France Génétique Elevage is the national value-chain organization for the genetic improvement of cattle, sheep and goat breeds, representing all key players in French genetic selection programmes.

The organization is proud to offer this second international bulletin especially dedicated to India. France Génétique Elevage drafted this bulletin to provide the leading actors and policy-makers involved in ruminant livestock genetic improvement in India with key information needed to make the best use of French genetic material.

This bulletin comes with a 6-page special report entitled “France, a world leader in goat milk production and caprine genetics”.

**EDITORIAL**

**France, among the world leaders in dairy genetics**

Boasting a mean equivalent adult lactation yield of 9797 kg/yr by the 2.3 millions cows subject to official milk recording, France counts as one of the world leaders in dairy genetics.

Every year for the past two decades, the genetic progress (excluding environment effects) of the Prim’Holstein, Montbéliard and Normande breeds reached 65 to 100 kg milk/year.

Interbull’s international genetic evaluation has confirmed the excellent genetic merit of French bulls.

In April 2011, France ranked worldwide 1st runner-up for the Prim’Holstein breed, counting almost a quarter of the top 100 bulls for the Global Merit Index. French Montbéliarde breed bulls came 1st place worldwide in the red-and-white population.

The French national dairy goat stock, essentially composed of two internationally-renowned breeds (Alpine and Saanen), achieves comparable figures, with a mean lactation yield pushing 800 kg/yr.

Thanks to their stringent requirements governing, French selection programmes get benefit in France and abroad from well-balanced yet high-performance genetics to simultaneously improve milk quality and quantity.
TECHNOLOGICAL INNOVATIONS

A decade at the cutting edge of genomic selection

Thanks to the integration of genomics-based technologies, French selection programmes reinforce their position among the world’s leaders in livestock genetics.

France was one of the first countries in the world to get Interbull official international validation for its bull genomics evaluation method.

This new-generation genetic data is now being accessed for all breeders via official published release of bull genomics indexes.

Nowadays every trait traditionally evaluated on progeny has its own genomics evaluation, spanning dairy production (quantity and composition) and functional traits (fertility, mastitis resistance, longevity, body set, udder morphology, and so on).

These decisive breakthroughs converge into significant gains in French genetic progress and genomic evaluation reliability.

These results have been built on a tight-knit partnership gathering UNCEIA (union federating French Breeding-Companies), basic research led by INRA (French national institute for agricultural research), and the Institut de l’Elevage (French national livestock farming institute) in charge of the coordination and technical assistance of the selection programmes.

The accuracy of French genomic evaluations result from the very large size of the benchmark populations (bulls from animals with both genomic and conventional progeny evaluations).

The success of the pan-European EuroGenomics project has culminated in a benchmark Holstein population that now counts 18,500 bulls!

Progeny testing records on 3000 daughters have already confirmed the reliability of genomic evaluation on the first 309 bulls led in 2008.

Total genomic indexes and classic indexes always correlate very high. Work is pressing ahead on progeny testing-based confirmation protocols to further develop benchmark populations and optimize the genomic evaluation methods.

An even broader choice of bulls

Capitalizing on its active genomic selection, France is now even better prepared to meet the broad spectrum of breeder needs, farm contexts and industry expectations.

All French selective breeding companies (Amelis, Créavia, Dynam’is, Génes Diffusion, Jura Bétail, Midatest and UMOTEST) involved in genomics programmes offer their services to foreign breeders too. Their offer currently concerns the main three French dairy breeds.

French dairy genetics exporters (Coopex Montbéliarde, Dynamis, Génes Diffusion, Génes France and Sersia France) also offer an extended range of dairy bulls, complementing the conventional offer of progeny-tested bulls with a genomic selection offer.
Genetic diversity: alternatives to O-MAN

Within the Prim'Holstein breed, the offer extends across a broad array of bulls, thereby securing an important genetic diversity in a context until now largely dominated by the sons of O-MAN and SHOTTLE.

