Overview of the French beef cattle program

Production herds: 4,077,000 cows

Selection herds = 938,000 cows (23%)
- 669,000 cows in beef recording scheme
- 269,000 cows only in parentage recording system

5,670,000 inseminated females

1,500 ♂ AI used

760,000 calves with birth weight
340,000 calves with weight at 210 days old

18 progeny tested bulls on precocious muscle development of calves

1,000 qualified bulls

On-station evaluations: 2,300 young bulls per year (300 with feed efficiency)

40,000 bulls used in natural mating (pure breed)

Progeny tested bulls ≈ 52 ABQM + 11 ABvb

IBOVAL EBVs: active published bulls
- 14,100 with total merit indice ISEVR
- 2,862 with total merit indice IVMAT
- 1,279 with total merit indice IABjbf

Some bulls are put in AI for beefing abilities

Some bulls are put in AI for maternal abilities

Crossing AI

French report - Interbeef WG - May 28th, 2012
IBOVAL – pre-weaning evaluations (E. Venot)

Traits and EBVs

- Calving ease (maternal effect of calving conditions : AVel) and birth conditions (direct effects of BW and calving conditions : IFNAIS)
- Weaning weight at 210d : direct effect (CRsev), maternal effect (ALait)
- Morphology : muscular development (DMsev), skeletal development (DSsev) and Bone slimness (FOSsev)
- Total merit indices : ISEVR (production) and IVMAT (herd replacement)

What’s new?

- New EBV for Limousine : calving ease (AVel) since 2012
- Evolution of the model for the birth data in Salers
- New chain of calculation : end of automation of the process to product all EBVs
- Bonne slimness (FOSsev) : new EBVs for Blonde d’Aquitaine, Gasconne and Bazadaise in 2013

French report - Interbeef WG - May 28th, 2012
IBOVAL – post-weaning evaluations (MN Fouilloux)


**Traits and EBVs**

- Heifer growth (CRpsf): weight at 24 months, BLUP multitraits model with W2 10d, W12m, W18m and W24m Charolais, Blonde, Maine Anjou (ROU)
- Commercial carcass traits: young bulls at slaughter
  Carcass weight and slaughter age in a composite index called ICRjbf and carcass conformation score (CONFjbf).
  Total merit economic index = IABjbf
- BLUP multitraits model with weaning traits
  Charolais, Maine Anjou, Blonde, Limousine, **Salers** and Parthenaise

**What’s new?**

- Since 2011: new database NORMABEV (5 millions carcass data per year)
- More breeds involved: Parthenaise for heifer growth in 2013, Salers for carcass traits since 2012
- Other beef productions considered: a study is started about valorisation of veal production data
- Heifer morphology around 2 years in 2013: Muscular Development, Skeletal Development, Functional abilities

French report - Interbeef WG - May 28th, 2012
New EBVs for the French breeders

Productive life

- Preliminary studies have been done:
  - Fertility: first AI success for heifers, and for primiparous
  - Reproductive efficiency: number of calvings at a given age
  - Longevity for hardy breeds

Docility

- Two traits: Number of movements during calf weighing and calf behavior towards human during morphological scoring
- More than 120 persons trained to collect during calf weighing and morphological scoring: first collects in 2012

French report - Interbeef WG - May 28th, 2012
Genomic: the GeMBAL project

- Constitution of founder populations in order to impute medium density genotypes (54K) into high density (777K) for all the 19 French breeds (beef and dairy cattle)
- Development of tools, methodology and applications for multi-breed genomic prediction: on all traits recording on farm for cattle
- Better knowledge of the structure of the bovine genome: characterization of bovine diversity and traces of selection

French report - Interbeef WG - May 28th, 2012
Genomic : tasks of the GeMBAL project

- **Task 1**: Coordination across tasks and partners, reports & steering committee meetings
- **Task 2**: Defining imputation populations & genotyping 777k
- **Task 3**: Understanding the bovine genome
- **Task 4**: Imputation 54k / 777k
- **Task 5**: Method for multi-breed genomic prediction
- **Task 6**: Dairy application
- **Task 7**: Beef application
- Publications on methods, diversity & QTL detection
- Equations of genomic prediction
# Numbers of genotypes (777K chip) – task 2

## Beef cattle

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