Syst'N®: performing the diagnosis of N losses in cropping systems

Side Event of the 20th N Workshop

Rennes, June 27th 2018

INRA
SCIENCE & IMPACT

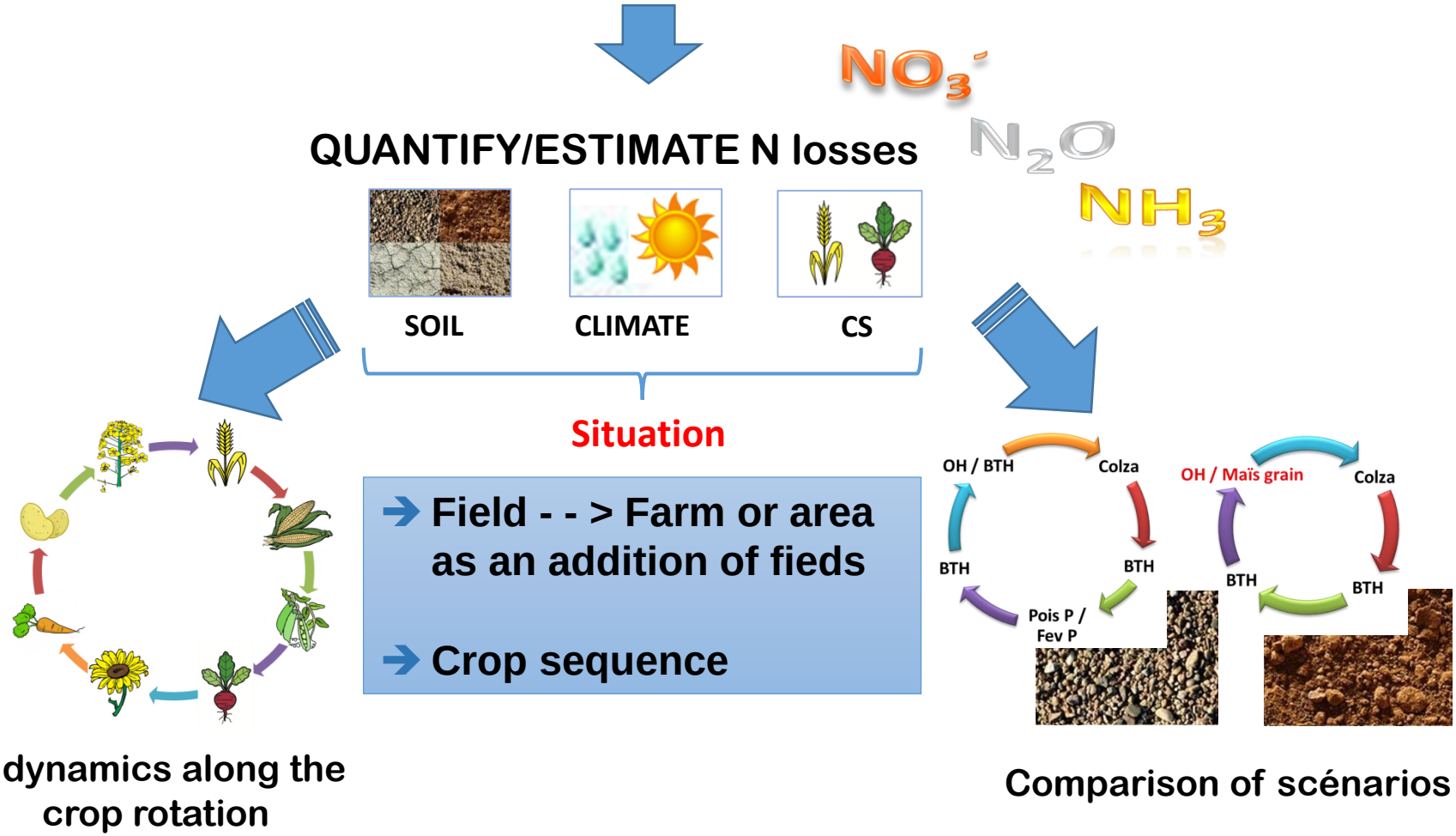
Réseau Mixte Technologique Fertilisation & Environnement

