

**AN EXAMINATION OF
TWO MAJOR FORMS OF CRUELTY
IN AUSTRALIAN
WOOL PRODUCTION:
MULESING
AND LIVE EXPORTS**



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MULESING

More Humane Alternatives to the Mulesing Mutilation Can Reduce Intense Pain and Suffering of Sheep

Australia is home to the world's largest population of merino sheep, producing more than 50 percent of the world's merino wool supply (Australian Bureau of Statistics 2003). Most merino lambs are subject to a cruel practice called mulesing, which involves stripping away large patches of skin and flesh from sheep's hindquarters in order to create a smooth area that is free of wool. Mulesing is performed as a preventive measure against a painful condition called "flystrike," which occurs when blowfly eggs that have been laid in moist, woolly areas of sheep's skin hatch into maggots, which eat into the sheep's flesh and, if not caught in time, can cause death. Blowflies are especially prone to laying eggs in the breech area of merino sheep, who are bred to have as many folds of skin as possible, because those folds facilitate the accumulation of moisture, feces, and urine, especially when covered with wool.

During mulesing, lambs are thrown onto their backs, and their legs are restrained while skin and flesh around their backsides are carved away with metal shears. At the same time, their tails are often cut off. The procedure is tantamount to partially skinning the animals alive without anesthetics. The resulting bloody wounds have been found to remain unhealed for 22 to 30 days (Fell and Shutt 1989, Chapman *et al.* 1994).

It has been estimated that between 55 and 80 percent of merino sheep are subjected to mulesing in Australia (Australian Senate Select Committee on Animal Welfare 1989, Beck *et al.* 1985, Morley and Johnstone 1983 in Fell and Shutt 1989, Baillie 1979 in Townend 1985). To put this into perspective, according to Farm Weekly, the Australian Bureau of Statistics (ABS) reports that in June 2004, the Australian sheep population was estimated to be 102.6 million (*Farm Weekly* 2004).



Mulesing photos courtesy of Patty Mark/Animal Liberation Victoria

Animal Suffering Caused by Mulesing

Physical Indicators of Stress From Mulesing

In its code of sheep-welfare recommendations, the New Zealand Ministry of Agriculture and Forestry writes that mulesing "causes pain both at the time it is carried out and during the healing process" (MAF 1996, §7.1.3). Much scientific evidence shows that physiological and behavioral indicators of stress in mulesed sheep are very high. The degree of physiological stress is usually determined by measuring plasma cortisol concentrations—"the most commonly used physiological indicator of stress," according to Chapman *et al.* (1994 p 243)—and β -endorphin levels, both of which are known to rise during times of stress.

Fell and Shutt (1988) measured both salivary and plasma cortisol concentrations in a study of 63 merino crossbred lambs

and found that mulesing was the greatest acute stressor of all the procedures to which sheep are typically subjected on farms, including castration, docking, rough transport, pizzle dropping, tooth-grinding, and shearing.

Chapman *et al.* (1994) discovered that following mulesing, plasma cortisol concentrations “increased immediately and rapidly” and remained elevated for at least 48 hours (p 243). Shutt *et al.* (1987) studied 50 merino crossbred lambs and found that mulesing and tail-docking could multiply mean plasma β -endorphin concentrations by 10. Fell and Shutt (1989) tested mulesed merino wethers between five and 15 minutes after mutilation and found signs of suffering in the form of “[m]arked elevation of plasma cortisol and β -endorphin” (p 283). The stress associated with mulesing is so great that Jongman *et al.* (2000) found the EEG patterns of animals being mulesed to be similar to those of animals who had been given injections of formalin in the hoof to cause “acute pain and subsequent inflammation, lameness, and associated chronic pain” (p 340).

Behavioral Indicators of Stress From Mulesing

In their comprehensive, long-term study, Fell and Shutt (1989) found that stress-related behavior in sheep continued for up to 113 days following mulesing. Among other examples, mulesed sheep displayed abnormal postures—most likely resulting from the painful mulesing wound—for up to 48 hours following mutilation; “they stood with head down, nose almost touching the ground, back arched, and body hunched” (p 288). Chapman *et al.* (1994) verified these findings in their own study, reporting that “surgically mulesed sheep quickly assumed a hunched-up posture” (p 246).

Normal daily behavior was also altered for up to 72 hours. Compared to sheep in the control group, mulesed sheep did not engage in routine feeding, lying, or grazing. Instead, they spent much of their time standing still, unable to engage in normal activities because of the severe trauma that they had experienced. Researchers did not observe *any* of the mulesed animals lying or resting on the day following mutilation or even drinking until the second day following mutilation. Chapman *et al.* (1994) also found that mulesed sheep lost weight during the week following mutilation, “moved about less frequently and over shorter distances than the [control-group sheep] during the first eight days after treatment,” and often simply stood still (pp 244-45).

Psychological Indicators of Stress From Mulesing

It has been shown that sheep are intelligent and able to recognize human faces (Boivin *et al.* 1997). Kendrick *et al.* (2001) found that sheep can even form mental images of humans and sheep and can remember—and distinguish among—the faces of 50 different sheep for more than two years, even if they haven’t seen any of the faces during that time. This ability was discovered by means of a test wherein sheep were shown 25 pairs of similar sheep faces—some of them in profile—and taught to associate certain faces with a food reward. When presented with the pairs of faces and the potential for earning the reward, the sheep consistently identified the correct faces. Analysis of their brain activity during these exercises indicates that sheep use the very same areas of the brain for visual recognition as humans do. “Sheep ... possess similar specialized neural systems in the temporal and frontal lobes for assisting in this important social task, including a greater involvement of the right brain hemisphere” (pp 165-66). The researchers who conducted the test reportedly concluded that sheep may be capable of emotion and conscious thought (Briggs 2001).

Such studies help explain the long-term emotional stress and psychological aversion that sheep experience and display in the presence of handlers who perform mulesing. Fell and Shutt (1989) conducted an “arena test” in which mulesed sheep were placed in the same pen with the handler who had performed the procedure on them. Aversion behavior was measured in intervals and, while found to be most intense for the first 37 days, continued to be noted for as long as 113 days. While “control animals turned and moved toward the handler ... mulesed animals turned and moved in the opposite direction in 95% of all tests up to Day 37” (p 288). The pain of mulesing is so intense that it leaves a lasting impression. Chapman *et al.* (1994) observed similar aversion during a 30-day post-mulesing arena test and concluded that sheep’s aversion to their handler may be “a conditioned response to the association of immediate pain [from mulesing] with ... human handling” (p 246).

Pathology Caused by Mulesing

Mulesing can also cause suffering and death by facilitating a variety of conditions, including flystrike, infections, contagious diseases, joint infections, and cancer.

Mulesing can actually encourage flystrike, the very condition that it is supposed to prevent, in areas where there is blowfly activity. The Agriculture and Resource Management Council of Australia and New Zealand's Animal Health Committee (ARMCANZ 1991) acknowledges this problem when addressing the best management practices for sheep and states, "After mulesing, lambs should be observed from a distance ... for signs of flystrike of the wound" (p 12). The New Zealand Ministry of Agriculture and Forestry also writes that "there is a risk of infection and flystrike of the mulesing wound itself" (MAF 1996, §7.1.3). Horton and Champion (2001b) even list untimely mulesing and poorly conducted mulesing as potential factors for increased flystrike risk, based on interviews with sheep farmers.

Cook and Steiner (1990) found that when blowflies were present, egg masses were deposited into 93 percent of untreated wounds within 48 hours and into 85 percent of all wounds, even those dressed with a blowfly-repellent treatment, by the ninth day. They remarked that "[t]he overriding finding of this trial has been that mulesing wounds are highly susceptible to strike by *L. cuprina* [the blowfly responsible for flystrike in Australia] one week after mulesing, irrespective of whether the wound ha[s] been chemically treated immediately after mulesing or left untreated" (p 354). In another study, researchers from the Western Australian Department of Agriculture (Harrington and Steiner 1993) found that after mulesing, "95% of untreated lambs were attractive to oviposition by *Lucilia cuprina* ... and 90% subsequently developed flystrike within 4 [days] of mulesing" (p 190). One-third of treated lambs were afflicted as well. The authors conclude that "fresh mulesing wounds can be attractive to *L. cuprina* and susceptible to strike" (p 191).

