

Nutritional comparison of goat meat to other table meats

85g (Roasted)	Energy (calories)	Fat (g) Total	Fat (g) Saturated	Protein (g)	Iron (g)	E/P
Goat	122	2.58	0.79	23	3.2	5.3
Chicken	120	3.5	1.1	21	1.5	5.7
Beef	245	16.0	6.8	23	2.9	10.6
Lamb	235	16.0	7.3	22	1.4	10.7
Pork	310	24.0	8.7	21	2.7	14.8

- Goat meat is lower in fat and cholesterol than chicken.
- Goat meat is lower in calories than beef, lamb and pork.
- Goat meat has iron levels higher than beef.
- Goat meat is reported to be the healthiest red meat available, according to the US Department of Agriculture. The report said that goat meat was low in fat and cholesterol and high in protein.
- Similar in taste to lamb, but slightly sweeter, goat meat is a healthy choice for meat lovers.

2

Goat meat has been gaining popularity

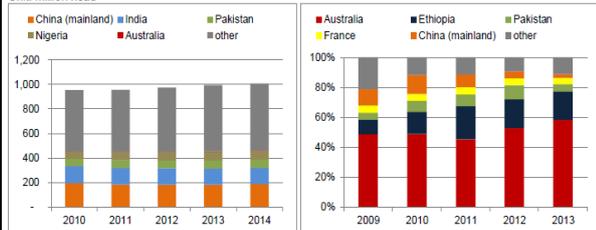
- Goat meat enviably harbors no religious restrictions or taboos and is a popular component of diets in parts of Asia and the Middle East, North Africa (Hispanic populations).
- Increasing testing on goat meat by non-traditional consumers
- Goat meat becomes more available.
- In 2010, total goat meat production across the world was approximately 5.1 million tones cwt and approximately 1% of this was traded on the export market (FAO statistics).
- Most countries with large goat populations consume those animals domestically.
- Australia is the world's largest goat meat exporter with approximately 95% of production exported, to the value of \$241.8 million in 2014 (MLA 2015).

3

World goat number and goat meat exports

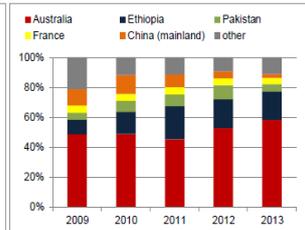
Figure 1: World goat number - 2014

Unit: million head



Source: FAO

Figure 2: World goat meat exports - 2013



Australia: feral goat population
France: goat for cheese production
(Little goat meat consumed in both)

4

Meat goats in Australia

- About 1 million feral goats per year are harvested for slaughter from a population of 4-6 million goats and these are derived from dairy (Saanen, Toggenburg, Nubian) and fiber (Angora, Cashmere) goats, that were released or escaped from managed flocks.
- Wild or feral goats have been part of the Australian landscape since 1788.
- Their populations increased after they were abandoned because of the collapse of the goat fiber industries in the late 1800s and because dairy goats either escaped or were released into feral flocks.
- Feral flocks developed in areas where the dingo, main predator, was absent.
- These original goat breeds have effectively adjusted to the environment.
- Rangeland goats typically have slow growth rates (less than 100 g/day) and reach maturity at bodyweights between 45 and 55 or up to 60 kg.
- Boer goats were introduced into Australia as a specialized meat breed in the 1990s.
- Boer goats have also been introduced into rangeland herd, creating cross goats sustaining arid conditions with more meat maintained in carcass and less seasonality of harvest.

5

Rangeland (feral, wild) goat (Australian goat)



- Descendent of temperate dairy and fiber breeds
- Naturally selected and adapted, have a greater flight zone
- Drought resistant, high vigor, durable
- High fertility: kidding per 6 mon. (vs. 8 mon.) 170 kidding% (1.7 kids per birth)
- <60 kg at maturity (45-55 kg), slow growth rate (<100 g/day)
- Lean carcass

6

Boer goat



- Developed in South Africa
- Strong, resilience (great adaptation)
- Good fertility (cycle virtually year-round, average litter size 2)
- Male mature size 115 kg, high dressing percentage
- Fast growth rate and good carcass quality

7

Kalahari Red goat



1. Originated from Kalahari Desert in Africa
2. Adapt to harsh climate
3. Features well blended into Australian terrain
4. Body color as camouflage from predators
5. Good resistance, productivity, and motherhood

