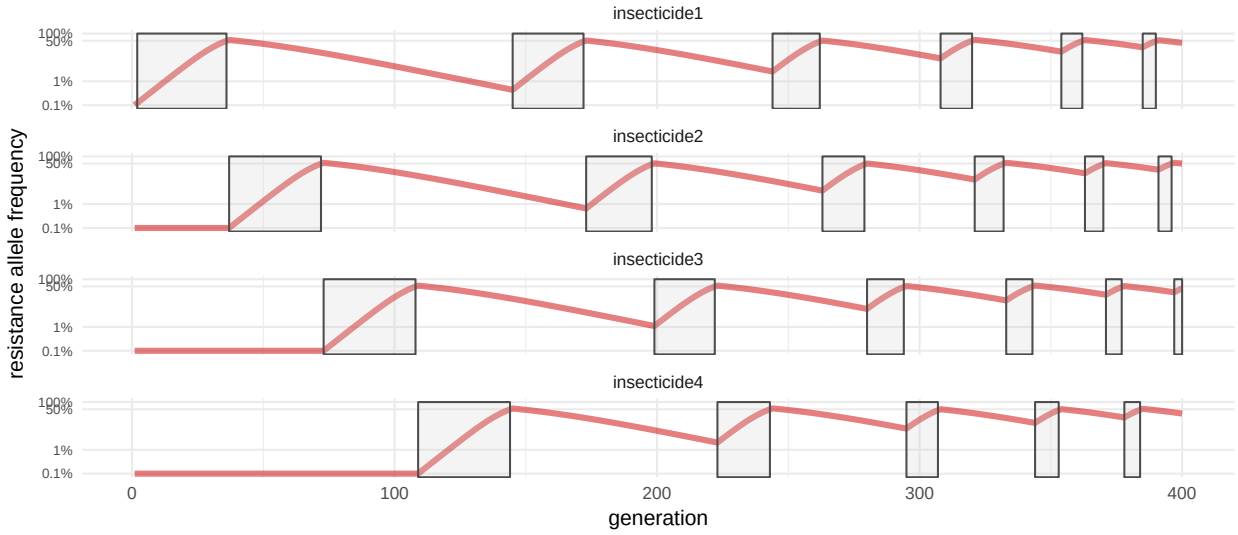

```
## scenario 91  expo_hi 0.71  eff 0.56  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



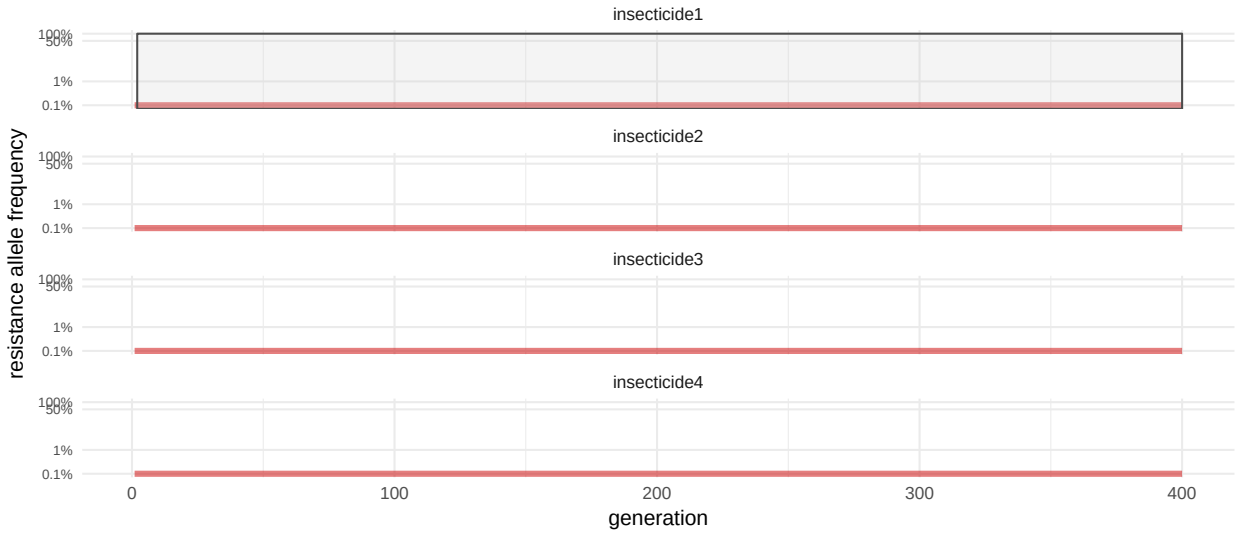

