

Design and development of an integrated rodent control method for in the irrigated perimeters of Baguineda, Mali



Prénom et nom	Institution	Discipline
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Souleymane S TRAORE	FHG/USSGB	Géographe

CONTEXT

CREATION 2011

**Fonds compétitif pour la recherche et l'innovation technologique,
FCRIT**

0,20% Recettes fiscales

1^{er} Appel 2016

2eme Appel 2018

RESULTATS APPEL 2020

ETHIQUE 2022

DEMARRAGE 2023

CONTEXT & JUSTIFICATION

Chronic health and food risks are increased tenfold in years when certain rodent populations experience a population explosion



CONTEXT

Rodent Control

- **Chemical rodenticides with environmental and health risks**
 - **Better control of rodenticide use**
 - **Ecological management of rodents**

OBJECTIVES

MAIN OBJECTIVE

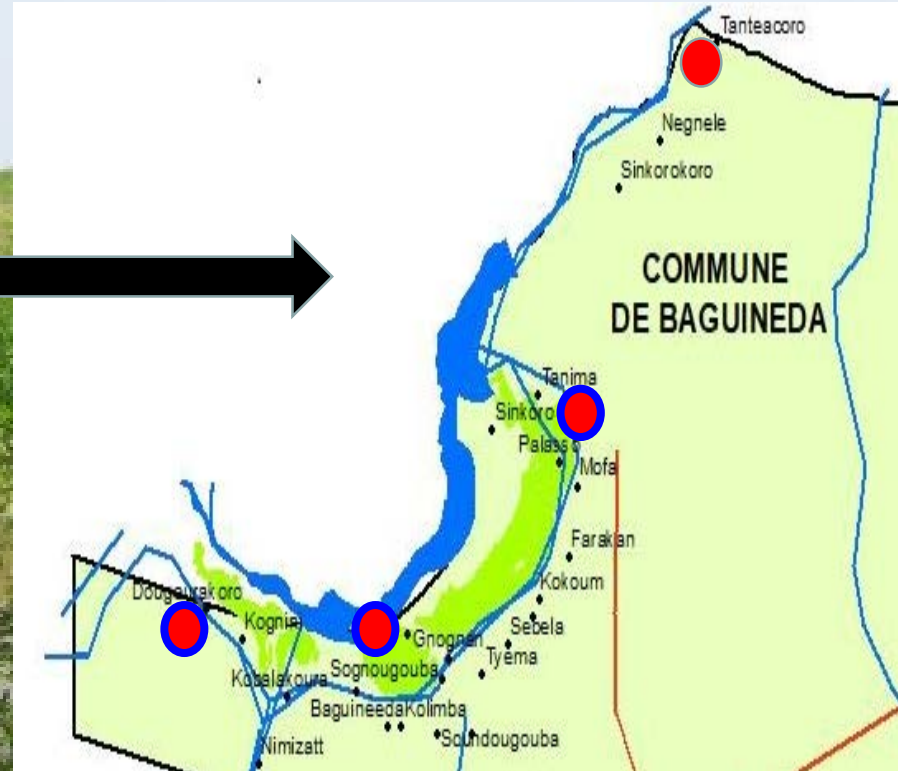
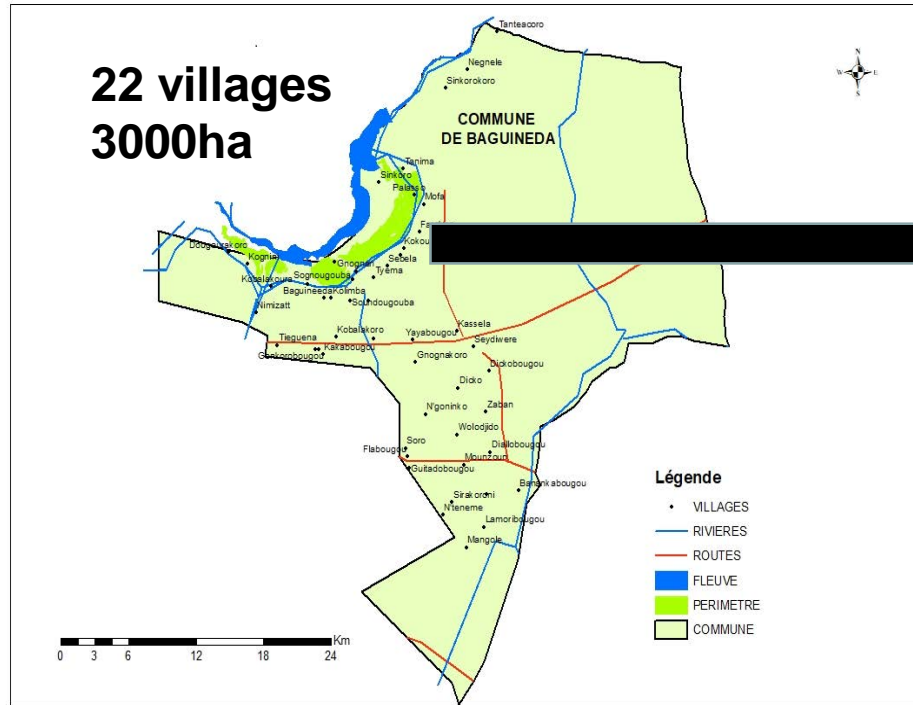
Contribute to improving the productivity of irrigated rice at the Bamako Irrigated Perimeter through rodent control

