Goat Artificial Insemination in France

Farming Connect Management Exchange

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Goat milk industry statistics

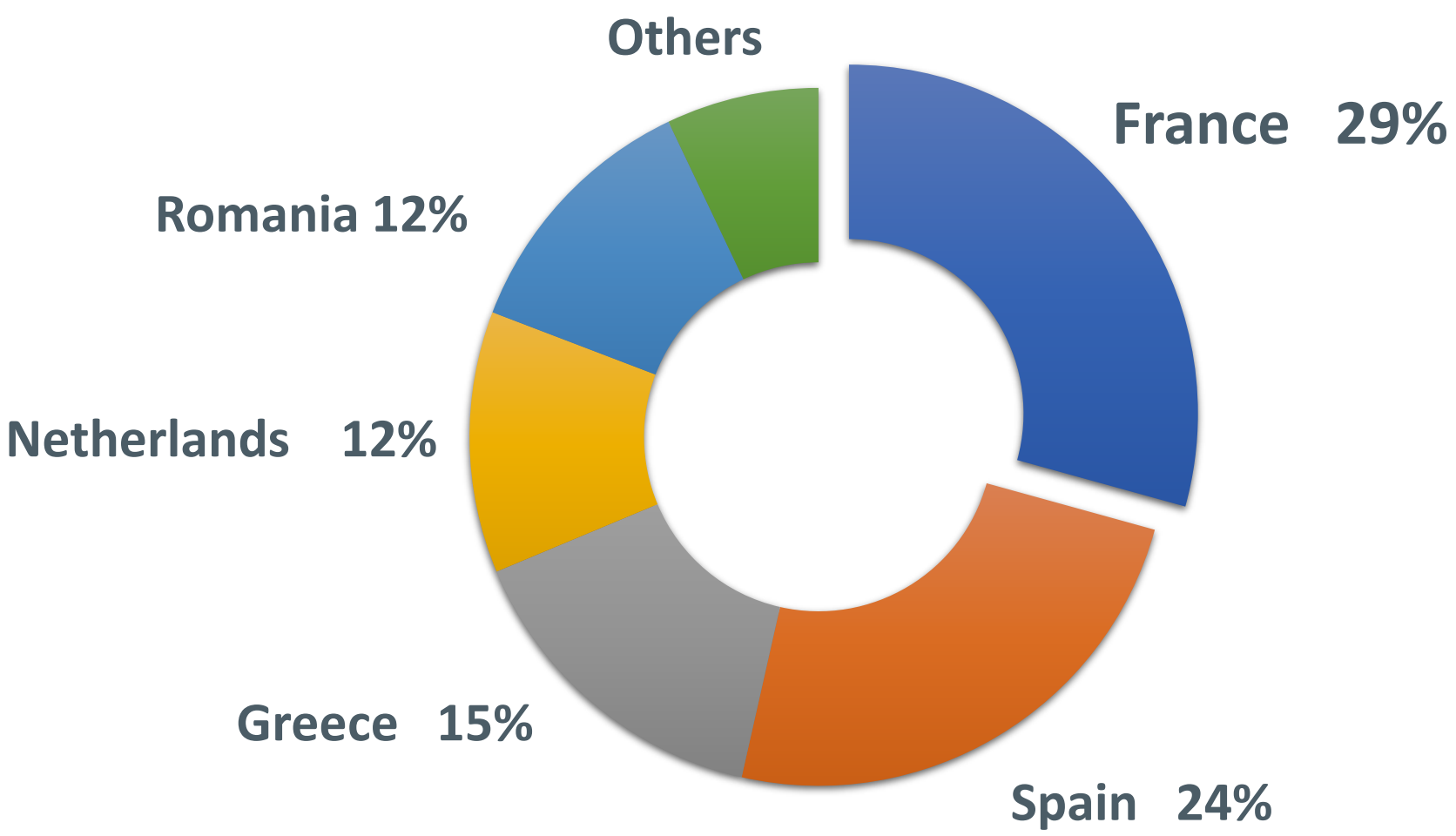
- WORLD: 1 billion goats (China, India, other Asian countries, Africa)

- EUROPE: 16 million goats

- FRANCE: 1 million goats in 6,000 farms, of which 95% are either Alpine or Saanen

