

Changes in the French Brown Swiss AI program related to the use of Intergenomics breeding values

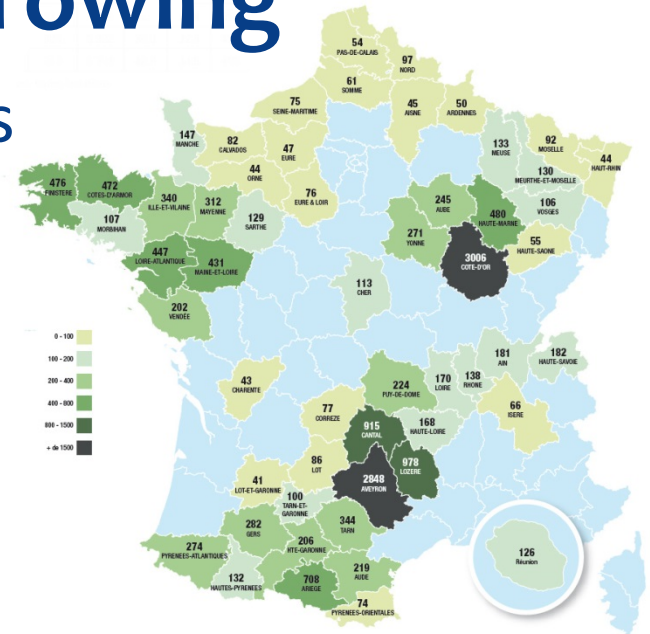
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Brown Swiss in France

A small population, that is growing

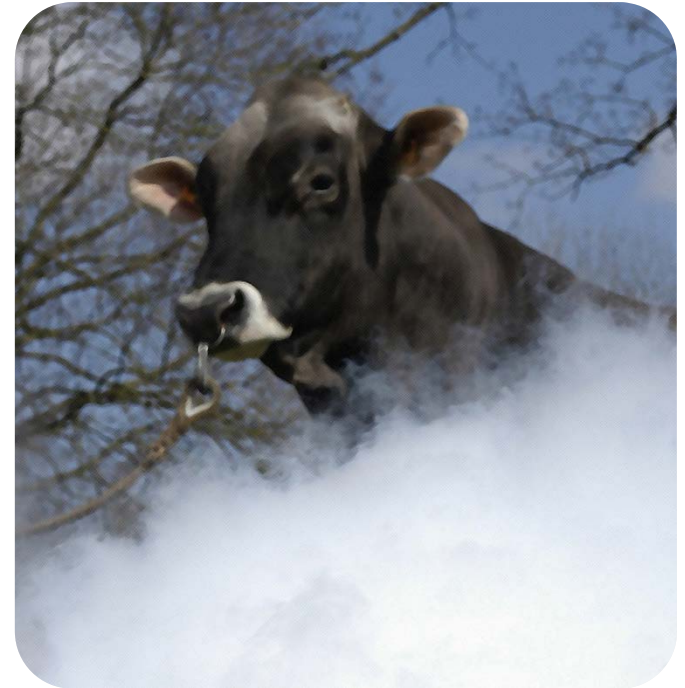
- * **18,000** purebred milk recorded cows
- * **54 %** growth in the last 20 years
- * **1 %** of dairy cows in the country
- * **4 %** of Brown Swiss cows in Europe



Brune Génétique Services

A merged breed organisation for :

- * Herd Book tasks
- * AI breeding program :
 - * **45,000** inseminations / year
 - * **10** young sires sampled / year
 - * **30 %** of AI with foreign bulls



BGS, partner of Intergenomics



An international Brown Swiss genomic evaluation

- * **2009** : seven countries sign Intergenomics agreement
 - * Put together a common reference population (~5000 sires)
 - * Build an international genomic evaluation (Interbull)
- * **2011** : first routine run in december
- * BGS started to use ITG_GEBV right from the start

How was impacted our program ?

New technology, new methods :

- * End of sampling program
10 young sires sampled -> 10-12 young sires marketed
- * Reduction of semen production per bull :
20,000 units stored -> 10,000 units
- * Investment in genotyping a lot of animals
130 candidates genotyped per year
- * Development of sexed semen
3-4 young sires available

How was impacted our program ?

More bull dams matings planned

- * to secure enough interesting male birth
- * 300 matings to get 130 interesting calves
- * use of genomics sires as sire of sons

Genotyping of females

- * for the selection of ET donors



New breeding scheme

300 females qualified "bull dams"

Genotyping of females

15 heifers with ET

285 bull dams
inseminated

15 TE = 30 males

130 bull calves genotyped (50K)

100 males from AI preg

12 young sires marketed in AI

First results of GEBV pre-selection

From 40 % to 60% gain of genetic level

	genotyped	Selected
Number	175	30
Number of sires	26	11
Total Merit (ISU)	140	160
Milk	472	780
Kg P	21	33
SCS	0,5	0,7
Fertility	0,4	0,6
Udder	0,8	1,2

Position of young versus old sires

Sires with ISU > 150 – *Intergenomics FR scale*

	France	All countries	% FR sires
All	61	700	8,7 %
Old sires	4	95	4,2 %
Young sires	57	605	9,4 %
% of young	93,4 %	86,4%	

- * 9 sires out of 10 are young in the Total Merit TOP LIST
- * Twice more French sires in the young sires TOP LIST

International ranking per country

Sires with ISU > 150

Sire country code	Cow population	Young sires	Old sires
DEU	169,379	301	44
CHE	169,353	99	16
ITA	98,204	65	12
FRA	17,355	57	4
USA	14,000	42	14
AUT	54,965	38	5
CAN	2,375	3	0
Total	525,631	605	95

International ranking of BGS sires

Sons of Huxoy

- * # 3, 4 and 5 international

Sons of Prohuvo

- * # 1 international

Sons of Dally

- * # 1, 8 and 14 international

Sons of Payssli

- * # 7 and 18 international

Sons of Alibaba

- * # 3, 9 and 12 international

Sons of Brookings

- * # 6 international

Genomics are *boosting*
the competitiveness
of French BS program,
independantly of
sampling capacity

Use of genomics in IA

BS breeders show a lot of confidence in genomics

Inseminations done with young sires :

- * Before : 3,824 8,6 %
- * After : 11,531 25,3 %
- * 2013 forecast : 40,0 %

Increasing use of sexed semen :

- * up to 10% of purebred females get 1 sexed IA

Perspectives

Intergenomics agreement 2.0

- * Future share of all genotypes, young and old
- * Transparency of G-evaluations, publication of ALL bulls GEBV
- * General interest of the breed :

access to the best genetics available world-wide

Development of national MAS-G evaluation :

- * Males and females get official evaluation in France
- * Future use of LD chip, to reduce costs
- * New services coming from common breeds “pipelines”

Conclusion

- * France is small within BS world, but **fully benefits from** international BS cooperation “**Intergenomics**”
- * Genomics are **re-designing** AI breeding programs
- * **Size still matters :**
 - * the more you genotype, the more you identify **extreme sires !**
 - * the more data you compile, the more **reliability** you will get

Thank you for your attention

*Vive la Brune !

