

The dairy industry

Cows as milk machines

A cow, like all other mammals, has to be pregnant to produce milk. Around 85% of farmers use artificial insemination to induce pregnancy¹. Cows are milked for about 10 months after giving birth, dry off for 6-8 weeks and then give birth again. The calf is allowed to suckle for a short time to get a dose of colostrum, containing the mother's antibodies to infections. After only 1 day, cow and calf are separated so that the cow's milk can be sold.



This cycle of pregnancies continues until the cow dies or is sent to slaughter. According to a NSW survey, around 26% of cows in dairy herds are culled or die each year (1). Just under half these cows are sent to slaughter for economic reasons such as reproductive failure or poor milk production. The main health reasons for culling or deaths are udder disorders (28%), calving-associated disorders (6%) and lameness (4%).

The most common udder disorder of dairy cows is mastitis (1), which is a bacterial infection of the teats and udder. Many cows have low level infections, as shown by white blood cells in the milk. With serious infections, the milk is clotted and has to be thrown away. The udder can become hot and swollen, which is obviously very painful for the cow. If the bacteria enter the bloodstream, the cow can die. The infection is passed between animals mainly through milking equipment. It is treated with antibiotic injections into the affected teats (2). The risk of mastitis increases with age, and researchers have commented (1): *"The great hazard of culling for acute and chronic mastitis disorders associated with advancing lactation number reflects damage to the mammary gland that is cumulative over the productive life of the cow."*

Another major problem is lameness. In several Queensland herds, almost 3% of cows were severely enough afflicted to be treated by a vet and an estimated 11% were affected less severely (3). In serious cases, feet can be hot and swollen and may discharge pus. In a Victorian survey, most herds were affected to some extent and 7% of all cows were lame (4). The dairy industry has said: *"Lameness continues to be one of the major animal welfare issues in all pasture-based production systems, as lameness may be associated with acute pain and/or significantly affect the cow's ability to graze and compete for food²."* Lameness has increased as herd size has increased (4), possibly because cows have to stand longer on hard concrete around the milking shed waiting to be milked.

Seasonal calving

In seasonal calving herds, farmers want all calves to be born within a specified time. Cows that become pregnant late are induced to give birth prematurely by injecting a corticosteroid hormone. Induction increases calving problems because calves are in the wrong position, increases the number of cows with retained foetal membranes, as well as other clinical diseases (5,6). More cows died (9.7%) following induction than normal births if they were over 6 years old (5). In the Macalister district of Victoria, 10% of cows were induced (6), although Dairy Australia notes that the practice is declining and that it is undesirable²: *"The welfare of the induced cow can be compromised as the procedure increases the risk of mastitis, metabolic diseases, retained membranes and infection."*

¹ Dairy Australia: Australian Dairy Industry in Focus 2007

² Dairy Australia: Dairy Welfare – We Care

Calves are also badly affected by induced births. Among induced calves, 70% died or were killed in the first week, compared to 7% of normal calves (7), and 35% of induced calves were stillborn, compared to 4% of normal calves (6). Weak, unviable calves may be killed by a blow to the head with a hammer. If the calf still shows signs of life, he or she may be killed by compressing the chest wall with a fist, a rifle shot to the head or sticking the neck or chest with a knife³. Clearly induced births are not for the benefit of the animals, but only for the convenience of humans.

The fate of calves – by-products of the industry



It is a stressful experience for cows and calves to be separated after only 1 day. Cows show a greater amount of eye white when their calves are taken away, which returns to normal when the calves are taken back (8). Frustration and fear have been shown experimentally to increase eye white, a response which is reduced by diazepam (9). Therefore, cows are showing a distressed emotional state when they lose their calves. Calves vocalize significantly more when they are separated from their mothers, especially if they can't see the cows. They also walk more, eat less and gain less weight, indicative of stress (10).

After calves are taken away from their mothers, they are fed milk from a bucket or trough. They can be trucked off to slaughter as young as 5 days old. In Victoria alone, 600,000 calves less than 1 week old are transported long distances to slaughter each year (11). These baby orphans, who should have the comfort of their mothers, have to cope with the stress of transport and strange environments. Overall 0.64%, or almost 4000 a year in Victoria, die during transport (11). According to the Code of Practice for Cattle⁴, calves should not be kept off liquid feed or water for more than 10 hours and should be killed on the day of their arrival at the slaughterhouse. However, standards for transport being finalised in 2008 allow calves as young as 5 days old to be kept off water for 18 hours.

Loading and unloading is particularly difficult for young calves. Calves fall over on loading ramps, especially if they are steep (12). An examination of slaughtered bobby calves showed that an average of 50% had injured stifle joints in the back legs, possibly as a result of slipping and falling during transport (13). There is an increase in deaths among calves after transport - the stress, fatigue, dehydration and loss of weight make them more susceptible to illness. Australian researchers have concluded (14): "*Studies on bruising, weight loss, and mortality in transported calves indicate that the welfare of these animals may be seriously compromised*".

