



**Introduction** : The previous studies of individual pollens trap go back up to 20 years and the used passive traps were not very efficient. The purpose of this project is to put in relation the quantities of pollen measured with these traps with the quantities of pollen found on the urban traps and the symptoms collected by every patient equipped with these traps.

## Material and methods

- Hirst type pollen traps belonging to RNSA
- Individual pollen traps: CIP 10 of the ARELCO company, provide with a specific head for respirable particles (until 100  $\mu$ )
- Measure of the symptoms: use of a weekly form or of a daily recording on the "pollen diary" (see below) to complete by the patient. It gives a score symptom.

- ✓ symptoms related to nose
- ✓ symptoms related to eyes
- ✓ symptoms related to breath
- ✓ tiredness / insomnia
- ✓ other affections

- ✓ drugs taken within the framework of a pollinose

Etude = pollens - symptômes = RNSA / ARELCO		Semaine du Lundi 24/05/ 2010 au Dimanche 30/05/ 2010						
Séjour hors de la région ? (si oui, indiquer les dates)		lundi	mardi	mercredi	jeudi	vendredi	samedi	dimanche
Nom								
Ville								
Niveau de concentration		$\mu$ <sup>g</sup>	$\mu$ <sup>g</sup>	$\mu$ <sup>g</sup>	$\mu$ <sup>g</sup>	$\mu$ <sup>g</sup>	$\mu$ <sup>g</sup>	$\mu$ <sup>g</sup>
Méthode de dosage		g	g	g	g	g	g	g
Méthode de comptage		h	h	h	h	h	h	h
RESUME DES SYMPTOMES	Niveau de pollution							
	Peu de symptômes							
	Un peu							
RESUME DES SYMPTOMES	Peu de symptômes							
	Moyenne							
	Beaucoup							
RESUME DES SYMPTOMES	Peu de symptômes							
	Moyenne							
	Beaucoup							
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	Beaucoup							
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	Beaucoup							

## CIP 10

Developed by the INERIS to answer the need of coalmines. It is autonomous and intended for "dusts" inhaled by human. It declines for the samples of silica, wood, bacteria, pollens, virus, endotoxines and molds.

### Principle of functioning

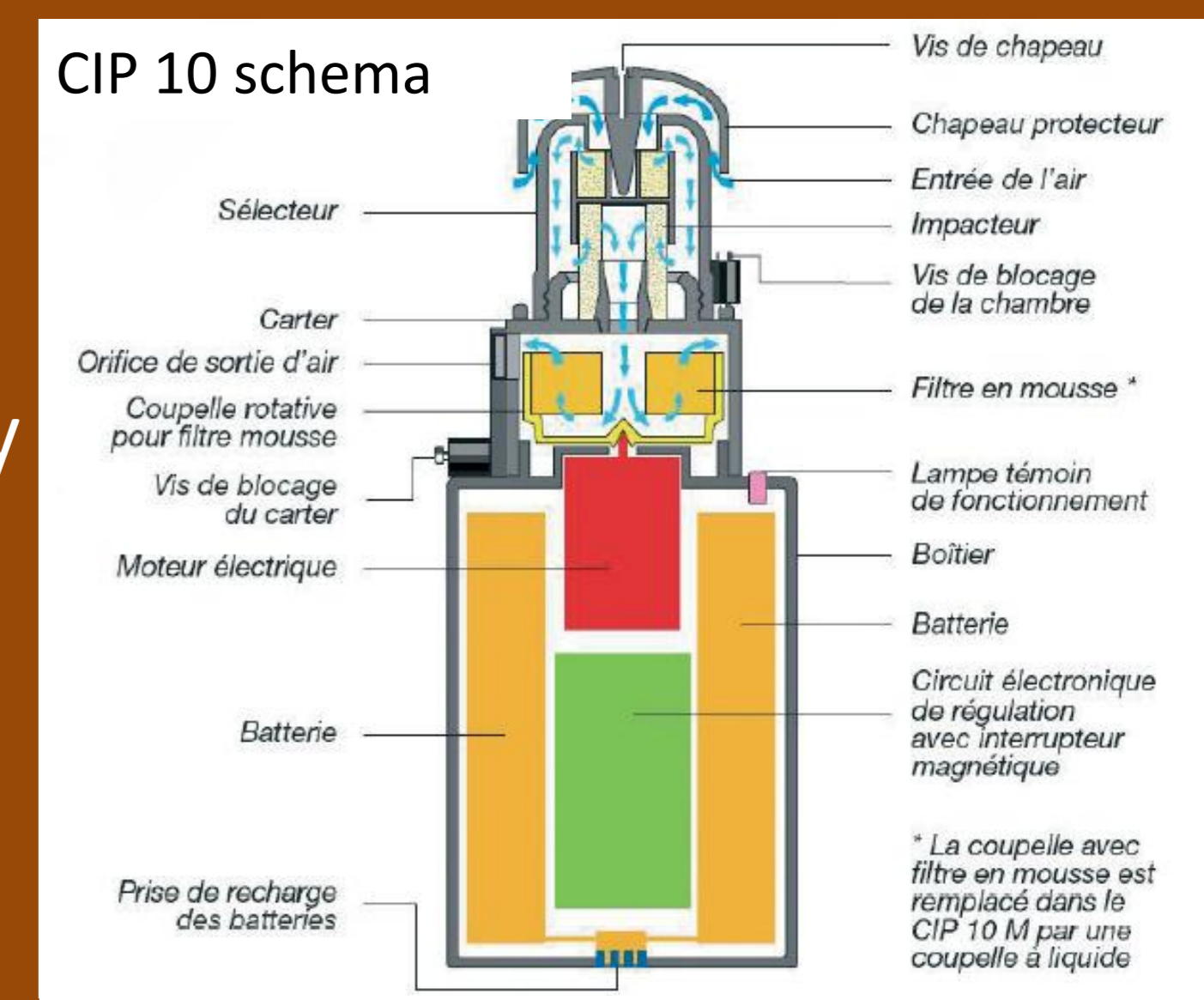
Sampling assured by the rotation of a small dish foams: engender a flow of inhalation of 10 l / mn (similar to the human respiratory flow).