In its periodical *Surveillance*, the New Zealand Ministry of Agriculture and Forestry (MAF 2002) reports that mulesing is believed to transmit a potentially deadly disease called eperythrozoonosis, which can lead to recurrent anemia, bloody urine, and listlessness. Eperythrozoonosis infections recur during times of stress (Kabay 1997) and are caused by microscopic blood parasites that can easily spread in the bloody conditions created by mulesing.

The Western Australia Department of Agriculture (Gherardi 2002) also warns that certain forms of mulesing can expose sensitive tissues to ultraviolet light and lead to an "increase in incidence of vulval cancer." Karlsson *et al.* (2001, p 365) from Agriculture Western Australia report that "[a]part from welfare concerns, the Radical Mules operation resulted in secondary problems such as a large wound area increasing the chances of infection, secondary joint infections, wound contraction and distortion of the tail and vulva" and that "[t]he longer-term problem of an increase in UV light induced skin cancer of the perineal region also became evident."

Effective Alternatives to Mulesing Are Available

Many humane and effective alternatives to mulesing are available today. These alternatives are used for the estimated 20 to 45 percent of Australian merino sheep who are not subjected to mulesing (Australian Senate Select Committee on Animal Welfare 1989, Beck *et al.* 1985, Morley and Johnstone 1983 in Fell and Shutt 1989, Baillie 1979 in Townend 1985). This was more recently confirmed in a survey of Australian wool producers (Horton and Champion 2001a), which found that not all producers practiced mulesing. Another study by the same authors published the comments of one Tasmanian producer who implies that mulesing is practiced more out of tradition than a lack of alternatives (Horton and Champion 2001b, p 445). Furthermore, in the U.K. and many other leading wool-producing countries where flystrike is a known problem, mulesing is not practiced.

Personal site visits, direct correspondence, and media reports in the fall and winter of 2004 revealed a number of Australian merino farmers who were willing to discuss the fact that they choose not to practice mulesing in favor of more humane alternatives. Most of these farmers had flocks that were larger than the national average wool-producing flock of 2,200 sheep (ABS 2003), and they successfully reduced flystrike despite being in regions prone to flystrike in several states, including

Western Australia, Queensland, Victoria, New South Wales, and Tasmania—proving again, in practice, that alternatives are indeed effective.

It is also important to note that unlike alternative flystrike-prevention methods, mulesing does absolutely nothing to address flystrike on sheep's bodies ("bodystrike") or heads ("poll strike"), making the alternatives more effective in reducing flystrike as a whole. In fact, through correspondence, one farmer reports, "Even though some of my ewes have been mulesed, I have had flystrike, on the back, on the side, and around the neck, so mulesing does not stop flystrike" (Mangione 2004). And on one farm, we witnessed a mulesed sheep who was suffering from flystrike, demonstrating that mulesing by no means provides complete protection.

Mulesing alternatives can be broken into three categories: immediate alternatives (good husbandry practices), long-term alternatives (breeding solutions), and experimental alternatives (possible solutions), all three of which are described below.

Immediate Alternatives: Good Husbandry Practices

There are a number of alternatives to mulesing involving good husbandry practices that can be used immediately to reduce flystrike. These practices are also described as an "integrated fly-control system" by scientists because they draw on a number of methods that work in conjunction with each other (Horton and Champion 2001). These alternatives involve proper care and maintenance of sheep and their surroundings—practices that should already be part of a responsible farmer's routine. These methods can be used exclusively until long-term solutions are implemented (see the "Long-Term Alternatives" section below).

Because good husbandry practices address and prevent all forms of flystrike, not just breech strike, using these methods extensively can help reduce the incidence of flystrike to a greater degree than mulesing, without the complications and suffering of the latter. For example, in a survey of sheep farmers, the participants all accepted that horned rams were at a very high risk for poll strike, "to the extent that they did not count poll strike in general flystrike statistics" (Horton and Champion 2001, p 436). So in this case, the effectiveness of mulesing is actually overstated, and other alternatives that address both poll and breech strike are more effective, even though this wouldn't be reflected in the statistics.

Increased Monitoring and Treatment

Perhaps the most effective option is simply to increase monitoring for early signs of flystrike and conditions that may lead to flystrike during blowfly season and to provide treatment when necessary. Evidence gathered through communication with organic producers suggests that "flystrike is largely preventable if farmers keep sheep healthy and inspect them regularly" (Morris 2000 p 205). Dr. John Auty, a veterinarian who formerly worked with the Australian Department of Primary Industry as the assistant director of the Bureau of Animal Health, stated, "Mulesing does not free the sheep from blowfly strike, but proper husbandry practices, including close inspection of sheep, will reduce and virtually eliminate flystrike" (Animal Liberation). Early-warning computer-simulation models can help predict times of increased blowfly activity (Tellam and Bowles 1996) and may be useful for warning producers to increase monitoring efforts.

Monitoring need not necessarily involve a close physical inspection of each and every sheep, though that is, of course, preferred to ensure welfare. Rather, signs of flystrike—such as an abnormal gait, excessive twitching, biting of the infected area, isolation, inactivity, and dark patches—can be observed from a distance. One farmer explains that depending on the weather conditions and terrain of the farm, sheep can be monitored with binoculars for signs of flystrike from 500 or more yards away on a hill or about 300 yards on flat pasture (Beattie 2004).

Timely Crutching and Shearing

Crutching involves the shearing of the breech to remove wool that can accumulate feces, urine, and moisture, all of which can attract blowflies. Shearing also accomplishes this and can be effective if carried out during periods of high blowfly activity. Tellam and Bowles (1996) explain that shearing and crutching, especially when synchronized with the worst periods of

blowfly activity, decrease “the likelihood of fly strike” by “reducing the attractiveness of this region to the gravid female blowfly” (pp 262-263). Karlsson *et al.* (2001, p 366) report that, to control flystrike, “[i]n some cases a simple change in crutching and shearing dates may be sufficient ...”

Insecticides (Jetting)

The use of jetting, the application of insecticides to a sheep’s body, can provide strong protection against flystrike. In his benefit-cost analysis of mulesing, Counsell (2001, p 369) made an assumption that “chemical treatments were fully effective, meaning that there was a negligible prevalence of flystrike once flocks were treated before or during a [blowfly] risk period.” Tellam and Bowles (1996) write that “[o]ne of the mainstays of the wool industry for control of blowfly strike is the use of insecticides[,]” which can be “used in dressings applied to flystruck areas on sheep” (p 263). A study of flystrike-control methods in the U.K. found that “at present, the control of blowfly strike is most commonly achieved through the application of insecticide or other larvicide, either used prophylactically or, more commonly, in response to perceived seasonal patterns of high strike challenge” (Fenton *et al.* 1998 p 342).

Blowfly Control

Dymock and Forgie (1995) used a non-insecticidal blowfly trap in an area where four blowfly species were present and, during the first year of observation, found that only four of 600 unmulesed sheep were struck. Those four cases represent a strike rate of 0.67 percent, which compares favorably to the strike rate of 2 percent per year that was found in another study in New South Wales, where mulesing is prevalent (Wardhaugh and Morton 1990 in Morris 2000). They also found that after the use of traps, there was a “95% decline in the principal flystrike blowfly, *Lucilia cuprina* ...” Other researchers have found that the use of bait traps, both synthetic and organic, are effective in controlling blowfly populations (Smite and Wall 1998, Fisher *et al.* 1998). One particular trap, called the LuciTrap, was found to be associated with a reduction in flystrike incidence of at least 46 percent, and the “[r]esults confirm that traps are a useful component of a flystrike control program” (Queensland Department of Primary Industries and Fisheries 2004).

