Animal welfare issues in grazing

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INTRODUCTION
From the very beginning cattle was linked to the pastures and there have been also attempts to provide a scientific definition. ‘Five Freedoms for Animal Welfare’ is an internationally recognized definition first created by the Farm Animal Welfare Council, a body set up by the UK government in 1968. The needs should be met under all circumstances and the same approach is applicable to all types of animals use by humans:
• Freedom from hunger and thirst
• Freedom from pain, injury and disease
• Freedom from fear and stress
• Freedom to express normal behaviour

THE IMPORTANCE OF ANIMAL WELFARE
People in modern world more increasingly expect a better quality of life. At the point where all basic needs are satisfied there is an expectation that animals, whether livestock, pets or pests are treated with kindness and respect. This will be more economical or ethical approach.

DEFINITION OF ANIMAL WELFARE
Broom (1988) defined welfare as the state of animals regarding their attempts to cope with their environment. A more useful definition of well-being was provided by Hurnik et al. (1995). The authors state welfare is ‘a condition in which physical and psychological harm exists between the organism and its surroundings’. In the opinion of these authors, the most reliable indicators of well-being are good health and manifestation of a normal behavioural repertoire. It is common, that for example lame cow is not able to express normal dairy cattle behaviours (Juarez et al., 2003), because of pain caused by weight bearing which is seriously affecting her movements (Galindo and Broom, 2002). Wide range of publications asserts concerns of cattle welfare related to lack of movement in intensive production systems (Logue et al., 1998; Galindo and Broom, 2002). Facilities which are helping to make every day job easier and friendlier for humans should be also friendly for animals. If we represent the same mammal class, we should ask ourselves how we would feel in the conditions we serve to animals.

Animal welfare contains a lot of complex issues and there have been also attempts to provide a scientific definition. ‘Five Freedoms for Animal Welfare’ is an internationally recognized definition first created by the Farm Animal Welfare Council, a body set up by the UK government in 1968. The needs should be met under all circumstances and the same approach is applicable to all types of animals use by humans:
who responded by demanding better animal welfare standards in the production chains. There are intricate interactions between processes regulating growth, reproduction, product quality and biological outputs (Seng and Laporte, 2005). Modern livestock systems are not interested anymore in high yield short living cows, but in medium milk yield and long living cows. There is a demand in occurrence of production diseases, cuts in vet bills, animals are not exploited so much. Finally cows can be easily kept outdoor, with use of supplementary feed, the lower costs were found to be the best in the time of economic crisis, pressure of natural milk plants and lobby of retailers (superstores) (Gill et al., 2010). Welfare has a massive impact on the animal from the moment it is born to the time it is slaughtered. The weak body of the newborn animal needs enormous amount of care and awareness. Infections and basic conditions are the key factors influencing the next months or years of life. In the same time every little lack of the welfare actions which are not taken will decrease the profitability of the production. Moving of animals needs to be done with utmost care, no stresses and fears. Meat of animals which have bruises on the bodies will not be competitive any more. Stressed animals will produce less meat or milk and the quality will be also lower. Any suspicion might be minimised, efficiency can be improved and good meat quality can be maintained if gentle handling in well-design facilities is in order. Inadequate handling procedure increases stress and bruising. What can be found in the meat of pigs or beef is the pale soft exudative symptom. Pale soft exudative meat syndrome is caused by combination of over heating, stress and rapid decline in meat pH. The similar one is also rapidly fluctuating temperature, rough handling, mixing strange cattle together prior to slaughter at the plant. All these plans are recognised by producers and retailers. Positive attitude is with the profit to the animals and production. If it is not applied, wide range of bad experiences and frustration can be met, making the job not rewarding and underestimated by others.

**ADVANTAGES**

**Animal welfare**

Pasture provides the best surface for cattle hoofs and old age can prevent animals from exercise (Sairanen et al., 2006). Cattle can strengthen legs, hoofs and manifest natural feed searching and exercise (Sairanen et al., 2006). Cattle can strengthen and offers the great opportunity for animals to observe their animals frequently can identify and separate them, but until that calf will be more developed. Robbins (2001) estimated, whether dairy or beef cattle kept outdoor, are receiving less antibiotics. Overuse of some medicines in animals may affect that some bacteria might be antibiotic resistant. Some crucial aspect of keeping cattle on pasture was pointed out by Brazil et al. (2007) that animals are less likely to get infected with Escherichia coli O157:H7. Animals kept in the pasture can become more sensitive to the bacteria and it is friendlier environment for their surviving. Switching the cattle from the concentrated feed to hay and natural recryst. The population of Escherichia coli by as much as 70 percent.

