

Summary of research and dissemination related parameters of research options

Research option	Duration of Research Phase (years)	Year when Research Started	No. of Countries Targeted	Regions Targeted	Total R&D Costs (\$ millions) ¹	Dissemination Costs (\$/ha)	Probability of Research Success (%)
1 Recovery from BBTV	9	New	22	Africa, Asia	34.40	80	90
2a BXW management: cultural practices	7	2003	14	Africa	35.40	80	80
2b BXW management: GM-resistant varieties	7	2005	14	Africa	2.80 ²	50	90
3 Cropping system intensification	10	2013	23	Africa, LAC, Asia	22.72	80	90
4a Resistant EAHB (release)	7	2003	6	East Africa	5.00	50	100
4b Resistant EAHB (new)	16	New	6	East Africa	13.65	50	90
5a Resistant plantain (release)	7	2003	18	Africa, LAC, Asia	11.00	50	100
5b Resistant plantain (new)	16	New	18	Africa, LAC, Asia	19.65	50	90
6a Fusarium (Quarantine and surveillance)	5	New	29	Africa, LAC, Asia	16.24	50	80
6b Fusarium (Integrated management)	10	New	20	Africa, LAC, Asia	30.46	50	90
6c Fusarium (Resistant cultivars)	15	New	28	Africa, LAC, Asia	47.73	50	60
6d Fusarium (GM-resistant cultivars)	10	New	19	Africa, LAC, Asia	8.51 ²	50	40

¹ For the analysis, these costs are matched with additional costs of the same magnitude (1:1) at the NARS level.

² Costs do not include costs for deregulation and establishing biosafety laws at the national level.

Important remark: For our assessment we have used a broader success probability. It not only accounts for the likelihood that the planned research outputs will be achieved, but also captures (some of) the uncertainty related to the acceptance and up-take of research products at the national level and thus the likelihood that the innovation will actually be available and can be adopted by farmers in a specific country. This compound probability of success was estimated by informally assessing the capacity of the respective NARS sector, past experiences of collaboration, and the overall conditions/situation in each target countries. A good example is the development of genetically modified (GM) banana varieties resistant to, for example, bacterial wilt for which (official/legal) release and adoption depends on the enactment of biosafety laws and regulations. The probability of success is thus defined as the probability that a certain technology will be successfully developed **and** released (i.e., is available). It is conceptually different from the rate of adoption (assumed to be a technology choice at the producer level).