Another advantage to trapping is that the number of flies in the traps can serve as an early warning signal for producers to increase flystrike-monitoring and treatment efforts.

Drenching (Worming) and Diet Selection

Practices aimed at reducing loose stools associated with worm infestations and poor diet selection can help keep the breech clean, making it less attractive to blowflies. The Australian Senate Select Committee on Animal Welfare concluded that producers who were able to control worms, among other good husbandry practices, were able to ensure health without mulesing (qtd in Pope 1997 p 10). Drenching was found in one experimental trial to significantly reduce flystrike on its own, and two other trials found that lambs grazing on lotus suffered less flystrike than those grazing on ryegrass (Leathwick and Atkinson 1995). Leathwick and Heath (2001) also found that diet could play a role in flystrike prevalence and that lambs who grazed on forage consisting of birdsfoot trefoil were less likely to suffer from flystrike than lambs who grazed on ryegrass and white clover.

Improved Farm-Management Practices: Reduced Stocking Densities, Elimination of Tail-Docking, and Rearing in Regions Less Hospitable to Blowfly Populations

French *et al.* (1994) surveyed 2,451 sheep farmers and found that “[t]he risk of a farm[s] reporting at least one case of blowfly strike increased as flock size and stocking density increased” (p 51). Furthermore, there was no significant positive association between the practice of tail-docking and a reduced incidence of flystrike. These findings suggest that farmers who reduce stocking densities will lessen their sheep’s risk of flystrike and that tail-docking offers no such benefit. Producers can effectively control flystrike even further by rearing sheep in cool, dry regions, where blowfly populations are less likely to flourish.

Long-Term Alternatives: Genetic Solutions

Long-term solutions to mulesing involve selecting against the characteristics, bred into Australian merino sheep by farmers, that made them so unsuitable for the environment and susceptible to flystrike in the first place. Roger Meischke, a sheep farmer and veterinary surgeon who has practiced in New South Wales and for the Federal Department of Primary Industry, was quoted as saying: “Mulesing is an admission by sheep breeders, that their animals do not possess the breeding required for survival in their area” (Animal Liberation).

As a starting point, selection for resistance to flystrike can involve breeding only those sheep within the flock who are not predisposed to fleece rot (a condition that can facilitate flystrike) and who do not become flystruck. Tellam and Bowles (1996) cite a study in which only 8 percent of 1-year-old resistant sheep suffered from fleece rot, compared to 53 percent of susceptible sheep. Also, the incidence of body strike in the resistant and the susceptible groups was 1 percent and 19 percent, respectively.

Selection programs must eventually work toward reversing undesirable traits, such as the many folds of skin and wool in the breech area of merino sheep, which trap feces, urine, and moisture. Once achieved, usually within several years, this can provide a permanent solution to the flystrike problem. Of course, good husbandry practices, as described above, should always continue to be used.

Karlsson *et al.* (2001, p 367) sums it up well by concluding that a “genetic solution would represent an accumulative and permanent solution” and that traits to be considered include “[a] greater wool-free area adjacent to the perineum” and “fewer wrinkles.”

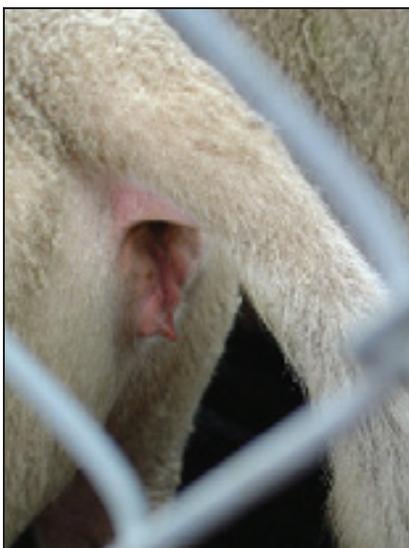
Plain-Bodied Sheep

Not only would the selection of merinos with smoother skin reduce flystrike, it would also improve wool quality. Scobie (2004) observes that “[w]ool quality tends to suffer on wrinkly sheep” and citing the findings of other scientists, further reports, “Australian research has shown that mulesed wrinkly sheep were just as likely to be flystruck as plain-bodied sheep that were not mulesed.”

Dr. Jim Watts of SRS Wool explains that plain-bodied merinos need not be mulesed because their breech areas do not have the excessive folds of skin that lead to flystrike (Watts 2004). Furthermore, Watts explains that science has shown that plain-bodied, thin-skinned sheep produce a higher concentration of wool follicles than wrinkly, thick-skinned merinos and that the wool is equally, if not more, fine. Approximately half a dozen farms with flocks ranging from 3,000 to 6,000 sheep (well above the national average of 2,200) are currently using SRS plain-bodied genetics and do not practice mulesing. Watts estimates that these genetic solutions, which lead to better welfare along with high wool quality and volume, can be achieved from scratch in a flock within about five to seven years. Producers should immediately start implementing genetic solutions to flystrike while using the immediately available alternatives to mulesing in the meantime.

Bare-Breeched Sheep

Naturally occurring bareness on the breech, especially on plain-bodied sheep, has the same effect as mulesing, without the complications and suffering. Scobie *et al.* (2002) found that sheep with naturally occurring areas of bare skin on their breech were significantly less likely to develop flystrike. In their study, lambs with the greatest breech bareness were not flystruck at all, whereas 22 percent of those with the least breech bareness were struck—these statistics indicate that breeding for breech bareness can be an effective flystrike-prevention tool. Beattie (2004) reports that his flock of wild merino sheep have naturally developed a bare breech area. As a result, flystrike is reduced to a minimum without any mulesing whatsoever.



Bare-breeched sheep are flystrike resistant.

Experimental Alternatives: Possible Solutions

Vaccinations

Bowles *et al.* (1996) were able to “successfully vaccinate sheep against larvae of the sheep blowfly” and concluded that “protection from flystrike through vaccination using native larval antigens can be achieved” (pp 1347, 1351). Tellam and Bowles (1996) report data from several trials that reveal that unvaccinated sheep were more than twice as likely to develop blowfly-infected sites as vaccinated sheep, more than half of whom were completely protected from infections (as determined by “a failure of the larvae to establish a wound on vaccinated sheep”), as compared to none of the unvaccinated sheep (p 267).

Topical Applications

Painless topical applications or injections that prevent wool growth are currently being developed, but it is not known when or if they will be available for use. Researchers at the University of Adelaide, funded by Australian Wool Innovation (AWI 2003), recently discovered a protein that, when applied to sheep’s skin, caused follicles to die and seemed to cause no ill effects for the sheep. When applied to sheep’s breech area, this protein would create large areas of bare skin, producing the same effect as mulesing without inflicting painful wounds.

The wool industry’s recent assurances that these applications will be available by 2010, however, are meaningless considering that the researchers themselves are still unsure about when and if they will ever be available, and gaining government approval for such products is a lengthy process. The RSPCA (2004) released a statement echoing these concerns, calling the wool industry’s 2010 “deadline,” “long overdue,” and “not soon enough.” It has also urged the wool industry to “to make the implementation of practical, affordable and humane alternatives to mulesing its chief priority ... well within the proposed 2010 deadline.”

Economics of a Ban on Mulesing

Some published articles opine that using alternatives to mulesing would result in additional labor costs for farmers, who would be compelled to provide good husbandry for their animals. These estimates, however, don’t consider the economic benefits that could be achieved by eliminating mulesing. Specifically, a ban on mulesing would spare the industry’s international reputation from being further tarnished and would increase public perception of Australian wool, thus improving its worth and profitability. Furthermore, mulesing can lead to damaged carcasses and economic losses for the wool industry, which typically sells sheep for slaughter when they are no longer viable for wool production. In fact, the chair of the New

South Wales Livestock Contractors Association's mulesing subcommittee states that poor mulesing practices can lead to problems throughout a sheep's life, including millions of dollars worth of damage to carcasses from skin and tissue damage alone (Hooper 2004).