Various analyses can then be practised: destructive, non-destructive, weight, PCR

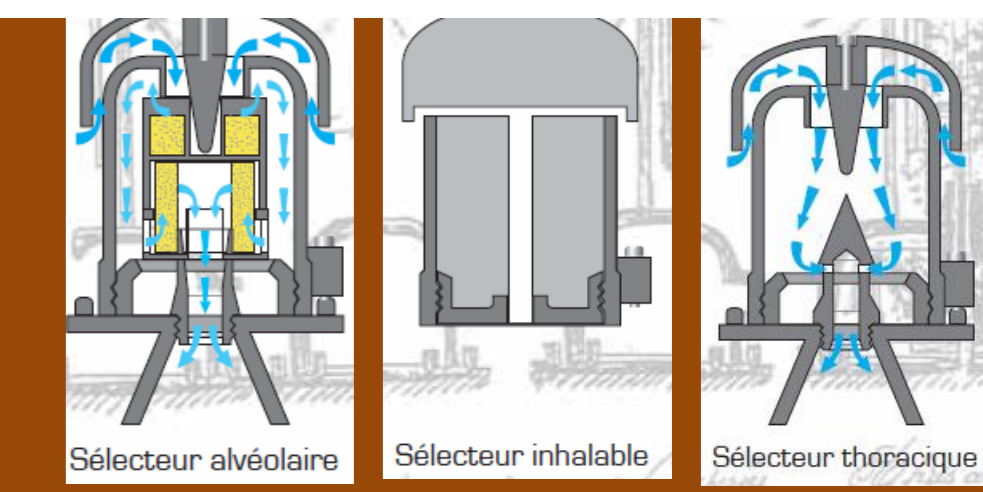
There are various selective heads: alveolar breathable fraction with a flow of 10 L / min, respirable fraction with a flow of 10 L / min, thoracic fraction with a flow of 7 L / min.

For our studies, the choice concerned to respirable heads.

