

The Highest-Producing Goat Is Not Always the Best Choice

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If you are keeping two, five, or ten goats on a family farm, the best dairy goat is not necessarily the one that gives the most milk.

A Saanen goat producing a large quantity of milk may seem like an obvious choice. But high milk production requires adequate nutrition, plenty of clean water, suitable housing, and an environment in which she can express that potential. If those resources are limited, a smaller local goat producing less milk may provide more value because she costs less to maintain and is better adapted to the conditions of the farm. For the small-scale farmer, the better question is therefore not simply, “Which breed produces the most milk?” It is: How much useful milk can this goat produce from the feed, water, climate, and management available on my farm?



Picture 1. Goats are particularly valuable to small farms in dry and challenging environments, where adaptation to local forage, climate, and management can be as important as maximum milk production. Picture credit: *Dhahi boss*

Goats are particularly valuable to small farms because they require less initial investment than cattle, reproduce quickly, and can provide milk in quantities a household can use without requiring a large commercial market. They can also make productive use of browse, rough terrain, crop residues, and environments where maintaining larger dairy animals may be difficult. Choosing the right goat, however, begins with understanding the farm before choosing the breed.

Start With What the Farm Can Support

Consider a simple example. Suppose a local goat produces one liter of milk per day while a specialized dairy goat produces two. Looking only at milk yield, the second goat appears twice as productive. But what if she requires more purchased concentrate, better-quality forage, more water, and greater protection from heat? Twice the milk does not necessarily mean twice the value.

For a family keeping only a few goats, milk production must therefore be considered together with the resources required to produce it. How much forage is available throughout the year? What is its quality? Can the family afford purchased concentrate when pasture or browse becomes scarce? Is clean water readily available? How hot does the environment become? What diseases and parasites are common? What level of housing and daily management can realistically be provided?

The intended use of the milk matters as well. A family drinking fresh milk may value volume, while one making cheese or butter may place greater value on milk fat and protein. Kids, manure, reproductive performance, longevity, and replacement costs also contribute to the value of the animal.

The most productive goat on paper is therefore not necessarily the most productive goat for a particular farm.

What Different Dairy Goats Can Offer

Dairy breeds differ in production potential, milk composition, adaptation, and the management required to take advantage of their genetics. The comparisons below are intentionally broad because individual animals within a breed can differ substantially.

Saanen and Alpine goats illustrate both the opportunity and the limitation of specialized dairy genetics. With good forage, appropriate supplementation, abundant clean water, and suitable housing, they can produce impressive quantities of milk. Cornell University reports average 305-day yields of approximately 908 kg for Saanen and 900 kg for Alpine goats in its breed comparison.

But a goat does not produce milk from its breed name. It produces milk from feed. If energy or protein intake is inadequate, milk production falls regardless of genetic potential. Heat can further reduce feed intake and production. A goat selected for high milk production under favorable conditions will not necessarily express that same potential when moved into a hot environment with seasonal forage shortages and limited supplementation.

Table 1. Comparing Dairy Goat Breeds for Small-Scale Farms

Type	Relative milk potential	Milk richness	Management/ input level	Particularly suited to
Saanen	Very high	Moderate	High	Cool or well-managed farms
Alpine	Very high	Moderate	High	Temperate and mountain areas
Anglo-Nubian	High	High	Medium-high	Warm climates and milk processing
Toggenburg	High	Moderate	High	Cooler climates
Shami/Damascus	Good to high	Good	Medium	Middle East and dry regions
Jamnapari	Moderate to good	Good	Medium	South Asia and warm regions
Local goats	Low to moderate	Variable	Low	Low-input and environmentally challenging farms
Local × dairy cross	Good	Variable	Medium	Farms seeking production with local adaptation

Milk volume is also not the only measure of value. Cornell reports an average 305-day yield of approximately 735 kg for Anglo-Nubian goats, lower than Saanen and Alpine, but with richer milk. Average milk fat is reported at about 4.6% compared with approximately 3.5% for Saanen and Alpine. For a household making cheese or butter, that difference can be important. Anglo-Nubian goats also have ancestry from warmer regions and can offer a useful combination of dairy production and heat adaptation.