Unfortunately, it seems that many farmers' old habits are entrenched and that many are resistant to any change. In a newspaper article, one producer even indicated that flystrike can be controlled with more humane alternatives, such as crutching, but that it "would mean that we would have to be checking sheep almost daily" and that "there would be some times throughout the year that would involve us having to use extra employees" (Symonds 2004). In other words, farmers would have to do their jobs properly.

It is also important to keep in mind that any increased costs from immediate mulesing alternatives are likely temporary, given that farmers will move toward longer-term solutions.

Testimonials From Farmers, the Wool Industry, and Government Officials on the Effectiveness of Alternatives to Mulesing

The fact that many producers do not resort to mulesing is strong evidence in and of itself that alternatives to mulesing are readily available and effective. Even government and industry officials acknowledge this, as demonstrated by the following quotes:

- Chick Olsson, chair of the Australian Wool Growers Association, a leading body directly representing woolgrowers, has stated pointblank that alternatives to mulesing are economically viable (Olsson 2004): "The lack of progress to date in changing industry practice reflects not a lack of economic alternatives to mulesing but a lack of will to unsettle entrenched orthodoxy"
- The Australian Senate Select Committee on Animal Welfare concluded that some producers "were able and willing to put in the extra time and effort to breed out faults in sheep, to select resistant sheep, to control worms, [and] to inspect and crutch and jet with chemicals more frequently to ensure a healthy flock without recourse to mulesing" (qtd in Pope 1997 p 10).
- Dr. John Auty, a veterinarian who formerly worked with the Australian Department of Primary Industry as the assistant director of the Bureau of Animal Health, has been quoted as saying: "Mulesing does not free the sheep from blowfly strike, but proper husbandry practices, including close inspection of sheep, will reduce and virtually eliminate flystrike" (Animal Liberation).
- Researchers from Agriculture Western Australia (Karlsson *et al.*, p 364-6) write that the industry must "enable an orderly retreat from surgical mulesing to non-surgical alternatives. In the short- to medium-term, non-genetic options can be used One or more crutching(s) per year, scouring control measures, preventative fly treatments and pasture/feed selection are all factors than can be manipulated to reduce the predisposition to breach strike. These options may or may not result in extra costs. In some cases a simple change in crutching and shearing dates may be sufficient"
- A sheep farmer who has 40 years of experience managing "several thousand sheep at a time" and who won the Land and Water Australian Community Fellowship in 2002 wrote in the *Tasmanian Country* (Jones 2004): "I faced small fly strike problems at certain times of the year. As soon as I detected a problem I acted quickly, on treatments and dealing with root causes My management system involved careful grazing management, which included feed management, crutching and daggging of animals, and a cultivation system that removed animal dung, thus interfering with fly breeding cycles The thing that our sheep farmers have got to get used to is that treatments such as mulesing are cruel and so we need to get away from them. One way to do that is to develop farming practices that are more intelligent and responsible."

- A farmer from Western Australia wrote in the *Bulletin With Newsweek* (Brown 2004): “Here on the family farm on the wild west, we do not mules sheep. We use the ... approach of ‘shearing the hindquarters’ when required—at whatever extra cost. We jet, or treat, sheep to prevent flystrike when required and breed for a less wrinkly sheep”
- Another individual reported through correspondence that “[m]ulesing is [not] and has not practiced on our station or any neighboring stations ... since I can remember. Flystrike is prevented via crutching (sheering only around the rear of the animal, only the wool is cut) and in extreme cases, where the animal is already suffering from flystrike, the use of chemicals which are not harmful to the animal” (Pitt A 2004).
- Another sheep farmer concludes that “flystrike is stopped by correct maintenance and feeding not by chopping lumps of skin off a young lamb” (Mangione 2004).

Conclusion

The scientific literature proves that mulesing causes sheep intense acute and chronic pain, does nothing to address flystrike in areas other than the breech, and can leave animals vulnerable to other conditions and diseases. Effective and more humane alternatives that are available today—such as increased monitoring and treatment during blowfly season, timely crutching and shearing, insecticides, blowfly control, drenching, diet selection, and other good husbandry practices—should be implemented immediately until long-term genetic solutions such as selection for plain-bodies and bare-breeches can be fully integrated into the flock.

Year after year, millions of sheep suffer needlessly during mulesing just so that farmers can avoid the small cost and marginal effort needed to ensure proper care for their animals. We have seen, however, both in person and in published reports, that a significant number of farmers have taken responsibility for the welfare of their animals and abandoned the mulesing mutilation—proving that it is by no means necessary.

The majority, however, continue to take the “easy way out” by flaying lambs alive. Perhaps Chick Olsson, chair of the Australian Wool Growers Association, summed it up best when he described mulesing as “defenceless sheep [having] large chunks of their skin carved out of their bodies without pain relief, for profit” (Olsson 2004). As the public learns more about this shameful practice, the cost to animal welfare and to the wool industry’s image will surely be deemed to be far greater than the “inconvenience” of good husbandry and any perceived economic “profits” gained from mulesing.

References

- Animal Liberation. This bloody disgrace is called mulesing. Located at: www.animal-lib.org.au/docs/who.shtml.
- [ARMCANZ] Agriculture and Resource Management Council of Australia and New Zealand. 1991. Model Code of Practice for the Welfare of Animals: The Sheep. East Melbourne: CSIRO Publications. p 17.
- Australian Bureau of Statistics. 2003. The wool industry. Available from: www.abs.gov.au/ausstats.
- Australian Senate Select Committee on Animal Welfare. 1989. Sheep Husbandry. Canberra: Australian Government Publishing Service.
- [AWI] Australian Wool Innovation. 2003 Jan. Seeking the painless mulesing alternative. Beyond the Bale 1(3). Available from: www.wool.com.au.
- Baillie BG. 1979 Jun. Management practices for controlling flystrike. National Symposium on the Sheep Blowfly and Flystrike in Sheep; Sydney, Australia.
- Beattie R. 2004 Nov 10. Personal communication. Christchurch, New Zealand.
- Beck T, Moir B, Meppem T. 1985. The cost of parasites to the Australian sheep industry. Quarterly Review of the Rural Economy 7(4).
- Boivin X, Nowak R, Despres G, Tournadre H, Le Neindre P. 1997. Discrimination between shepherds by lambs reared under artificial conditions. J Anim Sci 75:2892-8.
- Bowles VM, Meeusen ENT, Young AR, Andrews AE, Nash AD, Brandon MR. 1996. Vaccination of sheep against larvae of the sheep blowfly (*Lucilia cuprina*). Vaccine 14:1347.
- Briggs H. 2001 Nov 7. Amazing powers of sheep. BBC News. Available from: <http://news.bbc.co.uk/1/hi/sci/tech/161463.stm#sheep>.
- Brown G. 2004 Jul 12. Letter to the Editor. Bulletin with Newsweek.
- Chapman RE, Fell LR, Shutt DA. 1994. A comparison of stress in surgically and non-surgically mulesed sheep. Aust Vet J 71:249-7.
- Cook DF, Steiner EC. 1990. Susceptibility of mulesing wounds to oviposition and strike development by the Australian sheep blowfly *Lucilia cuprina*. Aust Vet J 67:352-5.
- Counsell D. 2001. A benefit-cost analysis of the mules operation to the Australian sheep flock. Proceedings of the FLICS Conference; Launceston, Tasmania, Australia.
- Dymock JJ, Forgie SA. 1995. Large-scale trapping of sheep blowflies in the northern North Island of New Zealand using insecticide-free traps. Australian Journal of Experimental Agriculture 35:699-704.
- Farm Weekly. 2004 Sep 12. Sheep flock tops 100 million again.

