Goat

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The **domestic goat** (*Capra aegagrus hircus*) is a subspecies of goat domesticated from the wild goat of southwest Asia and Eastern Europe. The goat is a member of the family Bovidae and is closely related to the sheep as both are in the goat-antelope subfamily Caprinae. There are over 300 distinct breeds of goat.[1] Goats are one of the oldest domesticated species, and have been used for their milk, meat, hair, and skins over much of the world.[2] In 2011, there were more than 924 million live goats around the globe, according to the UN Food and Agriculture Organization.[3]

Female goats are referred to as "does" or "nannies", intact males as "bucks", "billies", or "rams" and their offspring are "kids". Castrated males are "wethers". Goat meat from younger animals is called "kid" or *cabrito* (Spanish), and from older animals is simply known as "goat" or sometimes called *chevon* (French), or in some areas "mutton" (which more often refers to adult sheep meat).

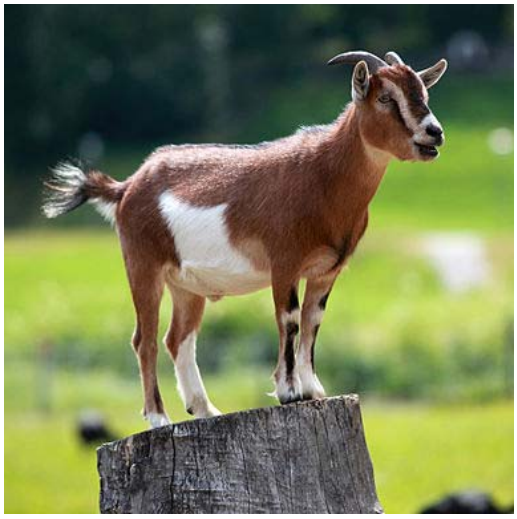
Contents

Domestic goat

Temporal range: .01–0Ma

Pre O S D C P T J K Pg N

Neolithic - Recent



a pygmy goat

Conservation status

Domesticated

Scientific classification

Kingdom:	Animalia
Phylum:	Chordata
Class:	Mammalia
Order:	Artiodactyla
Family:	Bovidae
Subfamily:	Caprinae
Genus:	*Capra*
Species:	*C. aegagrus*
Subspecies:	***C. a. hircus***

Trinomial name

Capra aegagrus hircus

(Linnaeus, 1758)

Synonyms

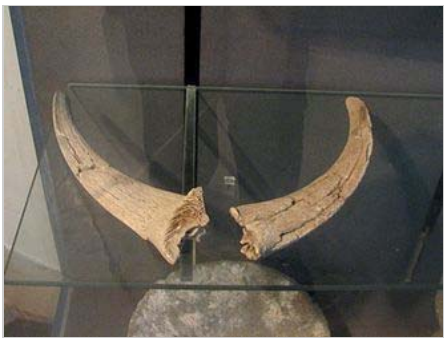
Capra hircus

Etymology

The Modern English word *goat* comes from Old English *gāt* "she-goat, goat in general", which in turn derives from Proto-Germanic **gaitaz* (cf. Dutch/Icelandic *geit*, German *Geiß*, and Gothic *gaits*), ultimately from Proto-Indo-European **ǵʰaidos* meaning "young goat" (cf. Latin *haedus* "kid"),[4] itself perhaps from a root meaning "jump" (assuming that Old Church Slavonic *zajęcĭ* "hare", Sanskrit *jihīte* "he moves" are related). To refer to the male, Old English used *bucca* (giving modern *buck*) until ousted by *hegote*, *hegoote* in the late 12th century. *Nanny goat* (females) originated in the 18th century and *billy goat* (for males) in the 19th.

History

Goats are among the earliest animals domesticated by humans.[5] The most recent genetic analysis[6] confirms the archaeological evidence that the wild Bezoar ibex of the Zagros Mountains are the likely origin of almost all domestic goats today.[5]



Horn cores from the Neolithic village of Atlit Yam

Neolithic farmers began to herd wild goats for easy access to milk and meat, primarily, as well as for their dung, which was used as fuel, and their bones, hair, and sinew for clothing, building, and tools.[1] The earliest remnants of domesticated goats dating 10,000 years before present are found in Ganj Dareh in Iran. Goat remains have been found at archaeological sites in Jericho, Choga Mami[7] Djeitun and Çayönü, dating the domestication of goats in Western Asia at between 8000 and 9000 years ago.[5]

Studies of DNA evidence suggests 10,000 years BP as the domestication date.[6]

Historically, goat hide has been used for water and wine bottles in both traveling and transporting wine for sale. It has also been used to produce parchment.