SPECIFIC OBJECTIVES

- a-** Develop rodent control methods;
- b -** Identify rodent species;
- c -** Quantifying rodent damage and Estimate Crop Yields

METHODOLOGY

Framework & Study Period



2022 – 2025

dry, raining season

STUDY PROCEDURE

PROSPECTING



STUDY PROCEDURE

General Protocol

140ha

AREA with a network of Brodifacoum impregnated bait stations
0.02 g par kg d'appât

- CH + OP + PB
- CH + PB
- CH + OP
- CH
- Witness

Separation village



AREA without network of bait stations

- PB + OP
- PB
- OP
- Witness

CH = Chemical control based on a network of bait stations.

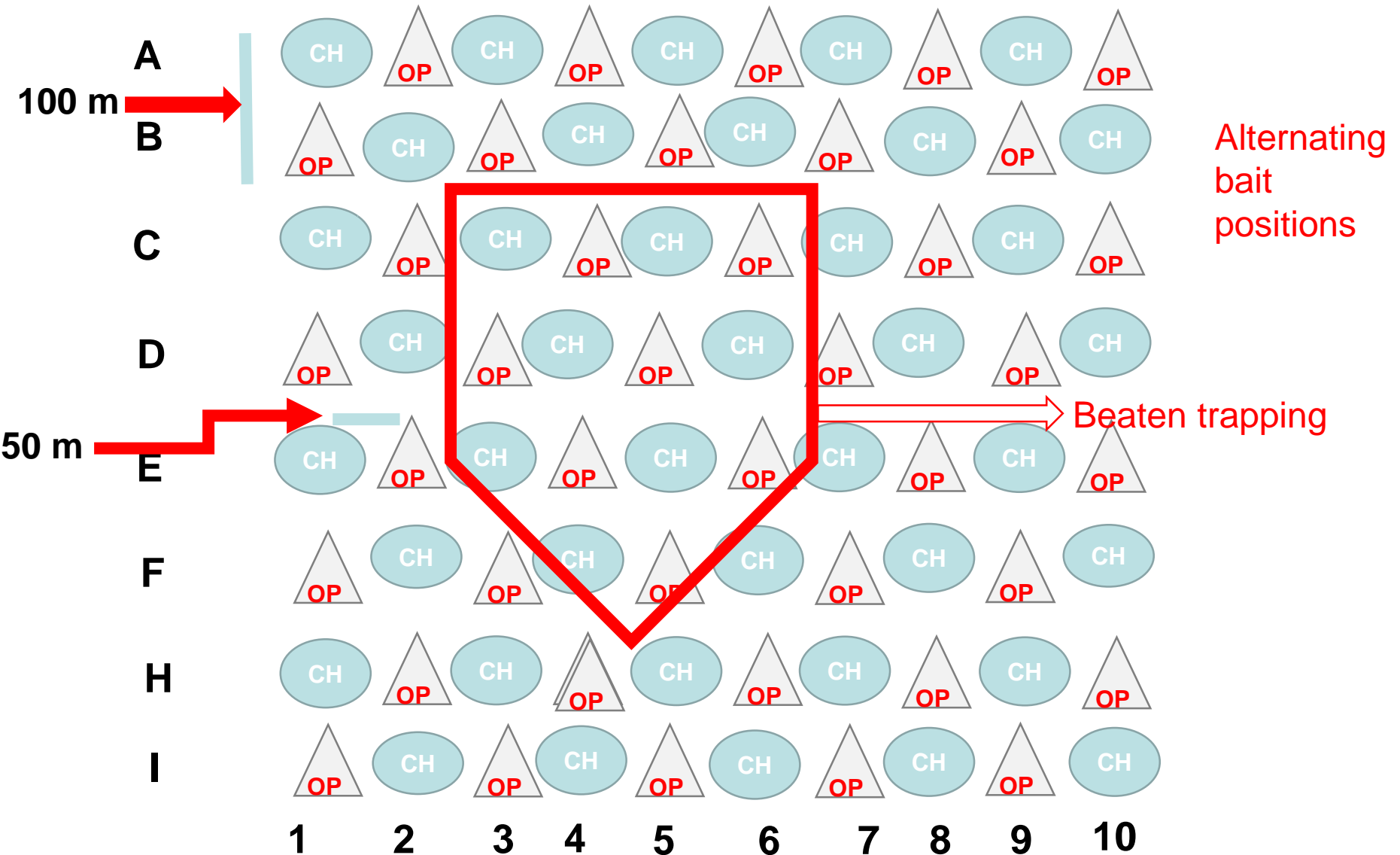
PB = Non-chemical control based on trapping associated with collective beatings.

