S2 Appendix: Effects of each parameter on stability of the equilibria

The figures in this appendix show the effects on the model’s equilibrium behavior of changing each parameter. For comparison, dashed lines show the stability boundaries for the parameter values use in Fig. 2 in the main text \((r_R = 1.5, r_I = 1.5, c_R = 0.65, c_I = 1.1, a = 1.2, b = 0.01, \text{ and } k = 1)\). Shaded regions indicate stability of the equilibria when one of these parameters is changed. The equilibrium at which the microbe-independent plant excludes the microbe-responsive plant in both patches is always stable; white regions indicate where this is the only stable equilibrium present. In the dark gray region, the equilibrium at which responsive plant excludes the microbe-independent plant is stable and in the light gray region, the two species stably coexist.

(a) Higher \(r_R\)  
(b) Lower \(r_R\)  

Figure S2.1. Effects of changing the parameter \(r_R\) \((r_R = 1.5\) is shown in Fig. 2 in the main text\). (a) \(r_R = 2\) and (b) \(r_R = 1.1\).
Figure S2.2. Effects of changing the parameter $r_I$ ($r_I = 1.5$ is shown in Fig. 2 in the main text). (a) $r_I = 2$ and (b) $r_I = 1.1$.

Figure S2.3. Effects of changing the parameter $c_R$ ($c_R = 0.65$ is shown in Fig. 2 in the main text). (a) $c_R = 0.67$ and (b) $c_R = 0.6$. 
Figure S2.4. Effects of changing the parameter $c_I$ ($c_I = 1.1$ is shown in Fig. 2 in the main text). (a) $c_I = 1.4$ and (b) $c_I = 1.01$.

Figure S2.5. Effects of changing the parameter $a$ ($a = 1.2$ is shown in Fig. 2 in the main text). (a) $a = 1.25$ and (b) $a = 1.15$. 
Figure S2.6. Effects of changing the parameter $b$ ($b = 0.01$ is shown in Fig. 2 in the main text). (a) $b = 0.02$ and (b) $b = 0.001$.

Figure S2.7. Effects of changing the parameter $k$ ($k = 1$ is shown in Fig. 2 in the main text). (a) $k = 1.1$ and (b) $k = 0.9$. 