```
## scenario 91  expo_hi 0.71  eff 0.56  rot_interval 21
## tot gens deployed under freq 0.5 = 399
```



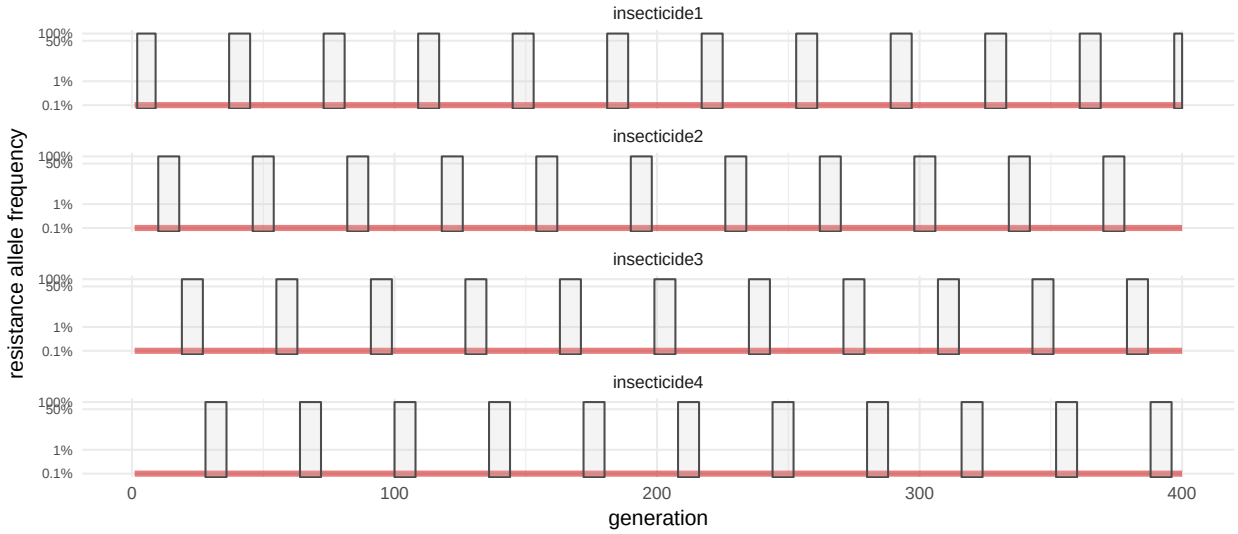

```
## scenario 92  expo_hi 0.8  eff 0.61  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



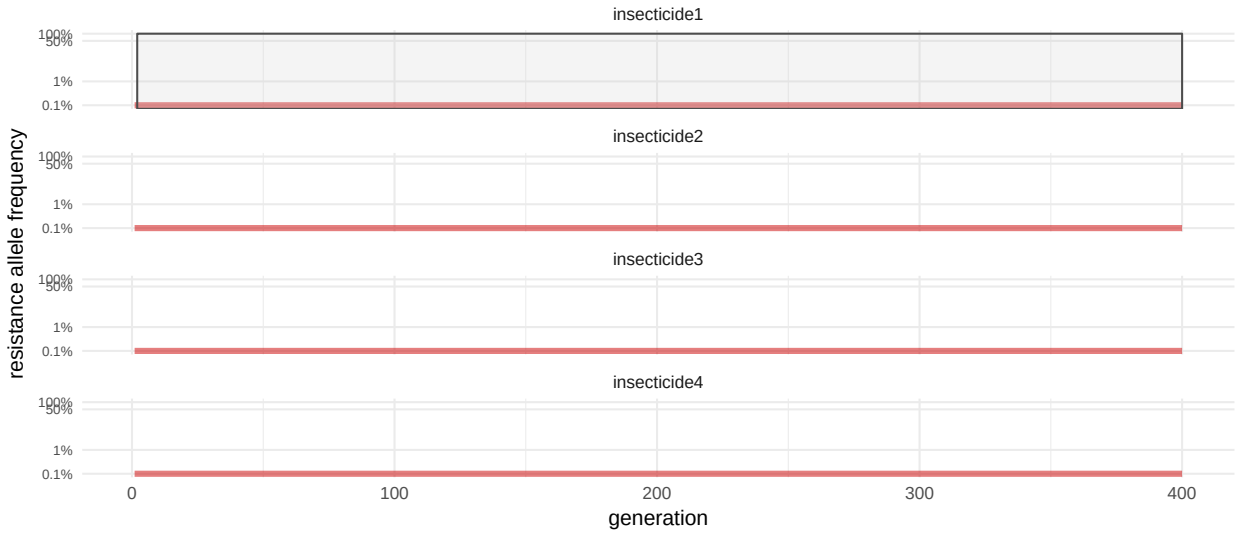

```
## scenario 92  expo_hi 0.8  eff 0.61  rot_interval 40
## tot gens deployed under freq 0.5 = 399
```



