

What to do about downer cows?

Workshop looks at a question whose answer is more complex than ever.

by Hoard's Dairyman staff

WHILE change is a constant part of dairy producers' lives, its slow motion nature makes change easy to overlook, hard to measure, and almost impossible to pinpoint. But not always.

Today, producers can be sure that one of the biggest changes in how they manage some cows occurred on January 30, 2008. That was the day the Humane Society of the United States (a privately funded animal welfare advocacy group that is not affiliated with either the U.S. government or the U.S. Humane Association) released its clandestinely-made video showing slaughter cow handling practices at the Westland/Hallmark Meat Company processing facility in Chino, California.

Virtually overnight, public and political disgust triggered a backlash of new rules about how downer animals may be handled and disposed of. For some dairies these changes may be so cumbersome, time consuming and costly that they will force managers to put a priority on what is perhaps the most effective compliance strategy of all: prevention.

Why and how to do so were the topics of a unique dairy cattle welfare workshop held July 9 in Tulare by the University of California, Davis School of Veterinary Medicine. The tremendously practical program examined the causes of downer animals, handling practices and tools that can sometimes recuperate them, and on-farm euthanasia techniques, including hands-on participation by those in attendance.

Downer causes, care . . .

No matter how much time and effort are expended to prevent them, some downers are simply an unavoidable fact of life for anyone who owns cattle. Downer incidence rates are relatively low across the dairy industry, but can vary greatly from dairy to dairy, said Dr. Jim Reynolds, On-Farm Medicine Service Chief at the U.C. Veterinary Medicine Teaching and Research Center in Tulare. He said downer incidence rates have been estimated at 0.4 to 2.1 percent per year.

While those figures may seem small, the size of the problem they represent is big. For instance, in the West those percentages translate into 16,600 to 87,300 downer cases per year. By comparison, according to USDA only 23 states had more than 87,000 total milking cows in 2007.

Reynolds explained that downers have become a hot issue for several reasons, the most significant ones being public perception about animal welfare, health concerns that might potentially be related to bovine spongiform encephalopathy, and the widespread opinion of con-



(above) Dr Jim Reynolds discussed the numerous moral, ethical, medical and legal aspects of proper care and treatment of non-ambulatory cattle. (below) Dr. John Madigan, who stressed that "A down cow is not a dead cow" discussed and demonstrated moving and handling techniques for non-ambulatory animals, including use of water flotation tanks (right).



sumers that downed animals are simply unacceptable.

The list of reasons why downers occur is a long one that includes disease and illness, but according to a 1996 study 62 percent of all downers were the result of either injury or calving paralysis. Reynolds said

one of the main reasons for injury are slips and falls caused by crowding and/or moving groups of animals too quickly, estrus mounting, transportation, and facility problems. In other words, tools such as timed A.I. programs and calving ease sires, combined with calving pen assistance when needed and making sure not to rush cows to the milking parlor, give producers a real opportunity to reduce the number of downer cases through management alone.



(top) Using a styrofoam model cow, U.C. Davis personnel demonstrate how to attach a newly patented cow sling and the special lifting bar (middle) to which its straps are attached. Thus secured, an animal can then be easily and precisely moved into a flotation tank (above) for therapy. (left) Workshop attendees got hands-on instruction using both in-line and pistol style captive bolt euthanasia guns to learn proper handling and usage technique.

"The goal is to not have downers at all," he said. "But the biggest step toward dealing with them is to develop a downer cow plan with your veterinarian."

When downers do occur, several ethical, moral and legal factors come into play for producers. The most important may be the attitude of people on the dairy. "We need to

treat downers like emergency cases, because a cow that is down for more than three hours probably is not going to get back up," said Reynolds.

If necessary, downers should be moved (but remember that in some states it is only legal to drag them on skids) to a sheltered area where food, water, and medical treatment can be provided and is protected from other cows, the environment and wildlife.

Soft bedding is strongly recommended, in order to minimize muscle and nerve "crush syndrome" that will disable animals even more. Then do as complete a physical exam as possible, assess the level of distress (checking for fractures and injuries can be difficult), make a diagnosis if possible, and formulate a prognosis for recovery.

