

LONG DISTANCE ANIMAL TRANSPORT IN EUROPE: A CRUEL & UNNECESSARY TRADE

A REPORT BY PETER STEVENSON
INCORPORATING MATERIAL WRITTEN BY JOANA FORMOSINHO
FOR COMPASSION IN WORLD FARMING
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Executive summary

Each year, around six million farm animals – cattle, sheep, pigs and horses – are transported huge distances across Europe, some for slaughter, others for further fattening. Many of these journeys, which involve extensive suffering, take over 30 hours; the worst take over 70 hours.

Much of the suffering that is inherent in long journeys could be prevented by substantially reducing journey times. Animals should be slaughtered as near as possible to the farm of rearing; the meat could then be transported to wherever it is wanted. Animals should also be fattened on or near the farm of birth. To convert these principles into practical reality, a maximum overall limit of eight hours should be placed on journeys to slaughter or for further fattening.

The suffering involved

Animals are regularly packed into overcrowded trucks and are often given no, or far too little, food, water or rest. As the journeys progress, the animals become increasingly exhausted, dehydrated and stressed. Some get injured. Many journeys take place in extreme summer heat in severely overcrowded trucks with inadequate ventilation. Combined with water deprivation and the sheer length of the journeys, this leads to great suffering and to animals becoming utterly worn out. In the worst cases, many die.

Scientific evidence

Scientific research shows that:

Cattle:

- Food and water deprivation for 14 hours results in vigorous attempts by cattle to obtain food and water
- Cattle prefer to remain standing during transport. They will, however, lie down after 16 hours of transport, due to fatigue
- Mortality of adult cattle during road transport increases with the length of the journey.

Calves:

A 2007 review of the scientific literature concludes “Scientific evidence indicates that young calves are not well adapted to cope with transport. Their immune systems are not fully developed and they are not able to control their body temperature well, thus they are susceptible to both heat and cold stress. . . Therefore transport should be avoided where possible, particularly as morbidity and mortality following transport can be high.”

Pigs:

- Longer journeys lead to higher mortality rates for pigs
- Pigs do not travel well, often suffering from motion sickness
- Pigs are very susceptible to heat stress during transport because they are unable to sweat effectively to lose heat
- A review of the scientific literature concludes that “the transport of pigs is an inherently stressful procedure” and that the impact of the stress can be reduced by limiting the length of journeys.

Sheep:

- Sheep show an increase in motivation to feed after just six hours of food deprivation
- One study shows that after 14 hours transport, sheep take up to 144 hours to fully recover from the journey
- Researchers have concluded that, for lambs, “from a welfare point of view, transport distances and times should be kept to the minimum”.

Horses:

The Scientific Committee on Animal Health and Animal Welfare concluded: “A wide range of measures of physiological responses and increments in disease occurrence show that horse welfare during transport becomes considerably worse after 8-12 hours of transport without rest”.

Disease spread

The Scientific Panel on Animal Health and Welfare of the European Food Safety Authority (EFSA) has concluded that transportation “can spread both animal and zoonotic diseases sometimes over large distances”. The stress of transport impairs animals’ immune function, so making them more vulnerable to disease. Moreover, latent pathogens may become active due to transport stress. Animals that become infected before or during transport shed infectious agents and so may infect other animals on the vehicle or animals with which they are mixed after completion of the journey.

Enforcement problems

Many transporters ignore key aspects of the EU legislation on the protection of animals during transport and many Member States fail to enforce the law. Common breaches of the legislation include: failure by Member States to check that journey logs comply with the legislation; failure to give animals the rest, food and water required by the legislation; exceeding the permitted loading density; insufficient headroom; failure to provide water on the vehicle; the use of vehicles that fail to meet the legislative standards for journeys exceeding eight hours; and the transport of unfit animals.

Recommendations

- A maximum overall limit of eight hours should be placed on journeys to slaughter or for further fattening
- Compassion in World Farming is totally opposed to the proposal that rest periods should be taken on board the vehicle. This could lead to poor welfare, even to welfare disasters. We believe that in practice the rest would be taken on overstocked vehicles with inadequate drinking devices and that it would be difficult to provide ventilation that could function effectively for prolonged periods on a stationary vehicle. Animals must be unloaded for rest periods
- Member States must put much better systems in place to ensure effective enforcement of Council Regulation 1/2005. This report makes detailed recommendations as to how to achieve improved enforcement.

EUROPE'S TRADE

Each year, around six million farm animals – cattle, sheep, pigs and horses – are transported huge distances across Europe. Many of these journeys, which involve extensive suffering, take over 30 hours; the worst take over 70 hours.

Some of these animals are being transported for slaughter, others for further fattening. Much of the suffering that is inherent in long journeys could be prevented by substantially reducing journey times. Bearing this in mind, animals should be slaughtered as near as possible to the farm of rearing; the meat could then be transported to wherever it is wanted. Animals should also be fattened on or near the farm of birth. To convert these principles into practical reality, a maximum overall limit of eight hours should be placed on journeys to slaughter or for further fattening.

Widespread support for an end to long journeys

In February 2008, Neil Parish MEP, Chairman of the European Parliament's Agriculture and Rural Development Committee, stressed that the transport of live animals over long distances "is not only cruel, but journeys of this distance are completely unnecessary. Slaughter should be carried out as locally as possible and meat transported on the hook, rather than on the hoof. It's time we ended the outdated and totally needless suffering" (Parish 2008).

This statement reflects the consistent view of the European Parliament which several times over the last twenty years has called for a maximum limit of eight hours to be placed on journeys to slaughter. Indeed, in a 2001 report, the Parliament went further and voted for a maximum limit of eight hours or 500 kilometres to be placed not only on journeys to slaughter but also on those for further fattening (European Parliament 2001).

The Federation of Veterinarians of Europe (FVE) has also consistently been opposed to long distance transportation. The FVE position paper states: "FVE has always been of the opinion that fattening of animals should take place within or near the place of birth. Animals should also be slaughtered as near the point of production as possible. The journey time for slaughter animals should never exceed the physiological needs of the animals for food, water or rest" (FVE 2001).

The 2004 Opinion of the Scientific Panel on Animal Health and Welfare of the European Food Safety Authority (EFSA) on the welfare of animals during transport stated:

"A variety of stressors involved in transport are key factors that strongly contribute to poor welfare in transported animals and they also increase the susceptibility to infection of transported animals and the shedding of infectious agents in already infected animals. ... **Transport should therefore be avoided wherever possible and journeys should be as short as possible**" (EFSA 2004).

The EFSA Opinion makes it clear that longer journeys lead to poorer welfare, stressing that:

"With increasing duration of journey, the welfare of animals generally gets worse because they become more fatigued, incur a steadily increasing energy deficit if they do not get sufficient food, become more susceptible to existing infections, and may become diseased because they encounter new pathogens."

The EFSA Opinion added:

"... after a few hours of transport, welfare tends to become poorer as journey length increases. The severity of effects on welfare are such that animals unaccustomed to loading and transport should not be transported if this can be avoided and journeys should be as short as possible and animals should be slaughtered as near as possible to the place of production".

The suffering involved in long journeys

The suffering that is inherent in long distance transportation has been extensively documented.

The stress factors involved in transport include the mixing of unfamiliar animals, deprivation of food and water, lack of rest, extremes of temperature and humidity, handling by humans, exposure to a novel environment, overcrowding, insufficient headroom and noise and vibration.

Animals are regularly packed into overcrowded trucks and are often given no, or far too little, food, water or rest. As the journeys progress, the animals become increasingly exhausted, dehydrated and stressed. Some get injured, suffering from painful problems such as lameness, broken legs, broken horns and broken pelvises.

Due to exhaustion or poor driving (sudden braking or acceleration or over-rapid cornering), some animals collapse on to the floor of the truck where they are in danger of being trampled by their companions.

Many journeys take place in extreme summer heat in severely overcrowded trucks with inadequate ventilation. Combined with water deprivation and the sheer length of the journeys, this leads to animals becoming utterly worn out; some succumb to heat stress and can be seen desperately panting and gasping for air. In the worst cases, many die.

An investigation in 2006 by Animals' Angels (AA) exposed the dreadful suffering of a consignment of horses sent in a heat wave from France for slaughter in Italy. Dehydrated and exhausted, the animals endured a nightmare journey of over 2000km (Animals' Angels 2006a). One horse died, some fell repeatedly and were trampled by the others.

The legal position on long journeys

Unfortunately Council Regulation 1/2005 has done nothing to end long journeys. The Regulation provides that journeys shall not exceed eight hours, after which the animals must be unloaded and given food, water and at least 24 hours rest. At first sight, this appears welcome. However, the Regulation goes on to state that where certain (not particularly demanding) vehicle standards are met, animals can be transported for much longer periods. Cattle and sheep can be transported for 28 hours (with a rest of at least one hour after 14 hours), after which they must be unloaded and given food, water and at least 24 hours rest. If the higher vehicle standards are attained, pigs and horses can be transported for 24 hours, after which they must be unloaded and given food, water and at least 24 hours rest. Similarly, where the higher vehicle standards are attained, unweaned animals can be transported for 18 hours (with a rest of at least one hour after nine hours), after which they must be unloaded and given food, water and at least 24 hours rest. This pattern of travel and rest can be repeated indefinitely.

