

Results of a multicentric coproscopic survey on coccidiosis and strongyloidosis in french dairy and lactating calves.

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- LVD 09 -**



PURPOSES

1. ***Strongyloides sp***, first worm in order of appearance before *Eimeria sp* probably impact the immunity building of coccidiosis :

→ *this survey contribute to evaluate the herd prevalence and the current kinetics of strongyloidosis in french calves.*

2. **Coccidiosis is the most prevalent and serious parasitosis in young calves in France :**

→ *this survey clarifies the global prevalence of coccidiosis and the prevalence of the 3 pathogen species, E. bovis, E. zuernii and E. alabamensis.*

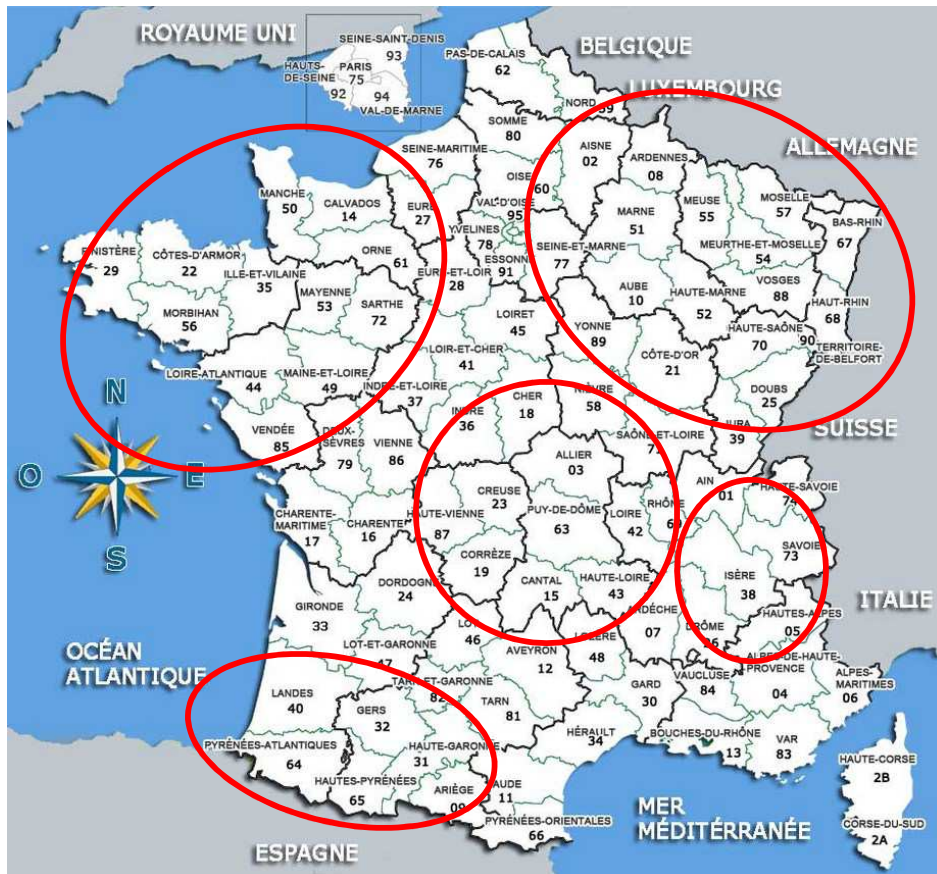
MATERIALS AND METHODS (1)

When ?

Years 2013 - 2014

Where ?

All over in France



- multi-center field study
- named **ELANCO-PRO**®.

➔ *groups of 5 dairy or lactating calves, by farm, reared indoors and untreated versus parasites.*

➔ *similarly aged, between 2 and 12 weeks of age.*

MATERIALS AND METHODS (2)

How ?

- * individual faecal sampling
- * pooled samples in laboratory
(5 calves together)
- * Mac-Master method, flotation
with saturated NaCl 40 % (s.g = 1,2)
 - quantification of OPG excretion
of *Strongyloides sp.* and *Eimeria sp.*
 - specific identification of coccidia oocysts.