OP = Non-chemical control based on predator odor repellent effect

STUDY PROCEDURE

CHEMICAL CONTROL OPERATION

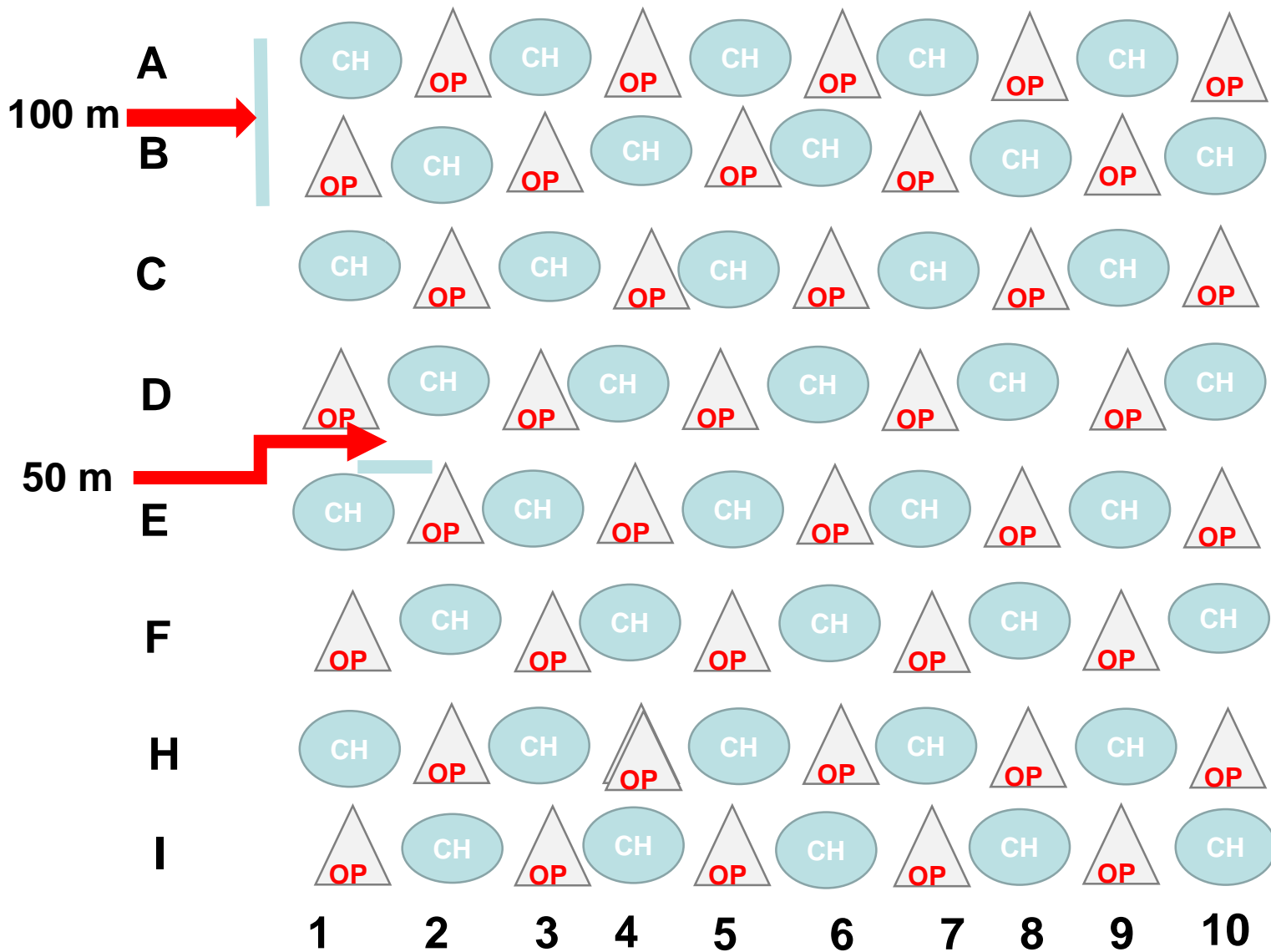
Treatment: CH + OP + PB



STUDY PROCEDURE

CHEMICAL CONTROL OPERATION

Treatment: CH + OP

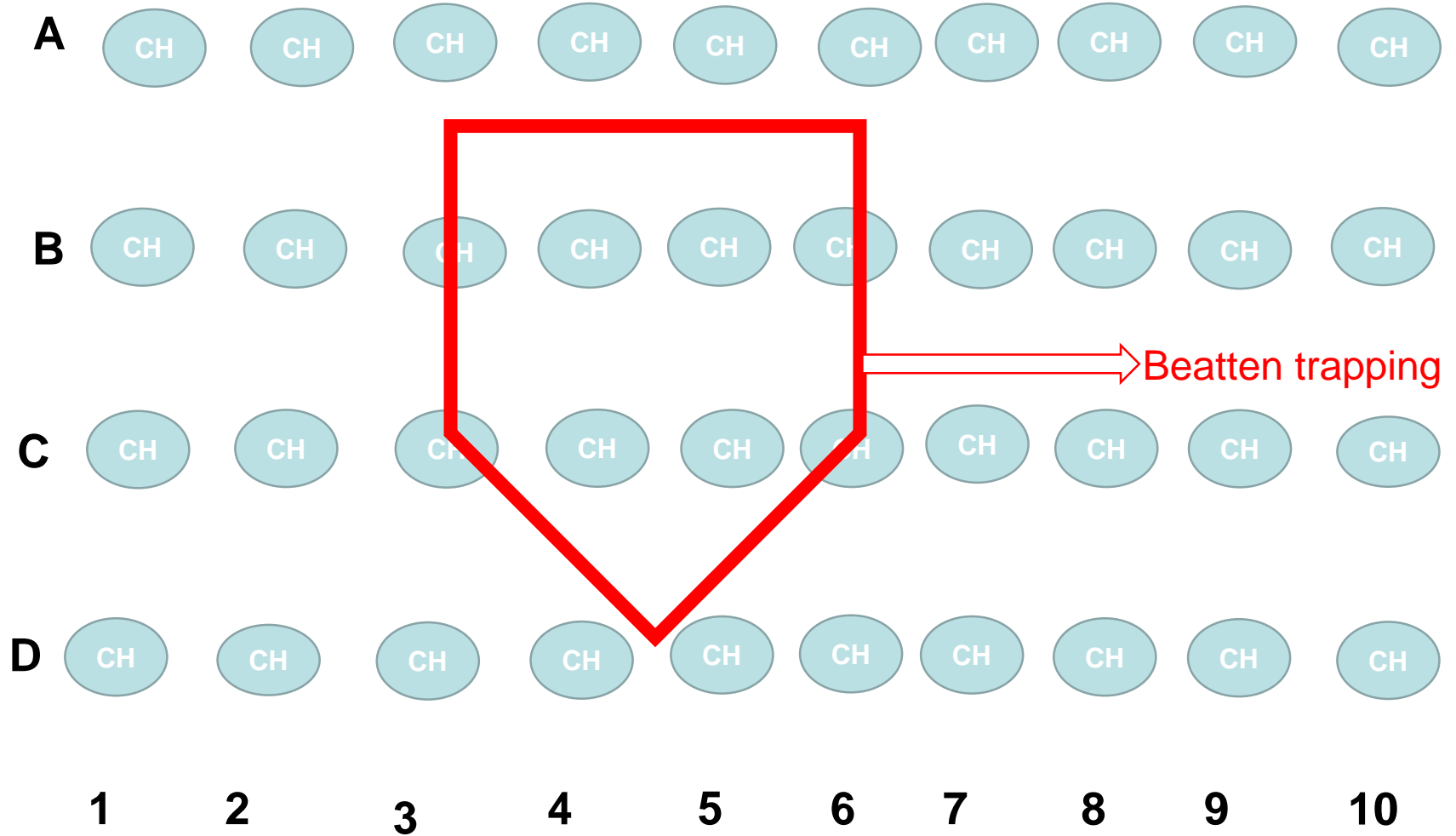