Proposal that rest periods should be taken on board vehicle

In its 2002 report, the Scientific Committee on Animal Health and Animal Welfare (SCAHAW) proposed that rest periods should be taken on board the vehicle. In its 2003 proposal for a new Regulation the Commission also proposed that rest periods should be taken on board the vehicle. The thinking is that this would reduce unloading and loading which is stressful and that conditions on a stationary vehicle could be acceptable if sufficient space and effective ventilation were provided.

Compassion in World Farming is totally opposed to rest periods being taken on board the vehicle. We fear that this could lead to poor welfare, even to welfare disasters. We believe that in practice the rest would be taken on overstocked vehicles with inadequate drinking devices and that it would be difficult to provide ventilation that could function effectively for prolonged periods on a stationary vehicle. In addition, we fear that it would be extremely difficult in practice to enforce provisions designed to ensure good welfare during on-board rest periods. It is hard to imagine anything more likely to produce poor welfare outcomes than keeping animals for several hours in a packed, stationary vehicle on a hot summer day without adequate ventilation and sufficient water.

We believe that the welfare benefits of animals being able to rest off the vehicle with ample space, shade and access to water outweigh the stresses of unloading and reloading. That said, we must emphasise that in our view animals should not be transported for more than eight hours within which time they must have arrived at the slaughterhouse or the farm at which they are to be fattened. This would remove the need for rest breaks and the consequent unloading and reloading.

The science on welfare during transport

CATTLE

Mortality of adult cattle during road transport increases with the length of the journey: Malena *et al.* (2007) reported a six-fold increase in mortality of fattened cattle and 13-fold increase for dairy cattle for long journeys of more than 300km when compared with short journeys of less than 50km.

The vast majority of cattle are bruised during loading and transport. Jarvis *et al.* (1995) reported bruises on 97% of the carcasses at two slaughterhouses. They found that bruising was increased if cattle were driven with a stick. Bruising is worse at high stocking densities, as cattle are more likely to fall during transport and are often unable to get up again (Tarrant *et al.* 1992). These cattle are then trampled, frequently causing other animals to lose their footing as well. Bruising also increases with distance travelled (McNally and Warriss 1996).

It appears that cattle prefer to remain standing during transport. They will, however, lie down after lengthy transport, due to fatigue. Tarrant *et al.* (1992) found that cattle weighing 600kg began to lie down after 16 hours of transport. The enzyme creatine kinase is released into the blood stream when there is muscle damage (e.g. bruising) and during vigorous exercise; high levels of this enzyme in the blood plasma indicate physical fatigue. Not only do plasma levels of creatine kinase increase proportionately with the duration of the journey, but they also remain high for several days after transport (Warriss *et al.* 1995, Knowles *et al.* 1999a). Additionally, transport stress triggers an increase in activity of thyroid and adrenal function in cattle that is evident after even short journeys and continues to increase after long-distance transport (Fazio *et al.* 2005).

Food and water deprivation, compounded by the stress and physical exertion of transportation, can result in significant weight loss during transport, with the amount of weight lost increasing with journey time. Losses of between six and 11% of initial bodyweight in the first 24 hours have been recorded for cattle (Knowles 1999). SCAHAW (2002) note that food and water deprivation for 14 hours results in vigorous attempts by cattle to obtain food and water.

A one-hour rest stop (as required by EU legislation after 14 hours of transport) does not give cattle enough time for sufficient food and water intake (Knowles 1999). For adult cattle, SCAHAW (2002) recommend a rest period of at least six hours after 12 hours of travel, during which food and water should be provided. In the case of cattle being transported to slaughter, they recommend that journeys of a total duration exceeding 12 hours should be avoided.

Current EU legislation allows a maximum gradient of 26 degrees 34 minutes (26° 34' i.e. 50% to the horizontal) for ramps used for loading and unloading adult cattle (Council Regulation 1/2005). Cattle have considerable difficulty negotiating steep

ramps, which can result in rough handling and excessive and inappropriate use of electric goads during loading. A maximum ramp angle of 11° would be best for cattle but a maximum angle of 20° is acceptable, provided the ramp has a non-slip floor with cleats at 30cm intervals (SCAHAW 2002).

CALVES

Young calves are particularly poorly adapted to cope with transport, resulting in high mortality rates. Their immune system and stress response are not yet fully developed. Knowles (1995) reports mortality rates of between 1% and 23% in a review of the literature on mortality of young calves following transport. The author states "When compared with the transportation of other types of farm animal, mortality rates of these magnitudes would appear to be unacceptable" and notes that calves often "succumb, usually within four weeks, to secondary disease as a consequence of their inability to respond appropriately to transport".

Young calves cannot yet regulate their body temperature adequately and are therefore very susceptible to heat and cold stress during transport. Young calves on full feed and with bedding are thermally comfortable only between 13°C and 26°C (Hemsworth *et al.* 1995); they are even less able to tolerate cold if not on feed. Elmer and Reinhold (2003) exposed healthy young calves aged three to six weeks to either cold or hot air temperatures for four hours (cold = 5°C, hot = 35°C). After this short period of exposure to a temperature of 5°C, calves had airway constriction, pulmonary hypertension (high blood pressure in the arteries that supply the lungs), hypoxemia (abnormally low oxygen level in the blood) and hypercapnia (abnormally high carbon dioxide level in the blood), but managed to maintain body temperature. At 35°C the calves panted and their body temperature increased continuously, which would eventually have led to collapse from heat stress. The authors conclude "Young calves, up to the age of six weeks were not able to tolerate acute changes in ambient temperature". Such temperature changes are likely to occur during long journeys. A study by Schrama *et al.* (1996) evidenced that calves transported at five days of age had increased heat production for three days after transport, unrelated to their activity levels; calves were not in a steady-state regarding their energy metabolism.

Calves can lose a significant amount of bodyweight during transport. Knowles *et al.* (1999b) found that calves showed a significant decrease in bodyweight after 19 hours of transport with a one-hour mid journey break, averaging 1.4kg in summer and 2.0kg in winter. The calves' liveweight and activity of the enzyme creatine kinase took up to seven days to stabilise after transport. Feeding electrolytes during the mid-journey break reduced the extent of dehydration. Food and water deprivation during transport, as well as faecal and urinary losses, combine to produce acute dehydration and hypoglycaemia (low blood glucose level) in calves, both of which increase with journey time (Mormede *et al.* 1982).

Young calves respond to transport with an increase in body temperature, heart rate and plasma cortisol concentration (indicative of stress) (Steinhardt and Thielscher 1999) and significantly increased levels of adrenaline (Thielscher and Steinhardt 2004). Knowles *et al.* (1997) noted that the impact of transport on heart rate, plasma cortisol and plasma glucose in young calves was less than that observed in older cattle and other species; the authors suggest this was not because they were less affected but rather because "they were physiologically unadapted to coping with transport".

Todd *et al.* (2000) found that young calves aged five to ten days would lie down during a 12-hour journey if given a higher space allowance (0.4m²/calf) and also maintained plasma glucose levels and lost less weight than those transported at a lower space allowance (0.2m²/calf). Calves transported for 12 hours at the low space allowance showed significantly higher levels of creatine kinase and lactate than calves at the high space allowance. The authors suggest that the changes in blood metabolites were due mainly to calves transported at low space allowances using their muscles to brace against vehicle movements during transport; they also note that high levels of creatine kinase are associated with bruising, as previously mentioned. Calves that are standing during transport are at risk of collisions or falls as the vehicle accelerates, brakes and corners.

Transport is physically exhausting for calves. Atkinson (1992) found that calves aged seven to 15 days spent significantly more time resting and sleeping following transport than non-transported control calves and that small calves were particularly adversely affected. Van de Water *et al.* (2003) found that acceleration and vibration during transport can cause fear and physical fatigue in calves; faster acceleration (3ms⁻²) was more stressful than slower acceleration (1ms⁻²).

Current EU legislation permits a maximum ramp angle of 20° (36.4% to the horizontal) for loading and unloading calves (Council Regulation 1/2005). Calves have considerable difficulty negotiating such steep ramps. Bremner *et al.* (1992) found that the proportion of calves who fell down the ramp or slid on their chest, side or haunches during unloading increased from 8% with a ramp angle of 4.2° to 80% with an angle of 18.6°.

Trunkfield and Broom (1990) conclude "Transport normally leads to poor welfare in calves and evidence from mortality rate, heart rate, adrenal activity, enzyme changes, immunological effects, carcass quality and behaviour shows that welfare can be very poor". Knowles (1995) concludes "Evidence from the literature suggests that young calves are not well adapted to cope with transport and marketing, often suffering relatively high rates of morbidity and mortality, both during, and in the few weeks immediately following transport".

A review of the literature by Weeks (2007) concludes "Scientific evidence indicates that young calves are not well adapted to cope with transport. Their immune systems are not fully developed and they are not able to control their body temperature well, thus they are susceptible to both heat and cold stress. Weight loss following transit is indicative of exposure to a

variety of stressors and is greater for longer journeys or greater stress, including cold or heat stress and exposure to vibration and acceleration. Therefore transport should be avoided where possible, particularly as morbidity and mortality following transport can be high." SCAHAW (2002) recommend that journeys exceeding 8 hours should be avoided in the case of calves being transported for slaughter.

PIGS

Mortality of adult pigs in transport ranges from <0.1% to >1% in different European countries and is related to the inherent stress-susceptibility of the pig population (Warriss 1998). Mortality rates are higher for longer journeys: Malena *et al.* (2007) found a five-fold increase in mortality of fattened pigs and an eight-fold increase in mortality of sows and boars for long journeys (more than 300km) compared with short journeys (less than 50km).

