

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

Side Event of the 20th N Workshop
Rennes, June 27th 2018

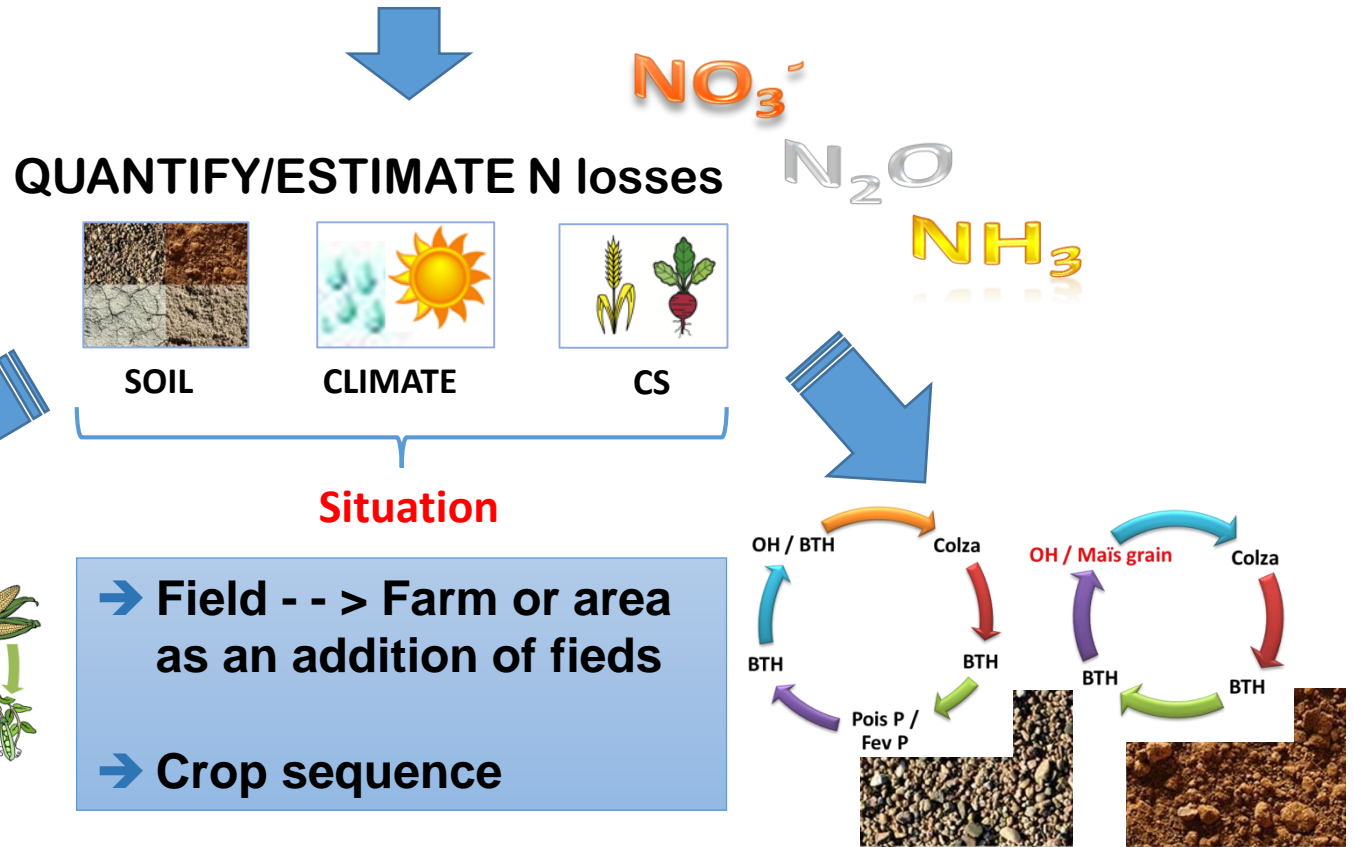


Objectives

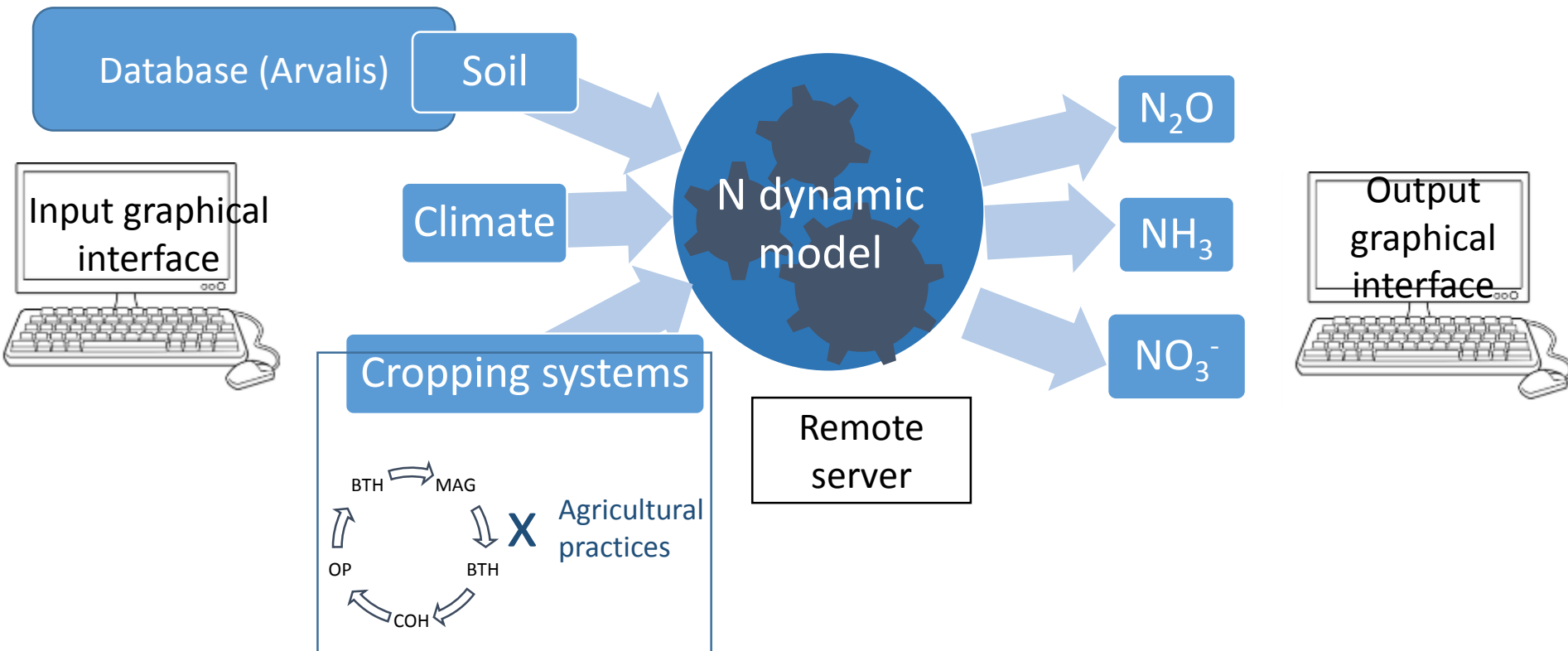
- **Development of the diagnosis of N losses in the cropping systems (CS)**
- Final users = agricultural advisors, environmental managers...
- Helping users to understand N losses in their situations and to improve their cropping system management to lower N emissions
- Improvement of N management in 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 of N losses in the cropping systems (CS)