Cattle grazing mechanism is different to those of housed and grassed cattle. The best survival is when cattle is grazing in bare ground, so the dense swards can be opened. Cattle outdoor can control development of invasive grasses such as purple moor grass (Molinia caerulea) and mat grass (Nardus stricta). Schulte and Lantinga (2002) found moor-grass grazing by yearling heifers helping in sword changes which in turn improve animal performance in the next year.

Protection of natural grassland resources is in interest of many scientists. Mitchell et al. (2008) noticed that grazing animals discreetly and laying areas lead to an uneven grasses distribution over the sward. Creation of greater variation of sward structures helps the biodiversity. Species such as heather (Calluna vulgaris) can germinate thanks to trampling cattle by creation of disturbed soil patches. There is also a positive effect of animals' dung on invertebrate populations. Plants can also be maintained in an early stage of growth by ruminants' digestive system which is breaking woody materials. Finally, Kim et al. (2008) pointed out cattle activity can have a destructive impact on bogs and fens where more sensitive plants are growing. Studies have shown that breeds from grasslands areas like Ireland, Scotland or Welsh are performing better than continental breeds when grazing on rough pastures and dwarf shrub heaths (Hampton, 2008). All determinants collected together help to imagine how herding of ruminants can provide natural benefits on pasture. These examples confirm necessity of do door activities and harmony between grazing animals and environment.

**Economy**

In the animal production calculations grazing is taken into account according to high feeding efficiency. In the time of low milk prices there should be a cutting-costs policy applied (Dailey, 2009).
Guidelines and legislation

In most EU countries cows are housed all year round; there are plenty of reports and booklets suggesting the best husbandry solutions for animals. The Swedish Farm Animal Welfare Ordinance (SFV, 1998) states that heifers and dairy cows shall be on pasture during the summer season (Landes, 2009). That rule is not absolutely in agreement with what is allowed in a limited area one cannot be able to compete, for example with cheaper Danish milk. Most of them prefer import of Danish milk to be banned or let the cow be indoor all year round. In the opinion of the animal welfare groups the average number of cows in the farms in Sweden has been the last 30 years. Animals are living under higher production pressure, that might affect occurrence of production-related diseases. Existing Community legislation contains provisions on basic animal welfare considerations.

Article 3 of Directive 98/58/EC is stating that ‘Member States shall make provision to ensure that animals reared in intensive systems have access to well-drained pastures or other suitable outdoor facilities. The paper highlighted that dairy cattle should be provided with minimum time of movement at least during the summer or dry weather (Lymbery, 2010).

Excessive grazing helps to improve animal welfare and environment. . Directive on the welfare of dairy cows will be applied in all member states. There will be pressure to estimate alternative management strategies for reducing methane production, by reducing grass and forage in the rations and increase cereal based concentrates (Garwes, 2010). A 2009 Scientific Opinion by the European Food Safety Authority (EFSA) is the latest EU official document (not EFSA’s Commission requirement yet) about welfare of dairy cows. The suggestion states that dairy cows should be given access to well managed pastures or other suitable outdoor facilities. The long term effort to breed cattle adapted to grazing is needed. For example, in countries like Belgium, Holland and France there is a tendency reported in the public for grass fed beef preference. Local butchers found a niche for slaughtering and selling more grass-fed beef then before. Customers have experienced that system is affecting better flavour, cooking and handling. The main concept of grazing-based dairy systems is to minimise the feeding costs and maximise the expensive resources needed in the ordinary intensive rotational grazing (MIG) of pastures. Whatever the name of the system the aims are the same: to increase animal production and maintain a positive contribution to the UK food security and profitability. The same has to do with sheep and the meet production systems which can be found in Ireland. Grazing cows are able to graze more effectively. In the time when confinement dairies in periods of low milk production are focusing on intensive rotational grazing (MIG) of pastures, Ireland is implementing rotational grazing which is more attractive is the weather condition which is often too wet for grazing.
risk is much higher, if cattle are brought into an infected area. Tick control products might help with achieving positive results. It is easy to spread the pathogen of infected cattle to clean area. Another tick related problem in cattle is Louping III. Wraithall (2000) stated that cattle itself play an important role in sustaining the virus. In conditions where cattle is the part of the nature conservation programme, cattle on wet moorland can get a liver fluke easier than in any other environments. Furthermore, mainly in less developed areas of our globe, the welfare issue included the provision of shelter for cattle should be considered. This is also applicable in the wildlife resources, conservation parks and reservations. Proper fencing is the crucial issue. This is not only protection against predators, but also effective way of keeping herd on the grassland. The best example might me Australia, New Zealand, African countries. Basically, grazing offers lower input costs, but also increases opportunities for parasites transmission, compared to confinement facilities. Work of Cordia et al. (1982) pointed out a general increase in the number of larvae on pasture when cattle appeared and decrease when cattle were moved to the other location. From the old farmers’ practice and form the science it is known that one of the solutions might be to graze other animals after another (Gettys et al., 1987). Both species have a susceptibility to different larvae and total infection level can decrease. According to Svensson et al. (1994) grazing a different larvae and total infection level can decrease.