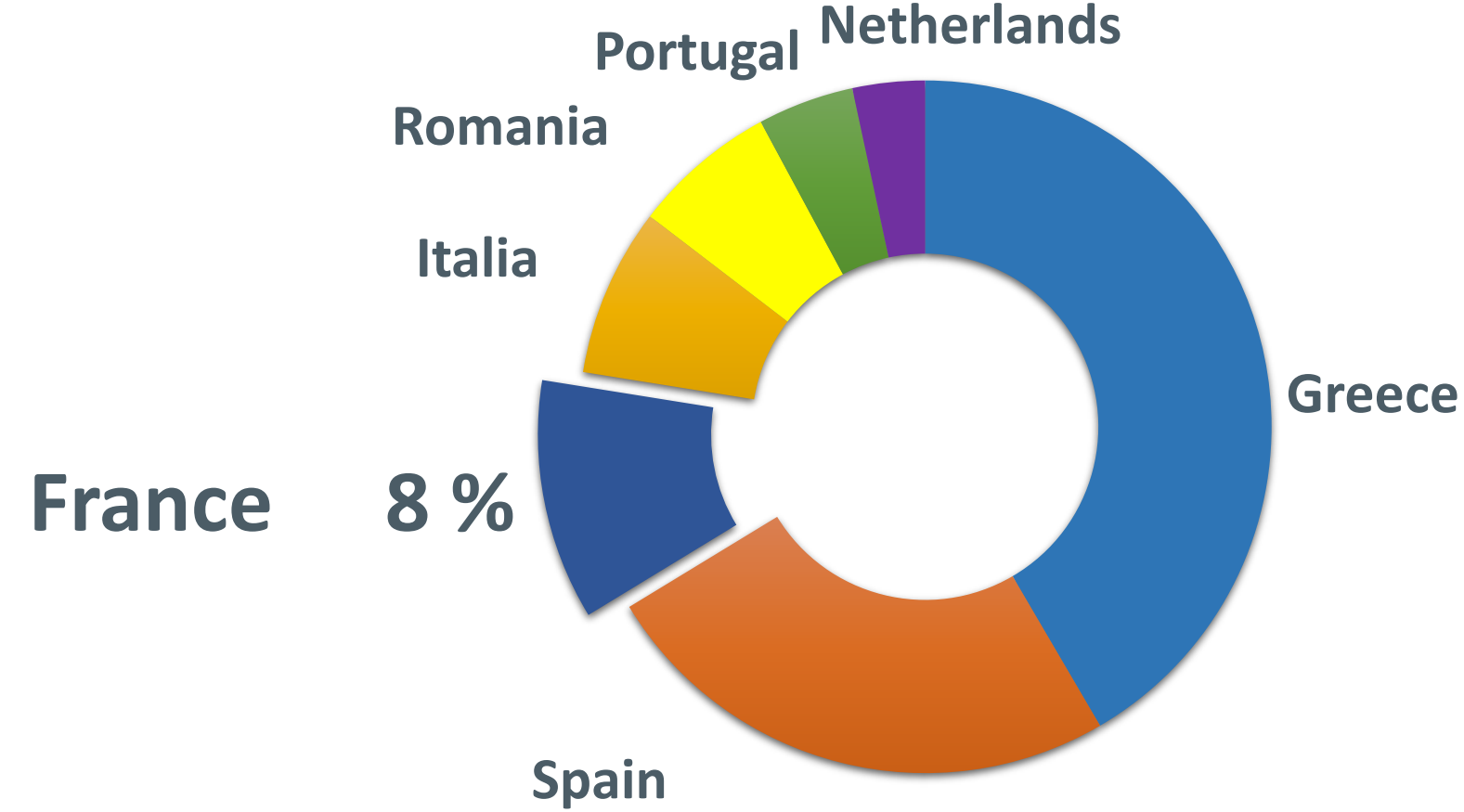
European goat milk production

2,100 million litres (20% of the world production)



