

*ifce*

*ifce*  
institut français  
du **cheval**  
et de l'**équitation**

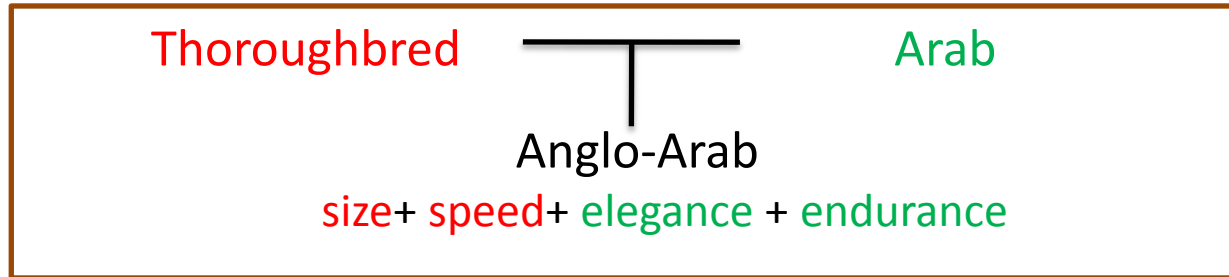
 les Haras  
nationaux

 le Cadre  
noir

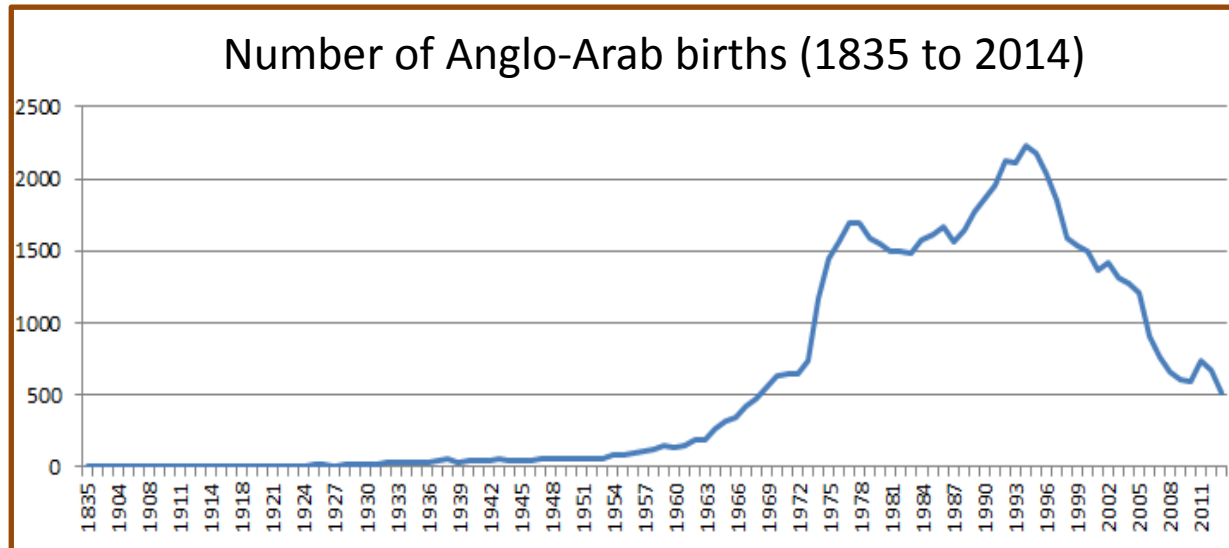
## Anglo-Arab linear profiling

an objective tool to  
maintain a breed  
standard

- 1850 :



- Births until today:



*Why the **drop** ? How to revive the **births**?*

# Origins of declining births Anglo - Arabs

Mare



Used for **crossings**:



