Merging an agent-based modelling approach of nutritional ecology and a population dynamics model at landscape level for the management of the Senegalese grasshopper



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OR DEVELOPMENT



Preliminary studies

- OSE can maximize its performance by selecting foods with high carbohydrate content relative to protein.
- Soil amendments have a negative impact on OSE fitness



Modelling approach

Objectives

• Agent-based model coupling processes from a population dynamics model from the 1990s with an agent-based modelling approach of nutritional ecology representing the individuals' choices of food according to their carbohydrates to protein ratio.



Extrapolate the carbohydrate limitation hypothesis at a landscape scale. Population A



 Provide evidence-based management strategies to minimize damage.



Percentage of fertilized millet fields



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