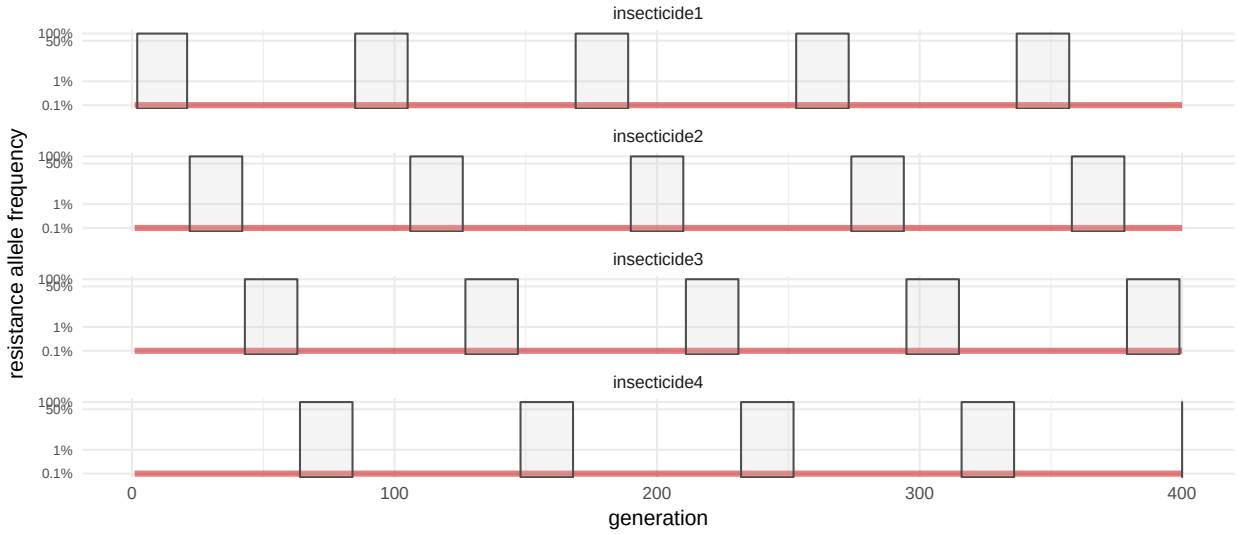

```
## scenario 93  expo_hi 0.11  eff 0.79  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



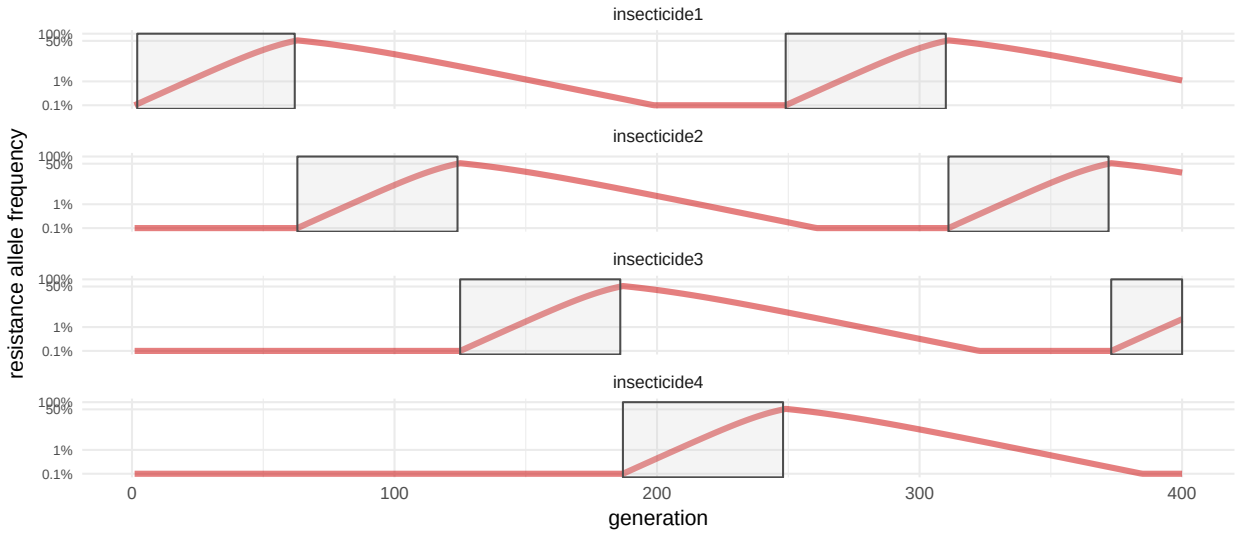

```
## scenario 93  expo_hi 0.11  eff 0.79  rot_interval 9
## tot gens deployed under freq 0.5 = 399
```



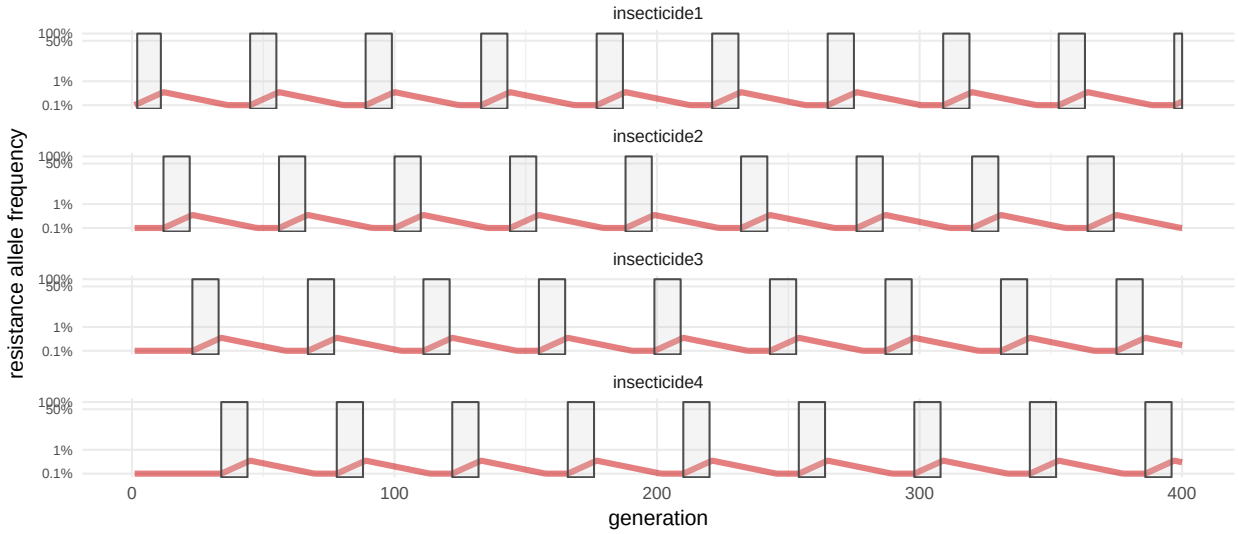