Improved

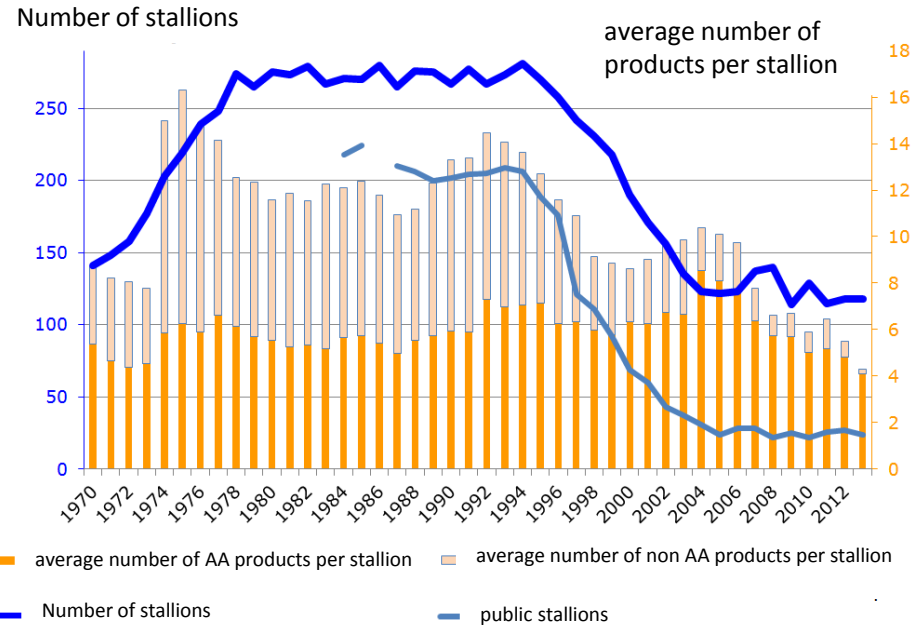
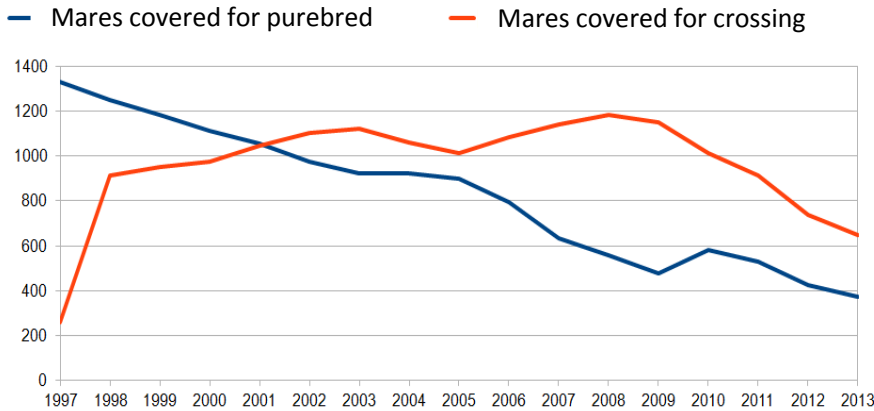


Be improved

Stallion



2015 → End of public stallions





**ANAA → RECOVERY PLAN OF THE BREED:**

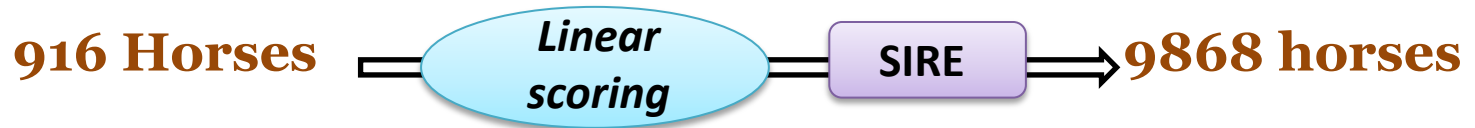
<p>- Image / Promotion</p>	<p>- Sales</p>	<p>Genetic progress :  <b>indexing genetic → IFCE</b>                  Data Collection + <i>genetic analysis</i></p>
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*Are criteria used for linear scoring during "model and gaits" heritable ?*