**Flotation liquids of specific gravity > 1,3
destroy almost the whole population of *Strongyloides* eggs !!.**

RESULTS : 1. *STRONGYLOIDES sp.*

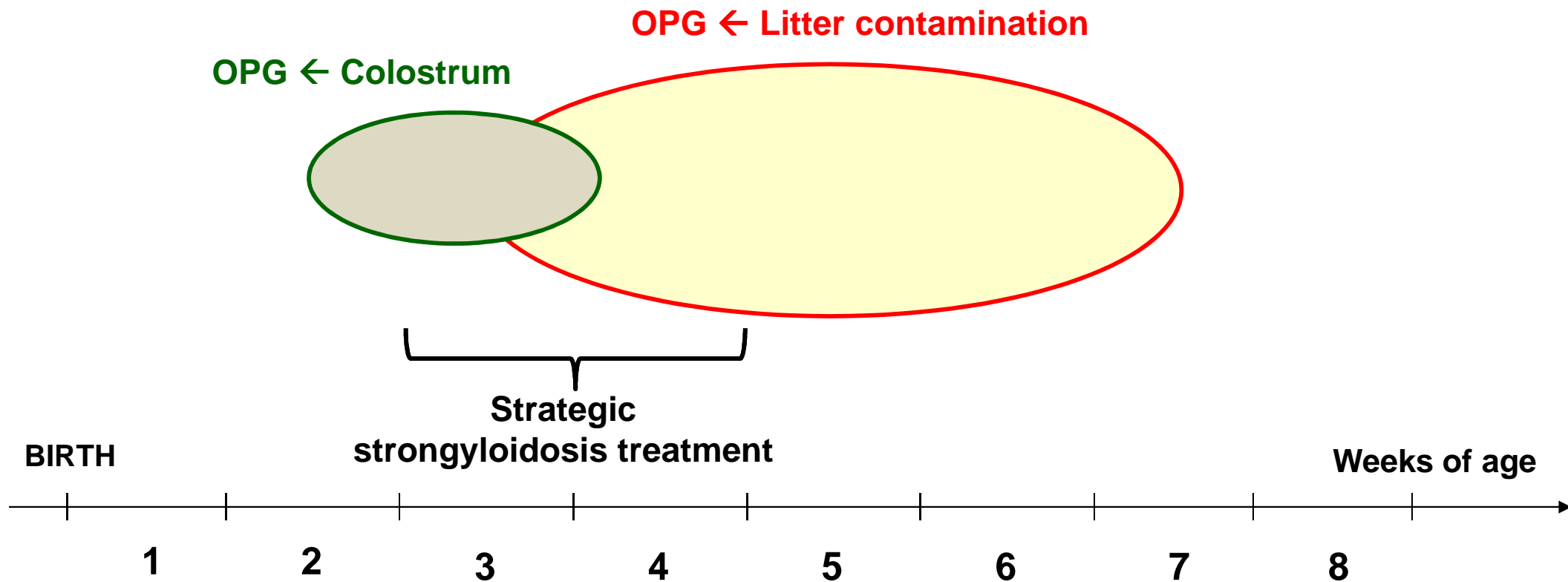
Strongyloides sp herd prevalence in France.

Parameter \ Year	2013	2014
Number of pooled samples (5 calves together)	176	356
Number of positive pooled samples with <i>Strongyloides sp.</i>	16	57
Percentage of positive pooled samples.	9,1%	16%

RESULTS : 1. *STRONGYLOIDES* sp.

