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DAIRY & ANIMAL SCIENCE
E-I-E-I-O
 From Dairy and Animal Science at Penn State



Lowell L. Wilson

bility (hence, profitability) of the farm operation will become impossible.

Provide Basic Needs

Animals are used for many purposes, including recreation and companionship, but society must not lose sight of their most basic and unique contribution, that of providing the raw materials for food and the many non-food products that Americans use daily.

Socially Acceptable

With only about two percent of the U. S. population now living on farms, people have become so removed from the practices of animal agriculture that many no longer understand the processes by which food finds its way from the farm to the dining table.

This, coupled with increasing attacks from animal activists, dictates the importance of continued attention to the care and handling of our farm animals and to the need to educate the public on the facts about acceptable farm animal practices.

Socially unacceptable practices eventually will result either in the loss of markets or legislation that will destroy our ability to farm profitably.

Enhance Quality Of Life

Sustainable farm operations seek to enhance the quality of life on the farm for the animals and the people who care for them.

For instance, increased use of

pasture coupled with seasonal grazing may not only result in improved health for the animals, but also in smaller feed bills and a much needed break for the farm family during winter months.

Optimize Rather Than Maximize

To achieve this concept of sustainability, it might be necessary for farmers to examine the way they basically think about farming. While optimizing inputs and maximizing yields (production per animal) are not mutually exclusive, it can be tricky to achieve them simultaneously.

It is the availability of the resources over a long period of time that will determine the continuing profitability of the operation. If the resources are sacrificed for short-term goals, profits in the long run will suffer.

Consider, for example, two different beef cow herds with identical genetic potential. One of the herds may have a 205-day weaning weight of 600 pounds and the other, fed more grain as calf creep feed, may weigh in at 700 pounds. Over a number of years, would the use of that additional grain truly be considered profitable?

Likewise, a dairy herd average of 24,000 pounds may not be more profitable than the 20,000 pound herd that uses fewer resources. Producers must ask the difficult question of whether or not maximum production justifies the use of additional resources — labor, management, feed, fertilizer, fuel, pesticides.

Looking at the larger picture, input (resources), not output (production) may be the baseline measure of sustainability. Wilson points out that farmers and those who serve them — animal scientists and educators — have always attempted to foster sustainability.

General management practices may not have been labeled "sustainable," but many of them advanced the principles of sustainability. Take, for instance, increased use of pasture, less grain used in beef and dairy systems, better housing, improved efficiency in collecting and recycling animal waste materials, alternative or value-added enterprises, and decreased use of pesticides and other chemicals.

Even the use of some of the more controversial practices such as antibiotics and growth promotants should increase sustainability and ultimately profitability in all sizes and types of animal operations.

According to Wilson, "If animal agriculture is going to survive, prosper, and be responsible and sustainable, there must be more integration of traditional and sustainable principles. We have not done enough. The methods we use in the future will be a combination of conventional, intensively managed, small- and large-scale agriculture with the incorporation of the principals of sustainability."

SUSTAINABILITY AND ANIMAL AGRICULTURE

Lowell L. Wilson
 Professor Of
 Animal Science
 And Linda L. Smith
 Communications Specialist

Attention to the sustainability of farm animal production systems has increased during the past several years, partly because of relatively low prices for almost every animal-derived commodity.

Dr. Lowell L. Wilson, professor of animal science, recently summarized how the concept of sustainability relates to various farm animal systems.

Wilson began by pointing out that the idea of sustainability on U.S. farms is not new. It is, however, being approached in novel ways.

"We must not lose sight of the various components of sustainability," he said. "Farm operations must be sustainable in the modern-

day sense."

Applied to farm animal systems, sustainability requires the following essentials:

- The operation must remain profitable
- The system must be environmentally sound
- It must provide for basic human needs
- Methods must be socially acceptable
- New farming methods must enhance the quality of farm life.

Profitability

The primary requirement of any farm operation is that it must be profitable. Farming is, after all, a business, and the essence of business is profit. A sustainable operation must, however, begin to address the question of long-term versus short-term profitability.

This may require closer attention to the current cost of inputs or resources as well their continued availability at a reasonable cost. In other words, if a resource becomes so scarce that the price increases beyond affordability, then using

that resource does not conform to the definition of sustainability, and another resource must be substituted.

Environmentally Sound

The farming system must be environmentally sound. That is, the operation's resources must be renewable.

Crop rotation is an excellent example of ensuring that soil continues to be a renewable resource. Without the proper nutrients being put back into the land, it ceases to support the necessary crops and fails the test of sustainability. If valuable resources such as phosphate and oil reserves are eventually depleted — and they will be without conservation — sustaina-

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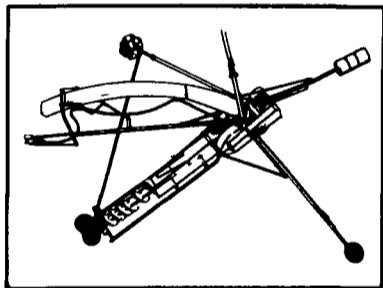
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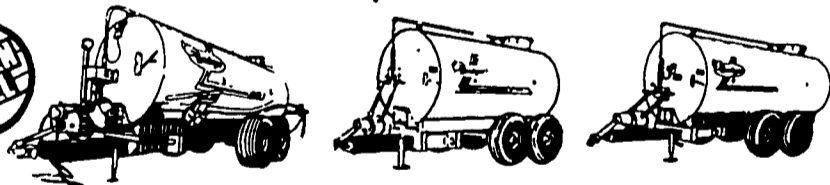
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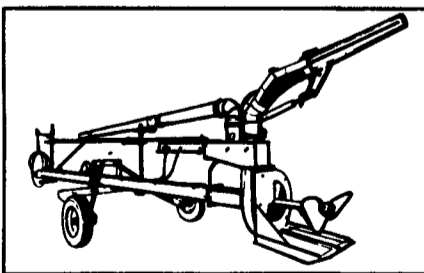


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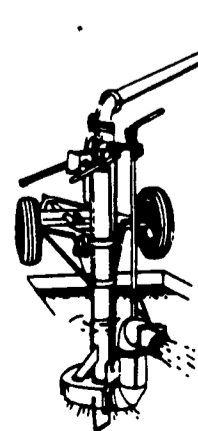


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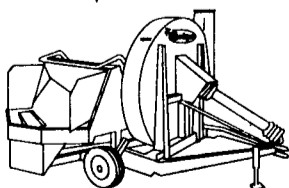


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