Pigs are very susceptible to heat stress during transport because they are unable to sweat effectively to lose heat. Mortality rates during transport are higher in hotter weather, with temperatures above about 15-17°C having a serious detrimental effect (Warriss and Brown 1994).

Unfamiliar pigs are often mixed during transport. This results in fighting, which is exhausting and very stressful (Bradshaw *et al.* 1996) and leads to skin lacerations, particularly in the shoulder region, which can be severe (Warriss 1998).

Pigs do not travel well, often suffering from motion sickness due to vibration, acceleration, braking and cornering. Randall and Bradshaw (1998) found that during a 4.5-hour journey 26% of pigs vomited or retched, and 50% of pigs showed advanced symptoms of foaming at the mouth and chomping. It is therefore advisable to fast pigs before transport. However, if journeys are long this can lead to unacceptably long periods without food. Brown *et al.* (1999a) found that liver glycogen was almost completely depleted in pigs deprived of food for 12 hours; glycogen depletion is associated with fatigue.

Brown *et al.* (1999b) found that pigs lost 4.5% of liveweight and were showing signs of dehydration after 24 hours of transport. SCAHAW (2002) report that after eight hours of travel pigs ate and drank immediately after arrival at a lairage and recommend that after eight hours of travel pigs are rested for at least six hours and given food and water. In the case of pigs being transported to slaughter, they recommend that journeys of a total duration exceeding eight hours should be avoided.

A review of the literature by Warriss (1998) concludes that "the transport of pigs is an inherently stressful procedure" and that the impact of the stress can be reduced by limiting the length of journeys. The review identifies journey length as one of the factors which influences welfare and points to evidence of greater mortality with longer journeys.

Many pigs have some degree of leg disorder which results in much greater difficulty in standing during transport (SCAHAW 2002). They should therefore have sufficient space to allow all animals to lie down during transport.

Pigs show elevated levels of the hormone cortisol (indicative of stress) in response to loading, and these levels then remain elevated for several hours due to the stress of transport (Bradshaw *et al.* 1996). Current legislation permits a maximum ramp angle of 20° (36.4% to the horizontal) for pigs (Council Regulation 1/2005). Pigs can have difficulty climbing any ramp and ramps steeper than 20° can cause substantial difficulty (SCAHAW 2002); most are able to climb a non-slippery ramp of 9°, although smaller angles would be preferable (*ibid.*).

SHEEP

Sheep respond to transport with an elevated heart rate (Baldock and Sibly 1990), stress-induced hyperthermia (raised core body temperature) (Parrott *et al.* 1999) and elevated plasma cortisol concentration (Parrott *et al.* 1998).

Sheep show an increase in motivation to feed after just six hours of food deprivation (Jackson *et al.* 1999), and transport of sheep may involve going without food for considerably longer than that. Knowles *et al.* (1995) found that sheep transported for 24 hours lost 8% of their liveweight; sheep deprived of food and water for 24 hours without being transported lost a similar amount of liveweight but recovered the weight within 3 days, whereas the transported sheep took longer to recover.

Knowles *et al.* (1996) found that sheep showed signs of dehydration after 24 hours of transport, measured as increases in plasma total protein and albumin and plasma osmolarity. The levels of total protein and albumin had decreased substantially 24 hours after transport but had not returned to pre-transport levels even after 48 hours. Plasma osmolarity continued to increase during the first six hours of lairage following transport, probably due to the rapid consumption of concentrate feed, before a gradual return to pre-transport levels after 48 hours. Cockram *et al.* (1999) found that, after a 15-hour journey, the immediate priority for sheep was to eat and they may not consume water until several hours later. Feed intake is likely to be high during a one-hour mid-journey break after 14 hours of transport (as required by current EU legislation). This could lead to a worsening of dehydration during the remainder of the journey if sheep are not given sufficient time to drink (Jackson *et al.* 1999). SCAHAW (2002) recommend a rest period of at least six hours after 12 hours of travel for sheep and after eight hours for lambs weighing less than 20kg, during which food and water should be provided. In the case of animals being transported to slaughter, they recommend that journeys of a total duration exceeding 12 hours for sheep and 8 hours for lambs weighing less than 20kg should be avoided.

Knowles *et al.* (1996) conclude "from a welfare point of view, transport distances and times should be kept to the minimum". They add that "this study and previous work show that transport is a stressful process involving psychological and physical

stress". The researchers point out that long journeys can result in increased levels of disease and mortality and that one study shows that after 14 hours transport, sheep take up to 144 hours to fully recover from the journey.

Current EU legislation permits a maximum ramp angle of 26° 34' (50% to the horizontal) for sheep (Council Regulation 1/2005). Sheep are easily frightened by poorly designed ramps during loading. Ramps should have solid sides, a non-slip floor and a maximum angle of 20° to avoid injuries when sheep show a panic response (SCAHAW 2002).

HORSES

Long distance transport of horses commonly results in respiratory disease (shipping fever), largely as a result of prolonged head elevation, which reduces mucociliary clearance rate by around 50% (Derksen 2003). Stress associated with transport is thought to play a major role in making horses susceptible to shipping fever (Jones 2003). Transporting horses for more than 12 hours greatly increases their risk of developing shipping fever (SCAHAW 2002).

Horses require food and water more frequently than ruminants do (SCAHAW 2002). Stull (1999) investigated the impact of journeys ranging from five hours 45 min up to 30 hours on horses transported to slaughter; she found that, as journey length increased, horses suffered increasingly from weight loss, muscle fatigue, dehydration and injuries. 33% of horses were injured on journeys lasting 27-30 hours, compared with 8% on journeys of less than six hours. A loss of 8% of bodyweight was recorded following the longest journey (30 hours).

SCAHAW (2002) conclude "A wide range of measures of physiological responses and increments in disease occurrence show that horse welfare during transport becomes considerably worse after 8-12 hours of transport without rest". They recommend that horses should be rested for at least six hours and given feed and water after eight hours of travel. In the case of horses transported for slaughter they recommend that journeys of a total length exceeding eight hours should be avoided.

Collins *et al.* (2000) found that the proportion of horses who fell during transport was 44% at a higher stocking density compared with 17% at a lower stocking density (1.28 vs. 2.23m²/animal) and that horses had more difficulty getting up again at the higher density. A greater proportion of horses were injured at the higher stocking density: 64% vs. 29% at the lower stocking density.

CONCLUSION

Evidence from the scientific literature indicates that currently permitted journey times under Council Regulation 1/2005 are much too long and that rest periods are inadequate. **Compassion in World Farming believes that the EU Transport Regulation must be amended to place a maximum overall limit of eight hours on journeys to slaughter or for further fattening.** This position is largely in line with the recommendations of the European Commission's Scientific Committee on Animal Health and Animal Welfare (SCAHAW), which in its 2002 report recommended that total duration of journeys to slaughter of pigs, horses, calves (up to six months of age) and lambs of 20kg or less should not exceed eight hours while the total duration of journeys to slaughter of cattle and sheep should not exceed 12 hours (SCAHAW 2002).

The role of long distance transport in the spread of disease

There is a risk of rapid spread of infectious diseases over large distances through the long distance transport of live animals (FVE 2001, SCAHAW 2002, EFSA 2004). Diseases such as foot and mouth disease (FMD), classical swine fever, bovine viral diarrhoea, swine vesicular disease, sheep scab, highly pathogenic avian influenza and Newcastle disease can be transmitted to other animals during transport, presenting a major risk for spreading of disease (SCAHAW 2002). The risk of spreading infectious diseases is increased when animals from numerous sources are mixed together during transport.

The 2001 FMD outbreak was transmitted across the UK and spread to France, Ireland and the Netherlands through the transport of live animals. The Food and Agriculture Organisation of the United Nations (FAO) has warned that the long distance transport of animals is a major factor in the growing threat of devastating animal disease epidemics in Europe (FAO 1998). These diseases can be disastrous in their effect on animal welfare as well as the economics of farming. The 2004 Opinion of the EFSA Scientific Panel on Animal Health and Welfare on the welfare of animals during transport emphasised that "It is well documented that transportation of mammals, birds and fish can spread both animal and zoonotic diseases. If diseases included in the OIE¹ list A occur the economic and welfare consequences of their spread by transportation can be disastrous." A reduction in the number of journeys and a restriction on the distance that animals could be transported within a single journey would slow down the distribution of any infectious disease (Cockram 2007).

Long distance transport not only increases the opportunities for animals to come into contact with diseases, but also makes them more susceptible to infection because of some degree of immunosuppression resulting from stress during transport (SCAHAW 2002). The stress of prolonged live animal transport may also trigger the emergence of a variety of diarrhoeal and respiratory diseases caused by endogenous microorganisms that might not normally lead to disease (Greger 2007). In short, latent pathogens may become active when transporting animals long distances.

¹ World Organisation for Animal Health

EUROPE'S LONG DISTANCE ROUTES

The trade in young calves

Each year, almost one million young calves are transported on very long journeys across Europe, even though young calves suffer greatly during such lengthy journeys.