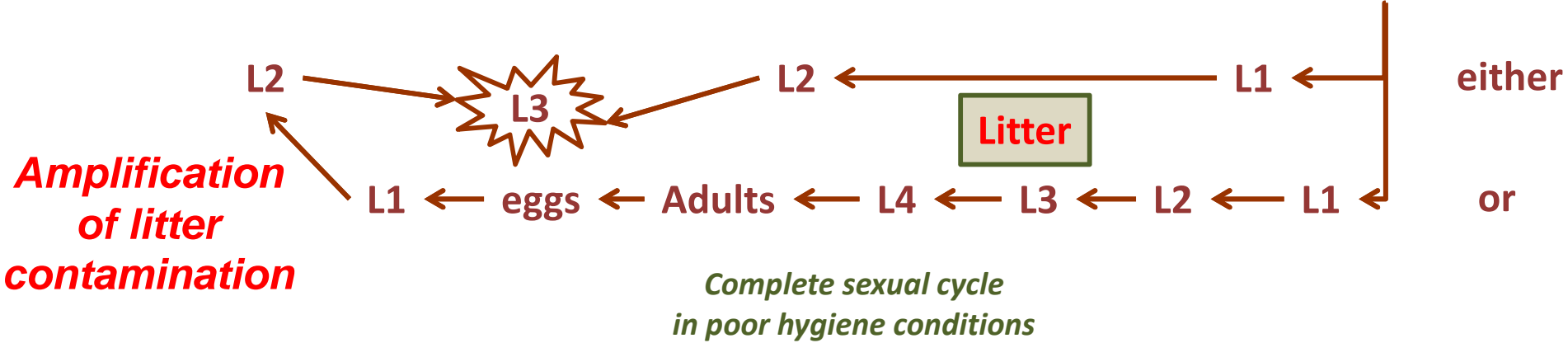
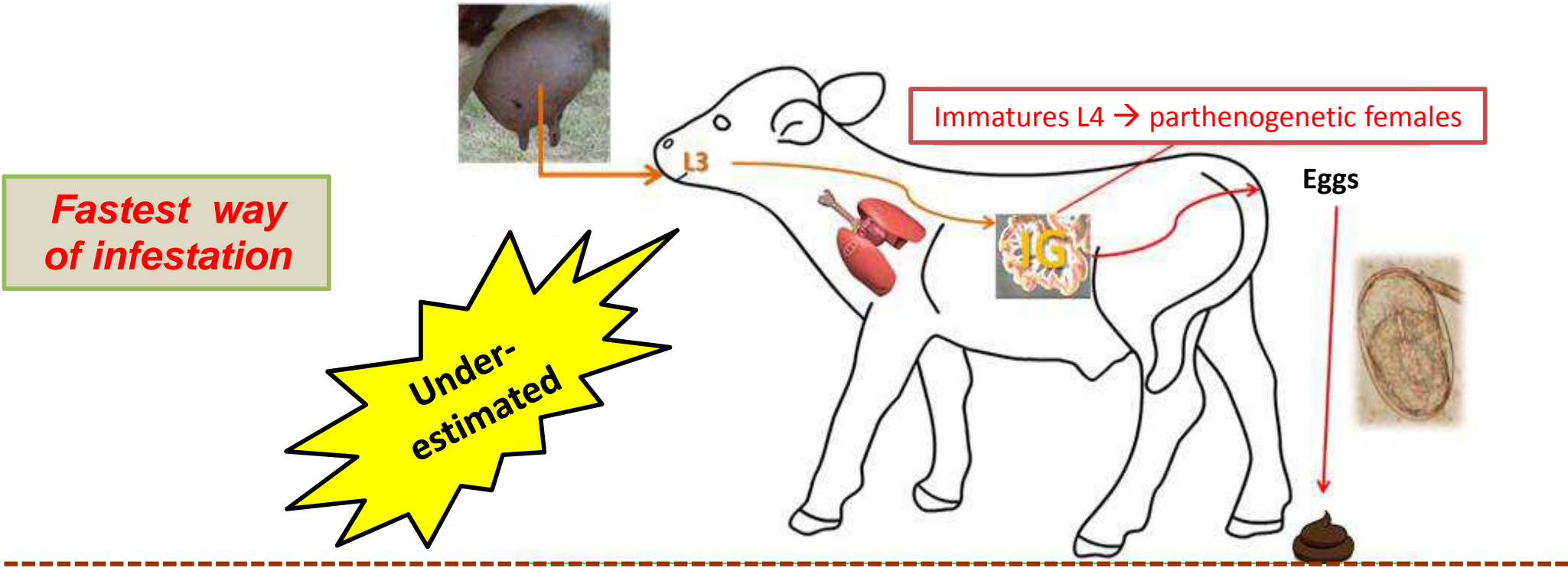
Two periods of preferential OPG excretion