Objectives

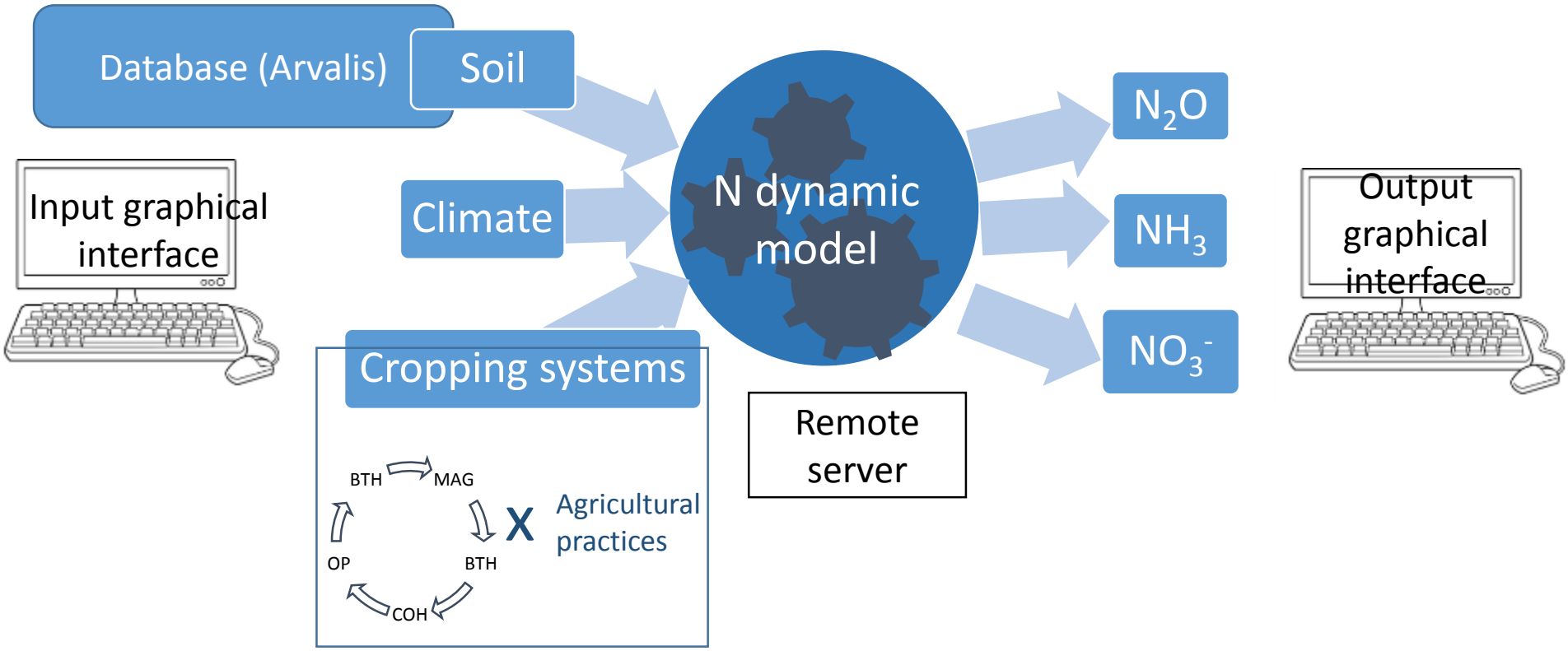
- **Development of the diagnosis of N losses in the cropping systems (CS)**
- Final users = agricultural advisors, environmental managers…
- Helping users to understand N losses in their situations and to improve their cropping system management to lower N emissions
- Improvement of N management in fields or agricultural areas: improvement of practices or/and re-design of cropping systems

What is Syst'N?