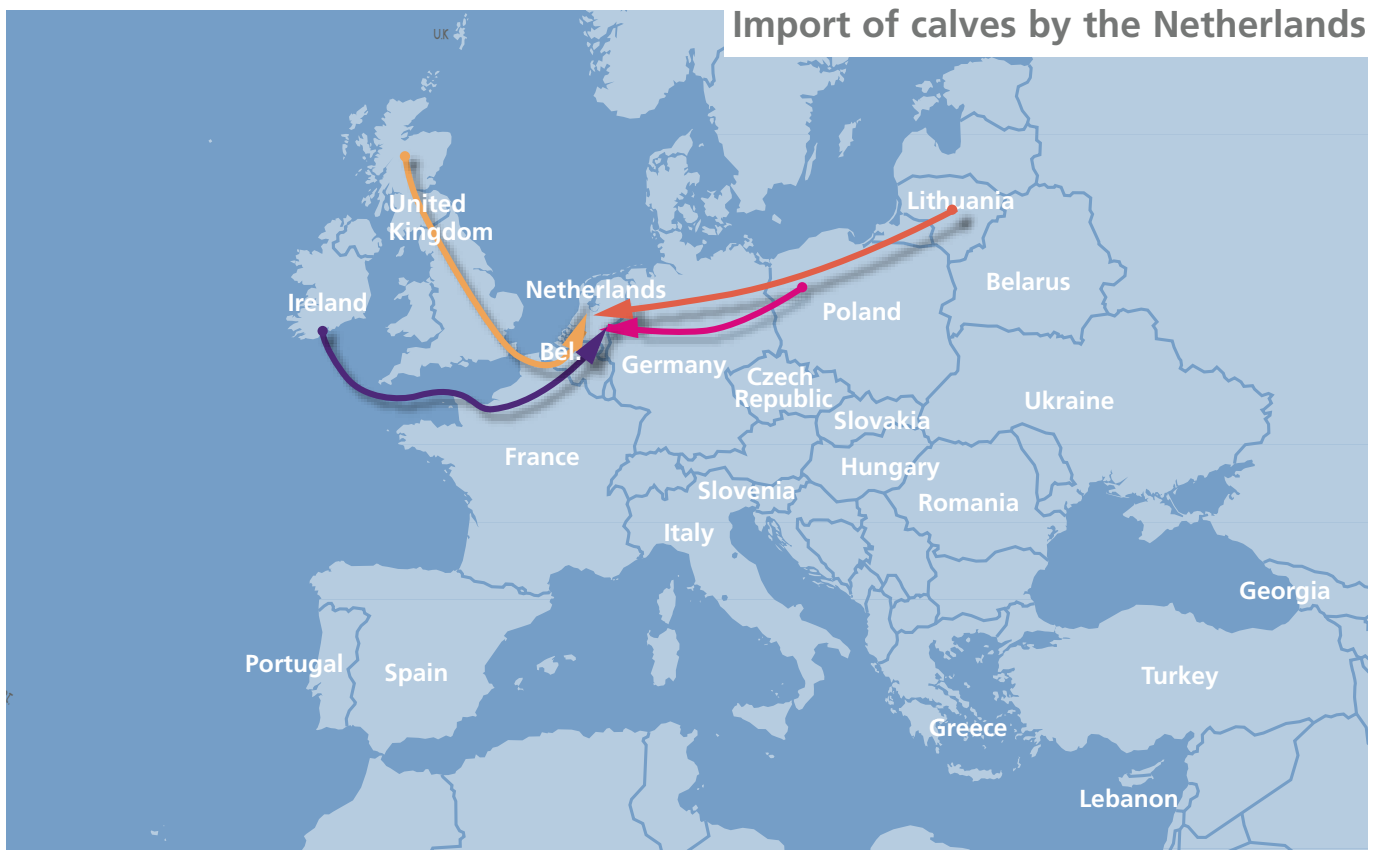
The Netherlands imports around 700 000 young calves each year for its veal production industry. Many of these are transported very long distances from Poland, Lithuania, the UK, Ireland and, in smaller numbers, from Latvia, the Czech Republic and Italy. Table 1 sets out Dutch calf imports in 2006 and 2007 and Figure 1 shows the principal calf import flows.

TABLE 1: Long distance calf imports by the Netherlands, 2006 & 2007

MEMBER STATES EXPORTING TO THE NETHERLANDS	NUMBER OF CALVES (2006)	NUMBER OF CALVES (2007)
Poland	174 106	116 540
UK	70 964	74 473
Ireland	53 591	47 140
Lithuania	42 763	48 363
Latvia	8 863	13 430
Czech Republic	6 859	10 541
Italy	4 718	7 840
Romania	2 178	6 216

Source: P. Westra, author of annual booklet produced by Product Boards for Livestock, Meat and Eggs, the Netherlands

FIGURE 1



Italy and Spain are also major importers of young calves mainly from Poland, but also from Slovakia, Lithuania, Germany and the UK. The biggest of these trades is the export of around 250 000 calves a year from Poland to Italy. Table 2 sets out the long distance export of calves to Italy and Spain in 2006 and 2007 and Figure 2 shows the principal export flows.

A Compassion in World Farming investigation in January 2008 found that calves being sent from Lithuania to the Netherlands, Italy and Spain are often not being unloaded after 18 hours travel and given food, water and 24 hours rest as required by Regulation 1/2005. Animals' Angels has reported on the transport of a consignment of unweaned calves being sent from Lithuania to Belgium. The journey took 28 hours; the animals were not given food, water and 24 hours rest after 18 hours travel as required by the legislation. After just 12 hours rest in Belgium, the calves were transported to further destinations, principally Spain (Animals' Angels 2006b).

One particular problem affecting young calves during long journeys is the great difficulty they experience in drinking on board a truck. The drinking devices on trucks carrying calves from eastern Europe to Italy are often metal nipples. The calves are not used to such nipples and do not know how to make them work. Moreover, the nipples are often positioned in a way that makes it impossible for the calves to drink. As a result the calves increasingly suffer from thirst during the journey.

TABLE 2: Long distance calf exports to Italy and Spain, 2006 & 2007

MEMBER STATES EXPORTING TO SPAIN & ITALY	NUMBER OF CALVES EXPORTED TO ITALY		NUMBER OF CALVES EXPORTED TO SPAIN	
	2006	2007	2006	2007
Poland	240 581	181 404	118 064	97 601
Lithuania	10 291	14 207	9 295	17 399
Slovakia	12 228	7 468		
Czech Republic	12 162	10 598	10 911	12 092
Germany	15 624	11 567	66 984	34 892
Ireland	2 982		17 640	
UK	1 113		19 591	

Source: Eurostat, Cattle Movement Monitoring System, Ireland & UK Department of Environment, Food and Rural Affairs

FIGURE 2

Transport of calves from Poland & Lithuania to Italy & Spain



Transport of cattle from Ireland to Spain, Italy and the Netherlands

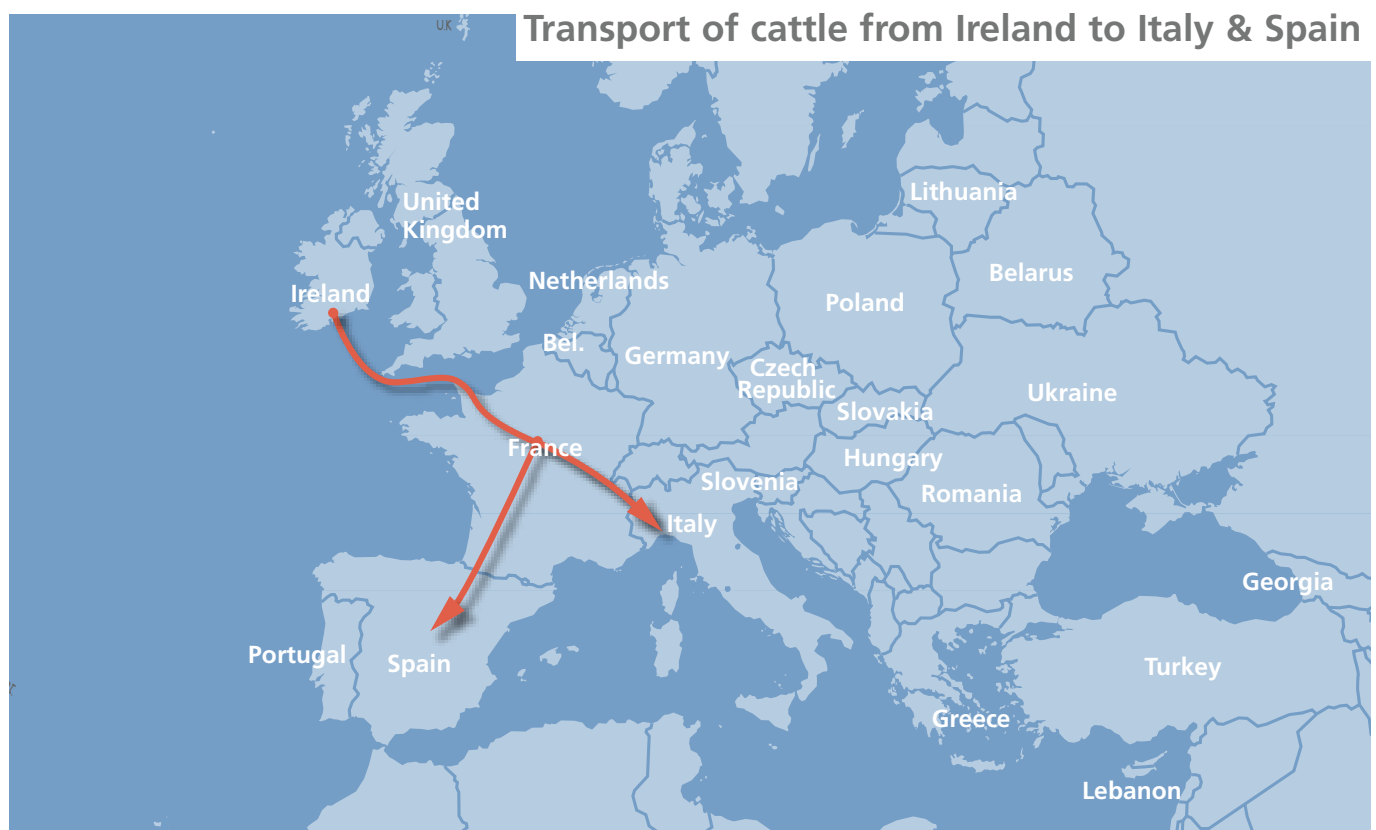
Ireland exports over 100 000 cattle a year to Spain and Italy for fattening; some of these are young calves, but most are weanlings (aged 6-12 months). The journeys to southern Europe take 42-50 hours and are around 2200km in distance. Reports by the European Commission's Food and Veterinary Office (FVO) and by NGOs show that Irish transporters often fail to unload the animals and rest them in France as required by EU legislation (Animals' Angels 2006c). In addition, Ireland exports around 100 000 young calves a year to the Netherlands, Spain, Italy, Belgium and France. Details of Ireland's trade in young calves are set out in Table 3; Figure 3 shows the flow of calves and weanlings from Ireland to Italy and Spain.