Anatomy and health

Goats are considered small livestock animals, compared to bigger animals such as cattle, camels and horses, but larger than microlivestock such as poultry, rabbits, cavies, and bees. Each recognized breed of goats has specific weight ranges, which vary from over 140 kg (300 lb) for bucks of larger breeds such as the Boer, to 20 to 27 kg (45 to 60 lb) for smaller goat does.[8] Within each breed, different strains or bloodlines may have different recognized sizes. At the bottom of the size range are miniature breeds such as the African Pigmy, which stand 41 to 58 cm (16 to 23 in) at the shoulder as adults.[9]

Most goats naturally have two horns, of various shapes and sizes depending on the breed. Goats have horns unless they are "polled" (meaning, genetically hornless) or the horns have been removed, typically soon after birth.[10] There have been incidents of polycerate goats (having as many as eight horns), although this is a


A white Irish goat with horns

genetic rarity thought to be inherited. The horns are most typically removed in commercial dairy goat herds, to reduce the injuries to humans and other goats. Unlike cattle, goats have not been successfully bred to be reliably polled, as the genes determining sex and those determining horns are closely linked. Breeding together two genetically polled goats results in a high number of intersex individuals among the offspring, which are typically sterile.[10] Their horns are made of living bone surrounded by keratin and other proteins, and are used for defense, dominance, and territoriality.[11]

Goats are ruminants. They have a four-chambered stomach consisting of the rumen, the reticulum, the omasum, and the abomasum. As with other mammal ruminants, they are even-toed ungulates. The females have an udder consisting of two teats, in contrast to cattle, which have four teats.[12] An exception to this is the Boer goat, which sometimes may have up to eight teats.[13][14][15]


Eye with horizontal pupil

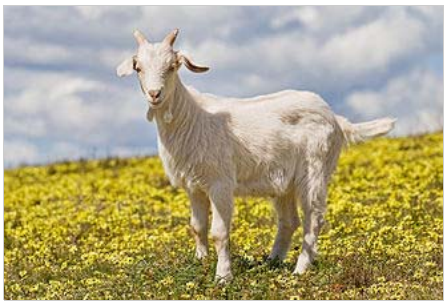
Goats have horizontal, slit-shaped pupils. Because goats' irises are usually pale, their contrasting pupils are much more noticeable than in animals such as cattle, deer, most horses and many sheep, whose similarly horizontal pupils blend into a dark iris and sclera. This adaptation allows goats to see at least 320 degrees around their heads with no blind spot in front of them.

Both male and female goats have beards, and many types of goat (most commonly dairy goats, dairy-cross Boers, and pygmy goats) may have wattles, one dangling from each side of the neck.[16]


Goat tails versus sheep tails

Some breeds of sheep and goats look similar, but they can usually be told apart because goat tails are short and usually point up, whereas sheep tails hang down and are usually longer and bigger – though some (like those of Northern European short-tailed sheep) are short, and longer ones are often docked.

Reproduction


A two-month-old goat kid in a field of capeweed

Goats reach puberty between three and 15 months of age, depending on breed and nutritional status. Many breeders prefer to postpone breeding until the doe has reached 70% of the adult weight. However, this separation is rarely possible in extensively managed, open-range herds.[17]

In temperate climates and among the Swiss breeds, the breeding season commences as the day length shortens, and ends in early spring or before. In equatorial regions, goats are able to breed at any time of the year. Successful breeding in these regions depends more on available forage than on day length. Does of any breed or region come into estrus (heat) every 21 days for two to 48 hours. A doe in heat typically flags (vigorously wags) her tail often, stays near the buck if one is present, becomes more vocal, and may also show a decrease in appetite and milk production for the duration of the heat.

Bucks (intact males) of Swiss and northern breeds come into rut in the fall as with the does' heat cycles. Bucks of equatorial breeds may show seasonal reduced fertility, but as with the does, are capable of breeding at all times. Rut is characterized by a decrease in appetite and obsessive interest in the does. A buck in rut will display flehmen lip curling and will urinate on his forelegs and face. Sebaceous scent glands at the base of the horns add to the male goat's odor, which is important to make him attractive to the female. Some does will not mate with a buck which has been descented.[18]


A female goat and two kids

In addition to natural, traditional mating, artificial insemination has gained popularity among goat breeders, as it allows easy access to a wide variety of bloodlines.

Gestation length is approximately 150 days. Twins are the usual result, with single and triplet births also common. Less frequent are litters of quadruplet, quintuplet, and even sextuplet kids. Birthing, known as kidding, generally occurs uneventfully. Just before kidding, the doe will have a sunken area around the tail and hip, as well as heavy breathing. She may have a worried look, become restless and display great affection for her keeper. The mother often eats the placenta, which gives her much-needed nutrients, helps stanch her bleeding, and parallels the behavior of wild herbivores, such as deer, to reduce the lure of the birth scent for predators.[19][20]

Freshening (coming into milk production) occurs at kidding. Milk production varies with the breed, age, quality, and diet of the doe; dairy goats generally produce between 680 and 1,810 kg (1,500 and 4,000 lb) of milk per 305-day lactation. On average, a good quality dairy doe will give at least 3 kg (6 lb) of milk per day while she is in milk. A first-time milker may produce less, or as much as 7 kg (16 lb), or more of milk in exceptional cases. After the lactation, the doe will "dry off", typically after she has been bred. Occasionally, goats that have not been bred and are continuously milked will continue lactation beyond the typical 305 days.[21] Meat, fiber, and pet breeds are not usually milked and simply produce enough for the kids until weaning.

