



Session 8:
Adaptation, resilience and agroecological transition in small ruminants and camelids
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Selective pedigree breeding efficiency of imported breeds of dairy goat in tropical Taiwan

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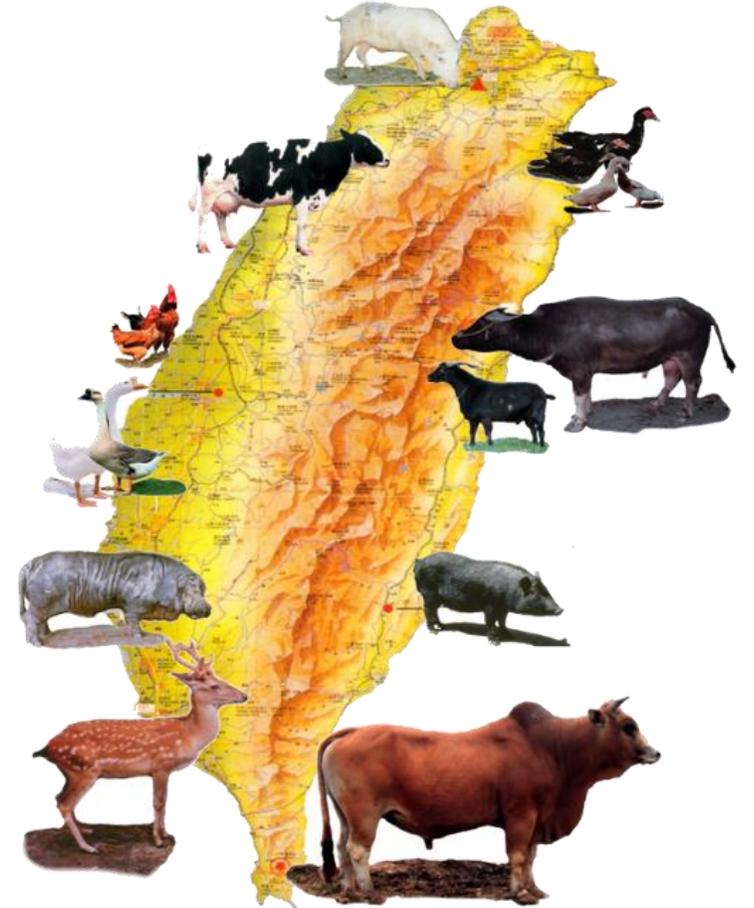


The Dairy Goat Industry of



What is the MOST
important - **GOAL?**

- A. Barn Farming in Taiwan
- B. Imported Breeds for Acclimation After 30 Years**
- C. Trends of Dairy Goat Population and Farms
- D. The Index of Selective Pedigree Breeding**
- E. The Pedigree Breeding Efficiency of Each Doe





NASA Earth Observatory/
Terra/MODIS Reprojected
by Tiouraren (Y.-C. Tsai) -
EOSDIS Worldview

