| (2a) BXW management: cultural practices | |
|---|---|
| Countries | **14** African countries where BXW is either already present or will very likely spread in the near future if no major intervention occurs. |
| Cultivar groups considered | **6** (all cultivar groups used for priority assessment) |
| Current and likely future spread | The estimation of the current and likely future spread of the disease was made **separately for each cultivar group and country.** A faster spread and thus higher percentage values for future affected area were assumed for the ABB cultivar group. |
| Benefits:<br>- Increase in yield<br>- Reduction in postharvest losses | <br>**90%**<br>**No effect** |
| Production costs | **20% increase** mainly due to higher costs associated with purchase of clean seed but simultaneous lower costs for labour. |
| Adoption ceiling | **30-70% of the (future) area affected** by BXW given the high yield losses caused by the disease.<br>**7-60% of the total national production area** |
| Research period | **7 years** |
| Technology release | The technology release will start **in 3 years** in all included countries |
| Time from first adoption until estimated adoption ceiling will be reached | **7 years** for all countries but Burundi and DRC, where adoption will be a bit slower (**8 years** from first to maximum adoption). |
| Probability of success (up-take of technology) | **80%** for all countries, with the exception of CAR and South Sudan, where additional challenges at the national level are expected. Given the high level of damage resulting from the disease and the low level of complexity of the new technology, the probability of success is high. |
| R&D costs | **$35.4 million** |
| Additional country-level costs | **$35.4 million** (matched 1:1 with R&D costs) |
| Resource persons | Guy Blomme, Eldad Karamura, Charles Staver |

## (2a) BXW Management - cultural practices

| Country | Production Area ('000 ha) | Area Threatened by/ Susceptible to BXW (% of total) | Current Spread of BXW (% of potentially threatened area) | Spread of BXW in 25 years without Major Intervention (% of threatened area) | Adoption Ceiling (% of area affected in 25 years) |
|---|---|---|---|---|---|
| Angola | 36.76 | 100.00 | 0.00 | 20.78 | 40 |
| Burundi | 371.05 | 100.00 | 32.16 | 52.16 | 55 |
| Cameroon | 184.41 | 100.00 | 0.00 | 22.41 | 40 |
| CAR | 49.17 | 100.00 | 0.00 | 100.00 | 30 |
| DRC | 391.62 | 100.00 | 21.45 | 100.00 | 50 |
| Ethiopia | 22.89 | 100.00 | 10.06 | 20.06 | 60 |
| Kenya | 80.49 | 100.00 | 7.48 | 12.48 | 60 |
| Malawi | 26.99 | 100.00 | 0.00 | 100.00 | 60 |
| Mozambique | 27.86 | 100.00 | 0.00 | 50.54 | 40 |
| Rwanda | 343.64 | 100.00 | 61.89 | 61.89 | 70 |
| South Sudan | 7.11 | 100.00 | 0.00 | 100.00 | 30 |
| Tanzania | 537.68 | 100.00 | 11.86 | 21.86 | 50 |
| Uganda | 1,763.98 | 100.00 | 62.06 | 67.06 | 60 |
| Zambia | 0.23 | 100.00 | 0.00 | 100.00 | 50 |

**Source:** Production information from FruiTrop (2010); threatened and affected area and adoption ceiling are estimates from resource persons; current and estimated future spread of constraint displayed in table above is weighted average of estimates by cultivar group.

**(2a) BXW Management - cultural practices (continued)**

| Country | Adoption Ceiling (% of total area) ($At_{max}$) | Years to First Adoption ($t_0$) | Years to $At_{max}$ | Yield Increase (%) | Reduction in Postharvest Losses (%) | Change in Input Costs (%) | Probability of Success (%) |
|---|---|---|---|---|---|---|---|
| Angola | 8 | 3 | 7 | 90 | 0 | 20 | 80 |
| Burundi | 29 | 3 | 8 | 90 | 0 | 20 | 80 |
| Cameroon | 9 | 3 | 7 | 90 | 0 | 20 | 80 |
| CAR | 30 | 3 | 7 | 90 | 0 | 20 | 50 |
| DRC | 50 | 3 | 8 | 90 | 0 | 20 | 80 |
| Ethiopia | 12 | 3 | 7 | 90 | 0 | 20 | 80 |
| Kenya | 7 | 3 | 7 | 90 | 0 | 20 | 80 |
| Malawi | 60 | 3 | 7 | 90 | 0 | 20 | 80 |
| Mozambique | 20 | 3 | 7 | 90 | 0 | 20 | 80 |
| Rwanda | 43 | 3 | 7 | 90 | 0 | 20 | 80 |
| South Sudan | 30 | 3 | 7 | 90 | 0 | 20 | 50 |
| Tanzania | 11 | 3 | 7 | 90 | 0 | 20 | 80 |
| Uganda | 40 | 3 | 7 | 90 | 0 | 20 | 80 |
| Zambia | 50 | 3 | 7 | 90 | 0 | 20 | 80 |

**Source:** Expert estimates.