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

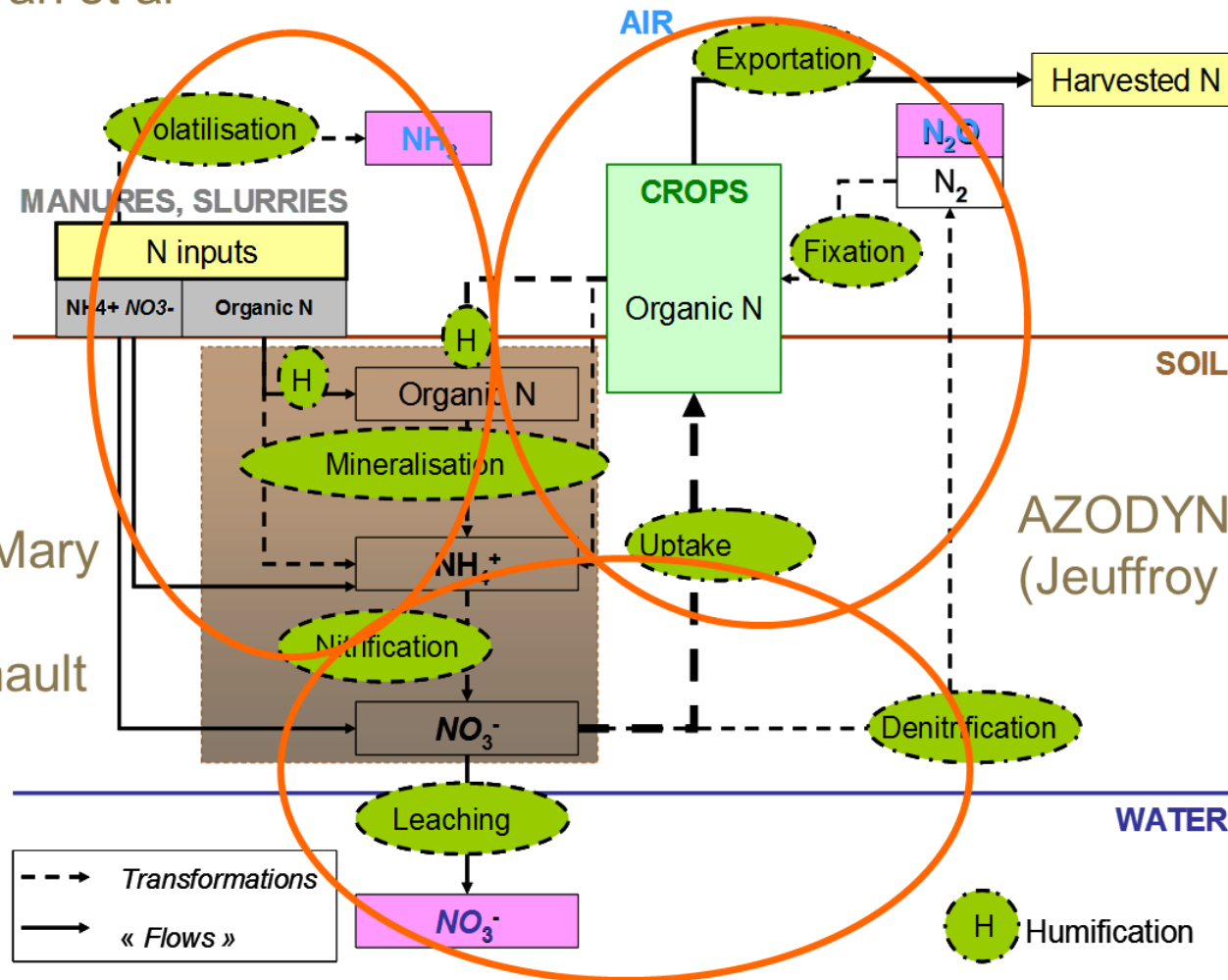


Volt'air (Genermont et al)
 AZOFERT(Machet et al),
 Morvan et al

Simulation of N fluxes at the rotation scale

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

AZODYN
 (Jeuffroy et al)