- A tool designed **to develop the diagnosis f N losses in the cropping systems (CS)**

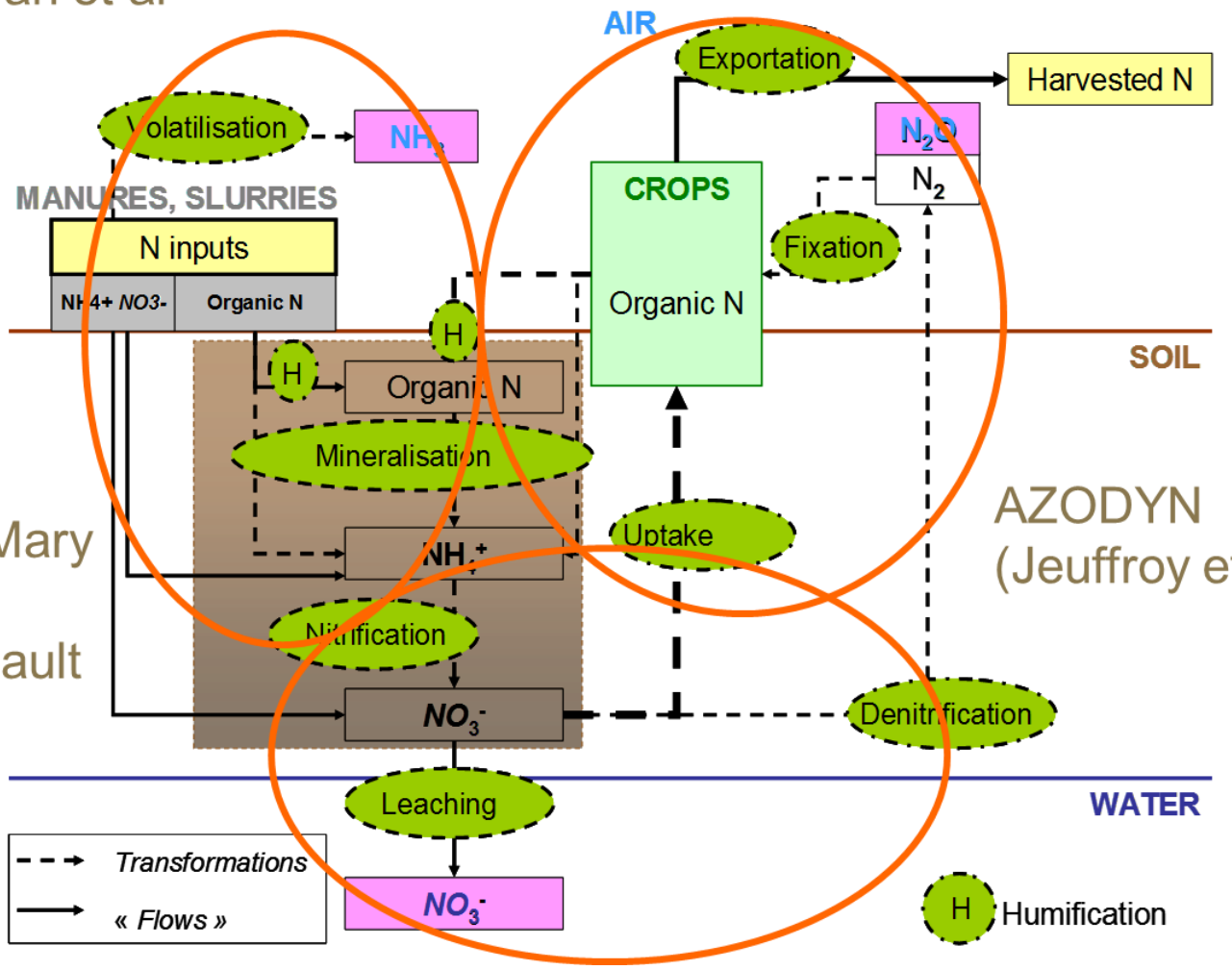


A «user-friendly» software co-designed with final users



Simulation of N fluxes at the rotation scale

Volt'air (Genermont et al)
AZOFERT(Machet et al),