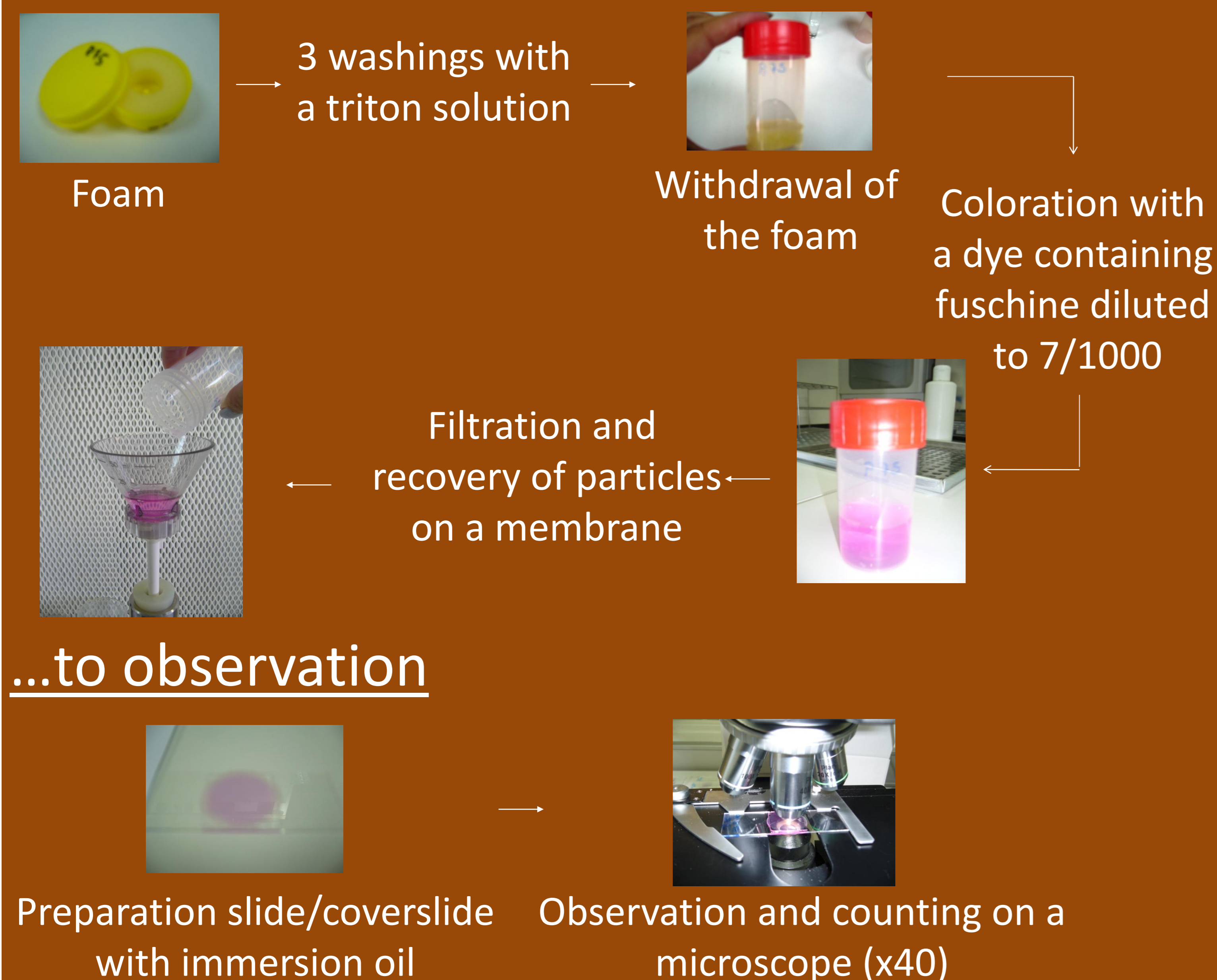
The system of inhalation allows a sampling in all directions.