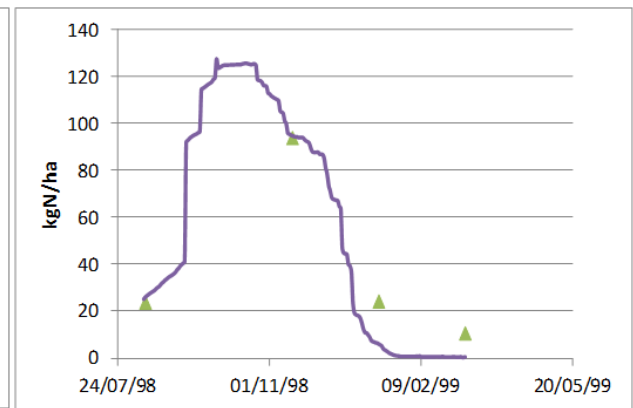
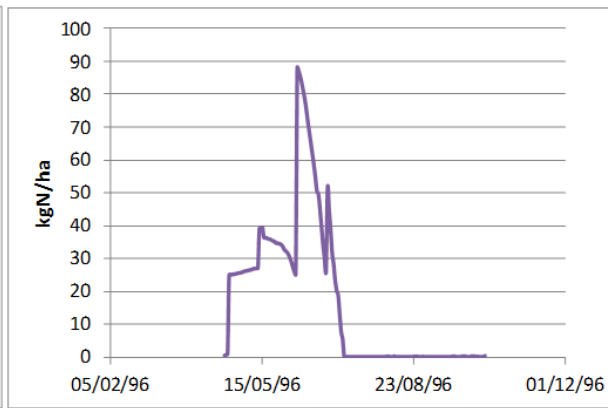
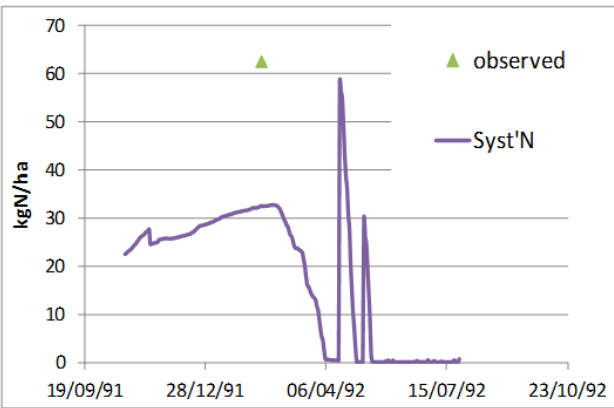
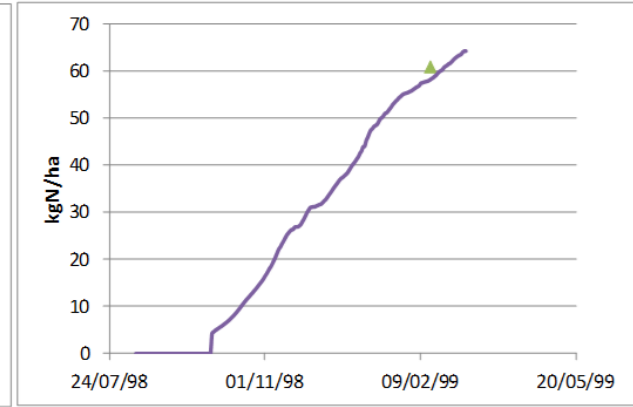
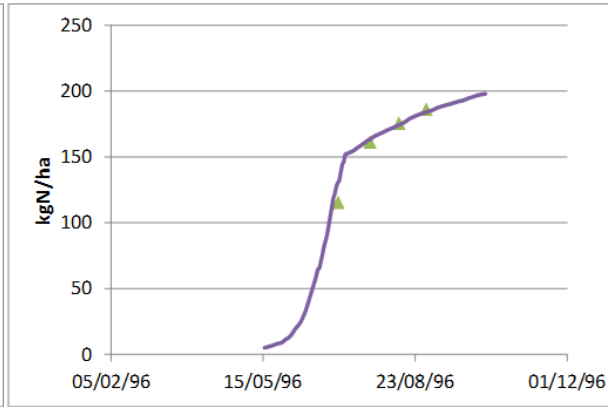
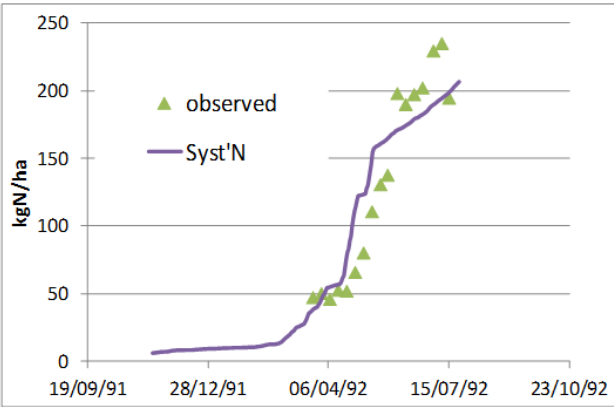


Model parametrization and assessment steps - examples

Wheat

Maize

Rye Grass



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

Syst'N - CBO.txt

Fichier Connexion Paramètres Aide Télécharger les résultats

CBO_groieM_SLLP

CULTURES

Colza d'hiver(COLH)	Description Culture	Culture Intermédiaire et Repousses
Blé tendre d'hiver(BTH)	Fertilisation Organique	Fertilisation Minérale
Orge d'hiver(ORH)	Travail du Sol	Irrigation et Fertigation
	Pâturage	Fauche

CBO_groieM_SLLP Culture n°2: BTH

Apports minéraux:

Type	Date	Unités N apportées (kgN/ha)	Outil d'apport
X Solution azotée 390(SOL39)	05/02/n+1	40	pulvérisateur engrais liquide
X Solution azotée 390(SOL39)	05/03/n+1	90	pulvérisateur engrais liquide
X Ammonitrate 33.5(AMO33)	15/04/n+1	30	épandeur engrais granulé

DESCRIPTION DES APPORTS D'ENGRAIS MINÉRAUX

Les années sont à indiquer par rapport à l'année de la date d'implantation de la culture principale

- Type Code de l'engrais à choisir dans la liste
- Date d'apport de la forme j/m/n+*x*, *x*=0 ou >0 années après l'année d'implantation de la culture
- Unités d'azote apportées par l'engrais (**kgN/ha**)
- Outil d'application de l'engrais à choisir dans la liste

⚠ Pour chaque engrais incorporé, remplir le travail du sol correspondant dans l'onglet "Travail du sol"

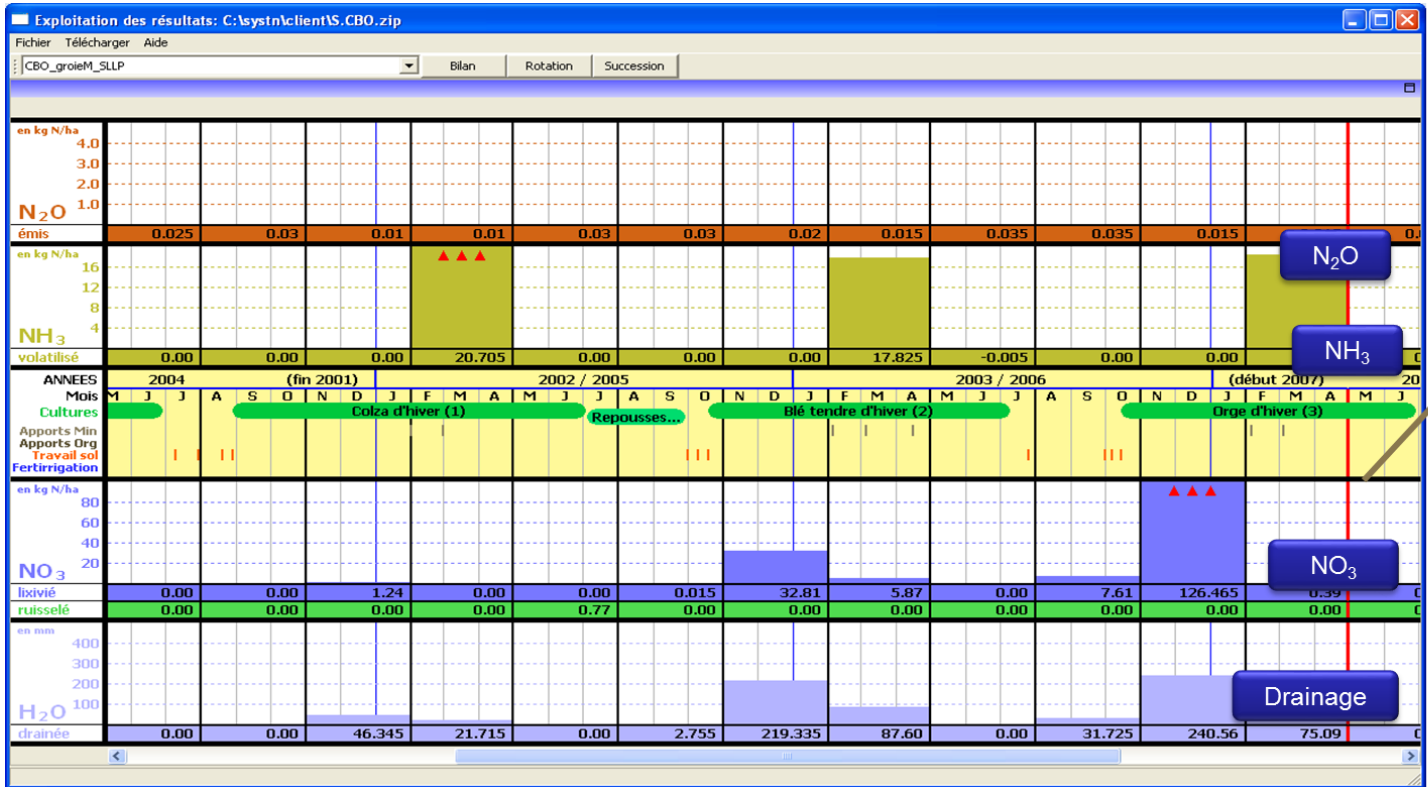
- ✓ rend effective en mémoire la saisie dans cet écran.
- ↶ annule les modifications en revenant à l'état de la dernière validation.
- Fichier Enregistrer rend définitives les modifications de l'ensemble du dossier sur disque.