Male lactation is also known to occur in goats.[22]

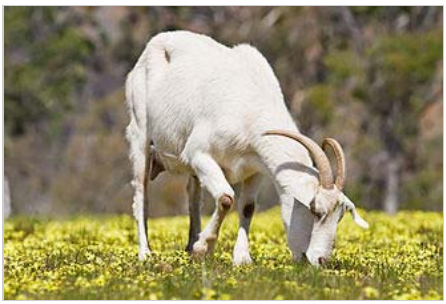
Diet

Goats are reputed to be willing to eat almost anything, including tin cans and cardboard boxes. While goats will not actually eat inedible material, they are browsing animals, not grazers like cattle and sheep, and (coupled with their highly curious nature) will chew on and taste just about anything remotely resembling plant matter to decide whether it is good to eat, including cardboard, clothing and paper (such as labels from tin cans).[23] The unusual smells of leftover food in discarded cans or boxes may further stimulate their curiosity.

Aside from sampling many things, goats are quite particular in what they actually consume, preferring to browse on the tips of woody shrubs and trees, as well as the occasional broad-leaved plant. However, it can fairly be said that their plant diet is extremely varied, and includes some species which are otherwise toxic.[24] They will seldom consume soiled food or contaminated water unless facing starvation. This is one reason goat-rearing is most often free ranging, since stall-fed goat-rearing involves extensive upkeep and is seldom commercially viable.

Goats prefer to browse on vines, such as kudzu, on shrubbery and on weeds, more like deer than sheep, preferring them to grasses. Nightshade is poisonous; wilted fruit tree leaves can also kill goats. Silage (fermented corn stalks) and haylage (fermented grass hay) can be used if consumed immediately after opening – goats are particularly sensitive to *Listeria* bacteria that can grow in fermented feeds. Alfalfa, a high-protein plant, is widely fed as hay; fescue is the least palatable and least nutritious hay. Mold in a goat's

feed can make it sick and possibly kill it.

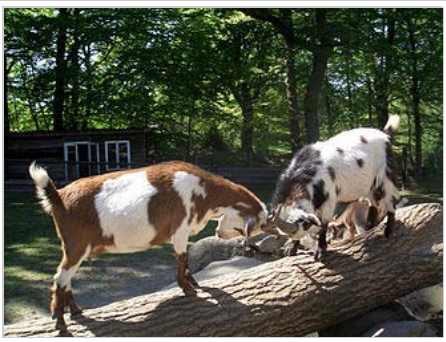


A domestic goat feeding in a field of capeweed, a weed which is toxic to most stock animals

The digestive physiology of a very young kid (like the young of other ruminants) is essentially the same as that of a monogastric animal. Milk digestion begins in the abomasum, the milk having bypassed the rumen via closure of the reticuloesophageal groove during suckling. At birth, the rumen is undeveloped, but as the kid begins to consume solid feed, the rumen soon increases in size and in its capacity to absorb nutrients.

The adult size of a particular goat is a product of its breed (genetic potential) and its diet while growing (nutritional potential). As with all livestock, increased protein diets (10 to 14%) and sufficient calories during the prepuberty period yield higher growth rates and larger eventual size than lower protein rates and limited calories.[25] Large-framed goats, with a greater skeletal size, reach mature weight at a later age (36 to 42 months) than small-framed goats (18 to 24 months) if both are fed to their full potential. Large-framed goats need more calories than small-framed goats for maintenance of daily functions.[26]

Behavior



Goats establish a dominance hierarchy in flocks, sometimes through head butting.

Goats are extremely curious and intelligent. They are also very coordinated and widely known for their ability to climb and hold their balance in the most precarious places. This makes them the only ruminant able to climb trees, although the tree generally has to be on somewhat of an angle. Due to their agility and inquisitiveness, they are notorious for escaping their pens by testing fences and enclosures, either intentionally or simply because they are handy to climb on. If any of the fencing can be spread, pushed over or down, or otherwise be overcome, the goats will almost inevitably escape. Due to their high intelligence, once a goat has discovered a weakness in the fence, it will exploit it repeatedly, and other goats will observe and quickly learn the same method.

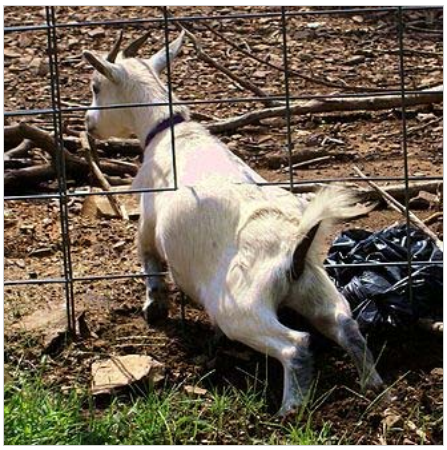
Goats have an intensely inquisitive and intelligent nature; they will explore anything new or unfamiliar in their surroundings. They do so primarily with their prehensile upper lip and tongue. This is why they investigate items such as buttons, camera cases or clothing (and many other things besides) by nibbling at them, occasionally even eating them.