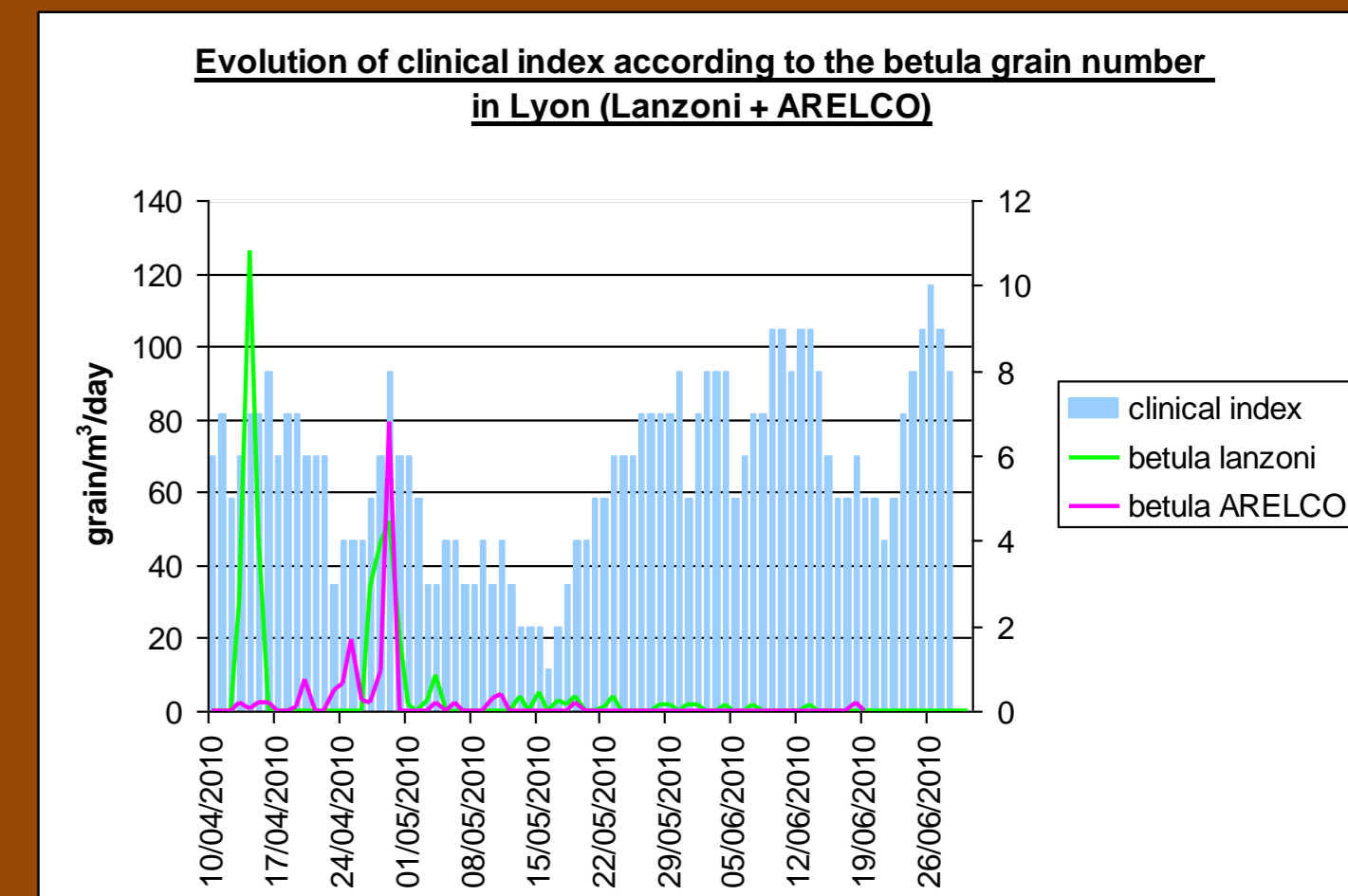
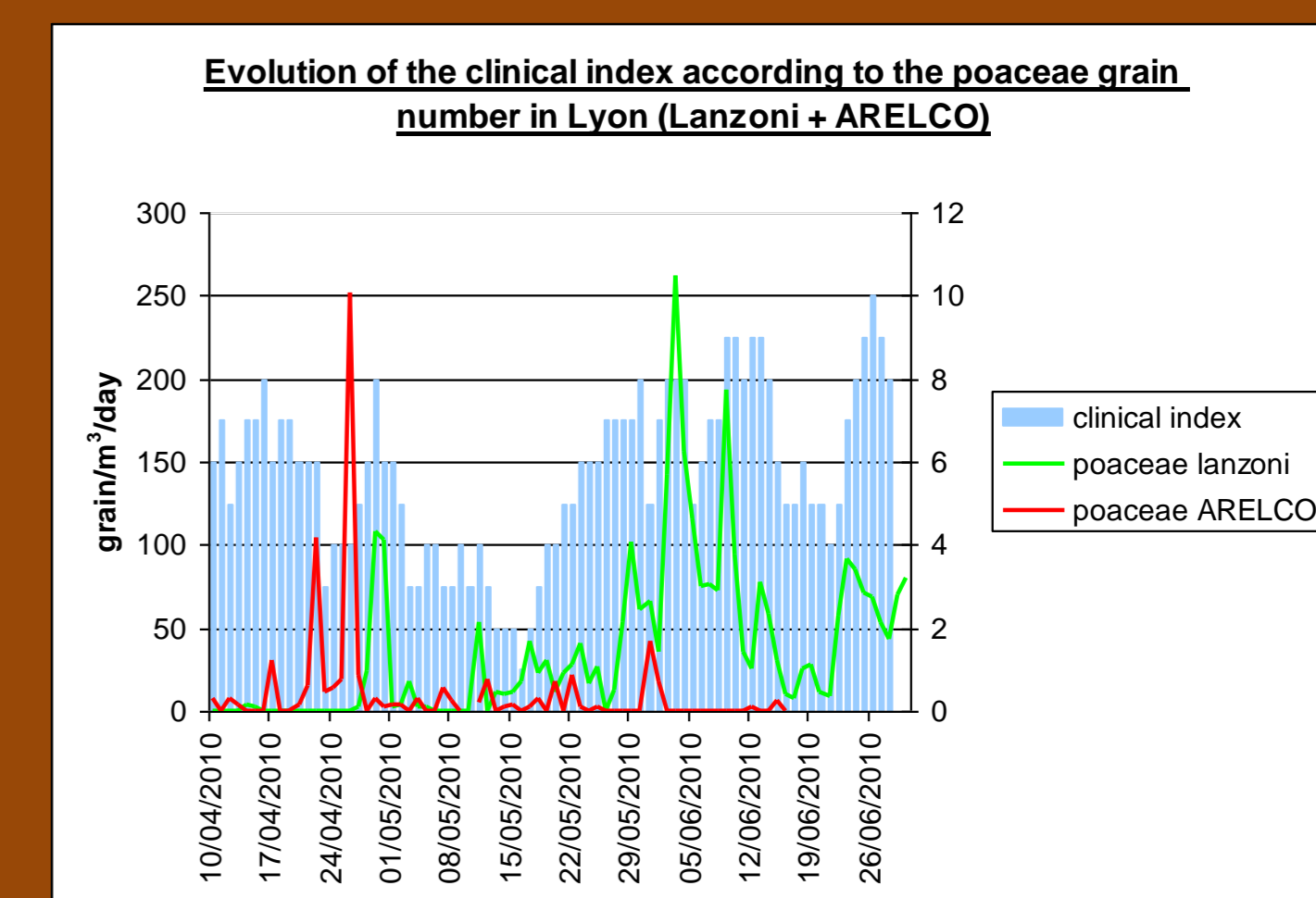