TABLE 3: Export of young calves from Ireland, 2006

IMPORTING MEMBER STATES	NO. OF CALVES EXPORTED BY IRELAND
Netherlands	53 591
Spain	17 640
Italy	2 982
Belgium	15 139
France	10 011

Source: Cattle Movement Monitoring System, Ireland & P. Westra, author of annual booklet produced by Product Boards for Livestock, Meat and Eggs, the Netherlands

FIGURE 3



Transport of pigs from the Netherlands

The Netherlands exports two million pigs a year to Spain, Italy and eastern Europe. Some are going for slaughter but most are young pigs being sent for fattening. These long journeys often involve great suffering. Table 4 sets out Dutch pig exports to southern and eastern Europe in 2006 and Figure 4 shows the main export flows.

TABLE 4: Long distance pig exports from the Netherlands to southern and eastern Europe, 2006 & 2007

DESTINATION	NO. OF PIGLETS EXPORTED FOR FATTENING		NO. OF PIGS EXPORTED FOR SLAUGHTER	
	2006	2007	2006	2007
Spain	1 058 543	977 433	12 620	6 007
Italy	331 850	354 188	128 595	112 597
Hungary	195 439	185 245	70 349	39 900
Poland	181 018	269 288	6 102	16 472
Croatia	178 024	153 087	1 135	1 058
Romania	157 706	101 191	1 584	11 994
Slovakia	93 896	45 929	6 663	2 556
Greece	29 611	9 114	967	
Czech Republic	22 131	12 640	5 859	25 184
Bulgaria	15 459	9 430		
Albania	6 816	3 405		
Slovenia	6 533	0		

Source: P. Westra, author of annual booklet produced by Product Boards for Livestock, Meat and Eggs, the Netherlands

Mortality rates on the pig transports to southern Europe are high, as can be seen from the following incidents:

- 2005: 40 pigs died on a journey from the Netherlands to Italy
- 2006: 263 piglets died on a journey from the Netherlands to Greece
- 2007: 190 piglets died on a journey from the Netherlands to Italy
- 2007: 13 Dutch piglets dead on arrival at Spanish farm
- 2007: in Germany blood was seen dripping from a Dutch truck carrying pigs; the truck was overloaded and 127 pigs had severe biting wounds (Dier en Recht 2007)

FIGURE 4

Transport of pigs from the Netherlands to Spain, Italy & CEEC



Transport of pigs from Denmark and Germany to southern and eastern Europe

Denmark and Germany also export pigs to southern and eastern Europe. Most of the trade is in piglets going for fattening; Table 5 sets out the details of this trade. In addition, in 2006 and 2007 exports of slaughter pigs from Germany and Denmark to Italy amounted on average to 25 000 and 8 000 per year respectively.

The unwillingness of some transporters to comply with Regulation 1/2005 was highlighted when, in 2007, a Dutch truck carrying piglets from Denmark to Italy only unloaded the piglets on board for a 12-hour rest at a control post instead of the required 24 hours. The drivers then appear to have falsified the documents, claiming that they had stopped for 24 hours (Animals' Angels 2007a).

TABLE 5: Piglet exports from Denmark and Germany to southern and eastern Europe, 2006 & 2007

EXPORTING MEMBER STATE	IMPORTING MEMBER STATE					
	Spain	Italy	Poland	Hungary	Romania	Czech Republic
Denmark 2006		62 233	21 992	4 406	600	6 902
Denmark 2007	188	179 745	40 868	6 027	5 746	13 724
Germany 2006	169 151	83 356	22 634	1 572	6 642	30 448
Germany 2007	299 520	46 699	8 301	3 529	2 921	41 682

Source: Eurostat 2008

Import of lambs & sheep by Italy and Greece for slaughter

Around 1.5 million lambs and sheep a year are sent from Hungary, Romania, Poland and Spain to Italian abattoirs. Some of the lambs transported to Italy for the Easter festival are as young as four weeks old. Greece imports around 450 000 lambs and sheep a year for slaughter, mainly from Hungary, Romania and Spain. Tables 6 and 7 set out the details of this trade and Figure 5 shows the main import flows. Spain, at the same time as exporting lambs also imports them, some from as far afield as Romania, a journey of around 2500km.

EU legislation is frequently ignored during these long journeys. Often the lambs are not given the rest, food and water required by the law. They are regularly transported in overcrowded trucks with insufficient headroom; some compartments are so low that the lambs touch the ceiling with their heads and/or backs. Insufficient headroom results in the animals not being able to stand in a natural position. In addition, it impedes the circulation of air which leads to poor ventilation; this is a particular problem in hot weather. In the worst cases, overcrowding is so severe that lambs can be seen standing on top of each other.

The number, position and type of drinking devices is usually inadequate on the vehicles carrying these lambs. There are rarely enough drinking devices. Moreover, often they are installed on only one side of the truck; the high stocking densities mean that many lambs simply cannot get to the water and so go thirsty. The very young lambs sometimes cannot reach the water nipples as they are set too high for them. Many are not able to use the water nipples properly as they have no previous experience of such devices: often they bite on them from the side or just lick them and no water comes out.

Breaches of the EU legislation on animal transport are particularly serious in Greece. The European Commission has referred Greece to the European Court of Justice for its failure to properly implement and enforce EU legislation on animal welfare in transport (and at slaughter). The Commission said that the "decision to take this action against Greece follows persistent shortcomings identified in the field of animal welfare over a number of years" (European Commission 2007).

TABLE 6: Lambs and sheep - Italian imports, 2006

EXPORTING MEMBER STATE	NO. OF LAMBS UP TO 1 YEAR IMPORTED BY ITALY	NO. OF SHEEP IMPORTED BY ITALY	TOTAL
EU27 2006	1 706 402	95 058	1 801 460
EU27 2007	1 295 309	113 667	1 408 976
Hungary 2006	676 537	0	676 537
Hungary 2007	779 024	0	779 024
Romania 2006	500 442	2 544	502 986
Romania 2007	50 350	2 683	53 033
Spain 2006	206 437	22 503	228 940
Spain 2007	120 326	35 821	156 147
Poland 2006	103 000	3 259	106 259
Poland 2007	93 589	1 858	95 447
Slovakia 2006	15 044	0	15 044
Slovakia 2007	9 143	0	9 143