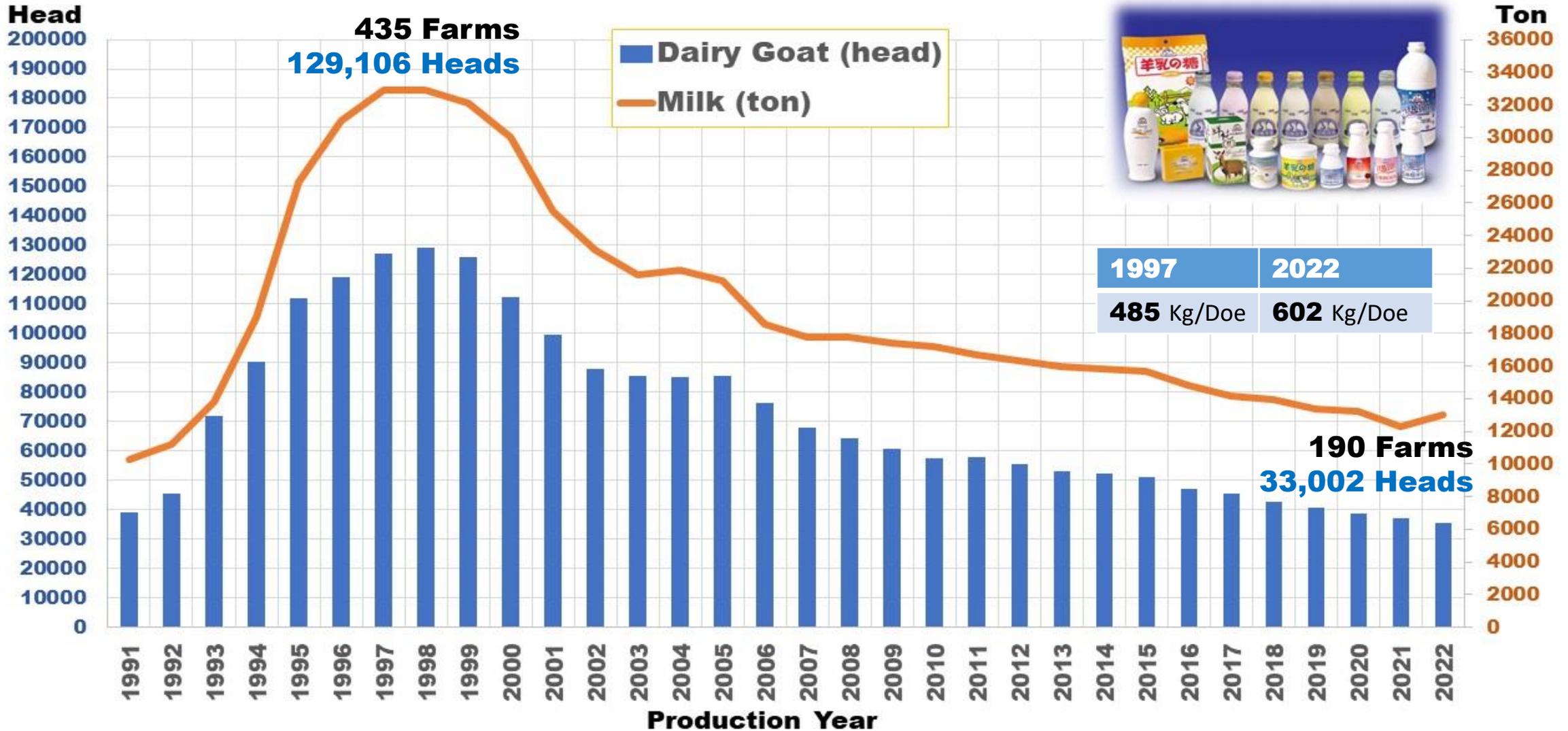
Dairy goat industry is one of the highly barn farming in Taiwan.

A satellite image of Taiwan, showing it is mostly mountainous in the east, with gently sloping plains in the west.

Adaptation, resilience, and agro-ecological transition of imported dairy goats in Taiwan

- 1990s was a milestone for the development of dairy goat industry by importing occidental breeds in Taiwan.
- Major imported breeds were 70% of Alpine, 20% of Saanen, 8% of Nubian and others.
- Presently, these temperate originated breeds of dairy goat have been selected as tropical lines of correspondent breed after 30 years of relocation and acclimation.
- Based upon **an average of 113 milking goats per farm** in tropical Taiwan, adaption of ICAR guidelines for pedigree recording in dairy goats is essential to have genetic improvement on reproduction and milk traits under tropical summer heat stress.