When handled as a group, goats tend to display less clumping behavior than sheep, and when grazing undisturbed, tend to spread across the field or range, rather than feed side-by-side as do sheep. When nursing young, goats will leave their kids separated ("lying out") rather than clumped as do sheep. They will generally turn and face an intruder and bucks are more likely to charge or butt at humans than are rams.[27]

Diseases

While goats are generally considered hardy animals and in many situations receive little medical care, they are subject to a number of diseases. Among the conditions affecting goats are respiratory diseases including pneumonia, foot rot, internal parasites, pregnancy toxosis and feed toxicity. Feed toxicity can vary based on breed and location. Certain foreign fruits and vegetables can be toxic to different breeds of goats.

Goats can become infected with various viral and bacterial diseases, such as foot-and-mouth disease, caprine arthritis encephalitis, caseous lymphadenitis, pinkeye, mastitis, and pseudorabies. They can transmit a number of zoonotic diseases to people, such as tuberculosis, brucellosis, Q-fever, and rabies.[28]



Goats are well known for being hard to contain with fencing.

Life expectancy

Life expectancy for goats is between fifteen and eighteen years.[29] An instance of a goat reaching the age of 24 has been reported.[30]

Several factors can reduce this average expectancy; problems during kidding can lower a doe's expected life span to ten or eleven, and stresses of going into rut can lower a buck's expected life span to eight to ten years.[30]

Agriculture

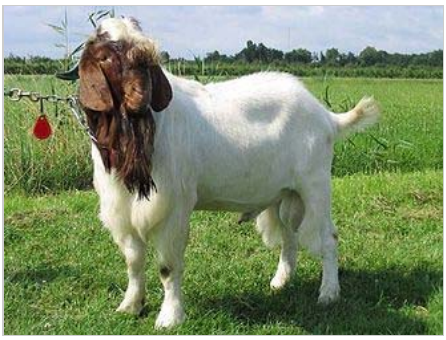
A goat is useful to humans when it is living and when it is dead, first as a renewable provider of milk, manure, and fiber, and then as meat and hide.[31] Some charities provide goats to impoverished people in poor countries, because goats are easier and cheaper to manage than cattle, and have multiple uses. In addition, goats are used for driving and packing purposes.

Goat husbandry is common through the Norte Chico region in Chile. Intensive goat husbrandry in drylands may produce severe erosion and desertification. Image from upper Limarí River

The intestine of goats is used to make "catgut", which is still in use as a material for internal human surgical sutures and strings for musical instruments. The horn of the goat, which signifies plenty and wellbeing (the cornucopia), is also used to make spoons.[32]

Worldwide goat population statistics

According to the Food and Agriculture Organization (FAO), the top producers of goat milk in 2008 were India (4 million metric tons), Bangladesh (2.16 million metric tons) and the Sudan (1.47 million metric tons).[33]



The Boer goat – in this case a buck – is a widely-kept meat breed.

World Goat Production: Selected Regions and Countries, 2008

Country/Region	Total Animals (millions)	Goat Milk (MT)	Goat Meat (million MT)
World	-----	15.2	4.8
Africa	294.5	3.2	1.1
Nigeria	53.8	N/A	0.26
Sudan	43.1	1.47	0.19
Asia	511.3	8.89	3.4
Afghanistan	6.38	0.11	0.04
Pakistan	60.00	N/A	N/A
India	125.7	4.0	0.48
Bangladesh	56.4	2.16	0.21
China	149.37	0.26	1.83
Saudi Arabia	2.2	0.076	0.024
Americas	37.3	0.54	0.15
Mexico	8.8	0.16	0.04
USA	3.1	N/A	0.022
Europe	17.86	2.59	0.012
UK	0.09	N/A	N/A
France	1.2	0.58	0.007
Oceania	3.42	0.0004	0.018

Husbandry

Husbandry, or animal care and use, varies by region and culture. The particular housing used for goats depends not only on the intended use of the goat, but also on the region of the world where they are raised. Historically, domestic goats were generally kept in herds that wandered on hills or other grazing areas, often tended by goatherds who were frequently children or adolescents, similar to the more widely known shepherd. These methods of herding are still used today.

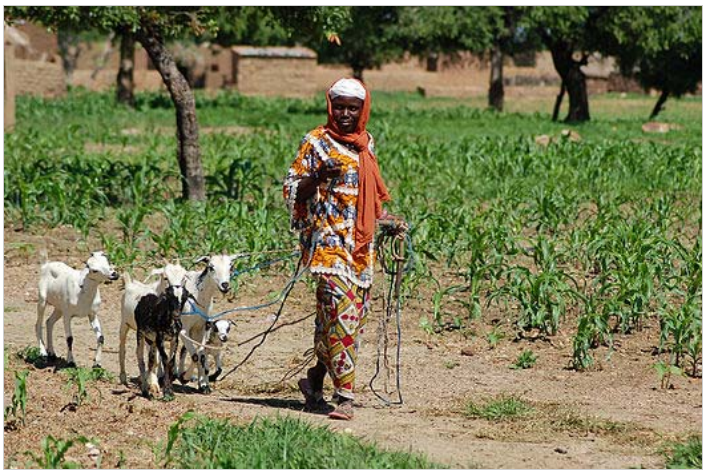
In some parts of the world, especially Europe and North America, distinct breeds of goats are kept for dairy (milk) and for meat production. Excess male kids of dairy breeds are typically slaughtered for meat. Both does and bucks of meat breeds may be slaughtered for meat, as well as older animals of any breed. The meat of older bucks (more than one year old) is generally considered not desirable for meat for human consumption. Castration at a young age prevents the development of typical buck odor.