Morvan et al

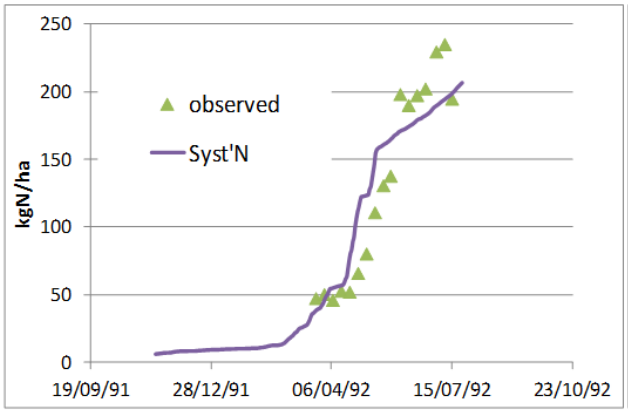


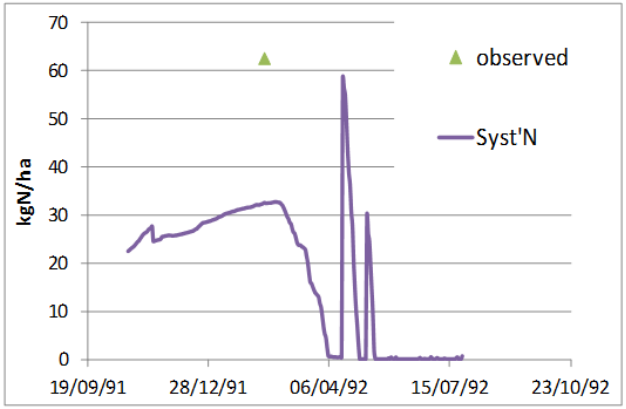
STICS
(Brisson, Mary et al),
NOE (Henault et al)

AZODYN
(Jeuffroy et al)

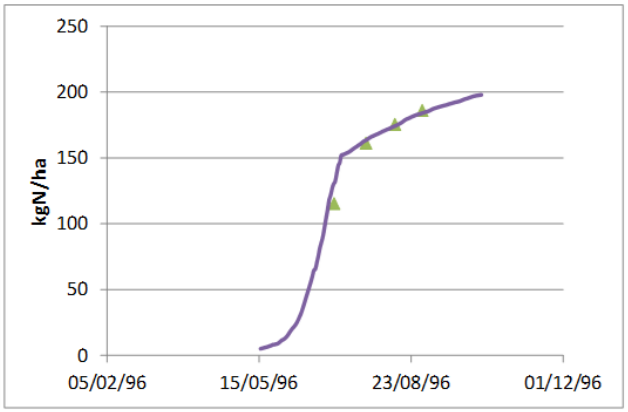
Model parametrization and assessment steps - examples