European goat population

16 million goats



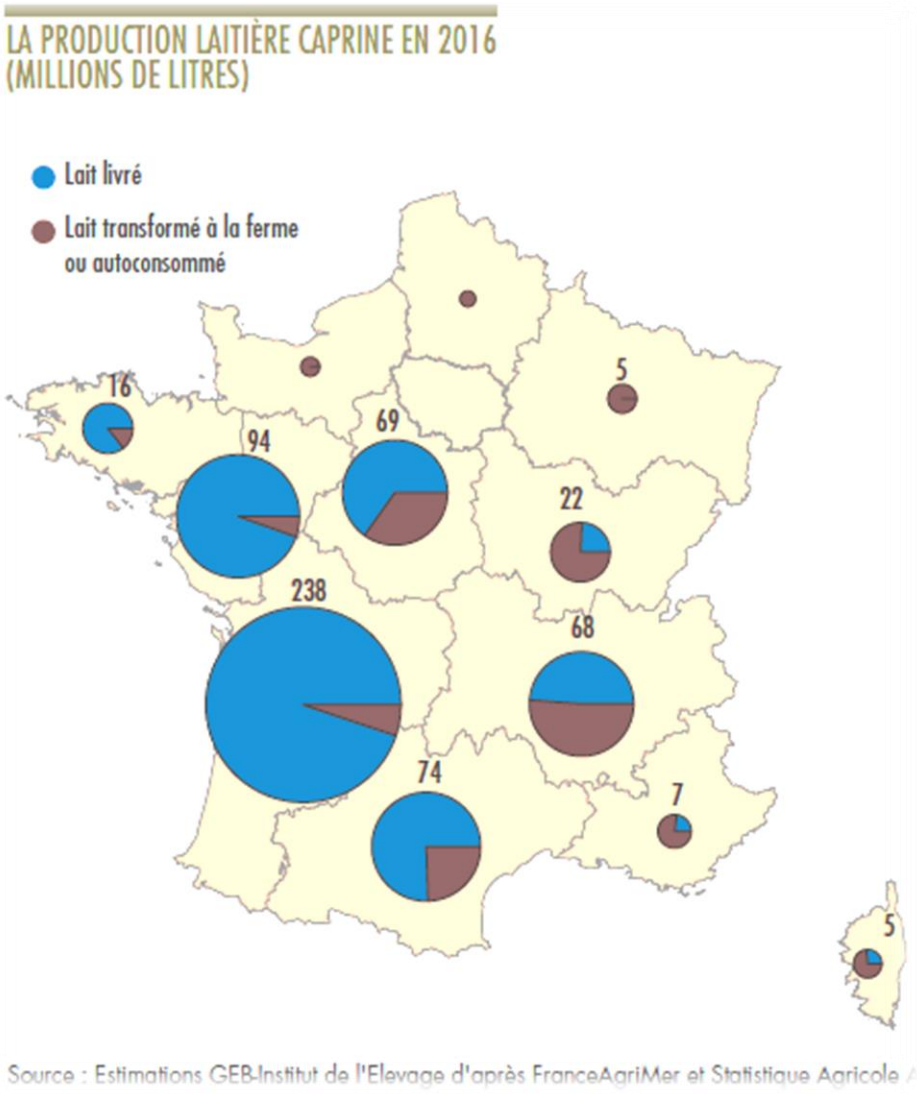
Goat industry

- Goats worldwide are mostly bred for meat.
- Worlwide dairy goats milk production is estimated at 12 million tonnes.
- In France, 470 million litres of dairy goats milk is collected by dairy industries, and 200 million litres is processed on-farm.

Summary of the French goat industry

- Diversified breeding systems
- Top quality cheese production
- A world renowned industry
- Similar problems for all the breeders within the dairy industry, both meat and dairy

Aim: Cheese



- 6,000 goat farms.
- Most of the milk produced is processed into cheese.
- 50% of farms have cheese production facilities located on-farm, and 50% of farms have their goat milk collected.
- 15 cheeses are under AOP official quality sign (Appellation d'Origine Protégée).

Capgènes features

- Established since 1975.
- A co-operative of goat breeders made up of breeder members.
- Financed by breeders and Goat Industry Association.
- Approved by the French ministry of agriculture for management of breeds.
- 14 goat breeds included.
- National cover.

Semen production

- Production of frozen semen for all the goat breeds
  - A French method.
  - A minimum of 50 million live spermatozoa after thawing.
  - A pregnancy rate of 62% with frozen semen.
- Follow-up of the progeny testing programme, at least 60 daughters per male are required.
- Cryo-storage of semen.

Promotion/Training by Capgenes

- Provide training and information for French and foreign goat experts, AI technicians and breeders.

- Promoting breeds and genetic improvement through publications, exhibitions, demonstrations etc.

- Promoting reproductive animals from the selection scheme for the dissemination of the genetic progress.

French goat genetics worldwide

- Semen is exported by Evolution International.