- Fell LR, Shutt DA. 1988. Salivary cortisol and behavioural indicators of stress in sheep. *Proc Aust Soc Anim Prod* 17:186-9.
- Fell LR, Shutt DA. 1989. Behavioural and hormonal responses to acute surgical stress in sheep. *Applied Animal Behaviour Science* 22:283-94.
- Fenton A, Wall R, French NP. 1998. The effect of farm management strategies on the incidence of sheep strike in Britain: a simulation analysis. *Veterinary Parasitology* 79:341-57.
- Fisher P, Wall R, Ashworth JR. 1998. Attraction of the sheep blowfly, *Lucilia sericata* (Diptera: Calliphoridae) to carrion bait in the field. *Bulletin of Entomological Research* 88:611-6.
- French N, Wall R, Cripps PJ, Morgan KL. 1994. Blowfly strike in England and Wales: The relationship between prevalence and farm and management factors. *Medical and Veterinary Entomology* 8:51-6.
- Gherardi SG. 2002. Mulesing for flystrike control (Farmnote 46/96). Western Australia Department of Agriculture. Available from: <http://agspsrv34.agric.wa.gov.au/agency/pubns/farmnote/1996/f04696.htm>.
- Harrington SA, Steiner EC. 1993. Susceptibility of freshly-mulesed lambs to flystrike and the effectiveness of propetamphos as a wound dressing. *Aust Vet J* 70:190-1.
- Hooper P. 2004 Jul 1. LCA calls on farmers to put an end to poor mulesing practices. Farmonline. Located at: http://fw.farmonline.com.au/news.asp?editorial_id=59002&class_id=2.
- Horton JD, Champion SC. 2001a. Some current sheep management strategies for low residue fly and lice control. Proceedings of the FLICS Conference; Launceston, Tasmania, Australia.
- Horton JD, Champion SC. 2001b. Wool producer knowledge of flystrike control. Proceedings of the FLICS Conference; Launceston, Tasmania, Australia.
- Jones L. 2004 Oct 10. Letter to the Editor. *Tasmanian Country*.
- Jongman EC, Morris JP, Barnett JL, Hemsworth PH. 2000. EEG changes in 4-week-old lambs in response to castration, tail docking, and mulesing. *Aust Vet J* 78:339-43.
- Karlsson LJE, Evans DL, Greeff JC. 2001. Future options to reduce reliance on surgical mulesing. Proceedings of the FLICS Conference; Launceston, Tasmania, Australia.
- Kendrick KM, Da Costa AP, Leigh AE, Hinton MR, Peirce JW. 2001. Sheep don't forget a face. *Nature* 414:165-6.
- Leathwick DM, Atkinson DS. 1995. Dagginess and flystrike in lambs grazed on *Lotus corniculatus* or ryegrass. Proceedings of the New Zealand Society of Animal Production. 55: 196-198.
- Leathwick DM, Heath ACG. 2001. Specialist forages—A role in flystrike management? Proceedings of the FLICS Conference; Launceston, Tasmania, Australia.
- [MAF] New Zealand Ministry of Agriculture and Forestry. 1996 Jul. Code of recommendations and minimum standards for the welfare of Sheep. Code of Animal Welfare No. 3 (Revised). ISBN 0-477-08550-4.
- [MAF] New Zealand Ministry of Agriculture and Forestry. 2002. Quarterly review of diagnostic cases. *Surveillance* 29(2):28.

- Mangione M. 2004 Oct 19. Correspondence via e-mail.
- Morley FHW, Johnstone IL. 1983. Mules operation—a review of development and adoption. In: Raadsma HW (Ed.). Sheep Blowfly and Flystrike in Sheep. Department of Agriculture NSW, Proc. 2nd Natl. Symp.; Sydney. pp 3-24.
- Morris M. 2000. Ethical issues associated with sheep fly strike research, prevention, and control. *Journal of Agricultural and Environmental Ethics* 13:205-17.
- Olsson C. 2004 Oct 31. AWGA seeks solution to Animal Rights Boycott not division. Located at: www.australianwoolgrowers.com.au/html/news311004.html.
- Pitt A. 2004 Nov 5. Correspondence to PETA via e-mail.
- Pope S. 1997. Preventing flystrike: Alternatives to mulesing? Collingwood: Australian and New Zealand Federation of Animal Societies, Inc. 33 p.
- Queensland Department of Primary Industries and Fisheries. 2004. Use of LuciTrap by groups of wool producers to reduce pesticide applications. Located at www.dpi.qld.gov.au/sheep/8508.html.
- Raadsma HW. 1987. Flystrike control: An overview of management and breeding options. *Wool Technology and Sheep Breeding* 35:174-86.
- RSPCA Australia. 2004 Nov 17. Mulesing deadline good news but not soon enough. Located at: www.rspca.org.au/news_info/release55.asp.
- Scobie D. 2004. Wrinkles lower productivity. AgResearch. Available from: www.merino.co.nz/Wrinkles.htm.
- Scobie DR, O'Connell D, Bray AR, Cunningham P. 2002. Breech strike can be reduced by increased area of naturally bare skin around the perineum of lambs. *Anim. Prod. Aust.* 24:201-204.
- Shutt DA, Fell LR, Connell R, Bell AK, Wallace CA, Smith AI. 1987. Stress-induced changes in plasma concentrations of immunoreactive β -endorphin and cortisol in response to routine surgical procedures in lambs. *Aust J Biol Sci* 40:97-103.
- Smith KE, Wall R. 1998. Suppression of the blowfly *Lucilia sericata* using odour-baited triflumuron-impregnated targets. *Medical and Veterinary Entomology* 12:430-7.
- Symonds L. 2004 Nov 12. Mules ban threatens sheep. The Murray Pioneer. Located at www.murray-pioneer.com.au.
- Tellam RL, Bowles VM. 1996. Control of blowfly strike in sheep: Current strategies and future prospects. *International Journal for Parasitology* 27:261-73.
- Townend C. 1985. Pulling the wool. Marrickville: Hale & Iremonger Pty Limited. 157 p.
- Wardhaugh KG, Morton R. 1990. The incidence of flystrike in sheep in relation to weather conditions, sheep husbandry, and the abundance of the Australian sheep blowfly *Lucilia cuprina*. *Australian Journal of Agricultural Research* 41:1155-67.
- Watts J. 2004 Nov 7. Personal communication. Bowral, Australia.

LIVE EXPORTS

The Urgent Need for a Ban on Live Sheep Exports and the Resulting Benefits to Animal Welfare and the Australian Economy

Historically, Australia exports far more live sheep by sea for greater distances than any other country—as many as 6 million animals per year. These sheep are mostly merinos who are no longer viable for wool production (Strong and Minchin 2003, WA County Hour 2003, The Australian Sheep and Wool Industries on the Web 2004, Auty in Animal Liberation 2004). Meat & Livestock Australia writes that “wool producing sheep that are not used for breeding are sold ... for the live export trade” (MLA 2002). Cramped by the tens of thousands onto multi-decked vessels that travel for weeks on end, these sheep suffer terribly before arriving at their destinations, typically in Middle Eastern countries. But even when the journey is over, the cruelty is not. Australia’s exported animals endure abuse at their destinations as well. Often, sheep are beaten with rods and wood during unloading, and at slaughter, the throats of many animals are cut before they are rendered insensible to pain.

In the summer of 2003, the *Cormo Express* brought international attention to the suffering of animals in the live-export industry when it was stranded at sea for more than two months in the searing heat after Saudi Arabian officials refused to accept the animals on board. More than 5,500 sheep died from heat exhaustion, untreated illnesses, and injuries. This was not an isolated incident. According to the Australian Maritime Safe Authority, tragedies aboard live-export ships have been occurring regularly for the past few decades.

There is great opposition to the live-export industry, from both the government and the public. In October 2004, Australian Agriculture Minister Warren Truss declared that he preferred the carcass trade to live export and that he would like the latter to be phased out (Rehn 2004). The government invited public comments after the *Cormo Express* tragedy, and found that 76 percent “expressed views opposed to the livestock export trade” (Keniry *et al.* 2003, p 10). The Australian Senate Select Committee on Animal Welfare (in Norris *et al.* 1990a, p 133) has acknowledged that “it is not in the interests of the animal to be transported to the Middle East for slaughter.” Dire concerns have also been expressed by other governmental officials—including those in the Labor and Democratic parties and those who prepared the official report with recommendations for live-export welfare after the *Cormo Express* incident (Keniry *et al.* 2003).