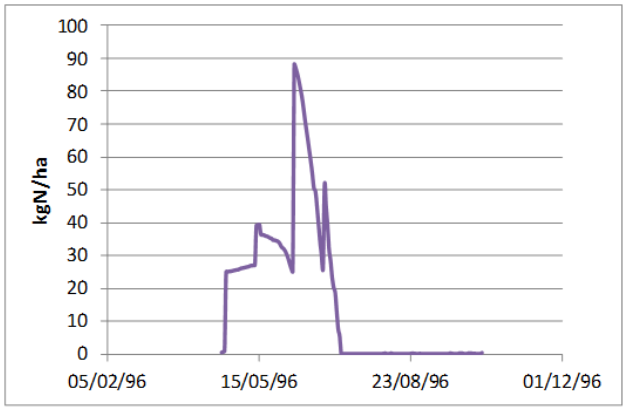
Wheat



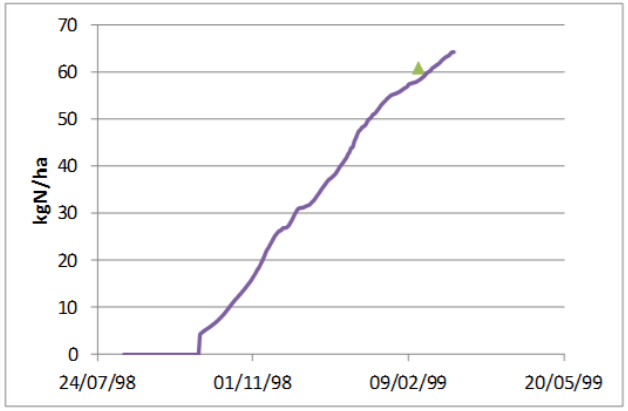


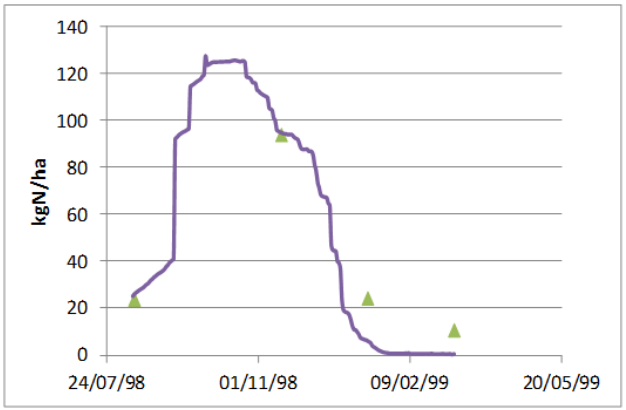
Maize



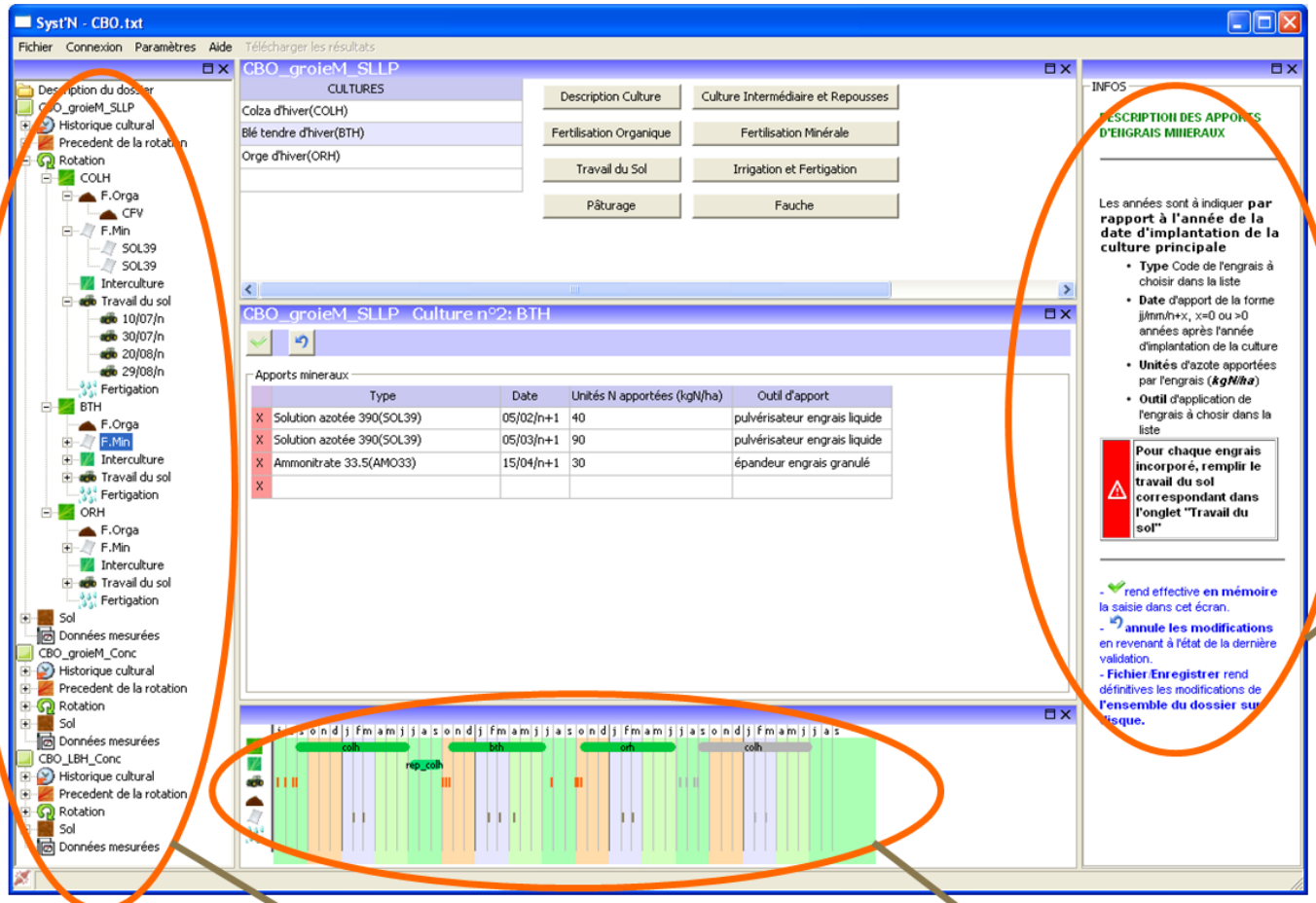


Rye Grass





Description of the cropping systems in their context, with user data and default regional database