- 5 spectrum to offer a wide choice (140 bucks)
  - Complete: bucks with milk production, components and keeping udders healthy
  - Milk: high volume milk production
  - Type: to improve the udder quality
  - Components: to produce milk rich in protein and fat
  - Boer breed: for meat production

Alpine and Saanen genetic programme in France

- 1,800 herds with 350,000 goats that are milk recorded monthly
- 600 dairy goat herds in the genetic programme with 170,000 goats
- Selection objectives
  - Assess milk quantity and quality
  - Udder and conformation
  - Somatic cell counts
  - Reduce inbreeding

Alpine

Saanen

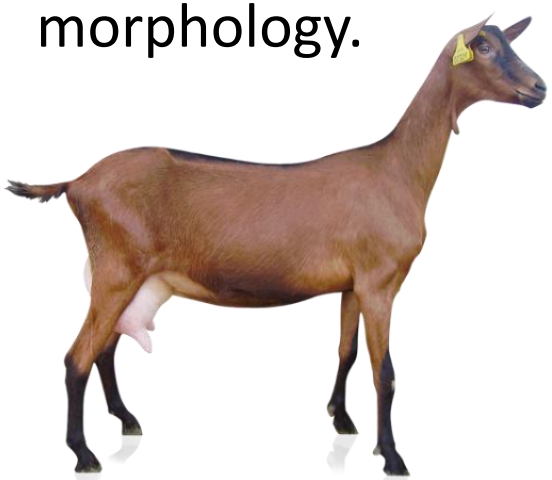
Which genetic index?

- Indexation for the Alpine and Saanen breeds
- 5 basic production indexes
  - Milk index: ILait (kg)
  - Protein deviation index: ITP (g/kg)
  - Fat deviation index: ITB (g/kg)
  - Protein index: IMP (kg)
  - Fat index: IMG (kg)
- **Synthetic index : IPC = MP + 0.4TP + 0.2 MG + 0.1 TB**

NOM	CODE IA	NB	CD	IPC	LAIT	MP	TP	MG	TB	IMC	cell.				PÈRE		GPP		GPM
DAGOBERT	D504	91	91	140	59	2,9	1,1	2,9	0,9	107	97	**	***	***	U578	UBALD	O510	ORLOFF	1225402006
FREUD	F164	118	91	141	174	3,6	-1,3	5,2	-0,6	100	79	****	*	**	U527	UTACH	M161	MOSKOVA	1225402006

Mating plan

- Objectives:
  - To promote future reproductive male enhancers by frozen AI.
- Selected herds:
  - Herds connected, with members of Capgènes and which are scrapie free are qualified.
- Selected goats:
  - Goats are selected based on their reproductive ability, genetic level and morphology.