Furthermore, the Australian RSPCA continues its campaign against this cruel industry. More than 110,000 individuals signed a petition supporting a ban on live exports (Australian Democrats 2004). And in September 2004, 58 prominent Australians—including actors Hugo Weaving and Rachael Ward and singers Natalie Imbruglia, Daniel Johns, and Vanessa Amorosi—called on party leaders to end live exports (Animals Australia 2004a).



Crowded conditions on vessels cause great stress and suffering.

Photo courtesy of Animals Australia

Part I: Animal Suffering Caused by Live Exports

High Mortality

Death rates on live-export ships, which often transport in excess of 50,000 sheep per voyage, were as high as 9.82 percent in 2003 (Keniry *et al.* 2003, p 29). Researchers also found that during one period covering 145 Middle Eastern voyages, nearly 1,000 sheep died on each trip (Norris and Richards 1989). Mortality occurred mainly at sea (77 percent) but also during unloading (20 percent). In fact, 27,505 sheep died during unloading in the Middle East alone during this period, probably because of rough handling, the animals' weakened states, or a combination of both.

The lengthy duration of these journeys prolongs suffering and exacerbates mortality. Norris and Richards (1989) found that loading could take as long as five days, the voyage itself as long as 32 days, and unloading as long as 11 days. They stated that unloading could be “unnecessarily slow” and could lead to “excessive mortality” (p 101).



Painful deaths on board live-export vessels are the norm.

Photo courtesy of PACAT

Grinding Alive

At sea, many sick or injured animals are thrown down chutes leading to a macerator that grinds them up and dumps their remains into the water. On a recent episode of Australia's *60 Minutes*, an experienced rancher and veteran of many live-export voyages stated that these chutes are up to nine stories high and that animals are often alive when they are thrown into the grinders. He explained, “What they do is, when they die and they're out at sea, they drop them down a big laundry chute into a mincer at the bottom and it just smashes them up and squirts them out the side into the water. ... It's just like a laundry chute, opening door on each floor and you just drop them down. And in quite a lot of cases, the sheep are still alive. In theory, there is plenty of time to cut their throats and kill them first, but they just get put in the chute alive” (Carleton 2003).

Smothering and Suffocation

Black *et al.* (1994) found that because live-export vessels typically only allow a portion of the animals to be fed at one time, intense competition during feeding causes animals to lose their footing and be smothered or crushed to death. The researchers found that 31 percent of the sheep who died aboard one vessel suffocated or were smothered to death. By the later stages of the voyage, excrement had accumulated to such a degree that some animals had become stuck in feces and were unable to move or reach water. The live-export worker who was interviewed on *60 Minutes* described appalling conditions on the *Cormo Express* including accumulations of feces in pens, possibly as much as a foot deep; a mere 6 inches or less of headroom for live sheep; and dead bodies littering the floors (Carleton 2003). These cramped and filthy conditions cause many animals to become trapped in excrement or under decomposing carcasses, eventually being smothered, suffocating to death, or—unable to access food or water—dying of starvation or dehydration.



These sheep are stuck in filth and feces on a live-export vessel.

Photo courtesy of CIWF

Starvation

Norris *et al.* (1990a) concluded that about half of all sheep deaths during sea transport to the Middle East are caused by starvation, even when food is available. Richards *et al.* (1989) found a similarly high rate of death by starvation (43.4 percent). The live-export industry has invented many euphemisms for starvation to deemphasize the suffering that it entails; Norris *et al.* (1990a) provide the following examples: “shy-feeding syndrome,” “inanition,” “anorexia,” “failure-to-eat syndrome,” “voluntary feed refusal,” and “persistent inappetance.” These euphemisms are designed to conceal the fact that live export is so traumatic that many sheep simply stop eating, despite the availability of food and their own urgent need.

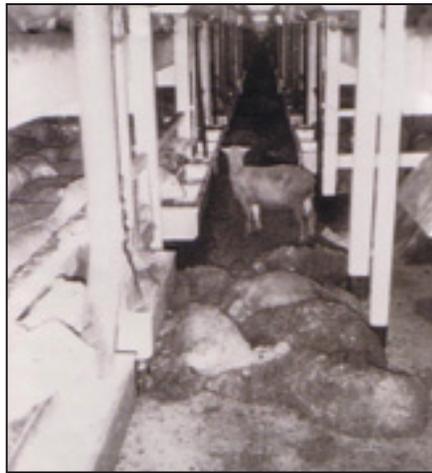
Extreme Temperatures

Extreme temperatures, exceeding 40°C and 90 percent humidity, create miserable conditions for overcrowded animals. Norris and Richards (1989) report that the death rate among sheep in one shipment more than tripled with a 4°C rise in temperature. Black *et al.* (1994) suggest that during times of high temperatures, animals move *en masse* toward ventilators, often trampling each other to death. A recent Australian government-issued report found evidence that “mortality levels in livestock quickly increase due to heat stress once ships have docked in the ports of the Middle East” and concluded that “there should be a prohibition on exports of sheep from [certain] areas ... during periods of the year [when] the risks are greatest” (Keniry *et al.* 2003, pp 30, 42).

Temperature extremes can occur at any time, however, and Norris and Richards (1989) warn that their “findings do not support the industry view that the highest death rates occur in July to September, when temperature and humidity in the Middle East peak for the year,” observing that mortality can be just as high in other months (p 101). These facts show that only a categorical—not just a seasonal—ban on live exports can prevent animal suffering.

Injuries

Rough handling, overcrowding, and hunger-induced weakness can result in serious injuries and suffering. Richards *et al.* (1989) found that “[m]ost shipboard cases of trauma were acute and associated with splaying of the hind limbs on slippery floors during loading” (p 38). Norris *et al.* (1990a) determined that “injuries sustained during loading of the ship and in the first few days of the voyage” led to “about 12 percent” of on-board deaths (p 138); Richards *et al.* (1989) calculated that “trauma” accounted for 10.6 percent (p 33). Sick and injured animals are usually left to die without veterinary care. A veteran live-export industry worker explains that non-ambulatory animals—those who have been disabled to the extent that they are unable to walk—are “just left in the walkway sometimes for a couple of days just kicking their legs” (Carleton 2003).



Dead and dying sheep are left in the aisle of a live-export vessel.

Photo courtesy of PACAT

Diseases and Infections

Norris *et al.* (1990a) estimate that 26.9 percent of all deaths on live-export vessels are the result of *salmonellosis* infections and that within the first nine days on board, about 12 percent of all sheep excrete salmonella. Norris and Richards (1989) note that antibiotics are often introduced into the sheep's drinking water and that in one year, more than 5.02 million doses were administered—presumably to combat the highly pestilent, filthy conditions to which the sheep were subjected. This is especially true for those animals on the lower tiers, where manure from the tiers above falls and accumulates and where high concentrations of ammonia are constant irritants. Sidhom (2003) examined a load of sheep and cattle on board the *Maysora*, which had traveled from Australia to Egypt, and observed that “[l]iquid manure flowed into the food troughs, where the food was sodden and soiled with sheep manure from the decks above” (p 1). Among the diseases and other conditions described by Norris *et al.* (1990a) as causing death are muscular disease, lupinosis, foot abscesses, kidney stones, pneumonia, dehydration, and heat stress.