- * **first cloud** precociously, between **2 and 4 weeks of age**.
- * **second cloud**, more important in OPG excretion and duration between **4 and 8 weeks of age**.



RESULTS : 1. *STRONGYLOIDES* sp.

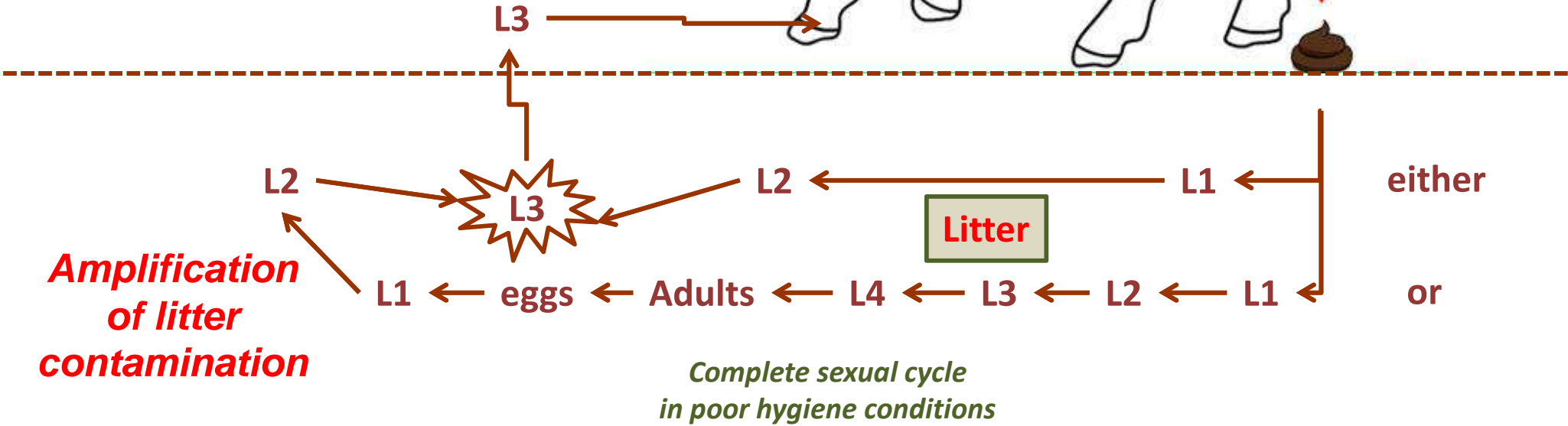
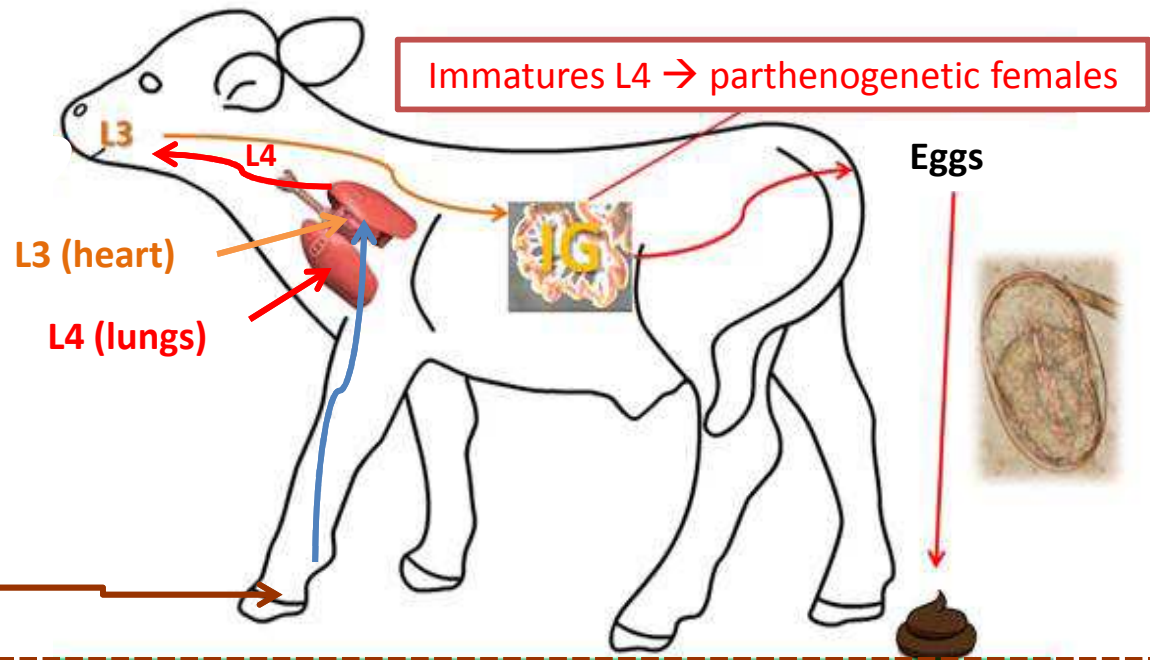
Initial colostral contamination.