Alternating
bait
positions

STUDY PROCEDURE

CHEMICAL CONTROL OPERATION

Treatment: CH + PB



STUDY PROCEDURE

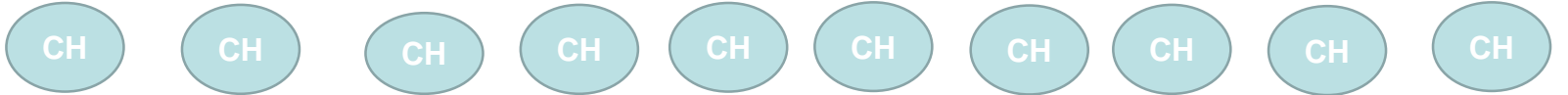
CHEMICAL CONTROL OPERATION

Treatment: CH

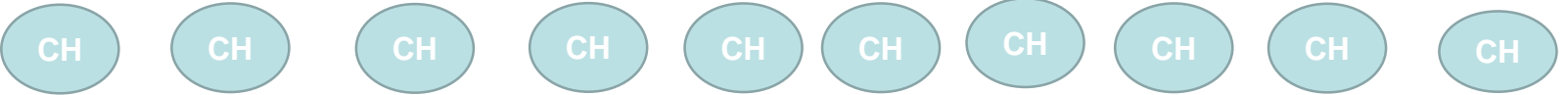
A



B



C



D



1

2

3

4