```
## scenario 94  expo_hi 0.17  eff 0.55  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



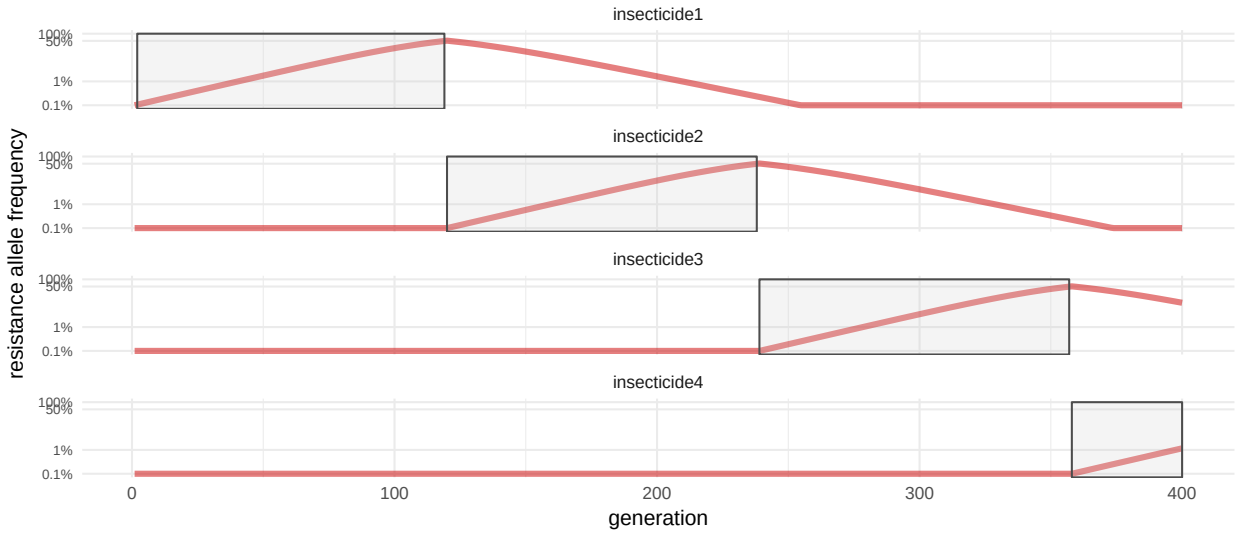

```
## scenario 94  expo_hi 0.17  eff 0.55  rot_interval 21
## tot gens deployed under freq 0.5 = 399
```