RESULTS : 1. *STRONGYLOIDES* sp.

Per cutaneous contamination by litter.

The most frequent way of infestation



RESULTS : 2. COCCIDIOSIS.

Current coproscopic prevalence of infection by *Eimeria sp* in France.

Parameter \ Year	2013		2014	
Number of pooled samples (5 calves together)	176		356	
Number and percentage of negative pooled samples	35	19,9 %	71	19,9 %
Number and percentage of positive pooled samples	141	80,1 %	285	80,1 %

RESULTS : 2. COCCIDIOSIS.

Multi-specific infection by *Eimeria sp* is the rule.

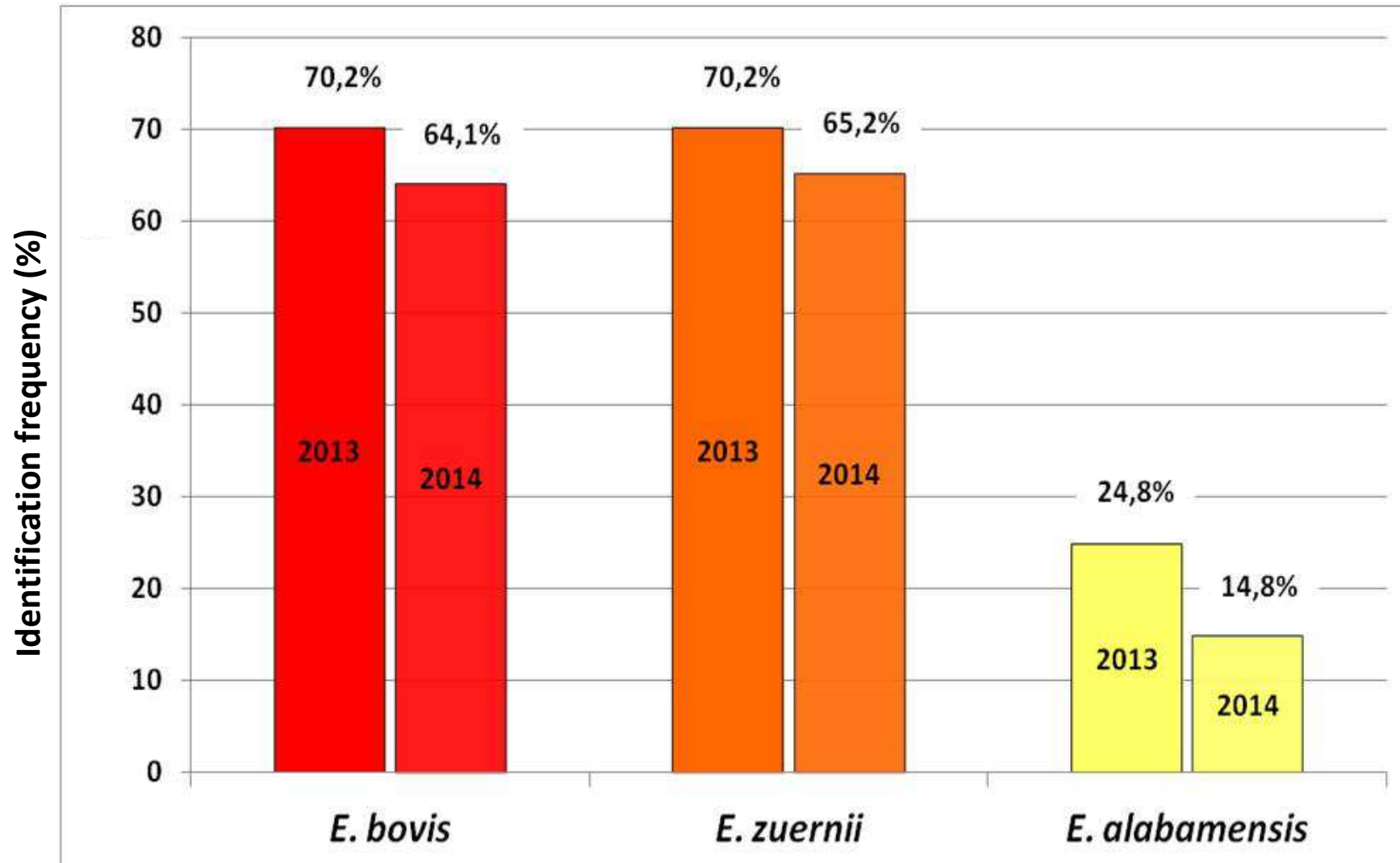
The most usual pathogenic association is *E. bovis* and *E. zuernii* (35 – 38 %)

	2013		2014	
Positive pooled samples.	141	80,1 %	285	80,1 %
Positive samples with only non pathogenic species (NPS)	19	13,5 %	40	14 %
+ with <i>E. bovis</i> alone (± NPS)	19	13,5 %	50	17,5 %
+ with <i>E. zuernii</i> alone (± NPS)	14	9,9 %	54	18,9 %
+ with <i>E. alabamensis</i> alone (± NPS)	3	2,1 %	1	0,4 %
+ with <i>E. bovis</i> and <i>E. zuernii</i> (± NPS)	54	38,3 %	99	34,7 %
+ with <i>E. bovis</i> and <i>E. alabamensis</i> (± NPS)	1	0,7 %	8	2,8 %
+ with <i>E. zuernii</i> and <i>E. alabamensis</i> (± NPS)	6	4,3 %	7	2,5 %
+ with <i>E. bovis</i>, <i>E. alabamensis</i>, and <i>E. zuernii</i> (± NPS)	25	17,7 %	26	9,1 %

RESULTS : 2. COCCIDIOSIS.

Coproscopic prevalences of *E. bovis*, *E. zuernii* and *E. alabamensis*.

The omnipresence of coccidia pathogenic species in France.



DISCUSSION (1) .

The reality of significant infestation of calves by *Strongyloides sp.*

2 groups

- 2 to 4 weeks of age :
 - precociously infested by colostrum
 - initial source of litter contamination
- 4 to 8 weeks of age :
 - latest infested by litter heavily contaminated

Strongyloidosis appears to be more prevalent in lactating calves, in barns with highly infected permanent litter. (25 % or more ...).

DISCUSSION (2) .

