

Estimating minimum nitrogen requirements (N gaps) for yield gap closure and greenhouse gas mitigation

Project Title: P250 - Bringing CSA practices to scale: assessing their contributions to narrow nutrient and yield gaps

Description of the innovation: Complementary to yield gap concept we developed a protocol to derive minimum N input requirements to achieve fixed levels of yield gap closure (maize) in nine countries in SSA. Realising yield gap closure in this manner is GHG efficient due to low emissions per kg maize and avoiding area expansion

New Innovation: No

Stage of innovation: Stage 4: uptake by next user (USE)

Innovation type: Research and Communication Methodologies and Tools

Geographic Scope: Regional

Number of individual improved lines/varieties: <Not Applicable>

Region: <Not Defined>

Outcome Impact Case Report:

●3575 - Improved awareness on climate smart nutrient management options through the IOP farm in Tanzania (<https://tinyurl.com/y3rkk9nk>)

Description of Stage reached: The method has been applied to maize in nine SSA countries and results are publicly available on www.yieldgap.org. The fertilizer industry (IFA and Yara) is using these results for the strategic development of fertilizer recommendations and formulations that will optimize yield and minimize greenhouse gas emissions.

Name of lead organization/entity to take innovation to this stage: <Not Defined>

Names of top five contributing organizations/entities to this stage: <Not Defined>

Milestones: No milestones associated

Sub-IDOs:

Contributing Centers/PPA partners:

Evidence link:

● www.yieldgap.org

Deliverables associated:

- D1864 - 1.3 Maps of nutrient gaps for different percentages of yield gap closure for project countries (www.yieldgap.org)
- D1863 - 1.2 Maize crop nutrient input requirements for food security in sub-Saharan Africa (<https://hdl.handle.net/10568/100664>)

Contributing CRPs/Platforms:

- CCAFS - Climate Change, Agriculture and Food Security
- Maize - Maize