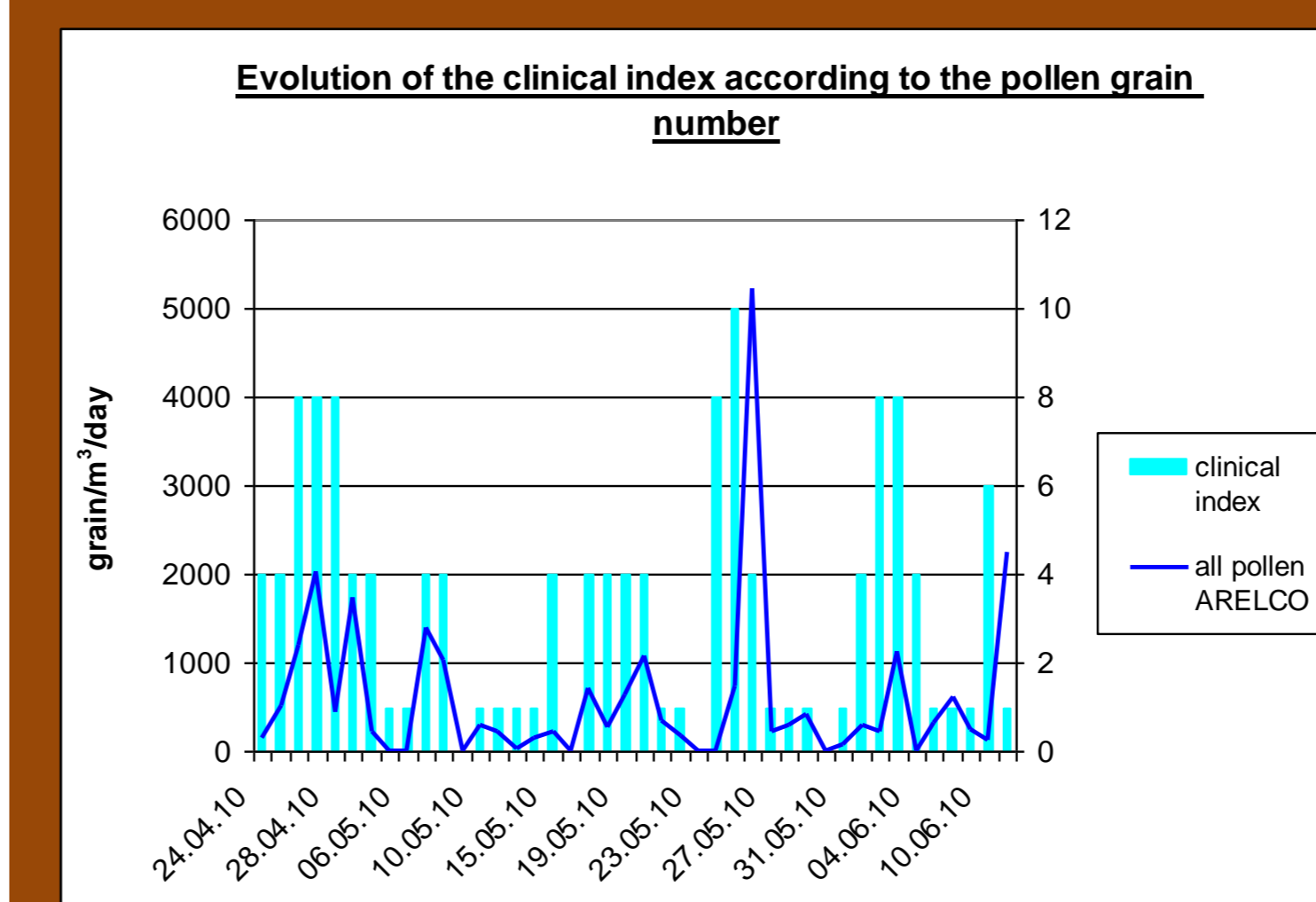
Exchangeable heads for selection of the fraction of interest