Number of Dairy Goat and Milk Production in Taiwan (1991~2022)



The sum of pedigree registration on breeding goats with **phenotypic justification** from 2004 to 2020

Breed	Alpine	Saanen	Nubian
Number of Farms	24	14	20
Number of Goats	6,578	1,403	3,811
Number of selective breeding bucks	795	154	1,013

Under pen group mating with one buck to 10~15 does, **the buck had more than 20 mature progenies in pedigree registration recording** was designated as the elite, prolific, and heat-tolerant buck.

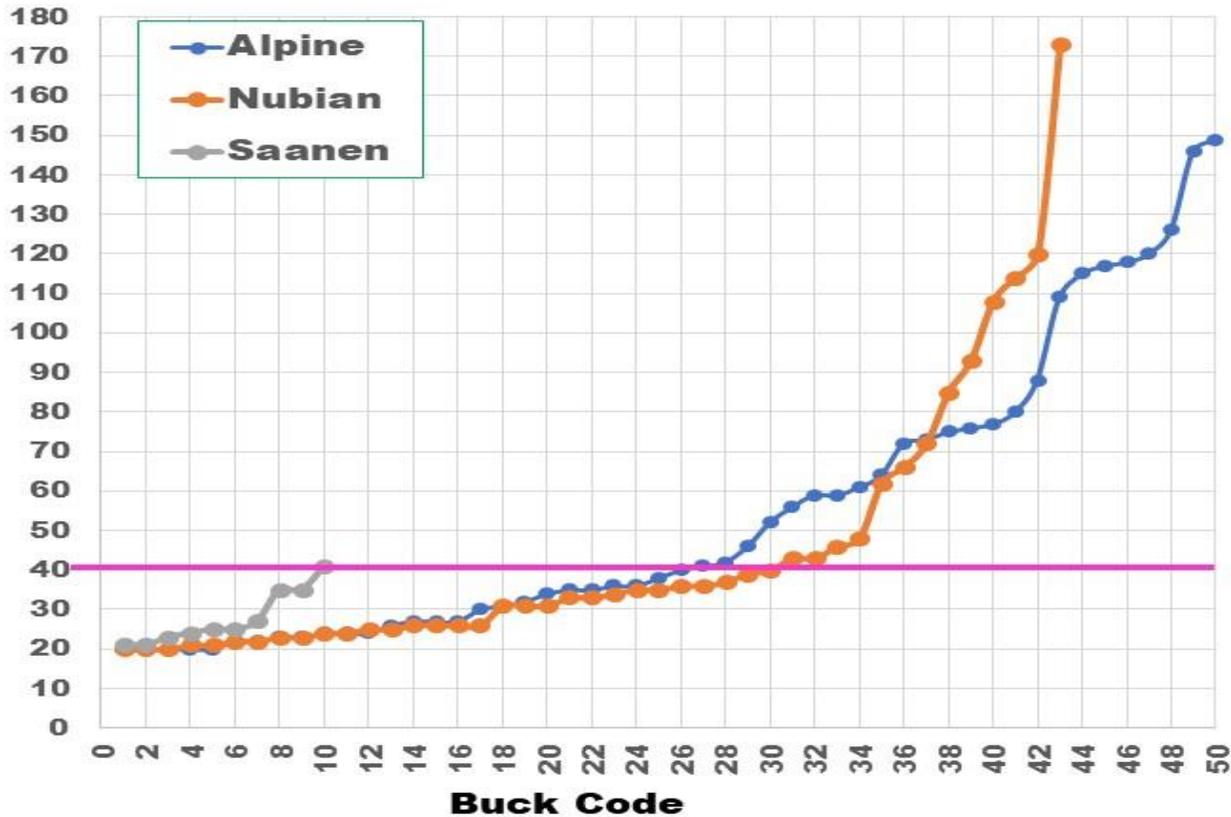
The index of selective pedigree breeding
(number of pedigree registration progenies/ number of elite bucks)

Breed	Alpine	Saanen	Nubian
Number of Farms	15	6	16
Number of elite, prolific, and heat-tolerant bucks	50	10	43
The index of bucks	54.7 (2,737/50)	27.7 (277/10)	44.6 (1,918/43)
The highest number of mature progenies in pedigree registration	149	41	173