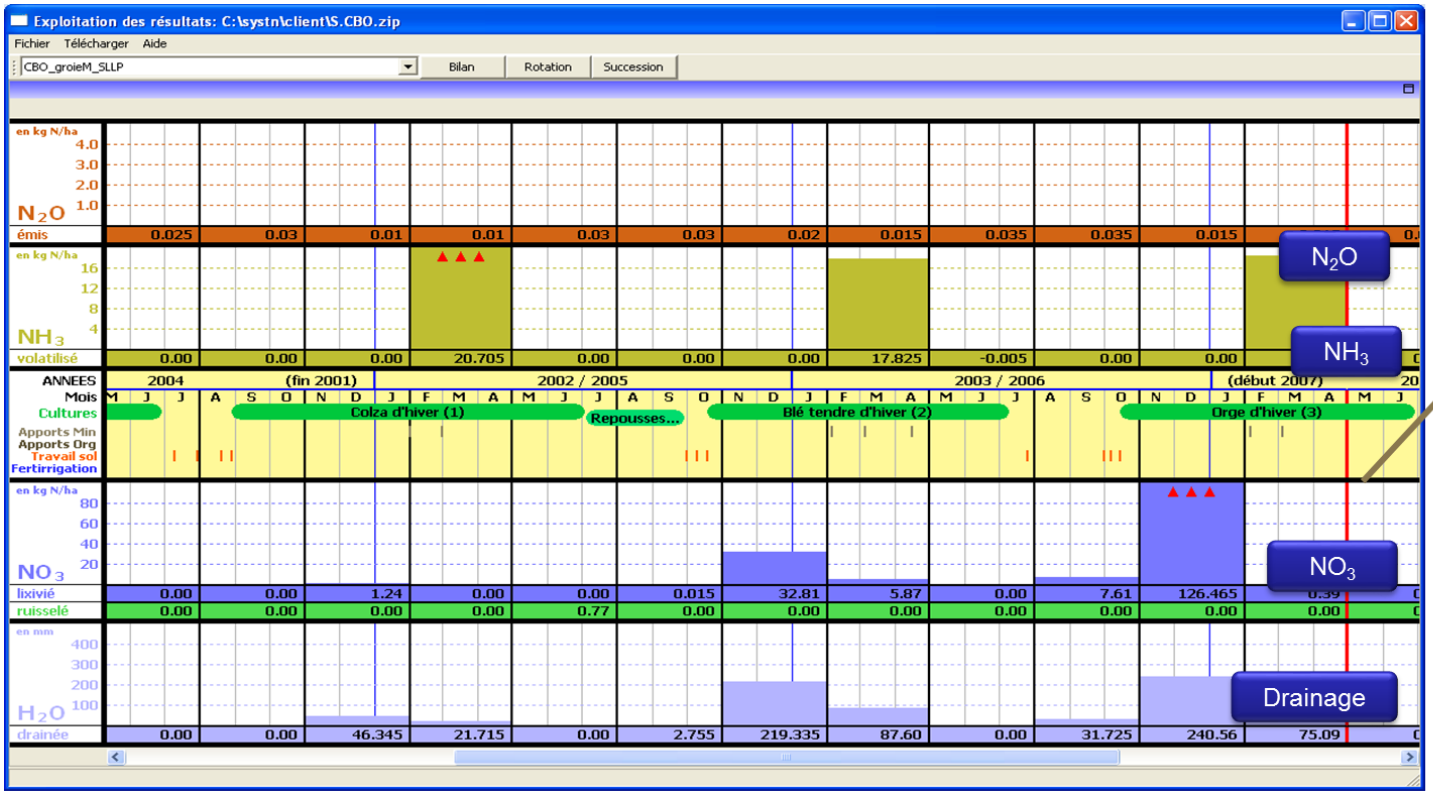


Help menu to describe the cropping systems, soil and climate

Summarised description of the cropping system, enabling to copy, paste and modify them to analyse different situations