Dairy goats are generally pastured in summer and may be stabled during the winter. As dairy does are milked daily, they are generally kept close to the milking shed. Their grazing is typically supplemented with hay and concentrates. Stabled goats may be kept in stalls similar to horses, or in larger group pens. In the US system, does are generally rebred annually. In some European commercial dairy systems, the does are bred only twice, and are milked continuously for several years after the second kidding.

Meat goats are more frequently pastured year-round, and may be kept many miles from barns. Angora and other fiber breeds are also kept on pasture or range. Range-kept and pastured goats may be supplemented with hay or concentrates, most frequently during the winter or dry seasons.

In India, Nepal, and much of Asia, goats are kept largely for milk production, both in commercial and household settings. The goats in this area may be kept closely housed or may be allowed to range for fodder.

The Salem Black goat is herded to pasture in fields and along roads during the day, but is kept penned at night for safe-keeping.[34]


For smallholder farmers in many countries, such as this woman from Burkina Faso, goats are important livestock.

In Africa and the Mideast, goats are typically run in flocks with sheep. This maximizes the production per acre, as goats and sheep prefer different food plants. Multiple types of goat-raising are found in Ethiopia, where four main types have been identified: pastured in annual crop systems, in perennial crop systems, with cattle, and in arid areas, under pastoral (nomadic) herding systems. In all four systems, however, goats were typically kept in extensive systems, with few purchased inputs.[35] Household goats are traditionally kept in Nigeria. While many goats are allowed to wander the homestead or village, others are kept penned and fed in what is called a 'cut-and-carry' system. This type of husbandry is also used in parts of Latin America. Cut-and-carry, which refers to the practice of cutting down grasses, corn or cane for feed rather than allowing the animal access to the field, is particularly suited for types of feed, such as corn or cane, that are easily destroyed by trampling.[36]

Pet goats may be found in many parts of the world when a family keeps one or more animals for emotional reasons rather than as production animals. It is becoming more common for goats to be kept exclusively as pets in North America and Europe.

Meat

The taste of goat kid meat is similar to that of spring lamb meat;[37] in fact, in the English-speaking islands of the Caribbean, and in some parts of Asia, particularly Bangladesh, Pakistan and India, the word “mutton” is used to describe both goat and lamb meat. However, some compare the taste of goat meat to veal or venison, depending on the age and condition of the goat. Its flavor is said to be primarily linked to the presence of 4-methyloctanoic and 4-methylnonanoic acid.[38] It can be prepared in a variety of ways, including stewing, baking, grilling, barbecuing, canning, and frying; it can be minced, curried, or made into sausage. Due to its low fat content, the meat can toughen at high temperatures if cooked without additional moisture. One of the most popular goats grown for meat is the South African Boer, introduced into the United States in the early 1990s. The New Zealand Kiko is also considered a meat breed, as is the myotonic or "fainting goat", a breed originating in Tennessee.

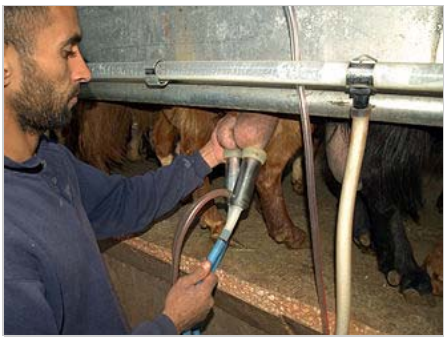
Milk, butter and cheese

Goats produce about 2% of the world's total annual milk supply.[39] Some goats are bred specifically for milk. If the strong-smelling buck is not separated from the does, his scent will affect the milk.

Goat milk naturally has small, well-emulsified fat globules, which means the cream remains suspended in the milk, instead of rising to the top, as in raw cow milk; therefore, it does not need to be homogenized. Indeed, if the milk is to be used to make cheese, homogenization is not recommended, as this changes the structure of the milk, affecting the culture's ability to coagulate the milk and the final quality and yield of cheese.[40]

Dairy goats in their prime (generally around the third or fourth lactation cycle) average—2.7 to 3.6 kg (6 to 8 lb)—of milk production daily—roughly 2.8 to 3.8 l (3 to 4 U.S. qt)—during a ten-month lactation, producing more just after freshening and gradually dropping in production toward the end of their lactation. The milk generally averages 3.5% butterfat.[41]

Goat milk is commonly processed into cheese, butter, ice cream, yogurt, *cajeta* and other products. Goat cheese is known as *fromage de chèvre* ("goat cheese") in France. Some varieties include Rocamadour and Montrachet.[42] Goat butter is white because goats produce milk with the yellow beta-carotene converted to a colorless form of vitamin A.



