

Scenario 1: Maria, the organic potato producer

Maria, an organic potato farmer who lives in an area of relatively high virus pressure (with inoculum = 20) received healthy seed (initial proportion of healthy seed = 1) from a project to viruses (host susceptibility = 0.9). The farmer does not do roguing (roguing = 1), but implements positive selection that will teach her to do positive selection to an efficiency of 0.8. She has three varieties; varieties are available with the following host susceptibility values: 0.4, 0.6 and 0.8.

Questions:

1. Will positive selection be enough to control degeneration in her fields?
2. If host resistance is also needed, what level?

No.	Parameter	Values		
		1. Baseline	2. Positive selection (PS, 0.2)	3. PS + Cultivar 1 (0.8)
1	Initial proportion of healthy seed	1	1	1
2	External inoculum around the farm	20	20	20
3	Maximum seasonal transmission rate	0,02	0,02	0,02
4	Weather conduciveness for disease	0,8	0,8	0,8
5	Host susceptibility	0,9	0,9	0,8
6	Vector and weed management	1	1	1
7	Roguing	1	1	1
8	Seed production rate in healthy plants	4	4	4
9	Plant (seed) selection	1	0,2	0,2
10	Differential seed production	0,9	0,9	0,9
11	Reversion in infected plants	0,1	0,1	0,1
12	Certified seed usage	0	0	0
13	Rate of yield decline	0,2	0,2	0,2

rather conduciveness = 0.8; external
 ect but the variety is highly susceptible
 has the option to attend a course on
 also has the option to buy a new
 0.8.

4. PS + Cultivar 2 (0.6)	5. PS + Cultivar 3 (0.4)
1	1
20	20
0,02	0,02
0,8	0,8
0,6	0,4
1	1
1	1
4	4
0,2	0,2
0,9	0,9
0,1	0,1
0	0
0,2	0,2