



Mozzarella di bufala

by Kobus Mulder, Agri-Expo

No, it does not come from the buffalo for which American hunters pay big money to stalk in Africa – it is the Asian buffalo which gives the world a unique milk to make melt-in-the-mouth mozzarella.

The Asian buffalo consists of three species – the anoa, tamarro and arni. The arni, today domesticated, consists of two types, the swamp and river buffalo. The swamp type is essentially a work and meat animal whereas the river, or water buffalo, is the animal which gives the world 69 million litres of special milk, 65% of which is produced in India alone.

The river buffalo as a breed did not get much attention until 1974 when the Food and Agriculture Organisation (FAO) of the United Nations identified it as a neglected animal. Since then the animal come to its rightful place in the world of agriculture.

The world population of 170 million river buffalo are spread throughout the world with India leading with 100 million animals, followed by Pakistan (45 million), China (7 million) and Italy (450 000 animals). The Murrah is considered the best of the six dairy buffalo breeds when it comes to milk yield. Depending in breeding, milk yield varies from 3 000 and 5 000 litres per 300-day lactation. The highest yield is found in Italy.

Italian roots

Because buffalo milk is not normally drunk, but mostly used in tea in Asia, it was the Italian cheese, mozzarella, which put the spotlight on it. The south-western Italian region of Campania today hosts more than 80% of all river buffalo in that country. Here, Plinius the Elder and Columella wrote about the buffalo and mozzarella cheese in 1 AD and the archive of Capua, a town in Campania, quoted *mozzarella di bufala* as early as the 12th century.

Despite these early references, it was only in 1979 that the Italian government defined mozzarella di bufala to protect the cheese and consumers. This in turn led to it being declared a *Denominazione di origine protetta* (DOP) product in 1993 which allowed 95 cheese-makers in the Campania region to be the only makers to label their cheese as such.

Since then it is the Consortium Mozzarella di Bufala Campana which protects and regulate the cheese. Today in the Campania region, buffalo are typically kept in herds of 50 animals and milked twice a day in tandem or herringbone parlours.



Wayne Rademeyer with members of his precious buffalo herd on his Western Cape farm, Buffalo Ridge

The local market

South Africa should thank ex-lawyer, Wayne Rademeyer, for establishing the

first herd on his Buffalo Ridge farm between Wellington and Hermon in the Western Cape. He imported the first 24 animals from Australia in 2006 and later built a cheesery to make real buffalo mozzarella, which soon found its way onto tasting menus of fine dining restaurants. The mozzarella was soon followed by a velvety yoghurt – now a sought-after menu item in many top Cape breakfast spots.

River buffalo are considered to be docile and aggressive behaviour seldom occurs. However, they are slow learners and it takes some time for them to learn new routines. Farmers often comment on the exceptional bond between mothers and calves. Wallowing is an important way of cooling off, because they do not have many sweat glands and their black skin makes them uncomfortable in hot weather. Commercial milking parlours have sprayers to cool the animals before milking by 0,5°C which has proved to increase milk production by up to 25%.

The difference

What makes buffalo milk so different from other milks? Although composition varies greatly, *Table 1* gives the average chemical compositions of milks from the main dairy animals.

Indian researchers further claim the following benefits for buffalo milk compared to cow's milk:

- A cholesterol content of 0,65 mg/g compared to 3,14 mg/g for cow's milk.
- 92% higher calcium, 38% higher iron and 118% higher phosphorous contents.

TABLE 1: The average chemical compositions of buffalo, cow, sheep en goat milk

Ingredient	Buffalo	Cow	Sheep	Goat
Fat	7	4,3	6	4,5
Protein	4	3,4	4,8	3,8
Lactose	5,1	4,8	5	4,7
Total solids	16,7	13	16,3	13,5

- The fact that buffalo metabolise carotene into vitamin A, leaves their milk with a higher vitamin A content.
- Higher immunoglobulins, lactoferrin, lysozyme and lactoperoxidase make buffalo milk more suitable to be processed into health foods.

Consumption and uses

Buffalo milk is the preferred milk to make the Indian cooking cheese, paneer, and remains the best milk to make fresh mozzarella from. For instance, the milk has been found unsuitable for cheddar-making due to slow acid development, high fat losses the whey and slow proteolysis.

The worldwide production of buffalo milk has increased by 60% during the last 30 years, with a whopping 160% in Italy.

Unfortunately, mozzarella di bufala has a relative short shelf life and its popularity created a demand for a similar cheese with a longer shelf life. Italian cheese-makers responded with Fior di Latte mozzarella, which is a similar cheese, but made from cow's milk with a longer shelf-life due to advanced production methods. Although also an outstanding cheese, it plays second fiddle to buffalo mozzarella for the connoisseur.

Culinary feast

The classical way to eat mozzarella di bufala is the well-known insalata Caprese, which consists of sunripe tomato, mozzarella, basil leaves, olive oil and ground pepper. However, its wonderful layered silky texture and delicately fresh flavour should be used in many other foods such as folded pizzas, eggplant bakes and filled pastas.

Enjoy buffalo mozzarella with most al fresco summer foods. **M&J**