## From aspiration...



## Results



## Pollen diary

The pollen diary allow to allergic people to follow the evolution of their symptoms and of pollen quantities. Felt symptoms have to be indicated via a form (figure 1).

### Interests of the pollen diary for the doctor and the patient :

- curve of display of the symptoms in connection with the exposure to pollens in which the patient is sensitive in his region (figure 2)
- curve over a period going from 1 month to 1 year to tend symptoms while a definite period
- possibility of seeing present allergenic pollens in the air for the same period
- allows to follow the evolution from years to years

### Interests of the pollen diary for the RNSA :

- establishes scores symptoms which ensue directly from the felt of the patient
- relations between the symptoms of allergies and the concentration of pollens in the air of the indicated place (figures 3 et 4)

Figure 1

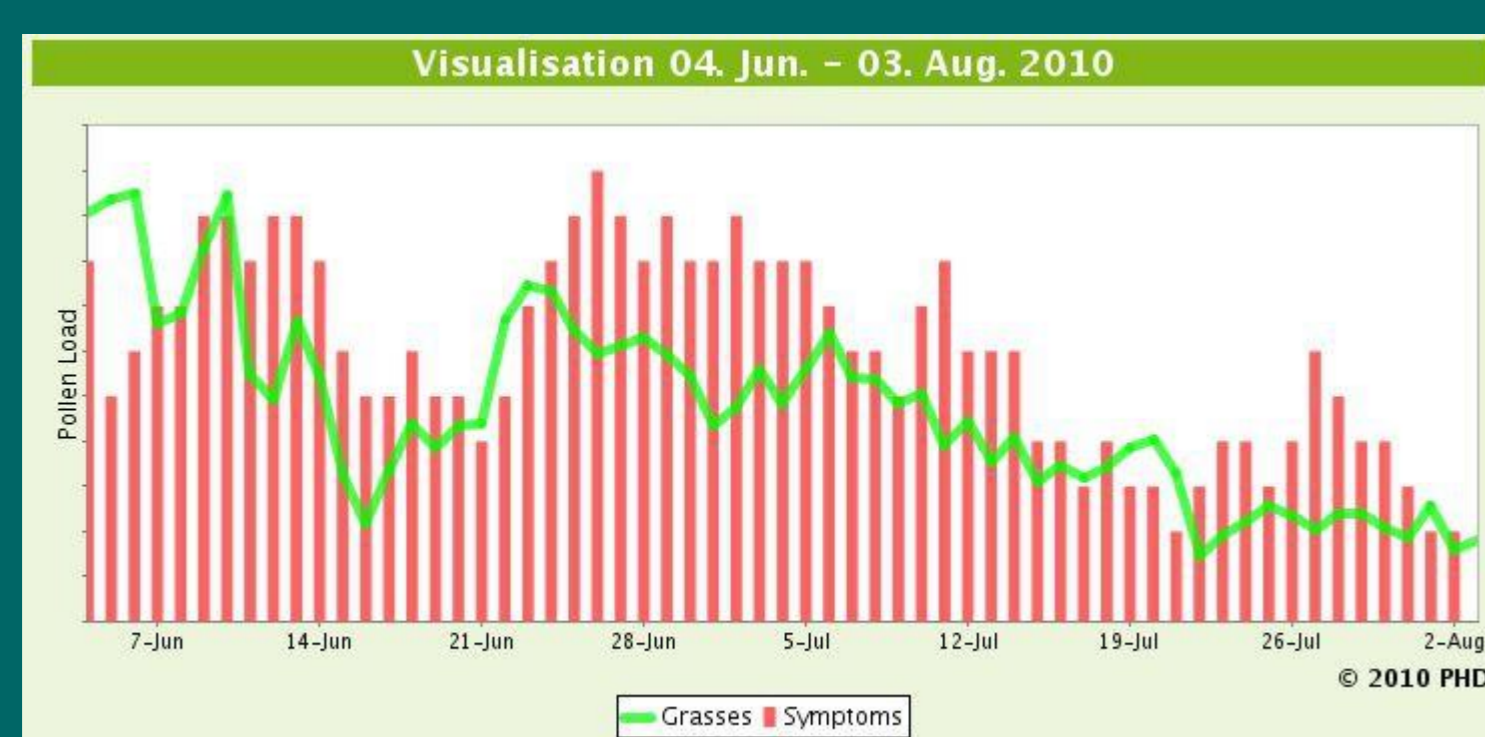


Figure 2

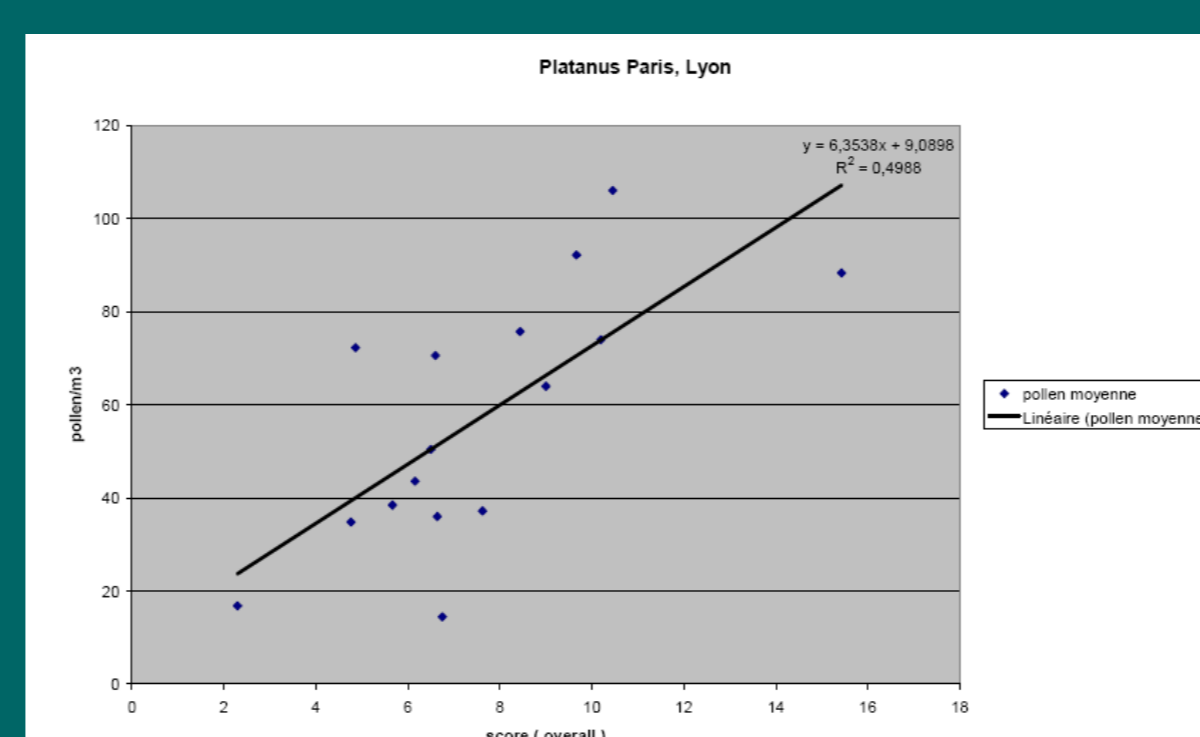


Figure 3

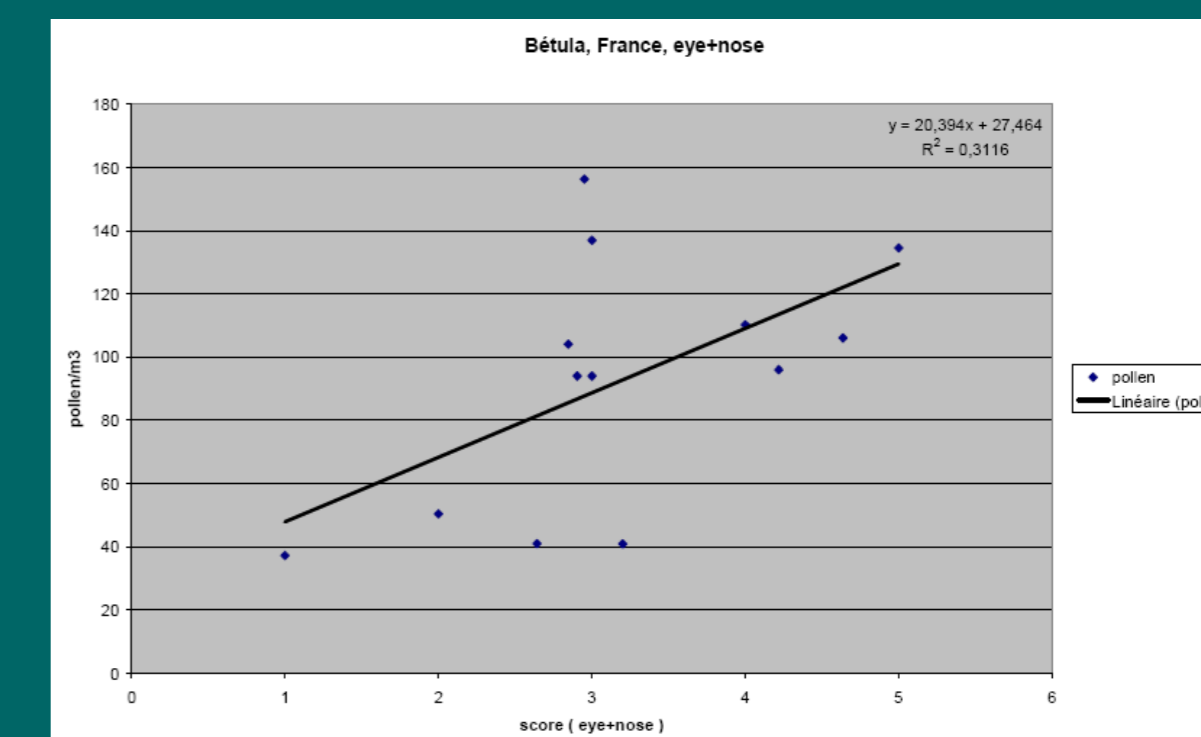


Figure 4

## Conclusion

The use of the portable trap CIP10 according to the method developed by the RNSA allows to the doctor to have this new alternative in very specific clinical cases, to complete measures of individual exposure in certain cases of professional grain allergy and to use these individual measures in national or European studies.