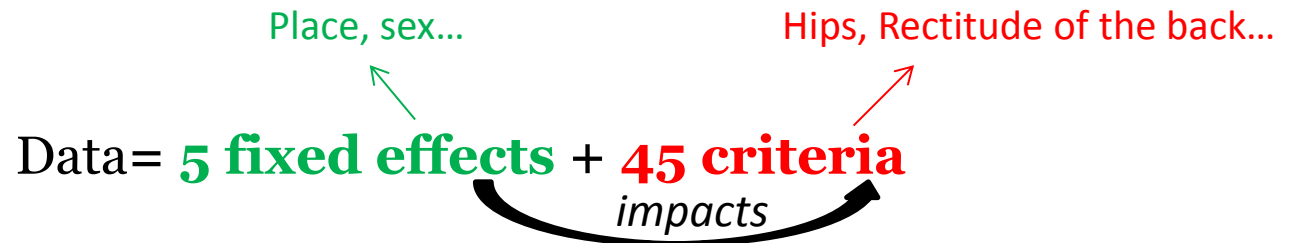
*Is indexation available with those data pointing ?*

## II. Material

### Characterization of the AA population in France:



### Linear scoring data:



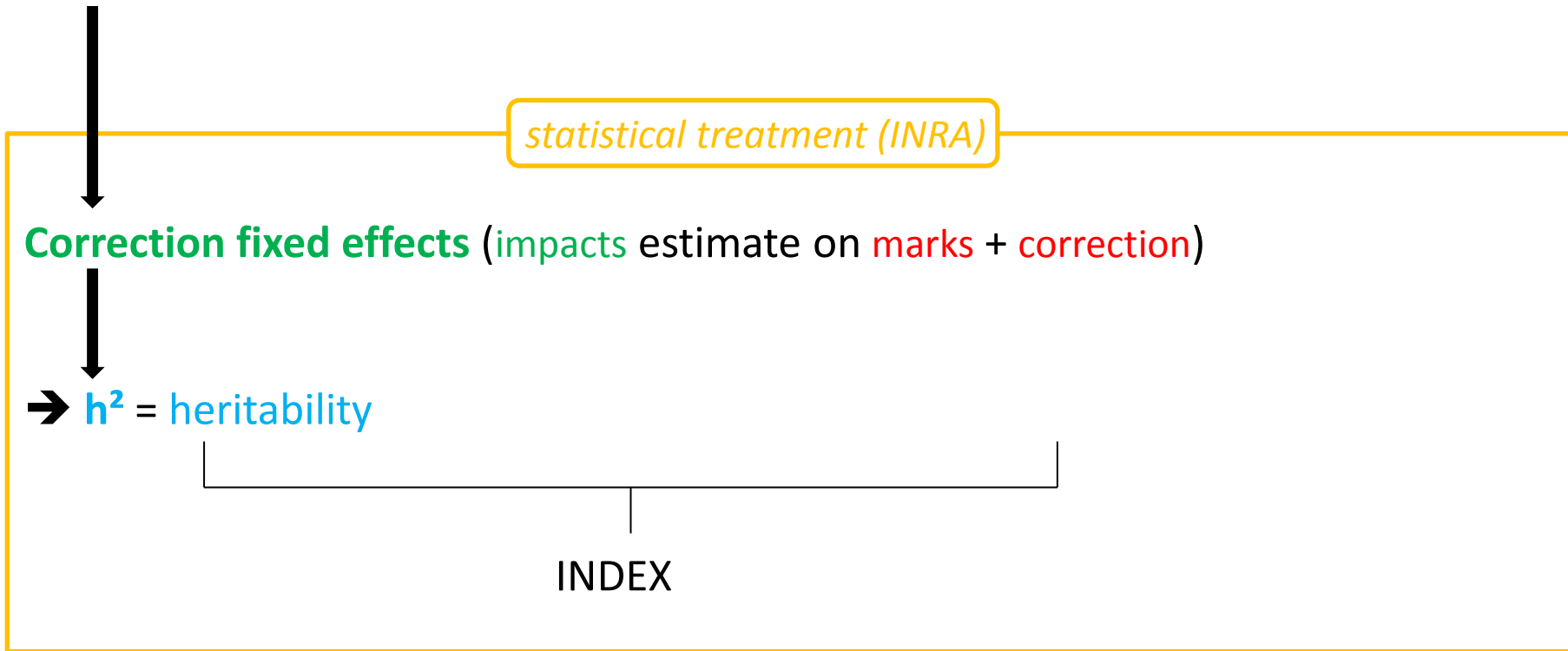
**Constraint** → maximum 32 criteria



**Need to make some choice**

# Data processing :

File= (3 fixed effects + marks for 22 criteria) x 916