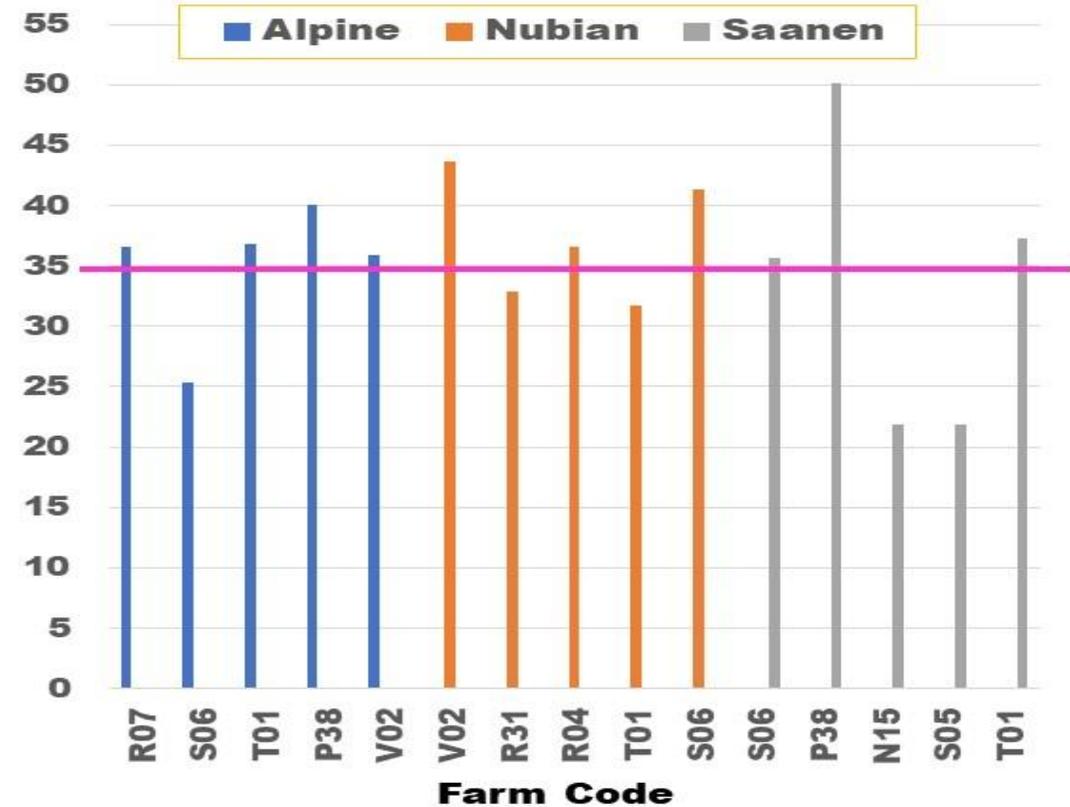
Breed difference on tropical adaptation of imported breeds of dairy goat in Taiwan was revealed.

- To evaluate **the pedigree breeding efficiency** of each doe in three breeds, reproduction data from top five farms in each breed ranked by the number of registered bucks were used.
- The percentage of registered doe had registered progenies were ranged from 25.3~40.1% in Alpine, 21.9~50.2% in Saanen and 31.7~43.7% in Nubian, respectively.

