

Indigenous Knowledge on Animal Breeding: is there breeding outside science?



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Selective mating is standard

- Sires chosen in 97 % of births
- Sires borrowed in 60 % of births
- Herders preserve variability
- Selection is aimed at reliability

Selection is built into production strategy

- **Targets herds as well as individuals**
- **Engages animal culture**
- **Harnesses natural selection pressure**

	Strategy		Level of selection	Main objective
AS	Selective mating for genetic configuration	productive traits ++ milk/beef	Individual	Increasing specific productivity traits (typically aimed at milk or beef)
		phenotype e.g. horns, coat		
		behaviour (docility)		
?	Selective mating for genetic configuration	reliability e.g. hardiness (disease & physical stress)	Individual, productive group and breeding population	Optimising response to production strategy (highly variable but typically aimed at reliable peak production)
		phenotype e.g. body structure (long legs, agility)		
		heritable behaviour <i>more...</i>		
		variability		
	Selective mating for behaviour	learned behaviour incl. social behaviour <i>more...</i>		
Harnessing natural selection pressure	manipulating animals' experience of eco system			
...?	...?	...?	...?	

Key points

- **Indigenous breeds are not the result of natural adaptation**
- **Indigenous breeds are embodied knowledge**
- **Indigenous breeding transcends the conceptual boundaries of animal science**

Selective mating targeting heritable behaviour

- fleeing distance
- fidelity to herder
- intelligence
- orientation
- maternal care
- response to feeding motivation
- endurance
- ...

Selective mating targeting learned/social behaviour

- feeding competence
- feeding strategy
- feeding preferences
- discipline
- aggression
- team role
- endurance
- ...