5

6

7

8

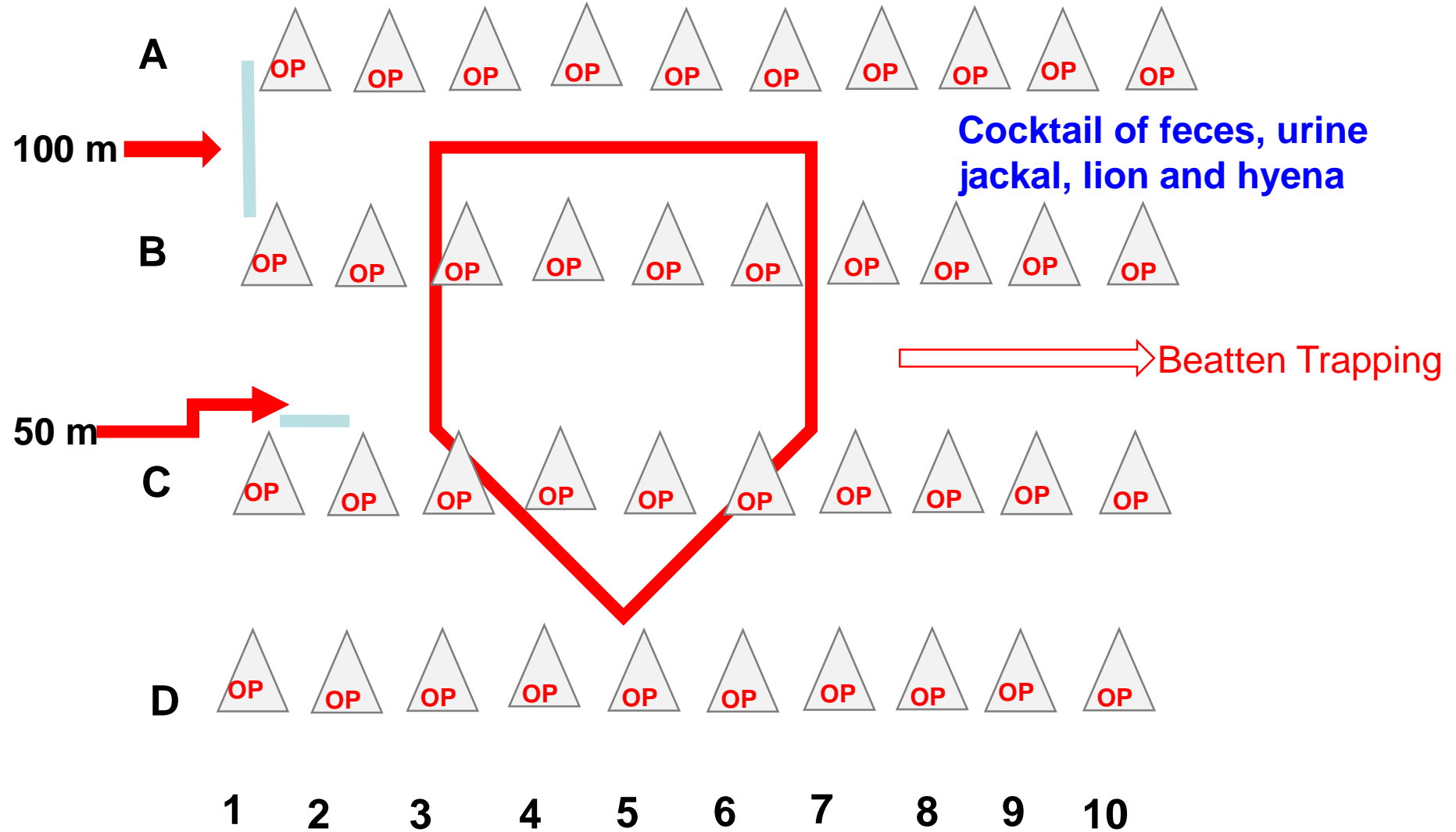
9

10

STUDY PROCEDURE

ALTERNATIVE METHODS

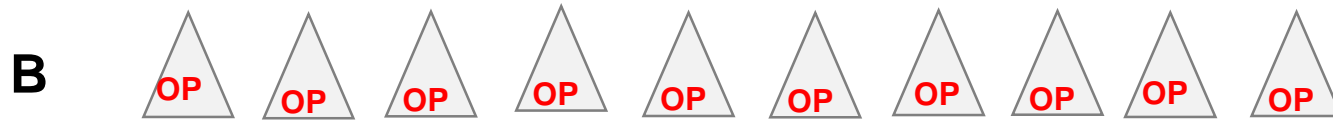
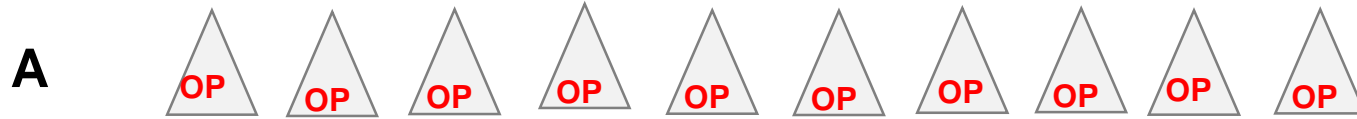
Treatment: OP + PB



STUDY PROCEDURE

ALTERNATIVE METHODS

Treatment: OP



1 2 3 4 5 6 7 8 9 10

DEROULEMENT ETUDE

METHODES ALTERNATIVES

Traitement: PB



Principe & Recherche de piste

1-2H pendant 3 jours



... un *Arvicanthis niloticus* pris dans un Kalani par le cou. Un réglage de la tige de déclenchement permet de prendre les animaux par la patte ou la queue ...