Scabby mouth disease, also known as contagious ecthyma, is sometimes fatal and can be transmitted to humans. Over the years—and most recently, in the summer of 2003, with the *Cormo Express*—Middle Eastern countries have rejected shipments of animals who showed signs of scabby mouth. This causes even greater suffering for sheep by prolonging their ordeal on ships where conditions inevitably worsen. The *Cormo Express* was an especially tragic example: After being rejected by Saudi Arabian officials, the sheep were stranded on board the vessel for an additional 64 days—the time it took to find a country that was willing to accept the survivors as a donation—during which time mortality increased to 9.82 percent, and the death toll rose to 5,691 (Keniry *et al.* 2003). Such rejections have been ongoing for decades and threaten to continue, especially considering the conclusion of Higgs *et al.* (1996) that “using current technology it is not possible to deliver shipments of sheep to the Middle East that are guaranteed completely free of scabby mouth” (p 215). Quarantine stations, which are currently being proposed, will not solve this problem. The only way to prevent further suffering for rejected, stranded sheep is to ban the live-export industry altogether.

Emergency Conditions

Unpredictable emergency conditions that jeopardize the well-being of animals on board are common. Some recent examples, compiled from Australian Maritime Safe Authority reports (AMSA 1990, 1999, 2002), include the inadequate ventilation that killed almost 10,000 sheep on the *Cormo Express* in 1990; the fire that killed more than 67,000 on the *Uniceb* in 1996; the sinking of the *Guernsey Express* in the same year, which led to the drowning deaths of more than 1,500 cattle; the failure of the *Temburong's* ventilation system in 1999, which caused 829 cattle to die of suffocation; and the cyclone of the same year, which caused the engine of the *Kalymnian Express* to fail and led to the deaths of more than 300 cattle. Malfunctions, natural disasters, and fires inevitably lead to tragedy on such highly populated, heavily crowded vessels.

Inhumane Unloading and Slaughter Practices

The suffering does not end when the ships dock at their destinations. Unloading can take as long as 11 days, during which handling is rough. Recently obtained video footage of handlers beating, kicking, and otherwise abusing worn-out animals in the Middle East during unloading tragically illustrates this (see www.petatv.com/tvpopup/video.asp?video=wool). Sidhom (2003) reports that during unloading of Australian animals in Egypt, workers “frequently hit the animals with long sticks armed with rusty nails, with metal bars, and sometimes even with hammers” (p 1).

Transport on crowded trucks headed for the slaughterhouse cause further stress and mortality. Slaughter often involves terribly inhumane practices, such as throat-cutting without first rendering the animal insensible to pain and cruel restraint practices. According to eyewitnesses, to subdue animals arriving in the Middle East from Australia, slaughterhouse workers have been seen stabbing animals in the eyes with knives and cutting their tendons (Animals Australia 2004b)



Animals suffer during transport on overcrowded vehicles to and from the live-export vessel.

Photos courtesy of Animals' Angels and PACAT

Part II: The Economic Benefits of Eliminating Live Exports

The fallout from the *Cormo Express* disaster and the ensuing suspension of live exports to Saudi Arabia caused the value of live exports to plummet. In fact, as of July 2004, live exports had declined 67 percent compared to the previous year (Cuming 2004). No great economic crisis resulted from this decline, exposing any argument that the end of live exports would somehow be catastrophic for the economy as a desperate defense by those who profit from the industry. In fact, the total value of chilled and frozen meat exports is more than five times that of live exports, making it a much more important sector of commerce, with a strong infrastructure capable of meeting the increased carcass exports that would result from a ban on live exports.

Furthermore, Dr. John Auty, a veterinarian who formerly worked with the Australian Department of Primary Industry as the assistant director of the Bureau of Animal Health, explains that wool producers would not experience any loss in revenue if live exports were eliminated (Auty in Animal Liberation 2004): “Most of the sheep exported are fine wool Merinos. With the [current] wool shortage and prices high, if farmers keep them an extra year or two, they would make up the price difference there.” And they would still be able to sell them to a burgeoning frozen mutton market.

Frozen and Chilled Carcass Exports Provide a Lucrative Market

Not only would banning live exports and shifting to chilled and frozen meat exports end animal suffering during voyages, it would also tap into the lucrative mutton export market—both in Middle Eastern countries where Halal-certified carcasses are already being imported from Australia and in other countries as well.

University of Western Australia School of Agricultural and Resource Economics Professor Bob Lindner recently chaired a task force that issued a report for the Western Australia Department of Agriculture (Lindner *et al.* 2003), hereafter called the “Lindner report,” on the effect that live exports have on the meat-processing sector. The conclusions show that the Middle East is more than ready to import chilled and frozen products in the absence of live-animal imports (p 18): “[An Australian Bureau of Agriculture and Resource Economics] study found that during the Saudi embargo [on live exports in 1989], Australian live sheep exported to the UAE were processed there and re-exported to Saudi Arabia as chilled and frozen product.” Paul Murray (2004), journalist and former editor of *The West Australian*, writes, “So much for the argument that Middle East clients refuse processed meat. So much for the pastoralists’ argument that the sky would fall if live sheep exports ended.”

The Democratic Party takes a strong position against live exports and advocates an “expansion of Australia’s chilled, frozen, and refrigerated carcass trade.” The Sheepmeat Council of Australia reports that “the mutton industry currently is generally buoyant given strong demand” and that Australia exports frozen mutton to more than 80 destinations, including Halal-certified products to the Middle East. The Australian Department of Agriculture, Fisheries and Forestry states, “It is true that many Australian meat works can slaughter livestock in accordance with the religious requirements of our markets and that Australia has developed a significant trade in [frozen] meat to Muslim markets . . .” The RSPCA reports that 123 abattoirs in Australia currently have approved Halal-certified programs, leaving no barriers for increased trade in processed meat products to the Middle East in the absence of live exports (RSPCA 2004).

Fletcher International reports that there are “supermarkets right across the Middle East, the housing’s really good—they’ve all got refrigeration and the customers [are] now looking for [frozen meat] and that’s the way they want to go” (Murphy 2004). Campion (2004) reports that the Australian Meat Industry Employees Union Northern Region branch organiser says, “We were told by graziers, live exporters, and politicians that Asian countries had no refrigeration in their homes and shops so they could not accept frozen or chilled beef from Australia, only live cattle.” But that “[t]he fact that it isn’t live does not seem to be a problem” as these countries continue to import frozen meat now that live exports have declined. This is the same argument being made about live sheep exports by live-export industry officials whose main concern is making profits. Clearly, lack of refrigeration is not a barrier to increased frozen carcass exports to Asian and Middle Eastern countries.

Meat and Livestock Australia reports that New Zealand's mutton exports reached record highs in 2003-04 because of tight world supplies of mutton and strong export demand (Meatnews 2004). It is also reported that during Saudi Arabia's ban on Australian live exports in the late 1980s, exports of chilled and frozen carcasses from Australia more than tripled in the years to follow (Heilbron 2000). These precedents show that not only would it be possible to ban live exports and shift to carcass exports, it would also be quite profitable.

More Jobs Without Live Exports

A report by economic analysts found that the live-export trade could be costing Australia approximately \$1.7 billion in lost gross margin (a measure of revenue for producers), \$280 million in household income, and about 12,000 lost jobs (Heilbron 2000).

Australian Agriculture Minister Warren Truss said that live exports should be phased out because "if we were able to create the extra jobs in Australia that come through the carcass trade, well, we'd be keen to do that" (Rehn 2004). The Labor Party announced that the "livestock" industry should focus on processed products, not live exports. It argues that doing so would "mean a better return to the Australian economy from the sheep ... sectors and more jobs in regional communities." Labor's agriculture spokesperson has said that more jobs could be created with a focus on chilled carcass exports rather than live exports. The Democratic Party points out that local jobs in the meat-processing sector are actually diminished by live exports. Democratic Senator Andrew Bartlett writes, "In addition to the intrinsic cruelty to animals involved in the live sheep and cattle trade, in my view there is clear evidence the trade directly costs jobs in Australia" (Bartlett 2005). The RSPCA states that the "live export trade costs jobs, because Australian livestock is sent overseas for slaughter when this work is desperately needed by abattoirs in rural and regional Australia."

Campion (2004) reports that the Australian Meat Industry Employees Union Northern Region branch organiser found that a decline in live cattle exports led to more work for Australians. In 2004, one particular abattoir in Townsville remained open longer, and 40 new jobs were created—injecting \$320,000 in wages into the local economy each week. This is proof in practice that a reduction of live-exports directly results in more domestic jobs and wages.