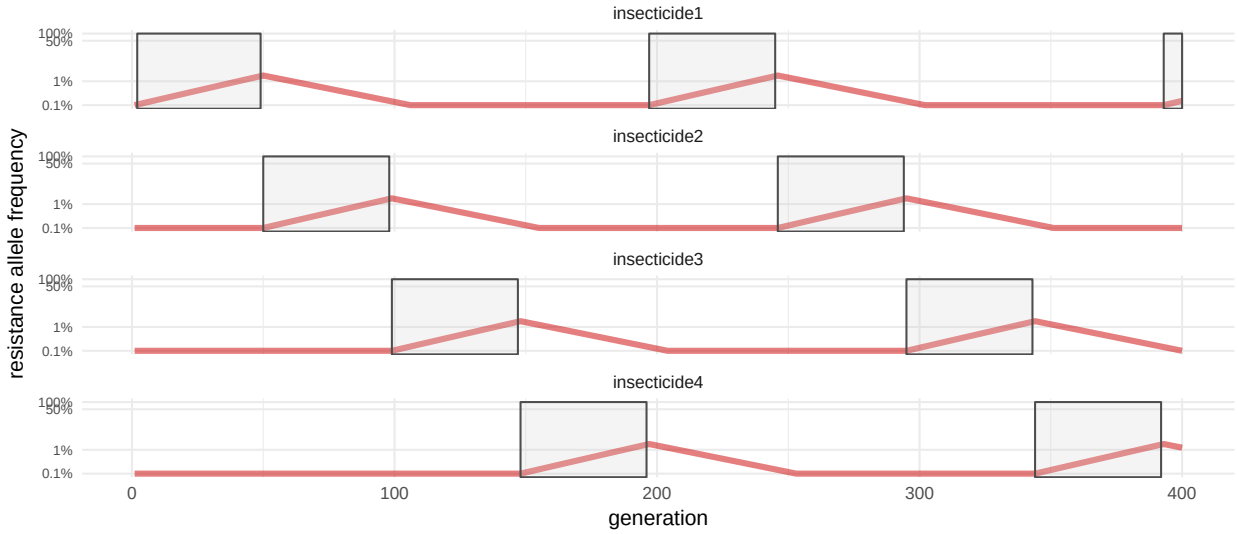

```
## scenario 95  expo_hi 0.57  eff 0.67  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



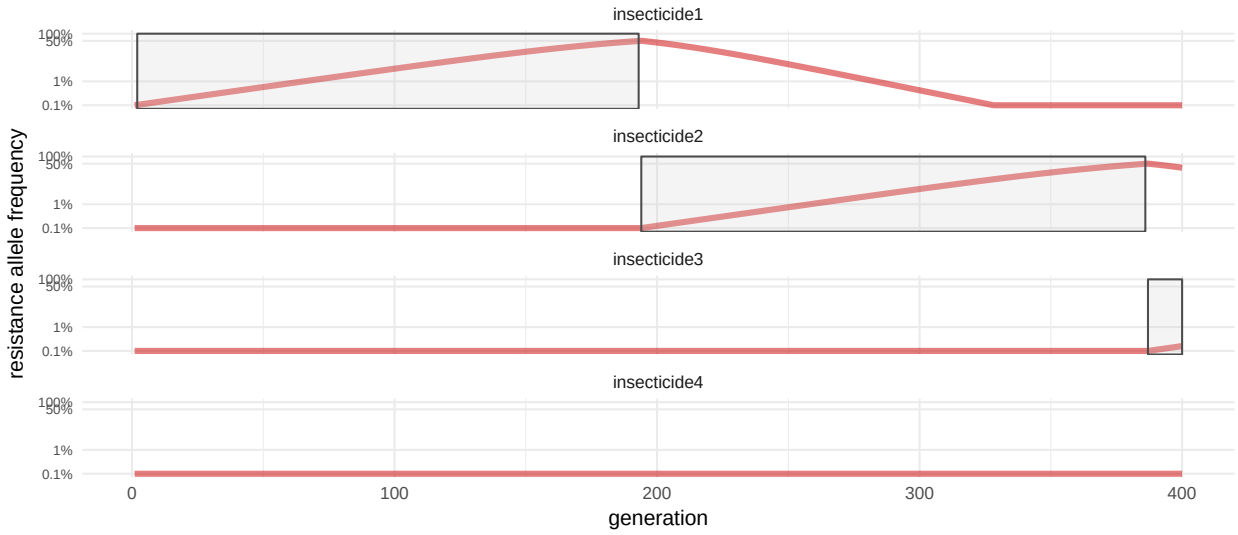

```
## scenario 95  expo_hi 0.57  eff 0.67  rot_interval 11
## tot gens deployed under freq 0.5 = 399
```



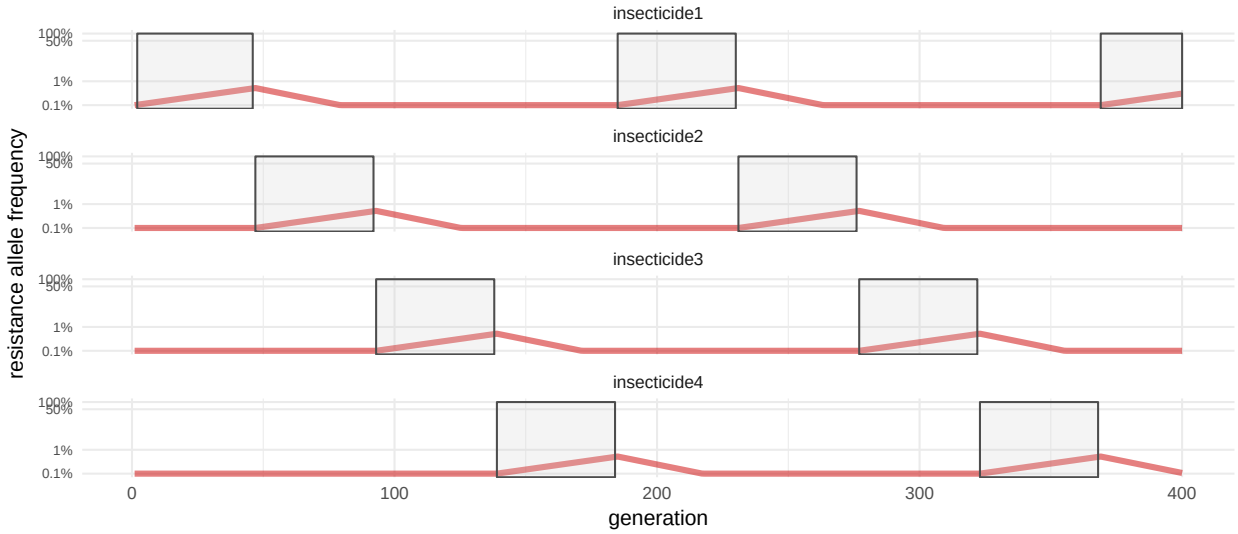

