### Fusarium Research Option C: Development of Fusarium resistant banana cultivars

| Countries | 28 (11 African countries, 9 Asian countries, 8 LAC countries) where Fusarium is either already present or will very likely spread in the near future if no major intervention occurs. |
| Cultivar groups considered | 6 AAA Cavendish, Other AAA, EAH AAA, AAB Plantain, Other AAB, ABB in all countries considered. The research carried out will provide resistant varieties to all Fusarium races. |
| Current and likely future spread | Although Fusarium is already present in some countries, we assume that the production area currently affected is zero percent in all countries since there are no reliable figures about the actual spread. The estimation of the likely future spread of the disease was made separately for each cultivar group and country by applying a ‘Foc scale’ that we developed. We assumed that 100% of the banana production area in the included countries is susceptible to Foc. |
| Benefits: | **Increase in yield** 100% (losses avoided)  
**Reduction in postharvest losses** No effect |
| Production costs | No effect |
| Adoption ceiling | 80% of the affected targeted area across all countries. This translates into adoption ceilings of 0.8-40.7% of the total national production area. |
| Research period | 15 years |
| Technology release | The technology will be available in **17 years** in all included countries (15 years of research plus 2 years until farmers start adopting the innovation) |
| Time from first adoption until estimated adoption ceiling will be reached | 15 years |
| Probability of success (up-take of technology) | 90% |
| R&D costs | US$47.73 million |
| Additional country-level costs | US$47.73 million (matched 1:1 with R&D costs) |
| Resource persons | Charles Staver, Miguel Dita |
(6c) Fusarium Research Option C: Development of Fusarium resistant banana cultivars

<table>
<thead>
<tr>
<th>Country</th>
<th>Production Area ('000 ha)</th>
<th>Area threatened by/susceptible to Foc (% of production area)</th>
<th>Current estimated spread of Foc (% of production area)</th>
<th>Spread of Foc in 25 years (% of threatened area)</th>
<th>Adoption Ceiling (% of area affected in 25 years)</th>
<th>Adoption Ceiling (% of production area) (Atmax)</th>
<th>Years to First Adoption (ts)</th>
<th>Years to reach maximum adoption Atmax (%)</th>
<th>Yield Increase (%)</th>
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<th>Change in Input Costs (%)</th>
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Source: Strategic Assessment of Banana Research Priorities report