"If the animal is suffering you must do something about it immediately," Reynolds emphasized. "If the prognosis is poor, if all she is going to do is suffer for another week, then euthanasia is probably indicated."

Moving downers . . .

Preventing crush syndrome can be done with the use of tools such as slings or hip lifts, sternal recumbency devices, rolling the animal side-to-side every two hours, and water float tanks. Medical treatment will probably center around pain and inflammation control, in addition to treatment of the initial condition. Ample drinking water – downers need 20 gallons or more per day – is an important part of the recovery process and, "It does them a world of good to eat some long-stemmed hay," Reynolds noted.

Although they are labor-intensive and accommodate only one cow at a time, float tanks have been shown in U.C. Davis trials to aid in the recovery of 46 percent of downer cases overall, and in 78 percent of cases involving calving paralysis. Getting downers into the tank is also a cumbersome process.

Once inside, water level is raised to chin height and the cow floats/stands for 8 to 12 hours. Feed must be available at all times. The water is then drained and she either walks

out of the tank or is returned to the bedded area. Treatment is repeated daily until she is able to stand on her own.

In the U.C. Davis tests cows that had been down less than one day required an average of three days of float tank treatment before they could stand. Cows down two days or more required an average of five

days of treatment.

In instances where an animal's pain and suffering cannot be alleviated or its quality of life is diminished, as was seen in more than half of all cases examined in the U.C. Davis study, Reynolds said it is the moral obligation of the dairy manager to euthanize it in a timely and humane manner.

Downer handling . . .

No method of moving or handling downers is fast and simple, yet getting them up off the ground quickly gives their best chance of survival, said Dr. John Madigan from U.C. Davis and the International Animal Welfare Training Institute.

It is a process he also said starts with a positive attitude: "Remember, a down cow is not [automatically] a dead cow."

He explained that research has shown survival rates begin to diminish rapidly if downers are not elevated within five hours, due to the progressive damage caused by crush syndrome. Elevating or moving them should ideally be done using a multi-strap, weight balanced sling assembly that is specifically designed for cattle.

Madigan is also a proponent of water flotation therapy tanks that often allow animals to regain their strength more quickly than on the ground, since most of their weight is being buoyed by the water.

A demonstration of a lifting sling in use and the ease of animal transport to a float tank was held outside the workshop building for attendees to see in person.

Euthanasia methods . . .

Jennifer Woods, a livestock euthanasia specialist in Alberta, Canada, gave a practical and compelling presentation on euthanasia tools and techniques. Afterward, all attendees were encouraged to handle and fire two kinds of captive bolt euthanasia guns: inline and pistol style.

She explained that in addition to the ethical responsibility that cattle owners have to protect their animals from pain and suffering, animal cruelty regulation also make it a legal responsibility. "Passive euthanasia – simply waiting for the animal to die – is inhumane," she emphasized.

While there are several ways to

euthanize animals, Woods focused on captive bolt guns due to their convenience, effectiveness, safety, and the ability of most employees to learn to use them correctly. She admitted, however, that her personal weapon of choice for cattle is a 20-gauge shotgun slug.


Woods explained that safety is one of the biggest advantages of captive bolt guns, since they pose less of a health and liability hazard to employees and other animals than do firearms. Two downsides are that they require more precise use (physically touching the end of the barrel to a specific area

on the animal's forehead), and high quality units are fairly expensive. "You absolutely do get what you pay for," she told the audience more than once.

She emphasized that while captive bolt guns may do less physical damage than a free bullet, they are still highly effective at euthanizing animals quickly and reliably – if they are used correctly, if the right cartridge charge is used, and if they are properly maintained. Errors in any of these areas can result in euthanasia failure and additional suffering by the animal.

Woods said the most frequent

reasons for failure are inaccurate placement of the captive bolt gun, using a cartridge not made for that gun, or using an undersized charge. Guns come in different sizes (calibers) and each brand requires the specific cartridges that are made for it. "Do not interchange ammunition from one brand of gun to another," she said firmly.

She said it is also very important to use the right caliber and cartridge for the particular animal that is being euthanized. Calves, for instance, require less caliber and cartridge charge than do larger animals. 

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Jennifer Woods displays the key part of a disassembled captive bolt euthanasia gun, to give workshop participants a better understanding of exactly how they function.