```
## scenario 96  expo_hi 0.61  eff 0.43  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



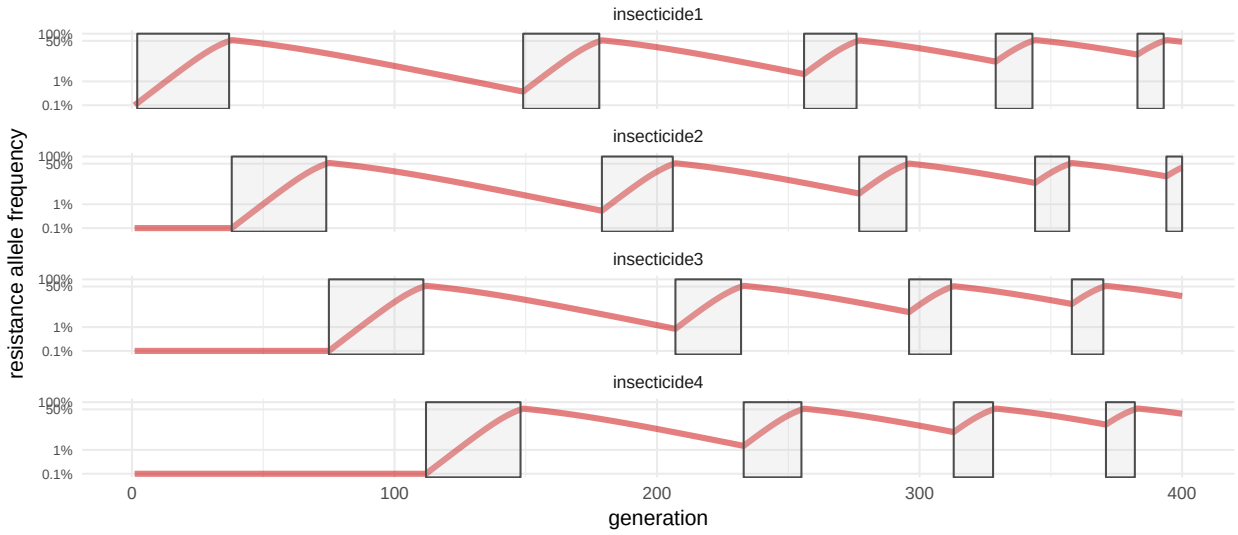

```
## scenario 96  expo_hi 0.61  eff 0.43  rot_interval 49
## tot gens deployed under freq 0.5 = 399
```