Number of matured registered progenies by each elite buck of imported breeds

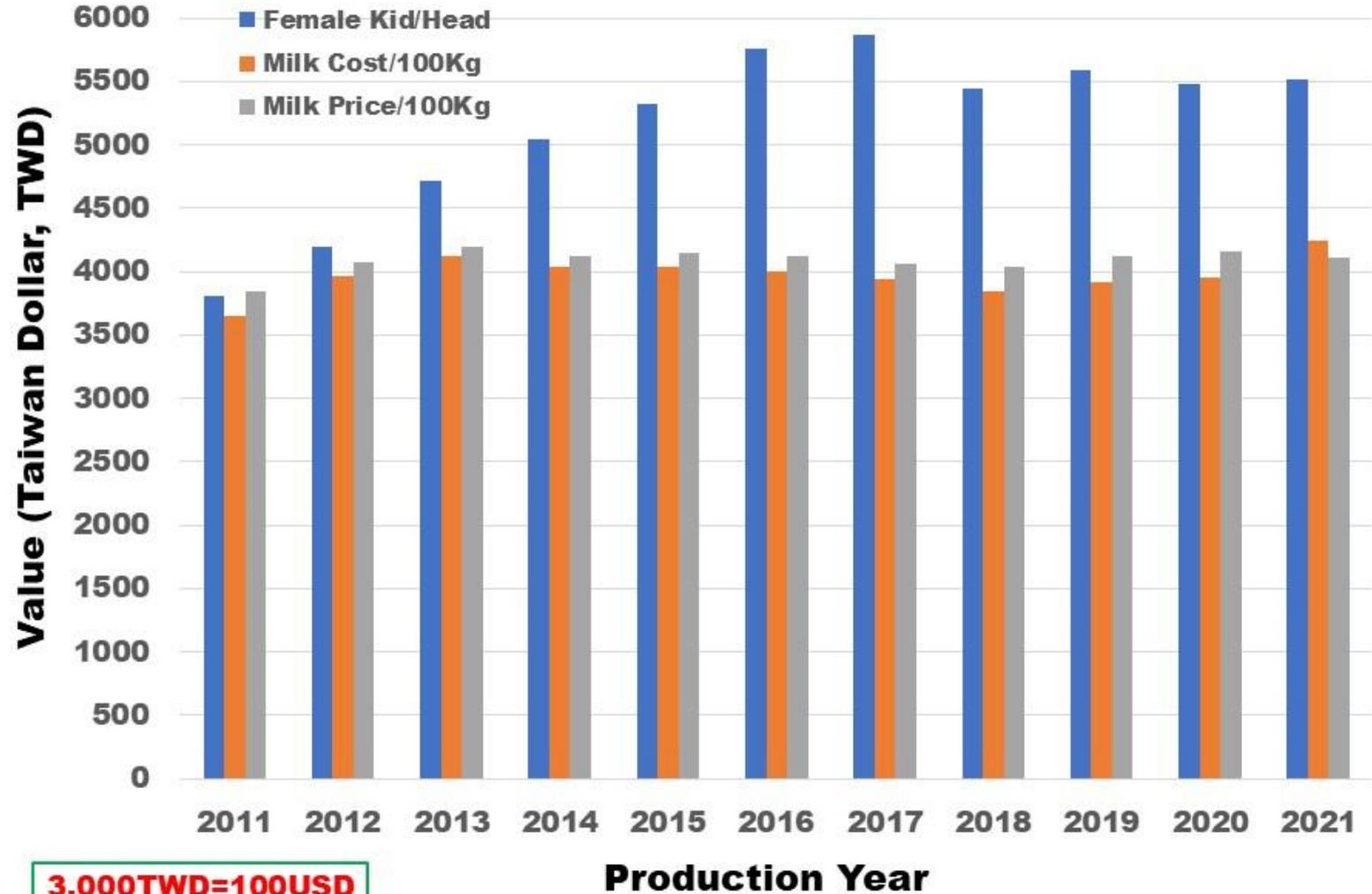


Percentage of pedigree registered doe had matured registered progenies





Production Cost and Farm Gate Price Per 100Kg of Raw Milk With Cost Price Per Female Kid of Dairy Goat in Taiwan





To promote domestic goat milk, there is also a **Good Goat's Milk (GGM) label** for goat milk applied by the goat farmer association.



Thank you for the attention!

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