*statistical treatment (INRA)*

**Correction fixed effects** (impacts estimate on marks + correction)

→  $h^2$  = heritability

INDEX

### III. Results :

#### 1 - Assigned corrections

**Pointer:** largest **fixed effect** → significant impact on all criteria

#### 2-Heritabilities

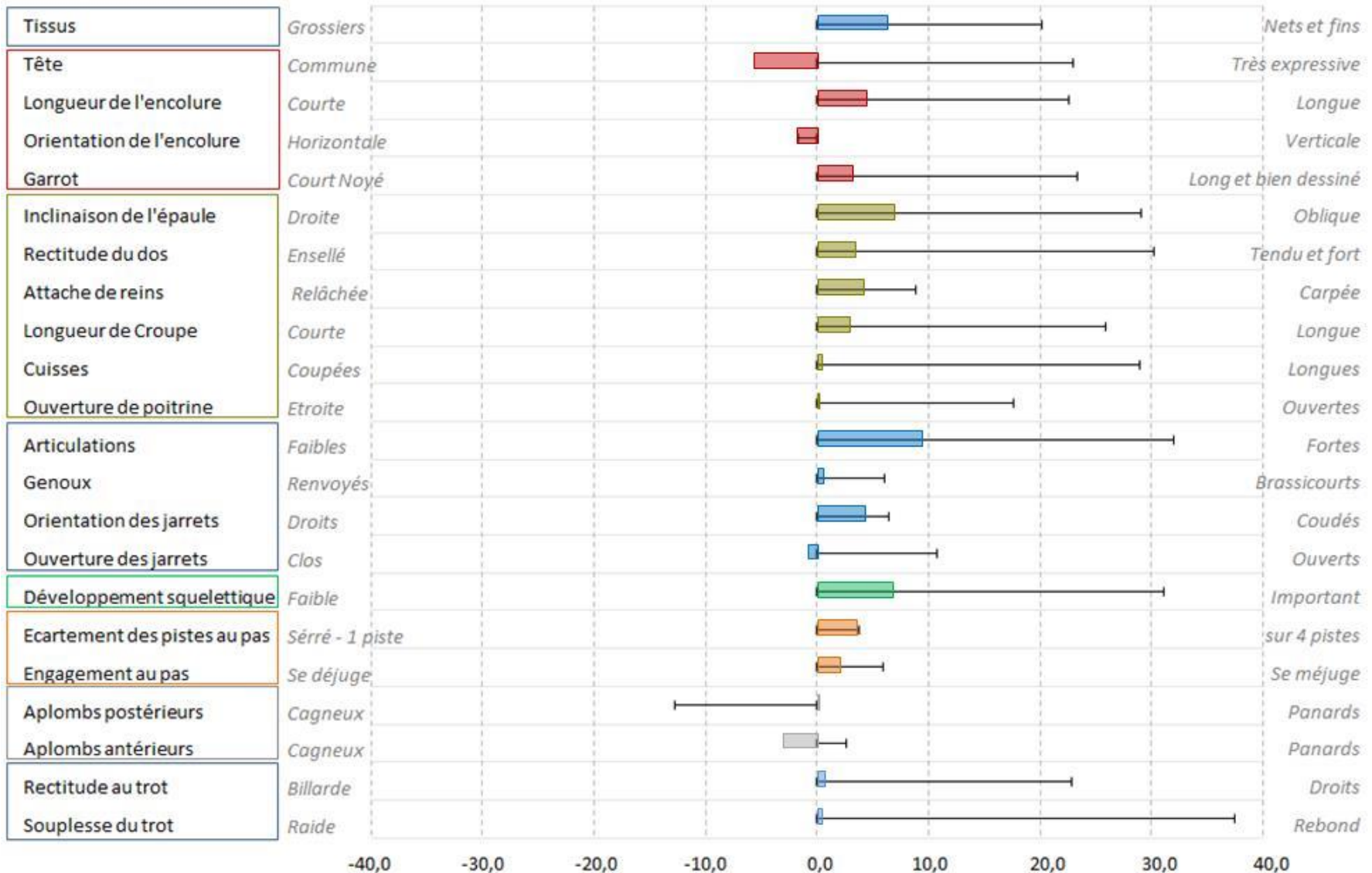
⊕ : Joint / skeletal development :  $h^2 = 0,41$