A goat being machine milked on an organic farm

Nutrition

The American Academy of Pediatrics discourages feeding infants milk derived from goats. An April 2010 case report[43] summarizes their recommendation and presents "a comprehensive review of the consequences associated with this dangerous practice", also stating, "Many infants are exclusively fed unmodified goat's milk as a result of cultural beliefs as well as exposure to false online information. Anecdotal reports have described a host of morbidities associated with that practice, including severe electrolyte abnormalities, metabolic acidosis, megaloblastic anemia, allergic reactions including life-threatening anaphylactic shock, hemolytic uremic syndrome, and infections." Untreated caprine brucellosis results in a 2% case fatality rate. According to the USDA, doe milk is not recommended for human infants because it contains "inadequate quantities of iron, folate, vitamins C and D, thiamine, niacin, vitamin B_6, and pantothenic acid to meet an infant's nutritional needs" and may cause harm to an infant's kidneys and could cause metabolic damage.[44]

The Department of Health in the United Kingdom has repeatedly released statements stating on various occasions that[45] "Goats' milk is not suitable for babies, and infant formulas and follow-on formulas based on goats' milk protein have not been approved for use in Europe", and "infant milks based on goats' milk protein are not suitable as a source of nutrition for infants."[46]

Also according to the Canadian Federal Health Department - Health Canada, most of the dangers or counter-indication of feeding unmodified goat milk to infants, are similar to those incurring in the same practice with cow's milk, namely in the allergic reactions.[47]

On the other hand, some farming groups promote the practice. For example, Small Farm Today in 2005 claimed beneficial use in invalid and convalescent diets, proposing that glycerol ethers, possibly important in nutrition for nursing infants, are much higher in doe milk than in cow milk.[48] A 1970 book on animal breeding claimed doe milk differs from cow or human milk by having higher digestibility, distinct alkalinity, higher buffering capacity, and certain therapeutic values in human medicine and nutrition.[49] George Mateljan suggested doe milk can replace ewe milk or cow milk in diets of those who are allergic to certain mammals' milk.[50] However, like cow milk, doe milk has lactose (sugar), and may cause gastrointestinal problems for individuals with lactose intolerance.[50] In fact, the level of lactose is similar to that of bovine milk.[46]

Basic composition of various milks (mean values per 100g)[51]

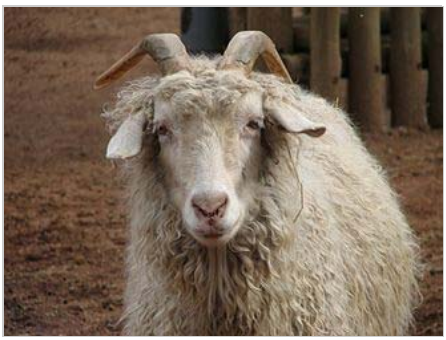
Constituent	Doe (Goat)	Cow	Human
Fat (g)	3.8	3.6	4.0
Protein (g)	3.5	3.3	1.2
Lactose (g)	4.1	4.6	6.9
Ash (g)	0.8	0.7	0.2
Total solids (g)	12.2	12.3	12.3
Calories	70	69	68

Milk composition analysis, per 100 grams[52]

Constituents	unit	Cow	Doe (Goat)	Ewe (Sheep)	Water buffalo
Water	g	87.8	88.9	83.0	81.1
Protein	g	3.2	3.1	5.4	4.5
Fat	g	3.9	3.5	6.0	8.0
Carbohydrate	g	4.8	4.4	5.1	4.9
Energy	kcal	66	60	95	110
Energy	kJ	275	253	396	463
Sugars (lactose)	g	4.8	4.4	5.1	4.9
Cholesterol	mg	14	10	11	8
Calcium	IU	120	100	170	195
Saturated fatty acids	g	2.4	2.3	3.8	4.2
Monounsaturated fatty acids	g	1.1	0.8	1.5	1.7
Polyunsaturated fatty acids	g	0.1	0.1	0.3	0.2

These compositions vary by breed (especially in the Nigerian Dwarf breed), animal, and point in the lactation period.

Fiber


An Angora goat

The Angora breed of goats produces long, curling, lustrous locks of mohair. The entire body of the goat is covered with mohair and there are no guard hairs. The locks constantly grow to four inches or more in length. Angora crossbreeds, such as the pygora and the nigora, have been created to produce mohair and/or cashgora on a smaller, easier-to-manage animal. The wool is shorn twice a year, with an average yield of about 4.5 kg (10 lb).

Most goats have softer insulating hairs nearer the skin, and longer guard hairs on the surface. The desirable fiber for the textile industry is the former, and it goes by several names (down, cashmere and pashmina). The coarse guard hairs are of little value as they are too coarse, difficult to spin and difficult to dye. The cashmere goat produces a commercial quantity of cashmere wool, which is one of the most expensive natural fibers commercially produced; cashmere is very fine and soft. The cashmere goat fiber is harvested once a year, yielding around 260 g (9 oz) of down.

In South Asia, cashmere is called "pashmina" (from Persian *pashmina*, "fine wool"). In the 18th and early 19th centuries, Kashmir (then called Cashmere by the British), had a thriving industry producing shawls from goat-hair imported from Tibet and Tartary through Ladakh. The shawls were introduced into Western Europe when the General in Chief of the French campaign in Egypt (1799–1802) sent one to Paris. Since these shawls were produced in the upper Kashmir and Ladakh region, the wool came to be known as "cashmere".