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

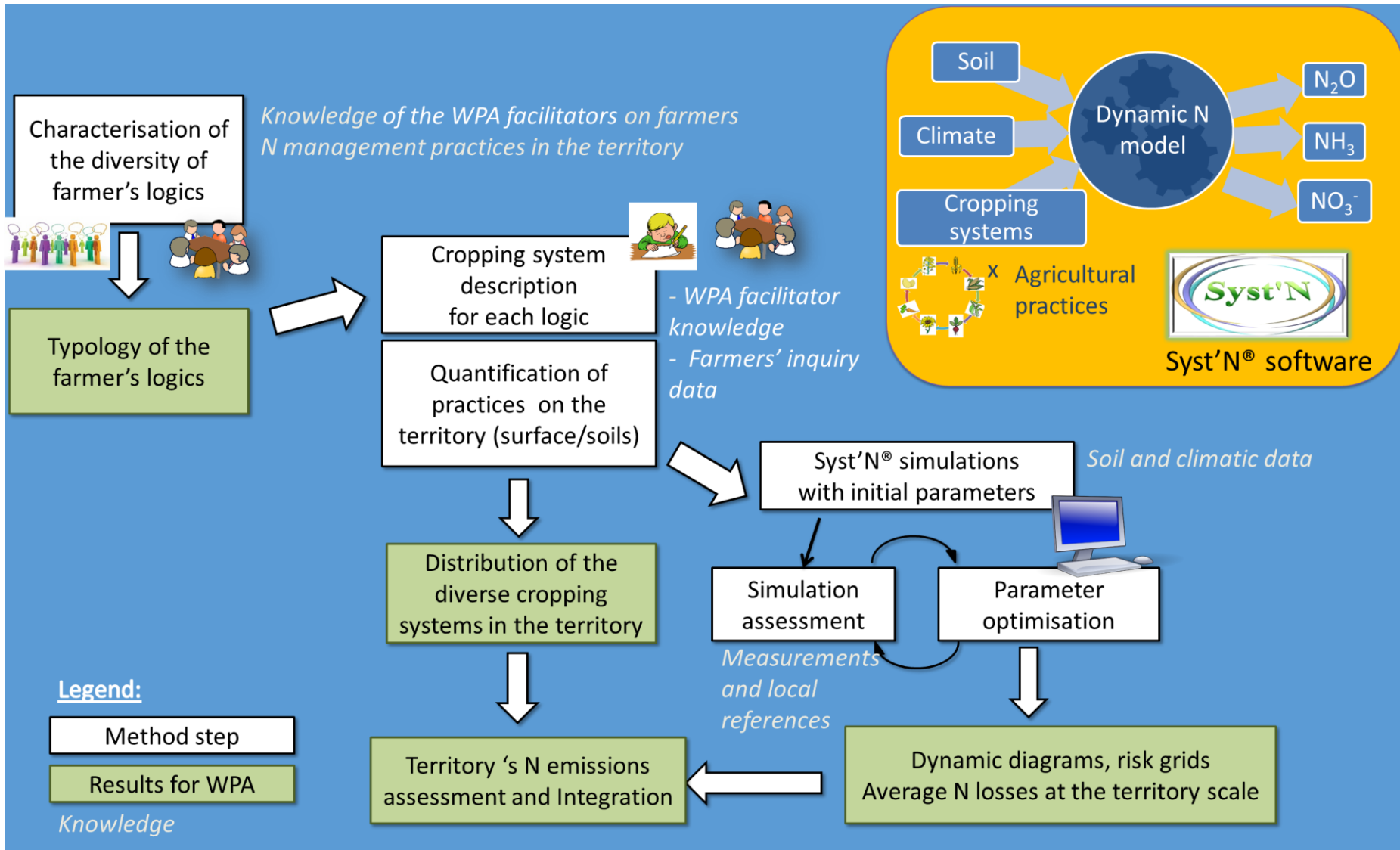
DSS graphical interface for outputs → N diagnosis at the cropping system scale



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



Demo