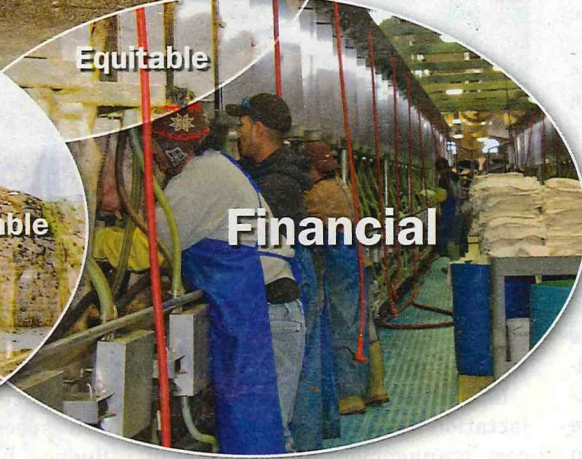


Social



Bearable

Environmental



Equitable

Financial

Viable

SUSTAINABILITY: a difficult stool to balance

Financial, environmental, and social sustainability are all necessary for success.

by Jim Paulson

WHAT does sustainability mean to you and your dairy operation? This is probably not a question you have given a lot of thought to. But it will increasingly be a question you are forced to answer. You may now be thinking; "This is a fourth-generation farm; we must be sustainable." Or, "I'm making

capital. This is the very situation that has been plaguing the dairy industry the last couple of years. When the milk price is below cost of production, it is only a matter of time until the dairy farm is no longer sustainable. However, price is only part of the profit equation.

When milk price falls, most farms will try to boost volume as well as cut expenses. On an individual farm or micro-economic level, this makes good sense. In the big picture or macro-economic level, this leads to greater supply. But when you are in a survival mode, we make short-term decisions due to a shortfall in cash flow. We have to in order to survive. Our sustainability comes down to our net worth or amount of equity and the ability to borrow money.

We also consider our financial sustainability for the future. We may not have thought of it as sustainability, but expansion decisions are most likely about sustainability. If we want the farm to continue to the next generation, we need to grow to generate enough income. Very few farms are the same size as two generations ago.

Being green and making green

The environmental leg is just as important as economic. It is required to maintain productivity, meet regulations, and is a factor in income and expenses. Science has brought many research-based conclusions on how we can treat our environment. We now know that soil conservation, minimum tillage, crop rotation, and contour strips are important in crop production. The dust bowl years demon-

strated that farming practices then were not sustainable. We also manage our manure to minimize runoff and capture as much of the fertilizer value as we can. We may be doing this because it saves us money, but it is also the right thing to do. Will the next generation continue the same practices you do now? Are there practices that reduce inputs, reduce energy consumption, reduce emissions, reduce greenhouse gas emissions, or reduce the carbon footprint that you could be doing now?

The environmental portion of sustainability today forces us to also consider greenhouse gases. Greenhouse gases are gases that hold heat in the atmosphere creating global warming potential. Examples include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). The term carbon footprint is the amount of CO₂ or CO₂ equivalent produced by some activity. Methane has 21 times the heat holding capacity of carbon dioxide, and nitrous oxide has 298 times the heat holding capacity or global warming potential.

Ruminant animals are scrutinized because they belch off methane while digesting feed. Decomposing manure also generates methane which can be captured in digesters, but most is lost. Incorporating manure into fields reduces nitrous oxide emissions, as well as reducing the smell and runoff potential. In the fall of 2010, the Innovation Center for U.S. Dairy released the results of a dairy industry life cycle analysis, or LCA, which considered the whole system of producing milk from the farm to the consumer. Their results showed that, as an industry, our vast practices provide an opportunity to learn from ourselves and reduce greenhouse gas emissions.

Do unto others

The social leg is probably the least understood and the hardest to understand. The research base here is different than what most have been used to. The social leg involves people, people on a society basis, rural and urban. The social leg also involves rules and regulations on how we treat the environment, animals, and employees, as well as personal values and ethics. We think that, if a cow milks a lot, she must not be stressed. We think in terms of cow comfort, not animal welfare. But others ask not if the cow is stressed or comfortable, but how should an animal be treated? What is the minimum level of care that is acceptable? Recent occurrences in the public eye now have us trying to defend what we do by certifying our animal welfare practices under the F.A.R.M. (Farmers Assuring Responsible Management) guidelines.

Sustainability has been referred to as a "wicked problem." In 1973, Rittel and Webber commented that there are problems that cannot be solved in the usual way of thinking and called them wicked. Sustainability often involves choices, choices that are not black and white but better or worse. Sometimes we don't even know we have a problem or what the problem is which makes it very difficult to solve.

We all need to do our part by supplying policymakers with science-based information. We need to reach out to consumers with information on how we farm and why we do what we do. We need to reach out to our neighbors to restore trust and community. And, we need to figure out how we are going to feed a growing world population in a way that keeps families in business while not compromising the ability of future generations.



PAULSON

The author is a dairy extension educator at the University of Minnesota and is based in Hutchinson, Minn.

money so I am sustainable." Those are two very good answers, to a point. But sustainability has more than just an economic component. Sustainability, by simple definition, is the ability to continue, endure, or maintain. Ask yourself, "Is there any part of my operation or anything that we are doing now that the next generation will not be able to do?"

Think of sustainability as a three-legged milk stool. The seat is sustainability, and each of the legs supports the seat. The three legs are economics, environment, and social. The area between the legs is the interaction of the two areas. As in a milking stool, for the greatest stability, each leg has to be equal in length or a contribution to supporting the whole system.

Survive the next day, and decade

Let's consider each leg separately. The first leg is economics or profitability. Without generating a profit, no dairy operation can sustain itself very long without an outside infusion of

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