⊖ : Forelimb aplomb :  $h^2 = 0,000$

**3- INDEX** : estimation for the 22 criteria x 9868 horses  
Without **Coefficient of Determination (CD)**

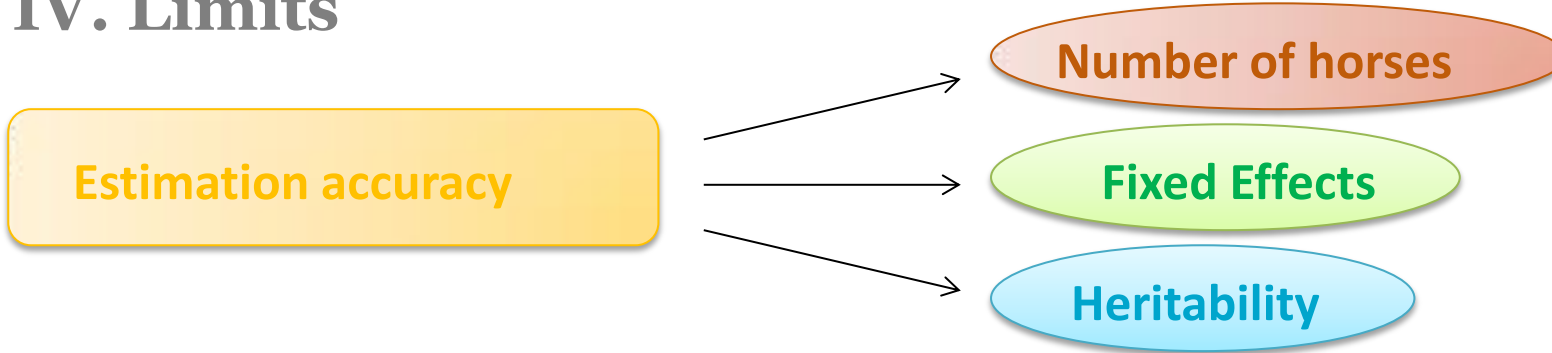
Index are presented in graphical form.

➔ quick and simple view of the criteria to improve for a horse



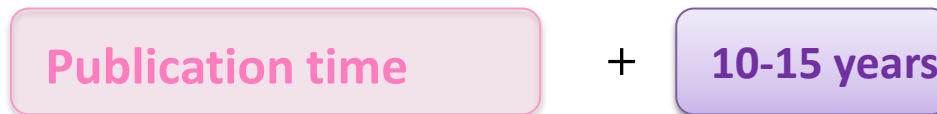


## IV. Limits



**→ We can move towards the fair values , but it is impossible to reach them !**

Rate of genetic progress:



**→ visible progress in the medium term!**

## V. Perspectives of the study

### *Linear scoring and treatment*

CD

Pointers training  
tools

Linear Scoring Grid

### *New technologies*

Linear scoring on tablet app  
→ direct link with sire

Genomics