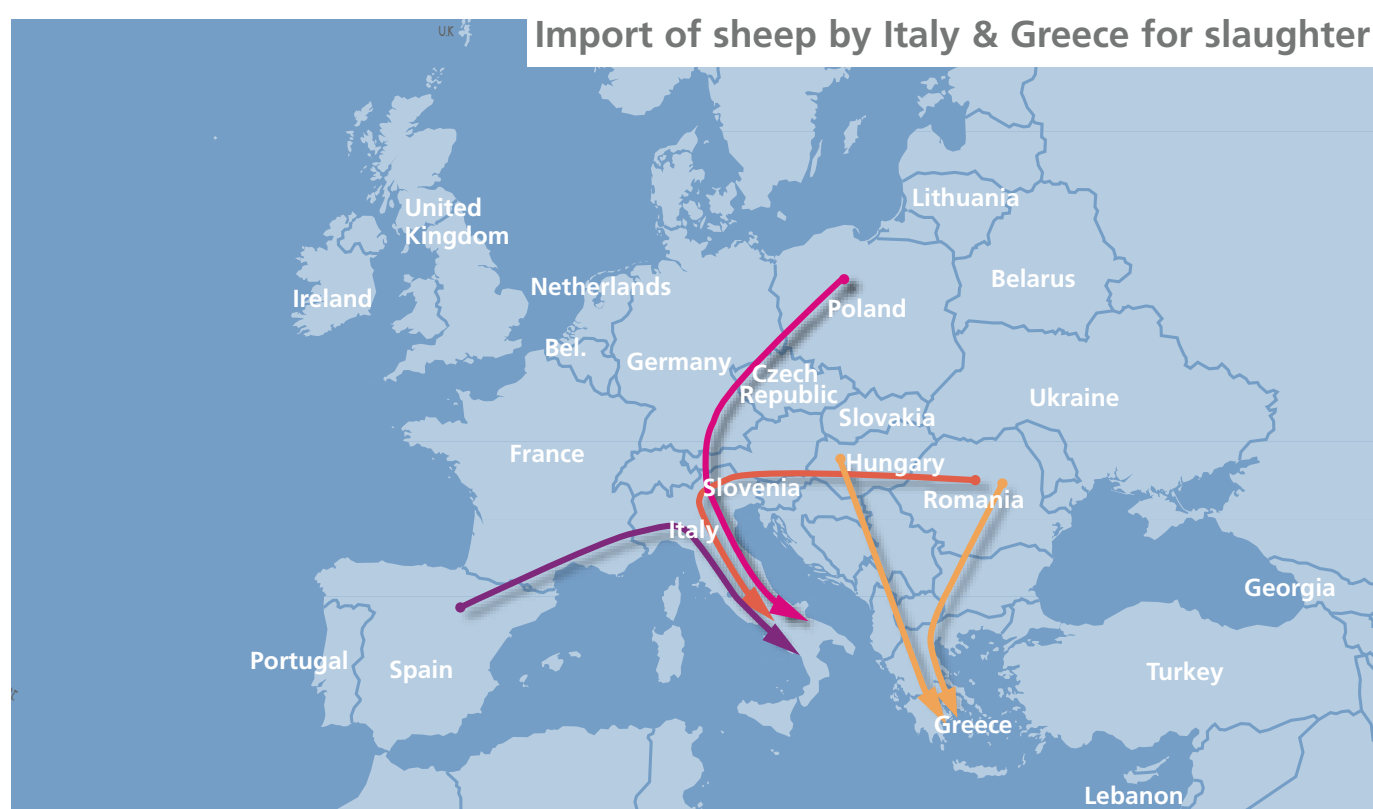
Source: Eurostat 2008

TABLE 7: Lambs and sheep - Greek imports, 2006 & 2007

EXPORTING MEMBER STATE	NO. OF LAMBS UP TO 1 YEAR IMPORTED BY GREECE	NO. OF SHEEP IMPORTED BY GREECE	TOTAL
EU27 2006	390 769	68,480	459 249
EU27 2007	116 375	38 799	155 174
Hungary 2006	212 166	0	212 166
Hungary 2007	47 891	0	47 891
Romania 2006	143 130	1 485	144 615
Romania 2007	32 844	1 183	34 027
Spain 2006	4 029	40 261	44 290
Spain 2007		27 466	27 466
France 2006	23 605	25 930	49 535
France 2007	2 508	9 860	12 368

Source: Eurostat 2008

FIGURE 5



Transports from Spain to Italy

Animals' Angels has monitored exports from Spain to Italy for slaughter for a period of two years. Over 250 000 horses, pigs, sheep and cattle are sent each year from Spain to Italian abattoirs. Animals suffer terribly during these journeys which are often over 2000km. Serious breaches of EU animal protection legislation occur routinely during these journeys. No serious attempt is made by the Spanish authorities to enforce this legislation. As a result, animals are regularly transported for over 35 hours without any proper rest, food or water. Details of this route are set out in Table 8 and Figure 6.

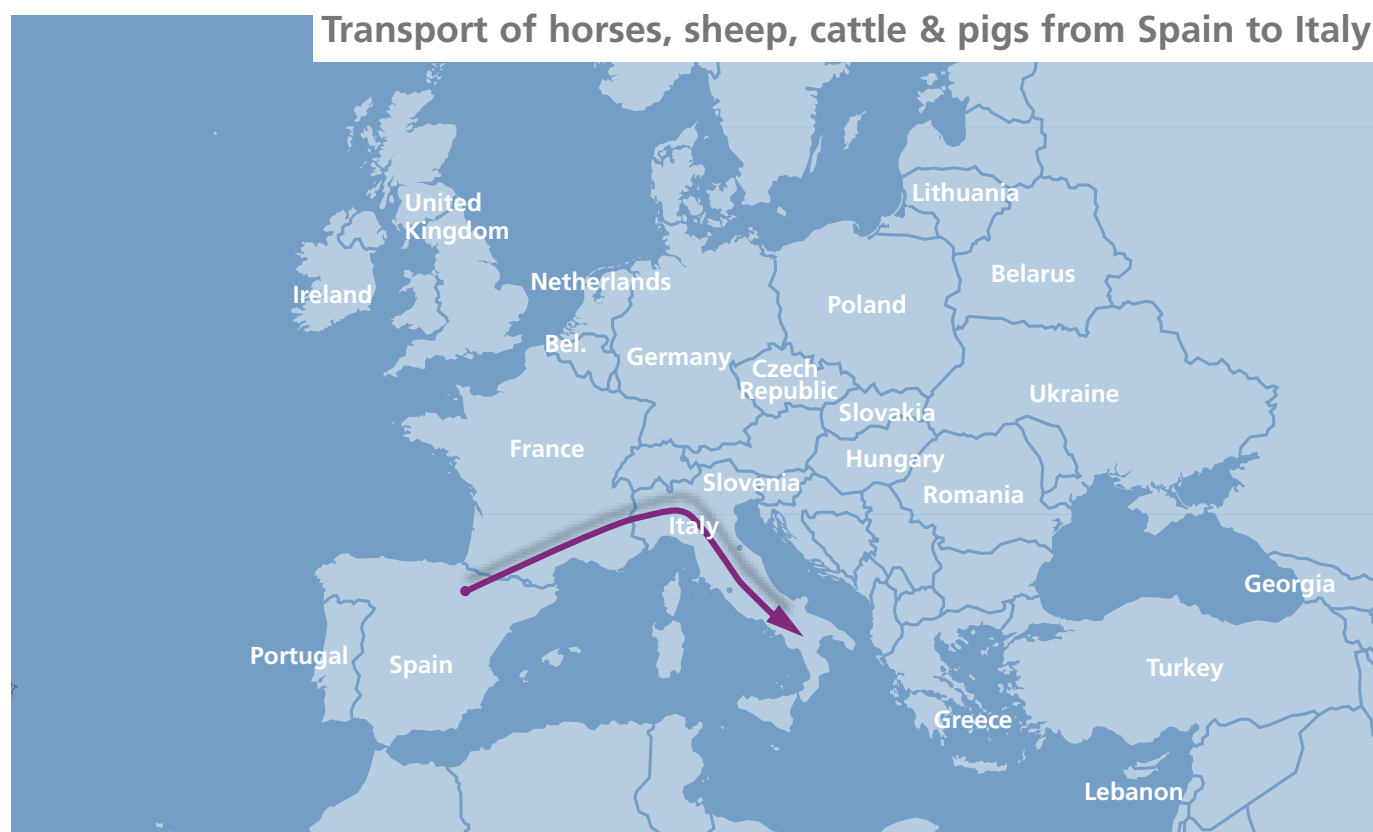
The situation on this route is so serious that in 2007, Compassion in World Farming and Animals' Angels submitted a Formal Complaint to the European Commission. The essence of the Complaint is that for many years the Spanish competent authorities have had detailed knowledge of the severe infractions that occur on a regular basis. Despite this, the Spanish authorities have failed to adopt effective measures to achieve improved enforcement. The Complaint points out that almost every single transport going from Spain to Italy continues to violate EU legislation on the protection of animals during transport.

The FVO has carried out a number of missions to investigate the welfare of animals during transport in Spain. In each case, the FVO has reported serious breaches in Spain of EU legislation on the protection of animals during transport and a widespread failure by the competent authorities in Spain to properly enforce that legislation.

TABLE 8: Export of live animals from Spain to Italy, 2006 & 2007

SPECIES	NUMBER OF ANIMALS 2006	NUMBER OF ANIMALS 2007
Sheep	228 940	156 147
Cattle	17 471	7 488
Pigs	100 883	99 600
Horses	10 774	7 519

Source: Eurostat 2008

Figure 6

Export of horses to Italy for Slaughter

Italy imports over 50 000 horses a year for slaughter from eastern Europe, mainly from Poland, and also from Spain and France. Most of these journeys are extremely long. Horses have been trailed going from Lithuania to Sardinia on a journey of over 90 hours and around 2500km. The details of this trade are shown in Table 9.

Many horses are visibly exhausted from their ordeal and injuries are common. Sometimes horses collapse and are unable to get up due to the high loading density and extreme exhaustion; as a result they are trampled and injured by the other horses. Some horses die during the journey.

An Animals' Angels investigation in 2005 found a blind horse and another with one eye being transported from Spain to Italy (Animals' Angels 2005). In 2006, Animals' Angels reported seeing a stallion that was transported all the way from Poland to Italy with his front legs tied together; as a result he had deep wounds on both legs. Another stallion had a deep wound on the nasal bone, apparently caused by a rope or head collar (Animals' Angels 2006d).

EU legislation is often ignored during these long journeys. The new provision introduced by Regulation 1/2005 that requires horses to be transported in individual stalls is frequently broken.

TABLE 9: Export of horses to Italy for slaughter, 2006 & 2007

EXPORTING MEMBER STATE	NO. OF HORSES IMPORTED BY ITALY 2006	NO. OF HORSES IMPORTED BY ITALY 2007
Poland	26 269	17 608
Belarus	2 715	1 057
Lithuania	2 744	818
Bulgaria	2 973	1 183
Romania	208	11 180
Spain	10 774	7 519
France	5 407	3 207

Source: Eurostat 2008

Export of heifers from EU to Russia

In 2006, the EU exported 29 913 heifers to Russia. In 2007, this figure rose to 61 338. The main exporting Member States are Germany and the Netherlands, followed by Austria, Denmark and France. Table 10 and Figure 7 set out the details of this trade. The export of EU heifers to Russia is supported by the payment of export refunds (subsidies).

