French Report

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INTERBEEF WG - 20th and 21st June 2011
Overall view of the beef cattle program in France

4 077 000 Cows

selection base = 925 000 (23 %)
(VA4+VA0+CPB)

567 000 inseminated females

1500 ♂ Al use in pure breed

385 000 male calves
167 000 with weights at 210 days old (VA4)

2000 bulls in Evaluation stations and 280 in Individual Control / year

1 000 qualified

Tested bulls.
≈ 50 ABQM + 12 ABvb

20 tested bulls on precocious muscle developpement

Somes putting up for sales (AI)

Crossing AI

2000 bulls in Evaluation stations and 280 in Individual Control / year

40 000 young bulls used in natural insemination (pure breed)

IBOVAL appraised Bulls
12600 diffused ISEVR (CD>=0,50)
2500 diffused IVMAT (CD>=0,40)

1 000 qualified

Tested bulls.
≈ 50 ABQM + 12 ABvb

12600 diffused ISEVR (CD>=0,50)
2500 diffused IVMAT (CD>=0,40)

Somes putting up for sales (AI)

Direct Putting up for sales on AI index IBOVAL

Putting up for sales AB JB ou VB

Putting up for sales QM

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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 model and genetic parameters for all traits and all breeds
• New EBVs: new DSsev (only the volume of the animal) without cannon bone circumference and new EBV FOSsev (Bone slimness, the opposite of cannon bone circumference)
• New chain of calculation: Automation of the process to product all EBVs

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IBOVAL - post-weaning evaluations (MN Fouilloux)

**Traits and EBVs**
- Heifer growth (CRpsf): weight at 24 months, BLUP multitraits model with W210d, W12m, W18m and W24m Charolais, Maine Anjou, Blonde, Limousine and Parthenaise
- Commercial carcass traits: young bulls at slaughter Carcass weight and slaughter age in a composite index called ICRCjbf and carcass conformation score (CONFjbf). Total merit economic index = IABjbf BLUP multitraits model with weaning traits Charolais, Blonde, Maine Anjou

**What’s new?**
- Since 2011: new data base NORMABEV (5 millions carcass data per year)
- More breeds involved: Limousine for heifer growth Salers for carcass traits
- Other beef productions considered (veal, …)
- Heifer morphology around 2 years: Muscular Development, Skeletal Development, Functional abilities

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New EBVs for the French breeders

Productive life

• Preliminary studies have been done:
  • Fertility: first AI success for heifers
  • 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
Genomic : the GeMBAL project

- Constitution of founder populations in order to impute medium density genotypes (54K) into high density (777K) for all the 18 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
Genomic: tasks of the GeMBAL project

Task 1
Coordination across tasks and partners, reports & steering committee meetings

Task 2
Defining imputation populations & genotyping 800k

Task 3
Understanding the bovine genome

Task 4
Imputation 54k / 800k

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

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