Genetic aspects of the breeding program for the threatened hamster in the Netherlands.

Maurice La Haye

Radboud University Nijmegen

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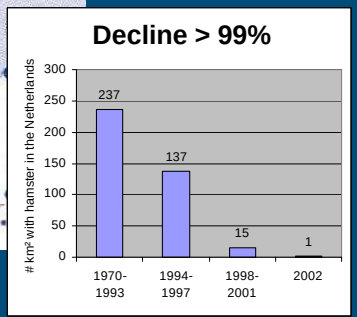
European distribution



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Genetic variation?

37 museum samples

58 recent samples

Reference populations from the Alsace & East Germany

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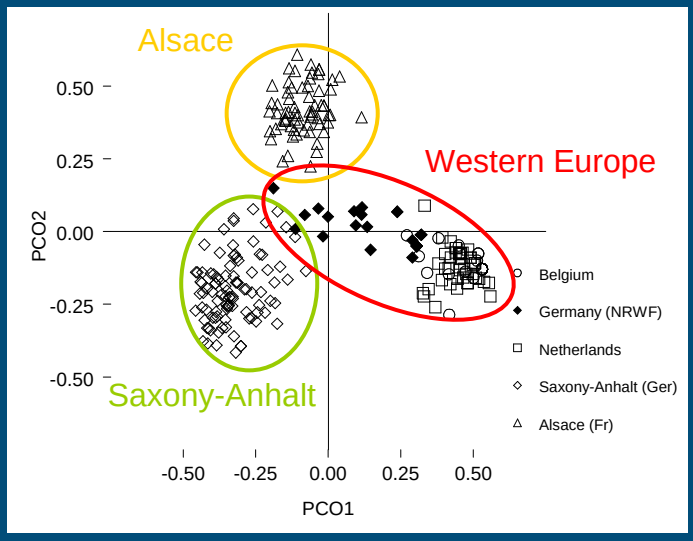

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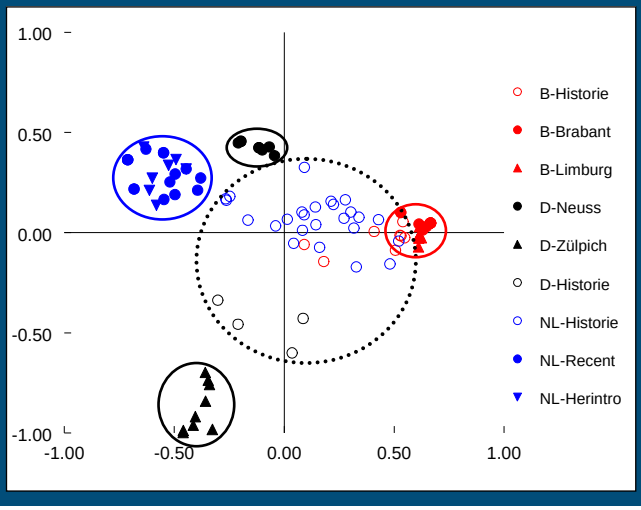
Western populations in detail: historic & recent



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Breeding program

1999: 14 males & females (NL)
10 founders

2000:	7 nest	34 jongen	(4.9)
2001:	19 nest	99 jongen	(5.2)
2002:	23 nest	115 jongen	(5.0)
2003:	17 nest	82 jongen	(4.8)

± 5

(Rotterdam Zoo & GAIApark Kerkrade)

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Inbreeding or accidentally?

cheek pouch prolaps

penis prolaps

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No white hairs on head

White hairs on head

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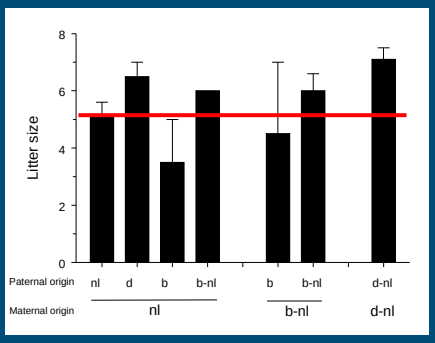
Positive effects in the Breeding Program!

10 → 13 founders (3 populations)

2003: 1 Bertem (B)
2004: 1 Bertem (B)
2 Neuss (G)
2006: 1 Tongeren (B)

3 breeding lines: NL- NL, NL- B, NL- G



Hybrid lines: produce more young per litter

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Discussion & conclusion

- **Hybrid breeding-lines show increased mean litter size.**
- **Further inbreeding is unavoidable.**
- **Breeding strategy: minimizing kinship.**

- **Several small or two large populations?**
- **Mixing the breeding-lines?**
- **Use wild off-spring in the Program?**
- **Genetic management of wild populations?**

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