

Dairy Around the World

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For those of us in the United States, we rarely think about the dairy industry in other countries and especially not beyond Canada or the European Union. However, dairy is a prominent industry throughout the world. Below is an opportunity to learn about two up and coming segments of the dairy industry. This information comes from Dr. Pieter Henning (*Meadow Feeds, South Africa*) and Dr. Jiaqi Wang (*Chinese Academy of Agricultural Sciences*) both of whom presented at the 2015 American Dairy Science Association meeting in Orlando, Florida.

Africa

Africa is comprised of 54 countries. The total number of dairy cows in Africa is five times that of the United States (49 vs. 9 million). The highest milk producing countries in Africa are Ethiopia, Kenya, South Africa, and Sudan. Of these countries, Ethiopia has the most cows whereas South Africa has the greatest milk production per cow. Among the top four milk producing countries, only two (Ethiopia and Kenya) are self-sufficient, meaning dairy production meets or exceeds dairy consumption. Therefore, an opportunity exists to expand dairy production throughout Africa rather than needing to import dairy products.

Within Africa, two different dairy industry models exist: modern and smallholder. An example of the modern dairy industry is South Africa, which is most similar to the United States. In South Africa, many dairy farms exceed 500 cows and use a TMR feeding system. Most of the milk produced under this model goes to liquid consumption (60%) and the remainder is processed into concentrated products (pre-packaged cheese and ultra-high temperature milk). Although there has been a 54% increase in productivity between 2004 and 2014, milk production per cow per day still only averages 35 to 44 pounds in South Africa. A major challenge that the South African dairy industry faces is the lack of government support which creates a near “true market system” (no milk price structure, no minimum milk price, etc.).

One example of the smallholder dairy industry model in Africa is Kenya, where 80% of dairies have fewer than 5 cows. In total, Kenya has over 600,000 smallholder dairies. Comparatively, the United States has only 45,000 dairies total. In Kenya, most cattle are crossbred, exotic breeds that produce only 9 to 11 pounds per cow per day. Dairy producers and their families consume about 40% of the produced milk and the producer transports the remainder to a milk collection station. From there, 15% of the milk is processed and the rest is consumed raw. Although obvious differences exist, smallholder dairies still use many similar practices to the United States. Dairy producers rely heavily on AI and properly designed cattle housing. Cows are fed using grass and crop residues, with most forages being cut and brought to the animals rather than using a grazing system. Although smallholder farms in Kenya receive more government support than modern dairy farms in South Africa, they still have their challenges including problems with overgrazing, a lack of infrastructure (very few milk collection locations and product manufacturers), little access to credit, and difficulty transferring technical knowledge and skills to dairy producers.

China

China's dairy industry has made headlines multiple times over recent years, often because of the massive amount of growth it has undergone. In 2000, the dairy industry in China was comprised of 4.9 million cows. In 2015, that number increased threefold to 15 million cows. Additionally, herd sizes are growing in China. Less than 2% of dairy farms milked more than 1,000 cows in 2000, but 20% milked over 1,000 cows in 2014. Most of the Chinese dairy farms are in the northern part of the country, which

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has a more desirable climate as compared to sub-tropical southern China. However, the human population is greatest in southern China, resulting in milk moving south within the country (similar to the United States). Of the provinces in China, six have more than 1 million cows. Inner Mongolia has the most dairy cows with over 2 million.

Three dairy production models exist in China. The first is a cropping model, similar to dairy farming in the United States or modern dairies in South Africa. In a cropping model, a dairy will grow and feed their own crops, resulting in relatively cheap feed and labor. Over 70% of the milk in China is produced in this fashion, wherever land is cheap. A suburban area model is how 20% of China's milk is produced. Because this kind of production model occurs near large populations, the market is more stable than in the cropping model, but land is limited and expensive. Additionally, suburban farms must comply with more environmental regulations. The third Chinese production model is a pasture production model. This model produces only 10% of China's milk, but is very important to rural and minority groups. The number of farms using the grazing model is shrinking because of overgrazing.

China's milk production has been steady for the last 5 years, but cow imports continue to rise. China imported around 200,000 dairy cows in 2014, mostly from Australia and New Zealand. Challenges that China continues to face include issues with food safety, including antibiotic residues and mycotoxin pollution, and productivity per cow, which currently sits around 12,125 pounds per cow per year.