The profiles offered are adapted to a range of objectives: improved milk production, improved morphology, or improved functional traits.

This range of high-ISU (global merit index) sires also extends to ‘red factor’ bulls and polled bulls.

Holstein... but also Montbéliarde and Normande

France has led technological genomics-based breakthroughs in these breeds as well. The breed range has been extended to Montbéliarde and Normande, with recent-pedigree sires and sires presenting profiles that highlight their racial qualities (good milk solids index, lifespan, disease resistance).

The Montbéliarde offer allows for a continuing successful expansion of Montbéliarde crossbreeds in major herd stock across Asia.

Using Sexed Semen to Secure Replacement Herd

France also has a semen-sexing platform run by UMOTEST that integrates the latest breakthroughs in scientific research. The platform exploits “Sexing Technology” to deliver 90% guaranteed female-sexed semen.

This robust and reliable technology enables all French selection companies to offer a sexed semen range geared to a large number of sires.

This is yet another asset for breeders looking for world-class genetics to inseminate their best heifers and guarantee impeccable-quality replacement herds.

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Source: official conversions formula developed by international organization Interbull and available online at the USDA website

Getting the Most Out of the French Calving Ease Index

The calving ease index characterizes the ability of calves to be birthed without assistance. France, like the USA, uses the same methods (calving quality scores) to evaluate calving ease.

However, France reports calving ease in a different way. This match-up table makes it easier to use and compare calving ease figures.
France hosts the ICAR International Congress

The International Committee for Animal Recording (ICAR) federates 47 member countries — including India — across 5 continents. Has the mission to standardize the technologies and methodologies used for identification, traceability, performance monitoring and genetic evaluations related to domesticated livestock (cattle, sheep, goat and buffalo).

From 22 to 24 June 2011, France Génétique Elevage was proud host of the ICAR’s annual general meeting and its “New technologies and new challenges for animal breeding” workshop. The event gathered 300 experts from 38 different countries, providing an opportunity for top-notch dialog and technical feedback on all hot issues in ruminant genetics:

- New performance recording technologies.
- Phenotyping complex genetic traits (heath, reproduction, welfare...)
- Beyond selection, the potential impacts of genomics on livestock farms
- New milk analysis techniques and their value chain
- New trends in breeding farm consultancy: how to take better advantage of performance recording?

All the presentation are available in English at www.icar.org

The introduction of Tarentaise and Abondance breeds successfully continues in Uttar Pradesh and Uttarakhand states

The French breeds Abondance and Tarentaise have already been successfully tried and tested abroad in wide array of different breeding context and physical environment. Both breeds have proven track records and are particularly well adapted to family-run farms.

Combining productivity with low frame, they offer a hardiness (ability to exploit rough forage, low maintenance in terms of veterinary costs, few fertility problems) that substantially improves milk production and profitability.

Since 2008, BAIF (Indian development research foundation) has teamed up with UCEAR (a French selection firm) to lead an introduction programme of these two breeds in north-India states Uttar Pradesh and Uttarakhand.

Zootechnical records on female progeny from the first 10,000 inseminations in local breeds have confirmed their potential in these high-altitude mountain ranges.

A second insemination campaign on these daughters, involving 7000 Abondance and Tarentaise bull doses will allow stepping forward, notably with an in-depth evaluation of the milk yield gains obtained.

The results will almost certainly add to satisfaction already expressed by local farmers and local technical programme officers alike.

The SPACE international trade fair scheduled for 13 to 16 September 2011 in Rennes, Brittany. The trade fair, set deep in the heart of one of the biggest dairy regions in Europe, is set to show over 800 cattle, goats and sheep.

All the leading French dairy breeds will be on show to present their best sires and cows specimens, and the Prim’Holstein Atlantique competition is not to be missed. The main dairy industry equipment manufacturers will also be there to unveil their latest innovations.

www.space.fr