Land clearing

Goats have been used by humans to clear unwanted vegetation for centuries. They have been described as "eating machines" and "biological control agents".[53][54] There has been a resurgence of this in North America since 1990, when herds were used to clear dry brush from California hillsides thought to be endangered by potential wildfires. This form of using goats to clear land is sometimes known as conservation

grazing. Since then, numerous public and private agencies have hired private herds to perform similar tasks.[53] This practice has become popular in the Pacific Northwest, where they are used to remove invasive species not easily removed by humans, including (thorned) blackberry vines and poison oak.[53][55][56]

Use for medical training

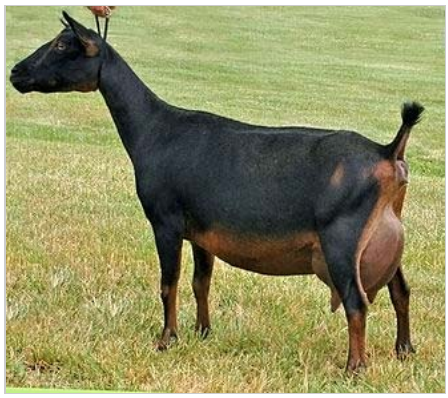
As a goat's anatomy and physiology is not too dissimilar from that of human, some countries' militaries use goats to train combat medics. In the United States, goats have become the main animal species used for this purpose after Pentagon phased out using dogs for medical training in the 1980s.[57] While modern mannequins used in medical training are quite efficient in simulating the behavior of a human body, trainees feel that "the goat exercise provide[s] a sense of urgency that only real life trauma can provide".[58]

Breeds

Goat breeds fall into overlapping, general categories. They are generally distributed in those used for dairy, fiber, meat, skins, and as companion animals. Some breeds are also particularly noted as pack goats.

Showing

Goat breeders' clubs frequently hold shows, where goats are judged on traits relating to conformation, udder quality, evidence of high production, longevity, build and muscling (meat goats and pet goats) and fiber production and the fiber itself (fiber goats). People who show their goats usually keep registered stock and the offspring of award-winning animals command a higher price. Registered goats, in general, are usually higher-priced if for no other reason than that records have been kept proving their ancestry and the production and other data of their sires, dams, and other ancestors. A registered doe is usually less of a gamble than buying a doe at random (as at an auction or sale barn) because of these records and the reputation of the breeder. Children's clubs such as 4-H also allow goats to be shown. Children's shows often include a showmanship class, where the cleanliness and presentation of both the animal and the exhibitor as well as the handler's ability and skill in handling the goat are scored. In a showmanship class, conformation is irrelevant since this is not what is being judged.

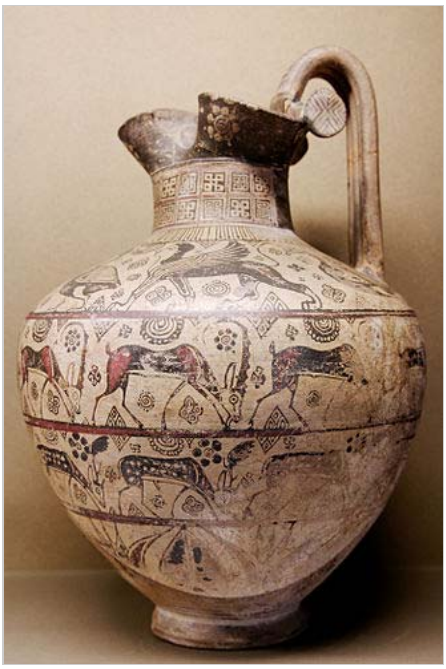


A Nigerian Dwarf milker in show clip. This doe is angular and dairy with a capacious and well supported mammary system.

Various "Dairy Goat Scorecards" (milking does) are systems used for judging shows in the US. The American Dairy Goat Association (ADGA) scorecard for an adult doe includes a point system of a hundred total with major categories that include general appearance, the dairy character of a doe (physical traits that aid and increase milk production), body capacity, and specifically for the mammary system. Young stock and bucks are judged by different scorecards which place more emphasis on the other three categories; general appearance, body capacity, and dairy character.

The American Goat Society (AGS) has a similar, but not identical scorecard that is used in their shows. The miniature dairy goats may be judged by either of the two scorecards. The "Angora Goat scorecard" used by the Colored Angora Goat Breeder's Association (CAGBA), which covers the white and the colored goats, includes evaluation of an animal's fleece color, density, uniformity, fineness, and general body confirmation. Disqualifications include: a deformed mouth, broken down pasterns, deformed feet, crooked legs, abnormalities of testicles, missing testicles, more than 3 inch split in scrotum, and close-set or distorted horns.

Religion, mythology and folklore



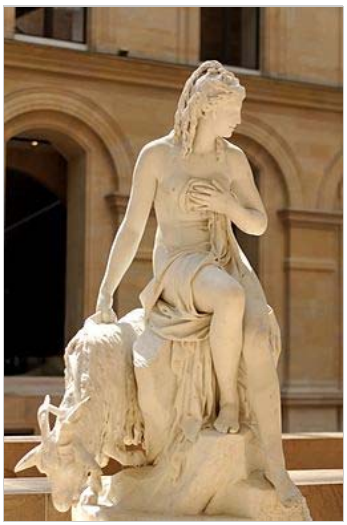
An ancient Greek *oenochoe* depicting wild goats

According to Norse mythology, the god of thunder, Thor, has a chariot that is pulled by the goats Tanngrisnir and Tanngnjóstr. At night when he sets up camp, Thor eats the meat of the goats, but takes care that all bones remain whole. Then he wraps the remains up, and in the morning, the goats always come back to life to pull the chariot. When a farmer's son who is invited to share the meal breaks one of the goats' leg bones to suck the marrow, the animal's leg remains broken in the morning, and the boy is forced to serve Thor as a servant to compensate for the damage.