The wide prevalence of coccidiosis - 80% - in french cattle herds...
... and the predominance of the association *E. bovis* – *E. zuernii*.

Clearly

80 % herds threatened with coccidiosis danger.

major risks of clinical and subclinical coccidiosis
according to breeding conditions.

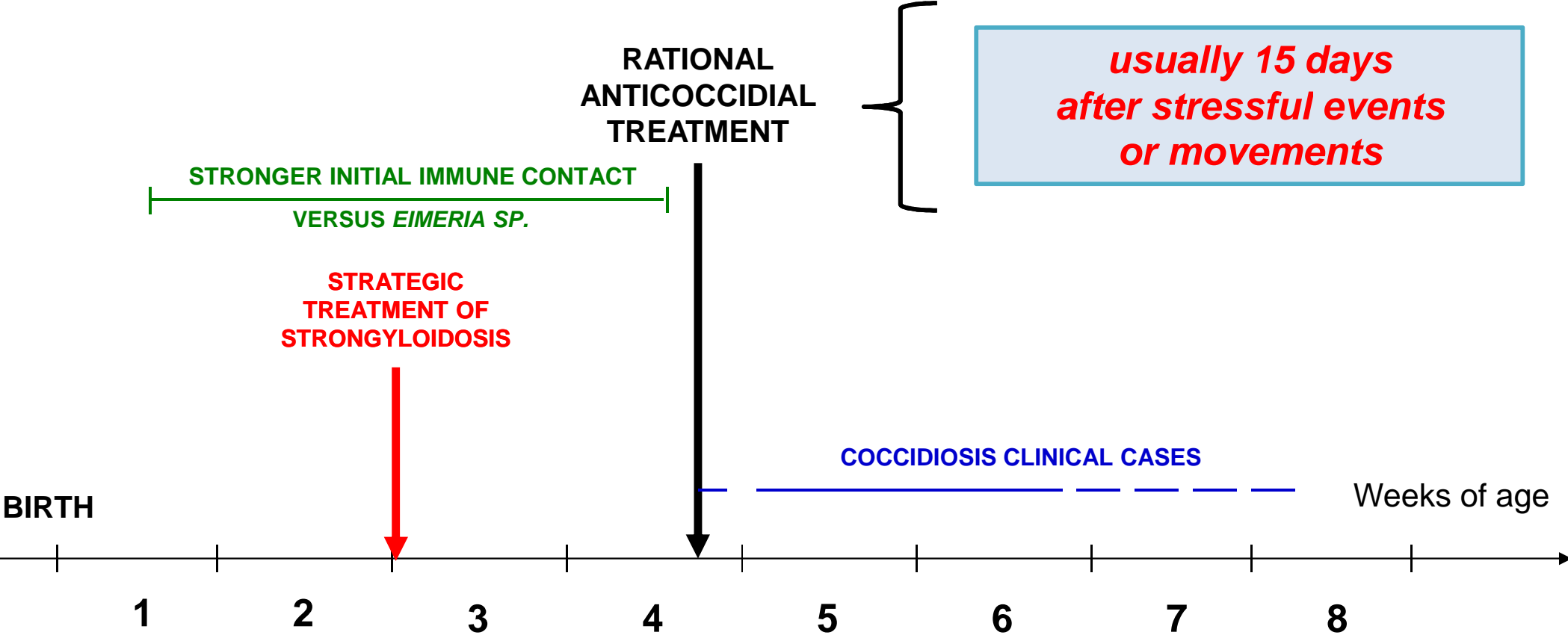
The weak coproscopic prevalence of *E. alabamensis* (15 – 25 %)

and the extreme rarity of clinical cases in France
(*even for turning-out*)

greatly differs from the epidemiology of Northern Europe.

DISCUSSION (3) .

The major interest of precocious control of *Strongyloides sp* is to prevent clinical strongyloidosis and also, to maximize the efficiency of anticoccidial treatment.



ACKNOWLEDGEMENTS

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THANK YOU FOR YOUR ATTENTION !!!