The same reasoning becomes even more important outside temperate production systems. Farmers in the Middle East, North Africa, South Asia, and other warm regions should not automatically assume that specialized European dairy breeds are the best option. The Shami, or Damascus goat, is an established dairy type of the Middle East, while the Jamnapari originated in India and has been widely used in South and Southeast Asia. FAO has identified these among important tropical dairy goats and has also noted the usefulness of Anglo-Nubian genetics under tropical conditions.

The principle is simple: *adaptation can sometimes be worth more than maximum production*. A goat that tolerates heat, uses locally available feeds, reproduces reliably, and withstands local

disease and parasite challenges may provide more useful milk over time than a higher-producing animal requiring expensive feed and intensive management.

Do Not Overlook the Local Goat

This is where local goats deserve much more attention than they sometimes receive. A local doe may look unimpressive standing beside a large specialized dairy goat. She may also produce only a fraction of its milk. But comparing milk yield alone ignores why that local population continues to exist.

Local goats may be able to maintain themselves on browse, crop residues, rough pasture, and seasonal feed resources that would not support high milk production from specialized dairy animals. They may be better adapted to heat and local disease or parasite pressure, kid reliably under limited management, and require fewer purchased inputs.

For a low-input family farm, these characteristics have economic value. A goat producing less milk but doing so largely from resources already available on the farm may be more useful than one producing more milk only after substantial quantities of feed are purchased. This does not mean that local goats cannot or should not be improved. It means that improvement should preserve the characteristics that make them successful in the first place.

Crossbreeding can provide one way to accomplish that. A well-adapted local doe can be bred to a proven dairy buck, potentially producing daughters that retain some of their dam's environmental adaptation while gaining greater milk-production potential. FAO has documented substantial increases in milk production from crosses of Saanen and Alpine with indigenous goats in India and has reported the usefulness of Anglo-Nubian genetics for improving local goats in several tropical regions.

Crossbreeding, however, is not magic. As the proportion of specialized dairy genetics increases, nutrient requirements and management demands may increase as well, while some of the advantages of the local population can be lost. The objective should therefore not simply be to add as much European dairy genetics as possible. Crossbreeding should improve the local goat, not eliminate the characteristics that allow her to thrive.

Choosing the Goat That Fits the Farm

Choosing a dairy goat should begin with the farm rather than the breed catalog. A farmer or consultant should first consider the quantity and quality of feed available throughout the year, the cost of supplementation, water availability, climate, disease and parasite pressure, housing, labor, and the intended use of the milk. Only then does it make sense to ask which genetics best fit those conditions.

Where high-quality feed, water, housing, and management are readily available and the climate is suitable, specialized dairy breeds such as Saanen and Alpine can take advantage of those resources and produce large quantities of milk. Where temperatures are higher, Anglo-Nubian, Shami, Jamnapari, or other locally adapted dairy types may offer a better balance between production and adaptation. Where goats depend primarily on browse, crop residues, rough forage, and limited

purchased inputs, good local animals may provide greater value than imported high-producing genetics.

For many small farms, a carefully planned cross between an adapted local doe and a proven dairy buck may offer an attractive middle ground. But whether the animal is purebred, local, or crossbred, the same principle applies. Additional milk has value only when the resources required to produce it do not cost more than the milk is worth.

The best dairy goat is not necessarily the animal capable of producing the most milk. It is the one that can produce the most useful milk from the feed, water, climate, and management the farm can realistically provide. For a small farm, matching the goat to those resources may be far more valuable than simply choosing the breed with the highest production potential.

Further reading

1. FAO, Small Ruminants
<https://www.fao.org/dairy-production-products/dairy/small-ruminants/en>
2. FAO, Breeding Plans for Ruminant Livestock in the Tropics
<https://www.fao.org/4/x6536e/X6536E05.htm>
3. Cornell University, Dairy Goat Breeds
<https://cals.cornell.edu/nys-4-h-animal-science-programs/livestock/goats/goat-fact-sheets/dairy-goat-breeds>
4. FAO, Animal Genetic Resources: Strategies for Improved Use and Conservation
<https://www.fao.org/4/ah806e/AH806E15.htm>