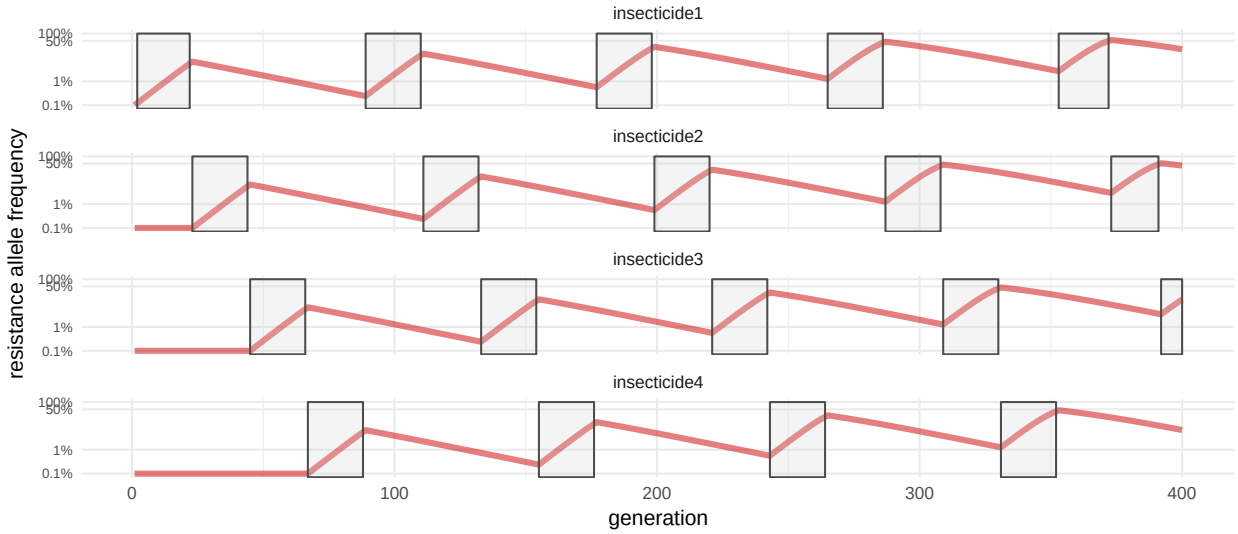

```
## scenario 97  expo_hi 0.53  eff 0.4  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



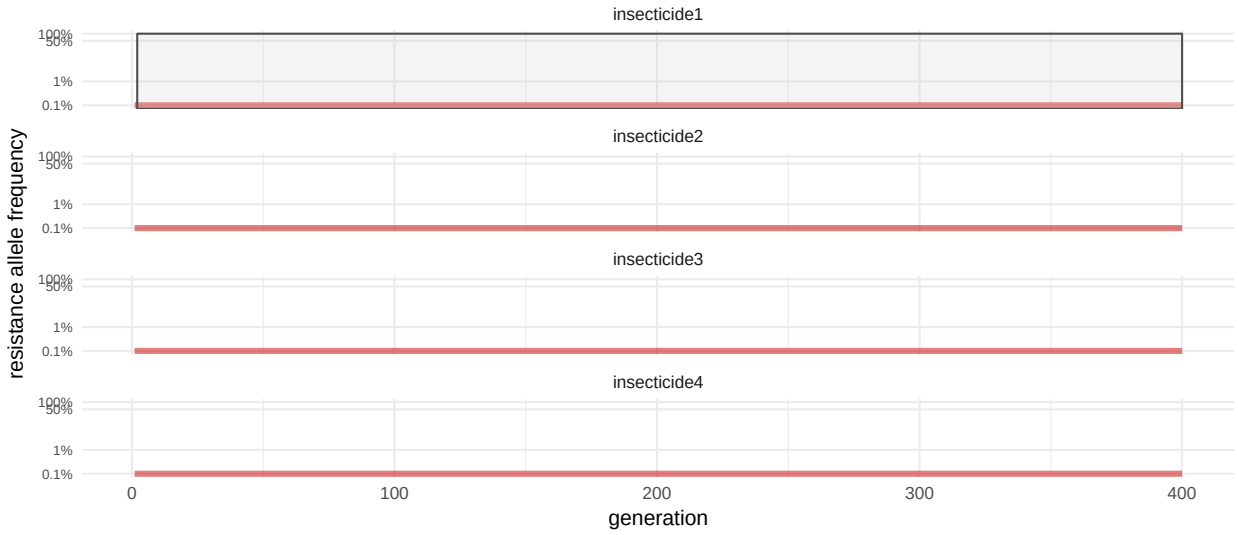

```
## scenario 97  expo_hi 0.53  eff 0.4  rot_interval 46
## tot gens deployed under freq 0.5 = 399
```



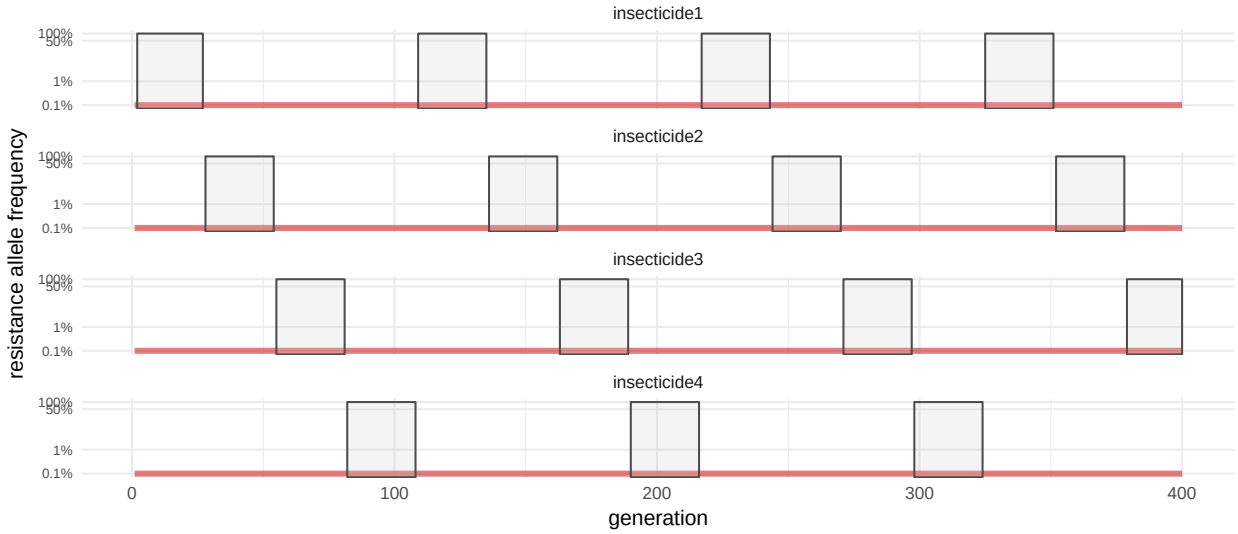

```
## scenario 98  expo_hi 0.64  eff 0.78  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```