The EU heifers (all or most of which we believe to be pregnant) are exported to destinations as far away as Siberia on journeys of up to 6000km. The journey from the Netherlands to Moscow (one of the nearer destinations) takes around 82 hours. Four trucks trailed by Animals' Angels in 2007 were going from the Netherlands to Kazan which is around 700km east of Moscow. Compassion in World Farming believes that it is unacceptable in welfare terms for EU heifers to be transported on immensely long journeys of over 80 hours or more to Russia.

The four consignments trailed by Animals' Angels did not stop at a control post at any stage of the journey to unload the animals so that they could be given food, water and 24 hours rest (Animals' Angels 2007b). This failure to stop at a control post was in breach of EU legislation.

Commission Regulation (EC) No 639/2003 lays down detailed rules as regards requirements for the granting of export refunds related to the welfare of live bovine animals during transport. Article 1 provides that payment of export refunds for live bovine animals shall be subject to compliance, during the transport of the animals to the first place of unloading in the third country of final destination, with the provisions of EU legislation on the protection of animals during transport.

Compassion in World Farming fears that it may be quite common for heifers being transported from the EU to Russia not to be unloaded at a control post after 28 hours travel and given food, water and 24 hours rest as required by Regulation 1/2005.

Compassion in World Farming also believes that it is not possible for transports to Russia in winter to comply with the requirement in Paragraph 3.1 of Chapter VI of Annex 1 to Regulation 1/2005 that temperatures in a livestock vehicle must not fall below 5°C (with a 5°C tolerance).

Compassion in World Farming urges the Commission and the Member States to ensure that export refunds are not paid in cases where EU legislation on the protection of animals during transport has not been complied with all the way to the first place of unloading in Russia.

TABLE 10: Export of heifers from EU to Russia, 2006 & 2007

EXPORTING MEMBER STATES	2006	2007
EU	29 913	61 338
Germany	18 979	31 826
Netherlands	0	18 073
Austria	3 793	5 831
Denmark	3 787	1 699
France	1 545	1 321

Source: Eurostat 2008

FIGURE 7



ENFORCEMENT PROBLEMS

Many transporters ignore key aspects of the EU legislation and many Member States have been failing to enforce the law. This is evidenced by reports by the FVO as well as by reports by Compassion in World Farming and Animals' Angels, all of whom have monitored the trade.

The following breaches of the legislation have been common for many years:

- Deficient checks by the authorities in Member State of departure. In some cases the authorities accept journey logs (plans) that show unrealistically short journey times with the result that the rest stops that are obligatory for long journeys are neither planned nor carried out
- Permitted loading density is exceeded. Overcrowding leads to heat stress as well as making it impossible for animals to all lie down at the same time or to get back onto their feet if they fall. In addition, in an overcrowded truck, many animals cannot reach the drinking devices and it is difficult, even impossible for the driver to gain access to injured animals
- Insufficient headroom. Lack of sufficient height impedes air flow and so impairs ventilation. It also means that for long periods animals are forced to stand in an unnatural position
- Failure to provide water on the vehicle
- Failure to unload and provide rest, water and food mid-journey. Regulation 1/2005 (and previously Directive 91/628) provides that after 24 hours travel, pigs and horses must be unloaded and given 24 hours rest, food and water; the same applies to sheep and cattle after 28 hours travel and to unweaned animals after 18 hours travel. These requirements are regularly ignored. In some cases, transporters do not stop at all for the 24-hour rest period. In other cases they do stop but for significantly less than the legally required 24 hours
- Trucks failing to meet the vehicle standards laid down by the legislation for journeys exceeding eight hours
- The transport of unfit animals.

STEPS THAT MEMBER STATES SHOULD TAKE TO PROPERLY ENFORCE LEGISLATION

CHECK THE JOURNEY LOG

Member States of departure must properly check journey logs and reject those that do not have realistic estimated journey times or that indicate that the EU legislation will not be complied with during the journey. This is a requirement under Article 14(1)(a) and (b) of Council Regulation 1/2005.

The sensible way to check if the estimated journey time is realistic is to check it on a computer programme such as <http://www.viamichelin>. Meal and toilet stops for the drivers must be added to the driving time given by the computer, as well as an allowance for delays due to heavy traffic.

The journey log must show that the transporter intends to stop at an approved control post and unload the animals for food, water and at least 24 hours rest (i) after 24 hours travel in the case of pigs and horses, (ii) after 28 hours travel in the case of sheep and cattle and (iii) after 18 hours travel in the case of unweaned animals. If the vehicle does not meet certain standards, the animals must be unloaded for food, water and 24 hours rest after eight hours travel. If the journey log does not show the intention to stop at a control post, the competent authority must reject it.

CHECKS DURING THE JOURNEY

Article 15(1) of the Regulation provides that:

“The competent authority shall carry out at any stage of the long journey appropriate checks on a random or targeted basis to verify that declared journey times are realistic and that the journey complies with this Regulation and, in particular, that travel times and rest periods have complied with the limits set out in Chapter V of Annex I.”

Under Article 15, the competent authority must carry out checks. One of the most effective places to do this would be during the loading of the animals at the start of the journey. The authorities should check a proportion of loadings. At this time, they would be able to observe and deal with the following common problems:

- Animals being carried at above the loading densities permitted by the Regulation
- Insufficient headroom
- The use of vehicles that do not meet the standards required for journeys over eight hours
- Unsuitable or non-functioning water devices
- Water tanks not filled with water
- Inadequate ventilation
- The transport of unfit animals.

RETURN OF COMPLETED JOURNEY LOG

Paragraph 8 of Annex II to the Regulation requires transporters to return the completed journey log to the competent authority within one month of the end of the journey. We fear this is rarely done in certain Member States. The competent authorities should insist on the return of the journey logs and then check them to see if the Regulation was complied with during the journey.

EFFECTIVE LIAISON BETWEEN MEMBER STATES

Article 26 requires competent authorities of countries of transit or destination, when they find breaches of the Regulation, to report them to the country of departure so that it can take steps to prevent a recurrence of these breaches. Countries of departure and of destination should establish clear arrangements with each other under which the destination authorities notify breaches that they find to the authorities of the country of departure who can then take steps to ensure that similar breaches do not occur in future.

TRANSPORT OF UNFIT ANIMALS

The transport of unfit animals remains common in a number of Member States even though such transport is clearly prohibited by EU legislation.

Animals' Angels has conducted a lengthy investigation into the fate of dairy cows when, at the end of their working life, they are sent for slaughter. They found sick and injured cows, who should have been euthanised, being regularly forced to the abattoir so that they can be put into the human food chain. These journeys cause great suffering - and are illegal.

A film by Compassion in World Farming and Animals' Angels entitled *Forbidden Journeys* shows dairy cows that cannot stand up or walk having ropes or chains attached to a leg or their neck and then being dragged off the truck and into the slaughterhouse. Sometimes tractors are used to shove the wretched creatures on to the truck or across the slaughterhouse yard. This cruel treatment causes immense pain and distress.

SATELLITE NAVIGATION

A great deal of faith is being placed by Commission and Member State officials in the requirement that from 2009, all vehicles carrying animals on journeys over eight hours must have a satellite navigation system. Regulation 1/2005 stipulates that transporters must keep the records obtained by the navigation system for at least three years and must make them available to the competent authority upon request.

The advent of mandatory satellite navigation systems is welcome. There is, however, a fundamental flaw in the legislation. The records will only be seen by the competent authority if it requests them. It is difficult to believe that the competent authorities in countries that to date have shown little interest in enforcing Regulation 1/2005 will ask to see the records.

Compassion in World Farming believes that Regulation 1/2005 must be amended so that key aspects of the records are transmitted to the competent authority in real time. In particular, the satellite navigation system should be programmed to send a message to the competent authority when a livestock vehicle has driven for more than the permitted number of hours without stopping at a control post. This would allow action to be taken to prevent the journey from continuing without the animals first being unloaded and given 24-hours rest, food and water.