Consumer and Taxpayer Savings Without Live Exports

The Lindner report also concludes that the live-export and meat-processing industries are competitive, not complementary (p 18), meaning that continued live exports actually harm the processing industry to the point that consumer prices are pushed higher.

In May 2004, the Australian government announced that \$11.3 million would be allocated to improve the live-export industry during the next four years, in addition to existing subsidies. And the Lindner report describes inequity between live exports and processors in Australian Quarantine Inspection Service (AQIS) fees. So much so that subsidies for the former are taken from the taxpayer and create an uneven playing field for the processing sector (p 25): "In August 2001, the Federal government made a contribution to the Live Animal Export Program equivalent to 40% of AQIS fees for live animal exports Since the introduction of this subsidy in August 2001, it is estimated that inspection charges for all animal live exports from WA have been subsidised by an annual amount of about \$400,000." Economic analysts argue that the live-export industry receives so much preferential treatment from the government that with a level playing field, carcass exports would flourish even more, making live exports even less viable.

No amount of funding or subsidies, however, will ever make live exports acceptable on welfare grounds. The only way to alleviate suffering is to ban live exports altogether. Doing so will save taxpayers the amount allocated in this budget and through additional subsidies and will also save them from the costs that future live-export tragedies would have on the Australian public and the country's reputation.

Preserving Australia's International Image and Domestic Meat Industries

Since the *Cormo Express* incident, the great focus on the cruelty of live exports has led to international public outcry and has cast a dark shadow on Australia's reputation. A government-commissioned report on live exports (Keniry *et al.* 2003, p 32) states, "Claims were made in a number of submissions that ... negative perceptions of the livestock export trade have been extended to other sectors of Australia's animal and meat industries. And there are indications that these perceptions may also be having a negative impact on Australia's international reputation and credibility in international trade discussions." The report concludes that these consequences "must not be ignored."

Conclusion

There is overwhelming evidence that during live export, sheep suffer from smothering, stress, starvation, extreme temperatures, injuries, diseases, emergency conditions, rough handling, painful slaughter, being ground up in macerators while still alive, and becoming stuck in accumulating feces on board. No degree of preparation or standards or any other actions short of a complete ban can ensure animals' well-being during these voyages.

The Australian economy would also greatly benefit from a ban on live exports, as experts have concluded that there would be an improved frozen and chilled carcass trade, as many as 12,000 more jobs for Australians, up to \$280 million in added household income, up to \$1.7 billion in added gross margin, additional taxpayer savings, and an improvement in Australia's international reputation.

Clearly, there is no reason to continue live exports for even one more day, considering the vast improvements to animal welfare and the economy that can be achieved by eliminating this cruel trade—which only benefits a few companies that have decided to cash in at the expense of animals and the Australian economy. Perhaps the Australian Senate Select Committee on Animal Welfare put it best: "[I]t is not in the interests of the animal to be transported to the Middle East for slaughter" (in Norris *et al.* 1990a, p 133).



Sheep suffer terribly during live export.

Photo courtesy of Animals' Angels

This report was completed on December 14, 2004. Please direct any questions or comments to **Cem Akin** at 757-622-7382, extension 8013, or CemA@peta.org.

References

- [AMSA] Australian Maritime Safety Authority. 1990, 1999, 2002. Incident reports. Located at: www.amsa.gov.au/.
- Animal Liberation. 2004. Aussie Activism: Dr. John Auty makes comment on lambs to the slaughter. Located at: www.animal-lib.org.au/more_interviews/auty/.
- Animals Australia. 2004a. Prominent Australians call for an end to live animal export. Located at: www.animalsaustralia.org/default2.asp?idL1=1269&idL2=1696.
- Animals Australia. 2004b. Live animal export. Located at: www.animalsaustralia.org/default2.asp?idL1=1269&idL2=1696.
- Australian Democrats. 2004. Animal Welfare Issue Sheet. Located at: www.democrats.org.au.
- The Australian Sheep and Wool Industries on the Web. 2003. Sheep breeds found in Australia. Located at: www.aussiesheep.com/sheep.htm.
- Bartlett A. 2004. Dissenting Report: Agriculture, Fisheries and Forestry Legislation Amendment Bill (No. 2) 2004. Located at: www.aph.gov.au/Senate/committee/rrat_ctte/completed_inquiries/2002-04/aff04/report/d01.htm.
- Black H, Matthews LR, Bremner KJ. 1994. The behaviour of male lambs transported by sea from New Zealand to Saudi Arabia. *New Zealand Vet J* 42:16-23.
- Campion V. 2004 Oct 12. Meat workers happy as cattle exports decline. *Townsville Bulletin*.
- Carleton R. 2003 Sep 21. Ship of Shame. *60 Minutes (Australia)*. Located at: http://sixtyminutes.ninemsn.com.au/sixtyminutes/stories/2003_09_21/story_970.asp.
- Cuming M. 2004 Sep 23. Stormy seas for live sheep trade. *FarmOnline*. Located at: <http://sl.farmonline.com.au/home.asp>.
- Heilbron SG. 2000 Apr. Impact of the live animal export sector on the Australian meat processing industry. Located at: S G Heilbron Pty Ltd.
- Higgs ARB, Norris RT, Baldock FC, Campbell NJ, Koh S, Richards RB. 1996. Contagious ecthyma in the live sheep export industry. *Aust Vet J* 74:215-220.
- Keniry J, Bond M, Caple I, Gosse L, Rogers M. 2003 Dec. Livestock Export Review. Available from: www.ffa.gov.au/corporate_docs/publications/pdf/animalplanthealth/keniry0104.pdf.
- Lindner B, Darcy M, Fletcher R, Griffiths D, Haynes G, Minton G, Paliskis-Bessell R, Trefort P, Burggraaf W (Western Australia Ministerial Taskforce). 2003 Dec. Cattle and Sheep Meat Processing in Western Australia (Draft).
- Meatnews. 2004 Jul 27. News Shorts. Located at: www.meatnews.com.
- [MLA] Meat & Livestock Australia. 2002 May. Sheepmeat: Sheep Production. ISBN# 1 74036 733 2. Located at: www.mla.com.au.
- Morris R, Richards B, Higgs T. 1990. The live sheep export industry. *J of Agriculture—Western Australia* 31:131-48.

Murphy S. 2004 Oct 14. Public opinion threatens live exports. Landline. Located at: www.abc.net.au/landline/content/2004/s1241550.htm.

Murray, P. 2004 Apr 17. Sky will not fall on WA. The West Australian. Located at: www.liveexportshame.com/article_west_17apr04.htm.

Norris R, Richards B, Higgs T. 1990a. The live sheep export industry. Western Australia Department of Agriculture Journal of Agriculture 31(4):131-148.

Norris RT, Richards RB. 1989. Deaths in sheep exported by sea from Western Australia—analysis of ship Master's reports. Aust Vet J 66:97-102.

Norris RT, McDonald CL, Richards RB, Hyder MW, Gittins SP, Norman GJ. 1990b. Management of inappetant sheep during export by sea. Aust Vet J 67:244-7.

Rehn A. 2004 Oct 29. Live export may be dead in water. Herald Sun. Located at www.heraldsun.news.com.au.

Richards RB, Norris RT, Dunlop RH, McQuade NC. 1989. Causes of death in sheep exported live by sea. Aus Vet J 66:33-8.

RSPCA. 2004 Oct 6. Telephone conversation with Tracey Sutherland indicating that the information was obtained directly from the AMIEU.

Strong G, Minchin L. 2003 Sep 27. Lambs to the Slaughter. The Age. Located at: www.theage.com.au/articles/2003/09/26/1064083191426.html?from=storyrhs.

WA County Hour. 2003 Jul 14. Live sheep trade grim for the next five years. Located at: www.abc.net.au/rural/wa/stories/s901762.htm.