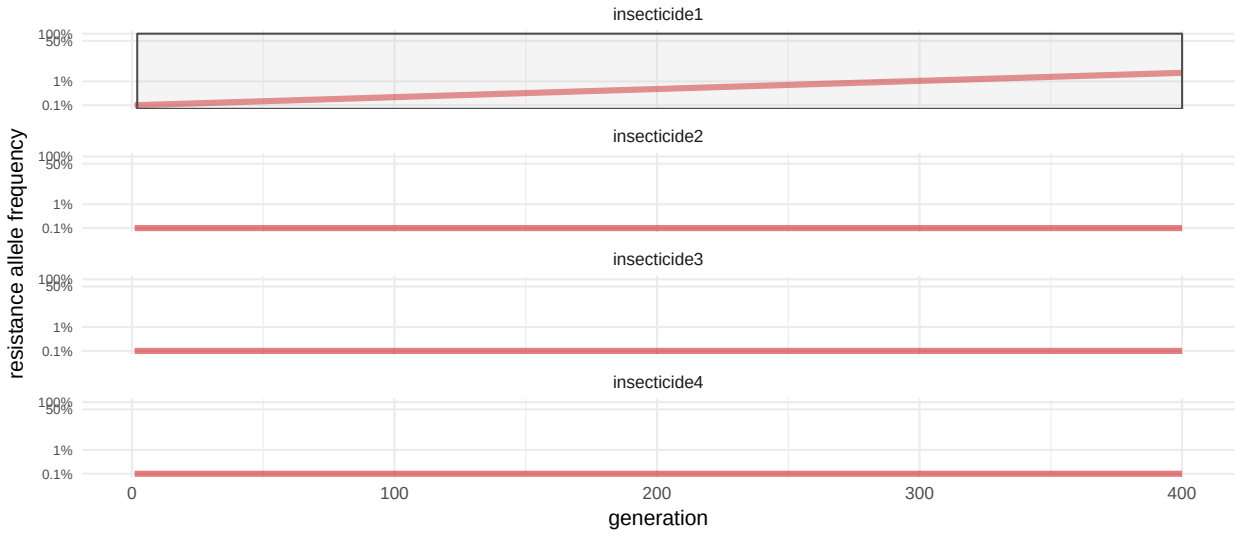

```
## scenario 98  expo_hi 0.64  eff 0.78  rot_interval 22
## tot gens deployed under freq 0.5 = 399
```



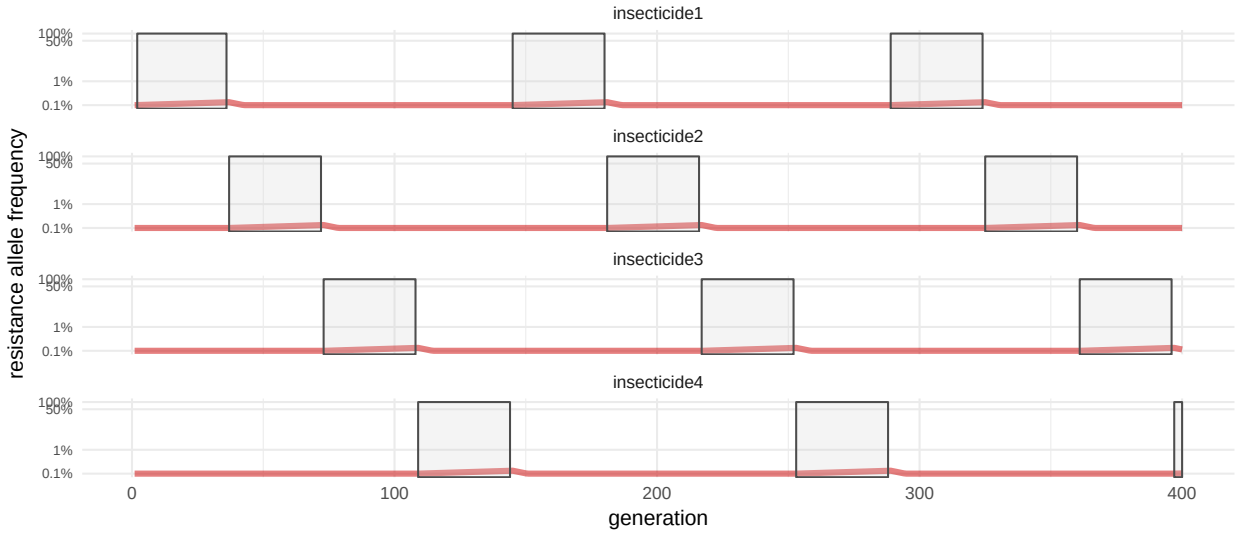

```
## scenario 99  expo_hi 0.19  eff 0.63  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```




```
## scenario 99  expo_hi 0.19  eff 0.63  rot_interval 27
## tot gens deployed under freq 0.5 = 399
```




```
## scenario 100  expo_hi 0.23  eff 0.77  rot_interval 0
## tot gens deployed under freq 0.5 = 399
```




```
## scenario 100  expo_hi 0.23  eff 0.77  rot_interval 36
## tot gens deployed under freq 0.5 = 399
```

summary plot of all runs, would show any differences between sequence & rotations as non horizontal lines