



In memoriam of Laurent Avon (1950-2022)



Coralie DANCHIN, IDELE

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The implementation of in-situ programs in France

- During the 1960s

Effective tools are implemented to reduce the number of (cattle) breeds to increase productivity

Example: AI is *forbidden* in "unproductive" breeds

- During the 1970s

Policy is extremely efficient => massive loss of numbers in local breeds

⇒ Alarm call from the scientific community

⇒ Ministry of Agriculture is pushed to dedicate 0,5 % of its credits for Animal genetics to conservation



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Two men, one vision

- **Jean-Maurice Duplan**, head of the Genetic Department of the Cattle Livestock Institute
- **Laurent Avon**, just graduate with a law degree, keeps **Herens cattle** during summer time

Extensive knowledge of the cattle breeds based on old books, in field trips and farmers interview

=> Laurent is hired to implement **cattle** conservation program in 1975



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Laurent's axiom



*Any breed with low numbers,
as long as it still exists, is
worth preserving*



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The initial state of the breeds

- Almost **no** bulls left.
No access to artificial insemination
Breeders no longer maintained purebred bulls
- => in the Lourdaise breed, only **one** bull remained
- Many crossbred animals
Systematic crossbreeding has sometimes taken place for more than 20 years
- On the other hand, the presence of old and unique lineage females, in remote farms





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To characterize or not characterize ?

No characterization or evaluation to assess if a breed is indeed original

- Urgency of the situation, **any delay is a threat**
- Rapid characterization needs to use assessment scaled on major breeds => no interest per se, these breeds are endangered because inferior for these parameters !
- Small numbers = **no statistical value**
- **Funding** necessary to characterize is important for breeds with limited economical interest
- Criteria for choosing a breed as "interesting" or not **are likely to be very subjective**



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Time for action: in field survey and cryoconservation

"Female program":

- Annual survey of all the remaining animals with their pedigrees
- Annual report sent to all the farmers

"Male program":

- Cryoconservation of the remaining bulls
- Selective mating to create new bulls




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A life dedicated to breed preservation

- Controversial issues when the breeds started collective actions (including valorization or the French National Cryobank)
- A tremendous success from a demographic and genetic variability point of view
 - Ferrandaise (3197 females) versus Montbéliard (> 800 k cows)
 - Effective number of ancestors: 22 versus 17
 - Effective population size: 64 versus 82
- His action also led to breed preservation in other ruminant species or local cattle breeds

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Thank you Laurent...



The grid contains nine photographs of cows in various colors and patterns, including white, brown, black, and spotted. The cows are standing in a grassy field under a clear sky. In the bottom-left corner of the grid, there is a small logo for 'INSTITUTUL NAȚIONAL DE REPRODUCȚIE IDELE'.