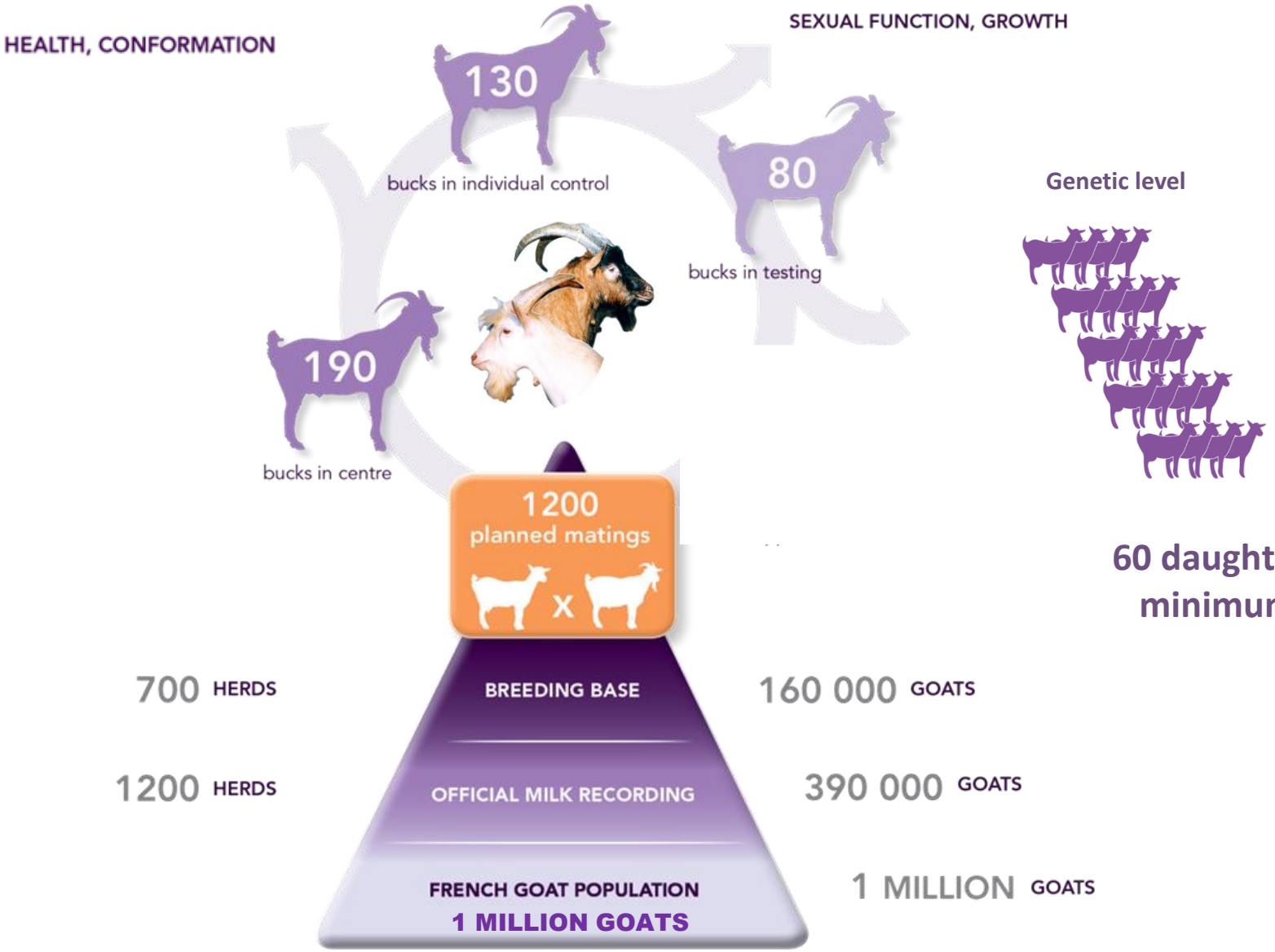
Mating plan

- Performances of the best 1,200 goats
  - The best male enhancers, taking into account the genetic variability.

	Milk quantity	Protein %	Fat %
Alpine	1,261 kg	35.2 g/kg	39.8 g/kg
Saanen	1,334 kg	33.5 g/kg	36.4 g/kg