8

Savannah goat



1. Developed in 1955 in South Africa
2. Endure extremes of heat, intense sunshine, cold, and rain
3. Can travel long distances in search of fodder and water
4. Does wean kids later than the more popular breeds
5. Kids exhibit strong growth with excellent meat carcasses
6. Not seasonal breeders

9

Dissectible carcass composition from selected goat breeds

Breed/ genotype	Carcass weight (kg)	Carcass composition (%)			L:B ratio
		Lean	Fat	Bone	
Feral	11.5	65.6	12.4	20.9	3.14
Boer	12.0	68.1	17.8	13.8	4.93
Boer x Feral	11.9	64.8	11.2	22.3	2.91
Other cross?					

Hybrid vigor?

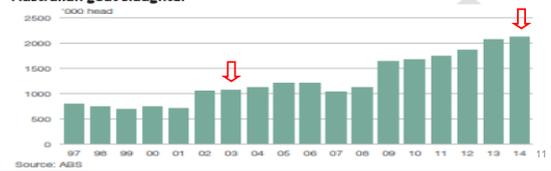
►►Boer x Feral has enabled market specifications (20 kg dressed carcass weight) to be met at 8-9 months as opposed to 11 months as is the case with the pure rangeland goats.

10

Australian meat goat population and outputs

- The total Australian goat herd has been estimated to be between 1.9 to 6 million in 2011 indicating the most likely range was 3 to 4.4 million.
- Estimates of the unmanaged rangeland goat population are extremely difficult to quantify given the nomadic nature of the animals.
- In addition, they often occupy difficult to survey terrain and their natural population fluctuates with good and bad seasons.
- From 2003 to 2014 goat slaughter in Australia doubled to 2.129 million; underpinned by strong demand from export markets and the sale of rangeland goats derived from extensive production systems (approximately 90% of total animals slaughtered).

Australian goat slaughter



SOURCE: ABS

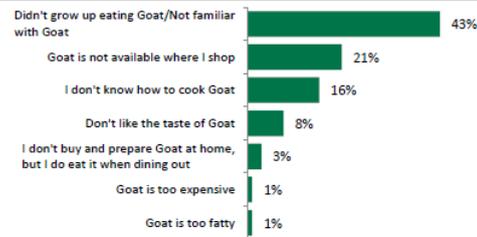
Animal protein supply and consumption in Taiwan

	Pork	Beef	Sheep/goat
Consumption level	48.3%	6.3%	low
Domestic sufficiency	93%	6%	8% (goat)
Foreign imports by country	1. Canada 2. Denmark 3. Holland 4. USA	1. Australia 2. USA 3. New Zealand	1. Australia 2. New Zealand

13

Reasons for not buying goat meat by Australians

Reasons for not buying goatmeat



Source: MLA Global Consumer Tracker 2016

14

Australian commodity goat meat export: major markets and specifications

Customer	Size	Other requirements
USA	8-16kg carcass weight	Skin-on, lean
	18-23kg carcass weight	Skin-off, lean
Taiwan	14-16kg carcass weight	Skin-on, lean
Malaysia	<10kg carcass weight	Skin-off, lean
	20kg carcass weight	Skin-off, lean
	Boneless very lean meat in cartons	
Singapore	<22kg carcass weight	Skin-off
Middle East	8-14kg carcass weight	Skin-off



16

Strengths and characteristics which set Australian goat meat and livestock apart from competitors

- Products and animals which align with consumer's religious and cultural values
- Unique: based on rangeland goats
- Green production: 'free-range' rangeland animals and products with low cost production systems
- **Natural**, healthy products
- National product integrity systems: tracing
- Leaders in animal welfare
- Overall: 'clean (chemical free) and green' reputation

17

Australian goat meat export to Taiwan by volume and value in 2016

Australian goatmeat exports - summary table

volume - in tonnes swt	2016	% out of total	2015	% out of total	5 year average (2011-2015)	% out of total
Total	26,794	100	29,965	100	30,680	100
by storage						
Chilled	5	0.02	1	0.004	73	0.2
Frozen	26,789	99.98	29,964	99.996	30,608	99.8