Beef cattle

The grazing topic was taken for consideration by food and health workers. Extensive grazing by cattle can create a favourable environment for native forbs and herbs. Nevertheless, in most of the parts of the world, biodiversity is reduced due to overgrazing (Wilson, 2003). There is a debate in the USA about the animal production and its impact on the environment. In the western states there is a huge pollution of water, topsoil is eroded, fish are dying, wildlife is displaced and vegetation is endangered (Robbins, 2001). All of that because of the intensive exploitation of public lands by grazing cattle. There is a Wildlife Services operating and killing all creatures that might compete with the livestock. 1.5 million wild animals annually are poisoned, trapped, snared, penned, burned in the nests and shot (Robbins, 2001). Similar impact of grazing cattle is found in Brazil. The government is also seeking to boost its share of the world beef market from 30 per cent to 60 per cent in the next decade McCarthy (2009). That means that more Amazonian rangeland will be razed to make way for cattle and the wildlife can be endangered. Unlike that fear, Rosenthal (2009) discovered for every hectare of forest cut down each year, more than 50 hectares of new forest are growing in the tropics. Manly on the land that was once ravaged by natural disaster, logged or farmed. Others believe that raising cows in pastures is more sustainable than raising cows in feedlots. However, a pasture requires more land on which to live and does not grow as quickly as a grain-fed cow in a feedlot.

Dry cows

In the research of Boyle and Olmos (2008) health of dry cows housed during the winter was in better condition compared to cows out-wintered on deferred grass. There was also reported deterioration in the hoof health of lactating cows that were grazing late in the autumn. Injuries might be explained by extended grazing and inappropriate surface for hooves, like muddy, wet underfoot conditions. Cows are avoiding lying down, what seems to be a major stressor of dairy cows. High levels of rainfall make the hooves soffen and they are more susceptible to injuries if the cows have to walk on muddy roadways. The best solution would be to improve shelter options at pasture and use alternative materials for farm roadways to minimise lameness.

CONCLUSIONS

Grazing cows on pasture, at least during the summer season, is considered as a very important welfare issue in many countries. This contributes to improved wellbeing and health of animals. It is recognized by the public, health, medical and veterinary authorities, labor and public opinion as an important issue, and a really important measure in order to achieve higher levels of animal welfare and productivity.

That all depends, who has an interest in – public opinion – (consumers), farmers, retailers, processors, politicians, wildlife or farm animals producers. Furthermore, there are constraints on dairy production, a proactive approach to cow welfare is crucial. There is an increased public awareness about farm animal welfare. Therefore, public acceptance of the breeding, feeding and management practices employed in the dairy industry is needed. This combined with tighter restrictions on dairying through EU animal welfare legislation, means that there will be a substantially increased need for work on dairy cow welfare in general and, particularly, on dairy cow welfare in pasture-based systems of milk production. In a time when herd sizes are increasing and there is a shortage of people willing to work on dairy farms, labour-efficient systems of production are crucial factors affecting expansion and sustainability.

REFERENCES