The goat breeding program in Saanen and Alpine breeds

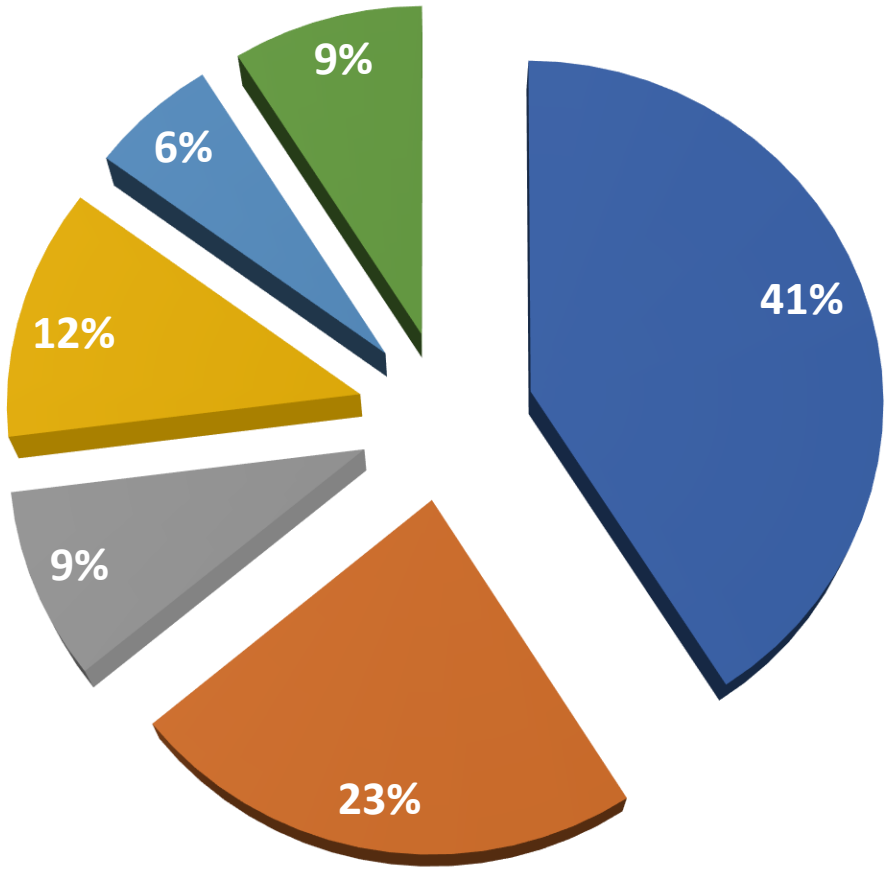
Capgenes



Genetic level

60 daughters minimum

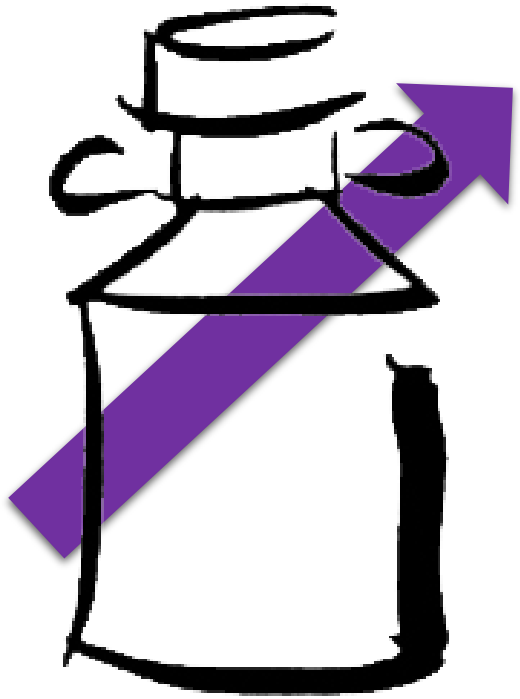
Disqualifying criteria of the bucks



- Testing period
- CAEV
- Growth
- Sexual Behaviour
- Semen quality
- Resistance to freezing

Genetic progress for the last 10 years

Breed	Milk Quantity	Protein %	Fat %
Saanen	+125 kg	+0.80 g/kg	+0.59 g/kg
Alpine	+129 kg	+0.92 g/kg	+0.93g/kg



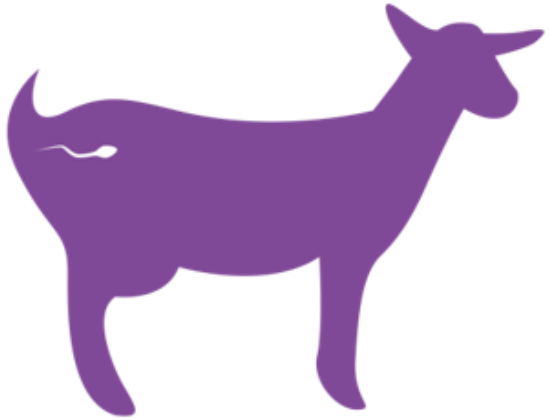
Therefore, why AI with French semen?