Source: DAWR

Australian goatmeat exports to Taiwan

Carcass	3,140	100	3,721	100	4,092	99.6
Total volume in tonnes swt	3,140	100	3,721	100	4,107	100
Total value in A\$ 000	18,127		19,252		17,997	

Source: DAWR, GTA

1 AUD = 23 TWD
2016: 18,127,000 AUD = 416,921,000 TWD

19

Australian report on Taiwan goat meat consumers-1

Taiwan



- Taiwan has consistently been Australia's second largest goat export market after the US since 1996.
- Goatmeat comprises quite a small proportion of the total dietary protein that Taiwanese consume.
- Goatmeat is considered a 'warming' food and hence understood to be beneficial for strengthening and warming the body.
- Taiwan consumers have a preference for skin-on goat, which is used in slow wet cooking recipes such as stews and hot-pots, together with traditional herbs.

20

Australian report on Taiwan goat meat consumers-2

Top 3 associations with goatmeat - Taiwan

1	Has high nutritional value
2	Tastes delicious
3	Can be used in a variety of meals

Source: MLA Global Consumer Tracker 2016



In Taiwan, skin-on goat is typically consumed at restaurants. It is often slow-cooked with Chinese herbs to make nutritious and healthy, functional stews and hot pots.

21

Australian report on Taiwan goat meat consumers-3

Top 3 barriers to buying goatmeat

1	Don't like the taste of goat
2	I don't prepare at home but eat out
3	Goat isn't available where I shop

Source: MLA Global Consumer Tracker 2016

- The bulk of goatmeat in Taiwan, including Australian goat, is consumed in restaurants that specialise in cooking goat and sheepmeat dishes, though some frozen pre-cooked product is available in retail in the cooler months.
- A small volume of Australian goat is available through some modern retail channels, whilst the vast bulk is sold to foodservice buyers via wholesalers.

22

Australian report on Taiwan goat meat consumers-4

- In Taiwan, consumers that are familiar with goat meat know it as "mountain sheep" (山羊). However, a large proportion of consumers refer to goats, lamb and mutton all as "sheep" (羊).



Australian goat meat labeling regulations

Traceability by consumers?

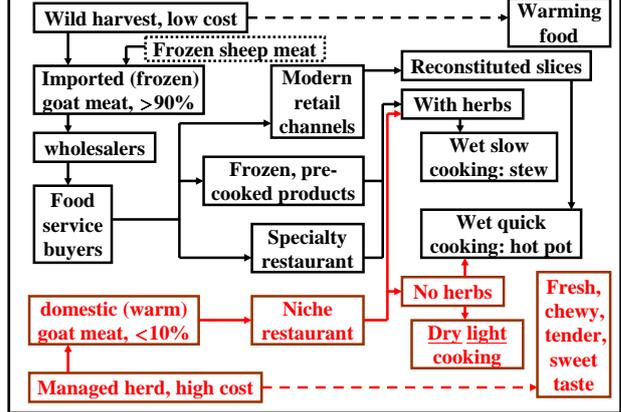


- Batch Number: In-house company identification number for product tracing when required
- Carton Serial Number: Individual identification number for carton
- Establishment Number: Plant registered identification number
- Halal Approved: Product has been ritually slaughtered and certified by an approved Islamic organization
- Company Code: In-house identification code for product in the carton

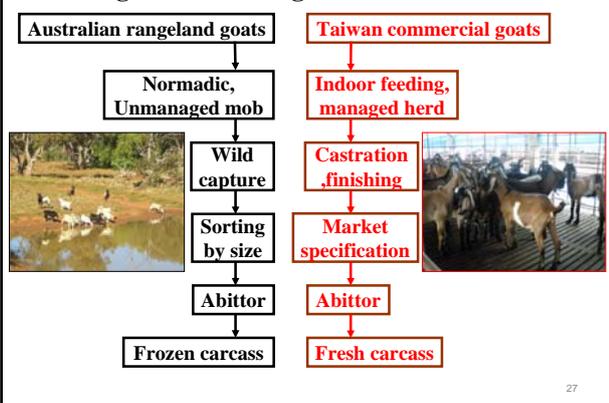
Taiwan goat meat tracing system



Goat meat supply chain in Taiwan



Origins of market goat meat in Taiwan



Goat meat by wet and dry cooking in Taiwan



