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Output Per Cow to Double?

Steady gains in output per cow continue to drive total U.S. milk output, but given the heady increases of the past year, it is unclear whether strong productivity gains will start to slow. The rate of growth is likely to be lower in developed nations compared to developing countries, but ample opportunities also exist for U.S. producers to push output per cow higher—especially long term.

With population growing to an estimated 10.7 billion people by 2067, total dairy demand could rise 272 billion pounds above 2017 levels.

A 2018 *Journal of Dairy Science* article, "Learning from the future—A vision for dairy farms and cows in 2067," suggests that global per capita consumption of milk and dairy products, excluding butter, could increase from 39.5 lbs. per person in 2012 to nearly 54 lbs. by 2067. With world population growing to an estimated 10.7 billion people by 2067, total dairy demand could rise 272 billion pounds above 2017 levels, according to United Nations data. At the same time, the report asserts that arable land necessary for farming will shift to more northern regions and could decline due to climate change. These changes will require increased production per cow to satisfy new demand.

Nearly four decades from now, most of the world's population will live in Africa and Asia, and fewer people will be growing the world's food. For U.S. dairy, the report suggests that farms will consolidate, becoming larger, and use new technology, primarily robotics, to promote "the health of cows and permit expression of natural behaviors," two factors that will be necessary to increase output steadily into the future. The report also posits that "dairy farmers in 2067 will meet the world's needs for essential nutrients by adopting technologies and practices that provide improved cow health and longevity, profitable dairy farms, and sustainable agriculture."

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Ken's Corner

by Ken Meyers
President, MCT Dairies Inc.

The United States, Canada, Russia, and other countries with available arable land and water to produce feed, are well positioned to meet the world's growing demand for dairy products. To thrive, however, the U.S. and global dairy industries will need to educate consumers about how improving efficiency can also help reduce dairy's environmental footprint, leading to a more sustainable industry.

According to Dairy Industries International, between 2005 and 2015, the global dairy industry reduced the intensity of its greenhouse gas (GHG) emissions by 11%. Over that same period, global dairy GHG emissions rose 18%, but total milk output increased 30%. Thus, global dairy GHG emissions declined on a per unit basis, from 2.8 to 2.5 kg of carbon equivalents for every kilogram of dairy product produced. That type of measurable reduction in emissions is a feat few industries can claim.

U.S. dairy producers are the global leaders in efficiency. Last year, the average U.S. dairy cow produced 22,858 lbs. of milk, eight times as much as an average cow in India (2,809 lbs.) and well over twice as much as in New Zealand (9,691 lbs.). Therefore, looking at it strictly from the standpoint of the GHGs emitted by a cow, U.S. dairy producers are also tops in sustainability. **MCT**

Blocks Break $1.60, Barrels Holding

Since the end of last year, CME cheese prices have mounted a considerable recovery. Block prices reached a new 2019 high of $1.61/lb. on Feb. 26, the first time blocks have been above $1.60 since Oct. 16, 2018. CME spot barrel prices have been holding in the $1.40s, with trading volume picking up. Whether blocks can remain high will depend largely on the ability of barrels to stay within 20 cents of the block market. Barrels have proven to be an anchor on blocks, suggesting if barrel prices weaken, blocks could be in trouble. **MCT**

MCT Forecast

	Block*	Barrel*	Class III	Butter*	Class IV	Whey**	NFDM**
Feb	1.5575	1.3875	13.89	2.2675	15.86	0.4550	0.9800
Mar	1.5025	1.3675	14.80	2.2350	15.71	0.4350	0.9800
Apr	1.5350	1.3550	14.63	2.2250	15.55	0.4350	0.9725
May	1.5150	1.3575	14.65	2.2225	15.49	0.4400	0.9600
Jun	1.5575	1.4100	14.86	2.2725	15.63	0.4400	0.9600
Jul	1.6825	1.5300	15.56	2.3750	16.13	0.4275	0.9750

** CME prices.*
***NASS prices.*

...room for improvement

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In 2018, the average cow in the United States produced 22,858 lbs. of milk, up 1% compared to 2017. Of the 23 states that routinely report output per cow, 11 posted per-cow production above the national average, and three of these states under performed 2017 levels. Thus not only do states with below average output per cow have room for improvement, but so too do some of the more efficient states. Feed quality and weather conditions can plague output per cow in any given year, but trends in the U.S. milk herd corroborate those forecast in the *Journal of Dairy Science* article. In 2018, states with smaller-than-average dairy operations, including Illinois, Pennsylvania, and Virginia, saw dramatic declines in herd numbers. At the same, time, states with larger-than-average farms, including Colorado, Texas, and Kansas, saw widespread increases.

While U.S. dairy farms numbered just over 40,000 at the end of last year, the average size of the milk herd on these dairies increased over the previous year. The trend toward larger farms, which has persisted for years, is unlikely to reverse. In years like 2018, remarkable for low milk prices and margins, the speed in which smaller farms exit the business increases, suggesting that the remaining farms become larger and possibly more efficient. As cows migrate from less efficient farms to those with better technology and on-farm practices, output-per-cow trends higher.

Furthermore, larger farms are taking steps to employ cow genomics—the study of an animal's entire set of genes—to select for ultimate profitability. As more sophisticated dairy farms adopt this technology, they will be able to maximize profitability and yields unlike past generations at a pace that has yet to be seen. The *Journal of Dairy Science* article makes similar assertions and even goes further, saying that U.S. cows could double their annual milk yields by 2067. While this may or may not be high, U.S. output per cow has not yet reached its pinnacle. Perhaps the Carpenters said it best, "We've only just begun." **MCT**

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