Scheme representing the cropping system being described, with every cropping operations

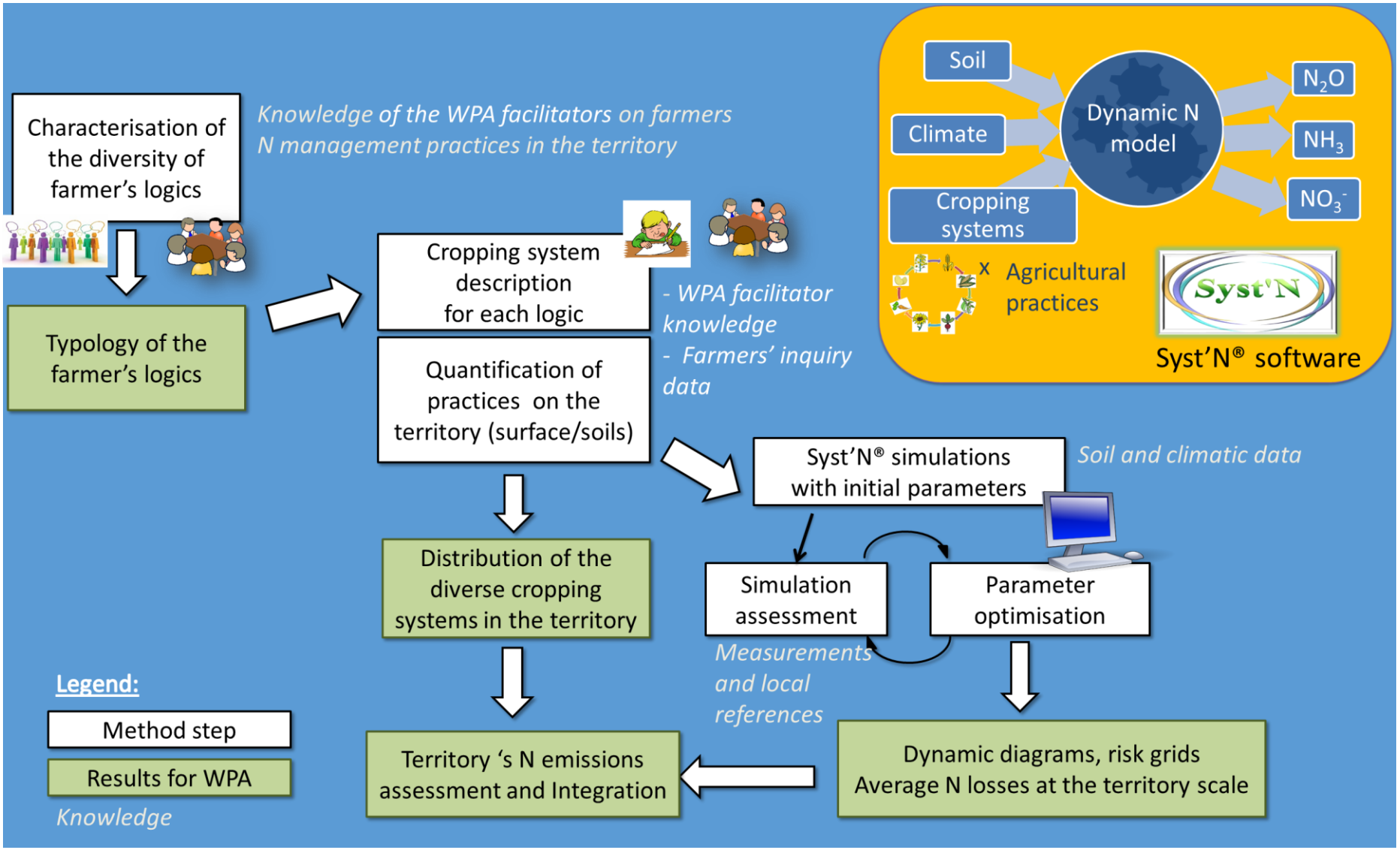
DSS graphical interface for outputs ➔ N diagnosis at the cropping system scale



Brief description of the cropping system (crops, fertilisation, cover crops)

N losses placed under different crops and stages of the cropping systems

Case study – Poster 11



Reau et al, 2015

Demo