Some female calves are raised to replace their mothers in the herd, since 26% of cows a year die or are culled from the herd (1). Some male calves are fattened for a few months to be slaughtered as veal. In Australia there is no "white veal" industry, where calves are kept in tiny stalls and fed an iron-deficient diet, but it is not strictly illegal. There is a Code of Practice for the Welfare of Cattle⁴, but it is not legally

³ Sue Hides. Humane destruction of non-viable calves less than 24 hours old. Department of Primary Industries Victoria AG1065, October 2002

⁴ Model Code of Practice for the Welfare of Animals – Cattle (2nd ed) can be downloaded from www.publish.csiro.au/books/download.cfm?ID=4831

enforceable in most states. The Code says that calves should be fed a balanced diet, that they should be given some solid food after 3 weeks of age, and that they should have a minimum of 1.5m² of space, although they may be kept in individual stalls. However, when a company in Victoria set up individual crates with only 0.96m² per calf, there was nothing that could legally be done to stop it. After media exposure and bad publicity, other cattle farmers seem to have applied pressure to the company to stop this method of raising calves (15).

There are farms that produce "pink veal". One-week old calves are moved into sheds, but they are usually kept in group pens. They are not made anaemic, and they usually have solid food to chew, such as straw or pellets, as well as milk. They are often slaughtered when they are about 16 weeks old.

The killing of calves, whether at 5 days of age or later, is part and parcel of the dairy industry. You can avoid this cruelty by adopting a plant-based diet.

Mutilations in the dairy industry

Dairy cattle are routinely dehorned, and some also have their tails removed, both of which are painful mutilations. In Victoria and Tasmania in particular, tails of dairy cows may be removed to just below the vulva. A large scale survey in Victoria showed that 35% of farmers routinely tail dock their cows, and have no intention of changing their ways (16). Three quarters of these farmers use rubber rings to cut off blood supply in the tail so that it withers and drops off, while the rest use knives. The average age at docking is 18 months. Farmers who carry out this mutilation believe that it keeps cows cleaner because there is no tail to become contaminated with faeces and urine, and so docked cows have better milk quality and less mastitis (16). According to Dairy Australia, 80% of farmers nationwide do not routinely tail dock cows².

A number of studies have found that there is no difference in cleanliness between docked and undocked cows, and no difference in mastitis or milk quality (17,18). In contrast, there is evidence of harmful effects of tail docking, including:

- immediate pain;
- increased irritation from flies;
- neuromas and long-term pain.

Tail docked cows suffer more fly irritation. They have more flies on their hind quarters than cows with tails, stamp their rear legs more often, and flick their tail stump more often, even though flicking the stump is ineffective in removing the irritation (19).

Most amputations result in the formation of neuromas, abnormal masses of nerve endings that produce chronic pain. Australian researchers note that neuromas are found in the tail stumps of docked cows when they are slaughtered (14). Consistent with the presence of neuromas, the tail stumps of docked cows are more sensitive, for example, to heat and cold (20). Dairy Australia has said²: "... *tail docking itself may compromise an animal's welfare, increasing irritation from biting flies. The procedure itself may potentially cause long lasting nerve damage and long term pain for cows.*" In spite of this, the practice has still not been stopped.

Dairy cattle are routinely dehorned, usually while still young. The horn is an extension of the skull and contains blood vessels and nerve endings, so removing the horns is very painful. Horn buds in calves are destroyed with a hot iron, caustic paste or a scoop, which has two semi-circular blades that can perforate the frontal sinus of the skull (21-23). The fact that dehorning is painful is shown by the fact that the stress hormone cortisol rises sharply and is elevated for 8 hours (21,24). In addition, behaviours indicating pain, such as ear flicking, head shaking and head rubbing, increase for 24 hours (22, 23, 25). Pain can be relieved by giving a sedative (xylazine) before injecting a local anaesthetic such as lidocaine, followed by

an analgesic such as ketoprofen to extend pain relief (22). However, pain relief is not used when horns are removed.

Facts and Figures

In 2006/7, there were over 1.8 million dairy cows in Australia, with the majority in Victoria¹. The number of dairy farms has been steadily declining, falling from 22,000 in 1980 to 8000 in 2007. During the same time, the average number of cows on each farm has increased from 85 to 225¹. It is a large scale operation to milk 225 cows twice every day.

Over the last 20 years, the milk produced by each cow has increased from 2850 litres a year to 5150 litres a year¹, a massive 40% increase brought about by selective breeding and supplementary feeding. Grazing supplies 75% of the feed, but each cow also consumes 1.45 tonnes of grain a year¹. Some grazing occurs on irrigated pasture, and 25% of the national milk production comes from irrigated areas in Victoria and southern New South Wales¹.

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