Disease guarantees

- Reduces the risk of sexually transmitted diseases
- Risk from buying in bucks

Proven males

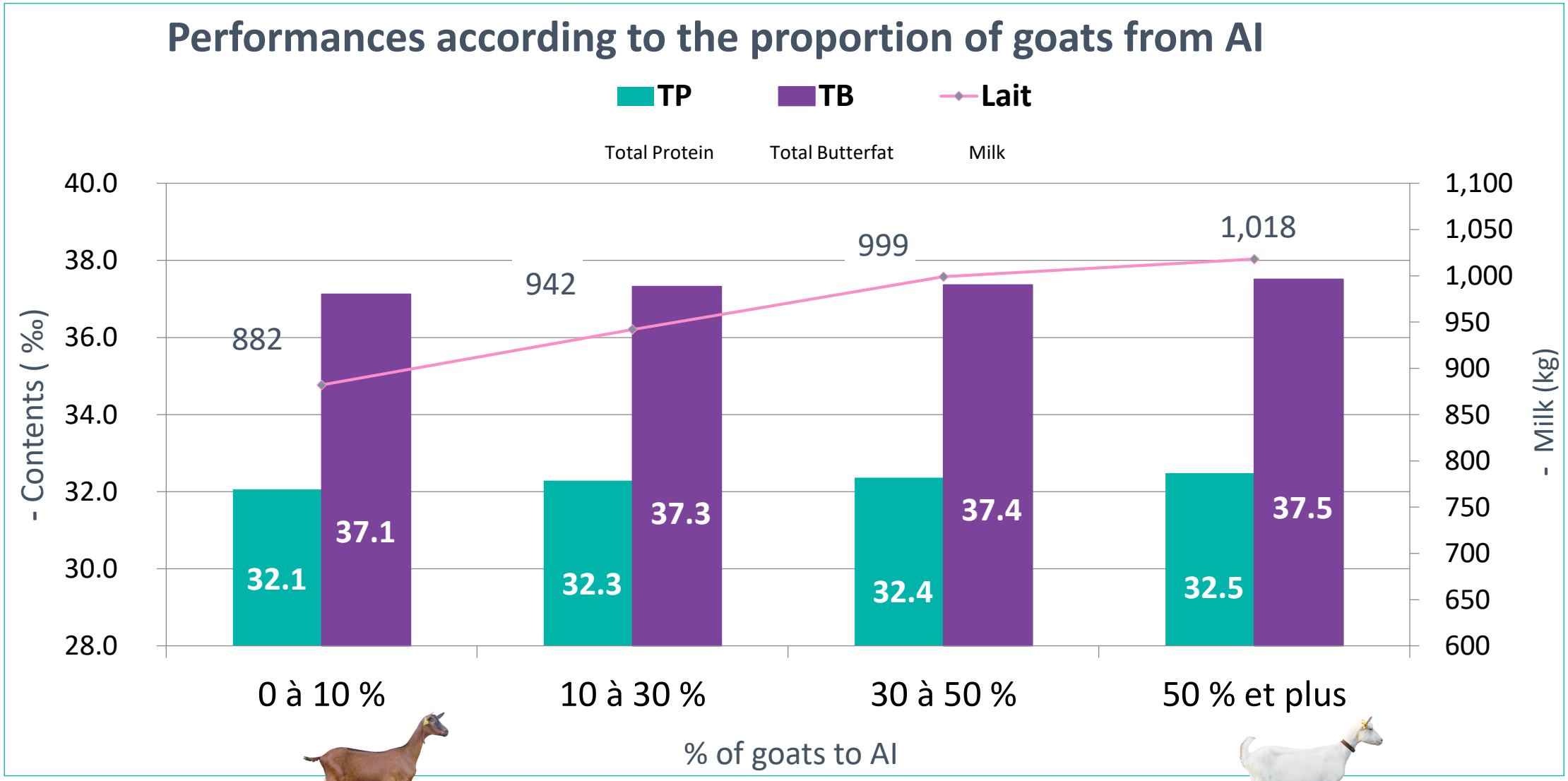
- Extensive progeny testing
- Knowledge of the breeding values
- Different profiles
- Diversity of bloodlines
- Selection on milk, components and type
- Selection on Casein alpha S1

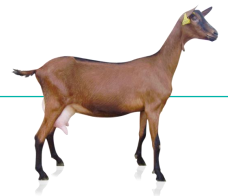


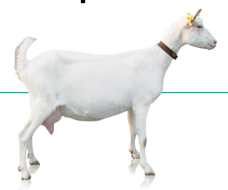
Profit

- Genetic improvement allows more profitable goats
  - Increased milk
  - Increase in components
  - Increased longevity (udder morphology)
  - Reduction in somatic cells
- Selling excess breeding animals

INSEMINATION = MORE PRODUCTIVITY







CONCLUSION

1. AI allows faster genetic gain.
2. AI improves biosecurity as there's less need to buy in males.
3. AI allows easier herd management as kidding dates are known.
4. AI allows the facility to concentrate on improving specific traits within a herd.
5. AI is more expensive but the improvements (above) exceed this cost.
6. UK goat herds should take up AI to improve performance.

Gary Yeomans' comments

Changes to my breeding programme

"I have already inseminated a group of goats using the French AI techniques. We have just scanned these goats and we had a 48% success rate. This compares to 38% using the vet previously. My intention is to increase the number of goats that I AI within my herd over the next few years. If the success rate continues, I will possibly offer an AI service to other goat farmers in the area. I encourage other goat farmers in Wales to embrace the concept of AI within their own herds in order to gain the benefits that I have listed."