References

- Animals' Angels. 2005. *Investigation into animal transports from Spain to Italy, summer 2005*.
- Animals' Angels 2006a. *Transport of horses from France to Italy, 26-28/07/06*.
- Animals' Angels. 2006b. *Calves from Lithuania to Belgium, June 2006*.
- Animals' Angels. 2006c. *Trailing of an Irish calf lorry, 12/06/2006*.
- Animals' Angels. 2006d. *Transport of horses from Poland to Italy, 28/07/06*.
- Animals' Angels. 2007a. *Transport of piglets from Demark to Italy, 26.04.2007*.
- Animal' Angels. 2007b. *Observations on transports of "breeding" cattle to Russia: 16.02-21.02 2007*
- Atkinson P. J. 1992. Investigation of the effects of transport and lairage on hydration state and resting behaviour of calves for export. *Veterinary Record* **130**: 413-416.
- Baldock N. M. and Sibly R. M. 1990. Effects of handling and transportation on the heart rate and behaviour of sheep. *Applied Animal Behaviour Science* **28**: 15-39.
- Bradshaw R. H., Parrott R. F., Goode J. A. et al. 1996. Behavioural and hormonal responses of pigs during transport: effect of mixing and duration of journey. *Animal science* **62** :547-554.
- Bremner K. J., Matthews L. R., Brears D. and Painting A. M. 1992. Behaviour and welfare of calves during transportation: unloading. *New Zealand Animal Production Science* **52**: 13-75.
- Brown S. N., Knowles T. G., Edwards J. E. and Warriss P. D. 1999a. Relationship between food deprivation before transport and aggression in pigs held in lairage before slaughter. *Veterinary Record* **145**: 630-634.
- Brown S. N., Knowles T. G., Edwards J. E. and Warriss P. D. 1999b. Behavioural and physiological responses of pigs to being transported for up to 24 hours followed by six hours recovery in lairage. *Veterinary Record* **143**: 421-426.
- Cockram M. S. 2007. Criteria and potential reasons for maximum journey times for farm animals destined for slaughter. *Applied Animal Behaviour Science* **106**: 234-243.
- Cockram M. S., Kent J. E., Waran N. K. et al. 1999. Effects of a 15h journey followed by either 12h starvation or ad libitum hay on the behaviour and blood chemistry of sheep. *Animal Welfare* **8**: 135-148.
- Collins M. N., Friend T. H., Jousan F. D. and Chen S. C. 2000. Effects of density on displacement, falls, injuries and orientation during horse transportation. *Applied Animal Behaviour Science* **67**: 169-179.
- Commission Regulation (EC) No 639/2003 of 9 April 2003 laying down detailed rules pursuant to Council Regulation (EC) No 1254/1999 as regards requirements for the granting of export refunds related to the welfare of live bovine animals during transport. *Official Journal L* **93**, 10.4.2003. p10.
- Council Regulation (EC) No 1/2005 of 22 December 2004 on the protection of animals during transport and related operations and amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) No 1255/97. *Official journal L* **3**, 05.01.91. pp1-42.

Derksen F. J. 2003. *Pulmonary defense mechanisms and equine transport*. Second International Conference on the Transportation of Horses, Hartpury College, Gloucestershire, 12th-13th July 2003.

Dier en Recht. 2007. *Animals suffer in European transports – Holland is setting the wrong example*.

EFSA. 2004. Opinion of the Scientific Panel on Animal Health and Welfare on a request from the Commission related to the welfare of animals during transport (Question N° EFSA-Q-2003-094) adopted on 30 March 2004. *The EFSA Journal* **44**: 1-36.

Elmer S. and Reinhold P. 2003. Consequences of changing ambient temperatures in calves - Part 1: Immediate reactions of the respiratory system, the circulation system, metabolism and thermal regulation. *Deutsche Tierärztliche Wochenschrift* **109**: 182.

European Commission. 2007. *Commission refers Greece to Court over animal welfare infringements*. European Commission News Release. 21.03.2007.

European Parliament. 2001. *European Parliament resolution of 13 November 2001 on the Commission report on the experience acquired by the Member States since the implementation of Council Directive 95/29/EC amending Directive 91/628/EEC concerning the protection of animals during transport* (COM (2000) 809-C5-0189/2001-2001/2085 (COS)) – A5 – 0347/2001.

FAO. 1998. <http://www.fao.org/news/1998/980204-e.htm>

Fazio E., Medica P., Alberghina D. *et al.*. 2005. Effect of long-distance road transport on thyroid and adrenal function and haematocrit values in Limousin cattle: influence of body weight decrease. *Veterinary Research Communications* **29**: 713-719.

FVE. 2001. *Transport of live animals: FVE position paper*. Federation of Veterinarians in Europe, FVE/01/043, 18.05.01.

Greger, M. 2007. The Human/Animal Interface: Emergence and Resurgence of Zoonotic Infectious Diseases. *Critical Reviews in Microbiology* **33**: 243–299.

Hemsworth P. H., Barnett J. L., Beveridge L. and Matthews L. R. 1995. The welfare of extensively managed cattle: a review. *Applied Animal Behaviour Science* **42**: 161-182.

Jackson R. E., Cockram M. S., Goddard P. J. *et al.* 1999. The effects of 24h water deprivation when associated with some aspects of transportation on the behaviour and blood chemistry of sheep. *Animal Welfare* **8**: 229-241.

Jarvis A. M., Selkirk L. and Cockram M. A. 1995. The influence of source, sex class and pre-slaughter handling on the bruising of cattle at two slaughterhouses. *Livestock Production Science* **43**: 215-224.

Jones J. H. 2003. *Changes in heart rate variability during 24 hours of road transport in thoroughbred horses*. Second International Conference on the Transportation of Horses, Hartpury College, Gloucestershire, 12th-13th July 2003.

Knowles T. G. 1995. A review of post transport mortality among younger calves. *Veterinary Record* **137**: 406-407.

Knowles T. G. 1999. A review of road transport in cattle. *Veterinary Record* **144**: 197-201.

Knowles T. G., Brown S. N., Warriss P. D. *et al.* 1995. Effects on sheep of transport by road for up to 24 hours. *Veterinary Record* **136**: 431-438.

Knowles T. G., Warriss P. D., Brown S. N. *et al.* 1996. Effects of feeding, watering and resting intervals on lambs transported by road and ferry to France. *Veterinary Record* **139**: 335-339.

Knowles T. G., Warriss P. D., Brown S. N. *et al.* 1997. Effect on calves less than one month old of feeding or not feeding them during road transport of up to 24 hours. *Veterinary Record* **140**: 116-124.

Knowles T. G., Warriss P. D., Brown S. N. and Edwards J. E. (1999) Effects on cattle of transportation by road for up to 31 hours. *Veterinary Record* **145**: 575-582.

Knowles T. G., Brown S. N., Edwards J. E., Phillips A. J. and Warriss, P. D. 1999. Effect on young calves of a one-hour feeding stop during a 19-hour journey. *Veterinary Record* **144**: 687-692.

Malena M., Voslarova E., Kozak A. *et al.* 2007. Comparison of mortality rates in different categories of pigs and cattle during transport for slaughter. *Acta Veterinaria Brno* **76**: S109-S116.

McNally P. W. and Warriss P. D. 1996. Recent bruising in cattle at abattoirs. *Veterinary Record* **138**: 126-128.

Mormede P., Soisson J., Bluthé R. *et al.* 1982. Effect of transportation on blood serum composition, disease incidence and production traits in young calves. Influence of the journey duration. *Annals of Veterinary Research* **13**: 369-384.

Parish, N. 2008. News release: *Animal transports should be 'on the hook', not 'on the hoof'* issued by Neil Parish MEP, 12 February 2008.

Parrott R. F., Hall S. J. G. and Lloyd D. M. 1998. Heart rate and stress hormone responses of sheep to road transport following two different loading procedures. *Animal Welfare* **7**: 257-267.

Parrott R. F., Lloyd D. M. and Brown D. 1999. Transport stress and exercise hyperthermia recorded in sheep by radiotelemetry. *Animal Welfare* **8**: 27-34.

Randall J. M. and Bradshaw R. H. 1998. Vehicle motion And motion sickness in pigs. *Animal Science* **66**: 239-245.

- SCAHAW. 2002. Report of the Scientific Committee on Animal Health and Animal Welfare adopted on 11 March 2002: *The welfare of animals during transport (details for horses, pigs, sheep and cattle)*. European Commission, 11.3.2002.
- Schrama J. W., Heetkamp M. J. W., Verstegen M. W. A. et al. 1996. Responses of young calves, on two levels of feeding, to transportation. *Animal Science* **63**: 79-89.
- Steinhardt M. and Thielscher H. H. 1999. Maturity of suckler calves and dairy calves at the second and third week of postnatal age and forms of reaction of the animals to transport by road. *Landbauforschung Volkenrode* **49**: 70-89.
- Stull C. L. 1999. Responses of horses to trailer design, duration and floor area during commercial transportation to slaughter. *Journal of Animal Science* **77**: 2925-2933.
- Tarrant P. V., Kenny F. J., Harrington D. and Murphy M. 1992. Long distance transportation of steers to slaughter: effect of stocking density on physiology, behavior and carcass quality. *Livestock Production Science* **30**: 223-238.
- Thielscher H. H. and Steinhardt M. 2004. Physiological reactions of suckler calves from a cow-calf operation exposed to transport and temporary separation from herd mates in winter stalling. *Berliner und Munchener Tierarztliche Wochenschrift* **117** (3-4): 88-96.
- Todd S. E., Mellor D. J., Stafford K. J. et al. 2000. Effects of food withdrawal and transport on 5 - 10-day old calves. *Research in Veterinary Science* **68**: 125-134.
- Trunkfield H. R. and Broom D. M. 1990. The welfare of calves during handling and transport. *Applied Animal Behaviour Science* **28**: 135-152.
- Van de Water G., Heylen T., Swinnen K. and Geers R. 2003. The impact of vertical vibrations on the welfare of calves. *Deutsche Tierarztliche Wochenschrift* **110**: 111-114.
- Warriss P. D. 1998. The welfare of slaughter pigs during transport. *Animal Welfare* **7**: 365-381.
- Warriss P. D. and Brown S. N. 1994. A survey of mortality in slaughter pigs during transport and lairage. *Veterinary Record* **134**: 513-515.
- Warriss P. D., Brown S. N., Knowles T. G. et al. 1995. Effects on cattle of transport by road for up to 15 hours. *Veterinary Record* **136**: 319-323.
- Weeks C. 2007. *UK calf transport and veal rearing*. A report for Compassion in World Farming.