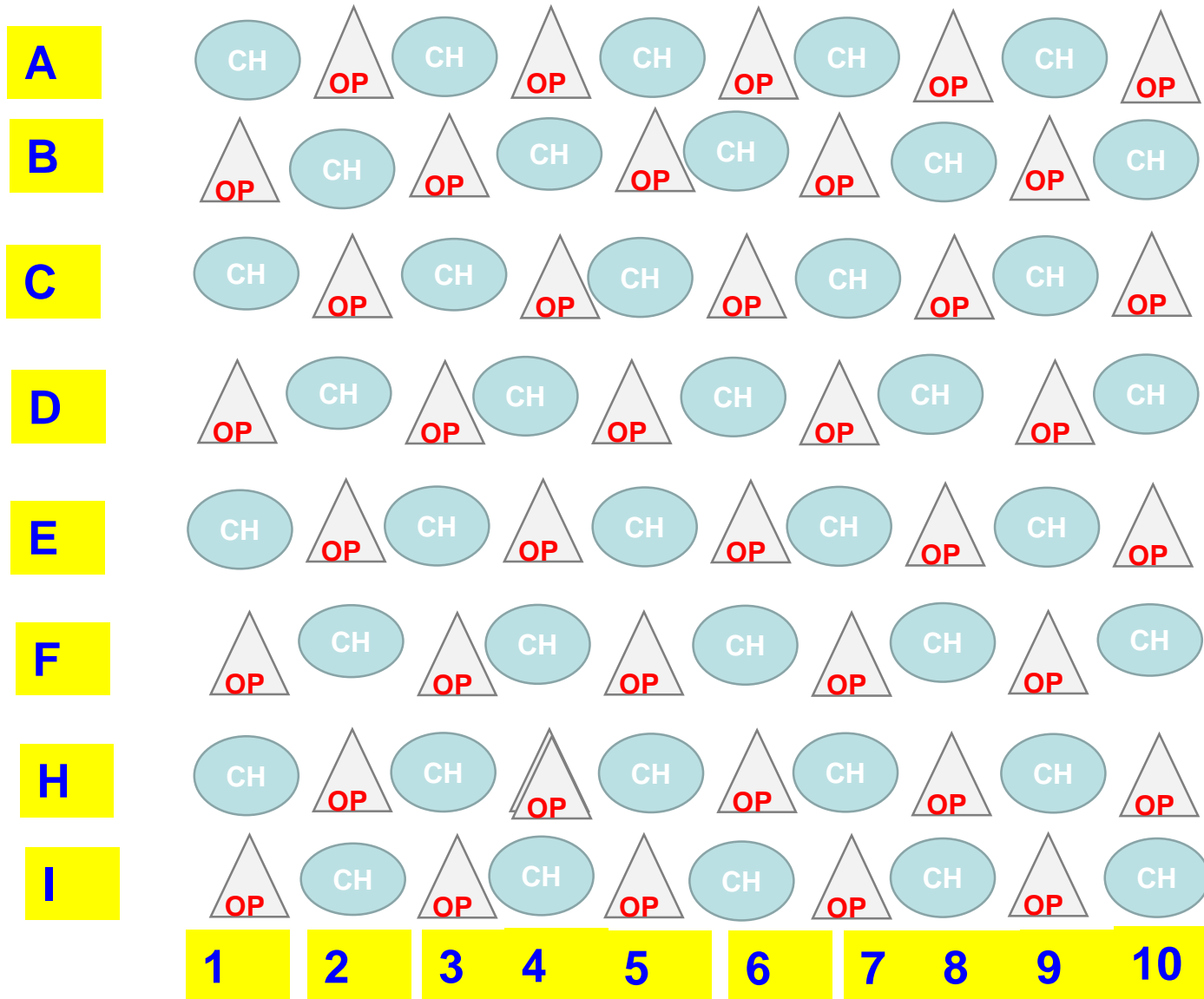
STUDY PROCEDURE

DYNAMIC POPULATION



SUTDY PROCEDURE

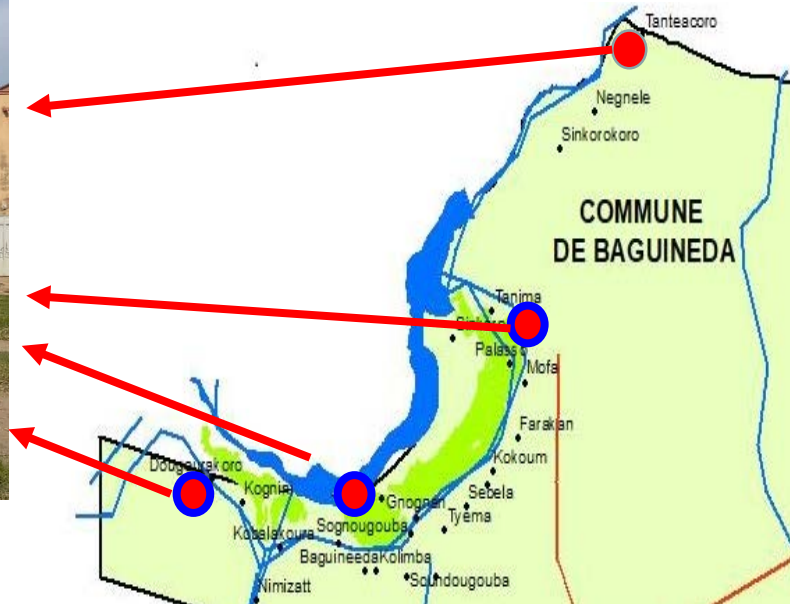
FOLLOW UP CONSUMPTION OPERATION



Geo reference of Stations
Categorization and/or Weighing bait
Calculation of isoconsumption curves

SUTDY PROCEDURE

Inventory Small Commensal Mammals



STUDY PROCEDURE

Quantification of crop damage and yields

Treated Area (5 treatments)

- CH +OP+PB
- CH+PB
- CH+OP
- CH
- Witness

Separation village



Zone non treated (4 treatments)

- PB + OP
- PB
- OP
- Witness

Quantification of damage and crop yields on plot units of 1m²

TIMELINE

Activités	2022	2023	2024	2025
Opération contrôle chimique optimisée (OCC) Conception, fabrication, mise en place des postes-à-appât & Manip	X	X	X	
Opération piégeages & battues Repérage des lieux ; formation des producteurs ; fabrication des Kalanis ; test de la procédure de piégeage dynamique avec les paysans	X	X	X	
Opération effet répulsif des odeurs des prédateurs (OOP), Conception, fabrication, mise en place des postes à odeurs & Manip	X	X	X	
Opération cartographie de l'efficacité du contrôle (OCE), Relevé GPS des positions des postes à-appâts, des postes-à-odeurs ; conception des fiches de terrain et de la partie informatique & Manip	X	X	X	
Opération prospection, choix des sites, Identification des espèces,	X			
Opération estimation de l'état démographique des rongeurs	X	X	X	
Opération Géo référencement de points et cartographie de l'efficacité du contrôle (OCE)	X	X	X	
Opération Estimation des dégâts rongeurs et rendement des cultures (OCB)		X	X	
Atelier de restitution			X	
Fiches techniques				X
Vidéo		X	X	X
Participation à un colloque			X	

BUDGET

Budget	32 022 750	34 952 120	18 180 968	2 856 968	88 012 806
Coûts indirects (10%)	3 202 275	3 495 212,00	1 818 096,75	285 696,80	8 801 281
Total TTC	35 225 025	38 447 332,00	19 999 064,25	3 142 664,80	96 814 086

...THANK YOU FOR YOUR ATTENTION ...