Possibly related, the Yule Goat is one of the oldest Scandinavian and Northern European Yule and Christmas symbols and traditions. Yule Goat originally denoted the goat that was slaughtered around Yule, but it may also indicate a goat figure made out of straw. It is also used about the custom of going door-to-door singing carols and getting food and drinks in return, often fruit, cakes and sweets. "Going Yule Goat" is similar to the British custom wassailing, both with heathen roots. The Gävle Goat is a giant version of the Yule Goat, erected every year in the Swedish city of Gävle.

The Greek god Pan is said to have the upper body of a man and the horns and lower body of a goat. Pan was a very lustful god, nearly all of the myths involving him had to do with him chasing nymphs. He is also credited with creating the pan flute.

The goat is one of the twelve-year cycle of animals which appear in the Chinese zodiac related to the Chinese calendar. Each animal is associated with certain personality traits; those born in a year of the goat are predicted to be shy, introverted, creative, and perfectionist.



Amalthée et la chèvre de Jupiter (Amalthea and Jupiter's goat); commissioned by the Queen of France in 1787 for the royal dairy at Rambouillet

Several mythological hybrid creatures are believed to consist of parts of the goat, including the Chimera. The Capricorn sign in the Western zodiac is usually depicted as a goat with a fish's tail. Fauns and satyrs are mythological creatures that are part goat and part human. The mineral bromine is named from the Greek word "brómos", which means "stench of he-goats".

Goats are mentioned many times in the Bible. A goat is considered a "clean" animal by Jewish dietary laws and was slaughtered for an honored guest. It was also acceptable for some kinds of sacrifices. Goat-hair curtains were used in the tent that contained the tabernacle (Exodus 25:4). Its horns can be used instead of sheep's horn to make a shofar.[59] On Yom Kippur, the festival of the Day of Atonement, two goats were chosen and lots were drawn for them. One was sacrificed and the other allowed to escape into the wilderness, symbolically carrying with it the sins of the community. From this comes the word "scapegoat". A leader or king was sometimes compared to a male goat leading the flock. In the New Testament, Jesus told a parable of the Sheep and the Goats (Gospel of Matthew 25).

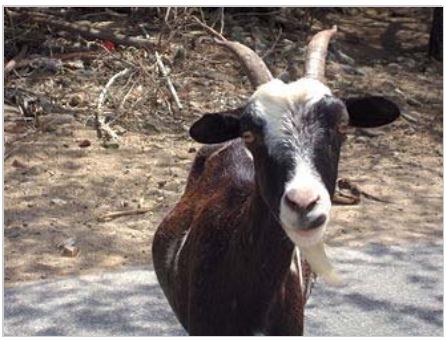
Popular Christian folk tradition in Europe associated Satan with imagery of goats. A common superstition in the Middle Ages was that goats whispered lewd sentences in the ears of the saints. The origin of this belief was probably the behavior of the buck in rut, the very epitome of lust. The common medieval depiction of the Devil was that of a goat-like face with horns and small beard (a goatee). The Black

Mass, a probably-mythological "Satanic mass", was said to involve a black goat, the form in which Satan supposedly manifested himself for worship.

The goat has had a lingering connection with Satanism and pagan religions, even into modern times. The inverted pentagram, a symbol used in Satanism, is said to be shaped like a goat's head. The "Baphomet of Mendes" refers to a satanic goat-like figure from 19th-century occultism.

The common Russian surname *Kozlov* (Russian: Козло́в), means "goat". Goatee refers to a style of facial hair incorporating hair on a man's chin, so named because of some similarity to a goat's facial feature.

Feral goats


Feral goat in Aruba

Goats readily revert to the wild (become feral) if given the opportunity. The only domestic animal known to return to feral life as swiftly is the cat.[5] Feral goats have established themselves in many areas: they occur in Australia, New Zealand, Great Britain, the Galapagos and in many other places. When feral goats reach large populations in habitats which provide unlimited water supply and which do not contain sufficient large predators or which are otherwise vulnerable to goats' aggressive grazing habits, they may have serious effects, such as removing native scrub, trees and other vegetation which is required by a wide range of other creatures, not just other grazing or browsing animals. Feral goats are common in Australia.[60] However, in other circumstances where predator pressure is maintained, they may be accommodated into some balance in the local food web.

See also

- Goat throwing

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External links

- Goat breeds from the Department of Animal Science, Oklahoma State University (http://www.ansi.okstate.edu/breeds/goats/)
- The American Dairy Goat Association (http://www.adga.org/)
- British Goat Society (http://www.allgoats.com/)
- International Goat Association (http://www.iga-goatworld.com/)
- North American Packgoats Association (http://www.napga.org/)

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