

## In-situ & ex-situ integration: Dutch genebank for livestock species

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## Objectives of Dutch genebank

- Securing the genetic diversity of rare breeds and more common breeds
- **Using genetic material to support rare breed breeding programmes**
- Providing insurance for calamities such as the loss of breeds due to animal disease
- **Making material available for research and genetic characterisation**



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## Good communication with breeders and breed societies

### Derogation for collection of bull semen at farm

More bulls available for in-situ breeding programme using AI

Good communication important

- for selection bulls
- for health and safety



### Freezing semen after quality check Friesian stallions

At annual selection of stallions semen is checked

Agreements to freeze and store 'left-over' material for genebank

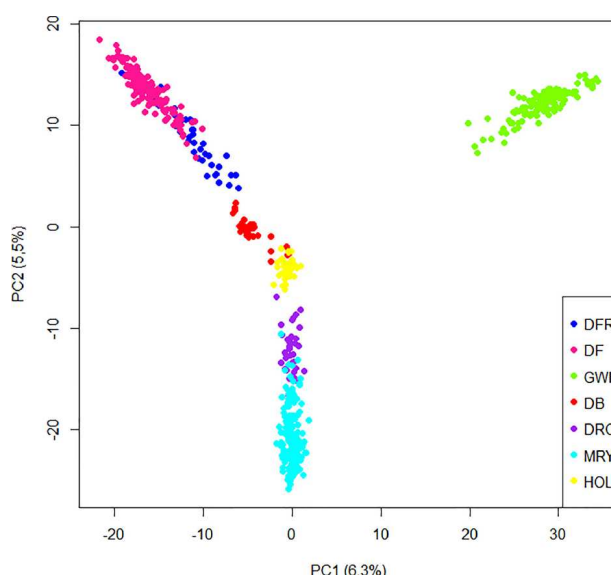


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## Genebank collection as reference for in situ conservation

- Assembly of reference populations from genebank collections Dutch dual purpose cattle breeds
- Set-up breed assignment test for Dutch rare cattle breeds
- Possibility to add (assumed) pure bred animals to breeding population



<https://www.sciencedirect.com/science/article/pii/S1871141318305341?via%3Dihub>

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## Enlargement of the collection

When material is limited for the breed  
or certain family lines

Collection of genetic material of  
offspring born with GB material

To expand the collection for this family  
line again with more genetic material



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## Groningen White Headed

- Genetic variation in genebank larger than in in-situ population
- Motivated breeder of Groningen White Headed
- Set up breeding plan to broaden genetic variation in-situ population
  - Use genetic material from genebank on best cows
  - Male offspring selected for AI centre



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