

8

AN OVERVIEW OF THE APPLICATION OF THE ANIMAL WELFARE ASSESSMENT SYSTEM IN LATIN AMERICA

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8.1 INTRODUCTION

Within Welfare Quality® leading groups of specialists were integrated to build on a network of research strengths recognizing important societal and policy objectives in relation to the area of food quality and safety. This will allow the development of pan-European standards for on-farm welfare assessment and product information systems as well as practical strategies for improving animal welfare.

Considerable effort has also been put into analyzing and addressing the perceptions and concerns of principal stakeholders (public, NGOs, industry, government and academia) and providing appropriate feedback. Educational and media initiatives, web-based platforms etc. were developed enhancing societal involvement.

Almost 50% of food from animal origin consumed in the European Union comes from Latin American countries presenting a wide variety of scenarios with around 400 million bovines, 30 millions pigs, 9.3 million tons of chicken and a wide range of production systems. For example, in relation to bovine production, most of them are extensive or semi-extensive, totally or partially based on pastures.

In recent years, experts of several Latin American countries have been working together on different areas regarding animal welfare, trying to develop practical strategies to improve farm animal welfare, as well as a sustainable rural economy improving animal husbandry and food safety levels, and integrating environmental aspects of animal production, in order to decrease poverty levels and increase health and animal welfare.

The management of this project was closely linked to the management structure of the Welfare Quality® project. Activities in Welfare Quality® were defined and clustered in the nine Sub Projects and the extension project is defined as Sub Project 10 (SP10).

The general aim of the Welfare Quality® project “Integration of animal welfare in the food quality chain: from public concern to improved welfare and transparent quality – EXTENSION” (that became SP10 in Welfare Quality®) was thought also as a way to integrate in European and Latin American groups working on those issues.

The Latin American participants in the Welfare Quality® Extension are: São Paulo State, University, UNESP (Brazil); Universidad de Chile, UCH (Chile); Universidad Nacional Autónoma de México, UNAM (México) and Universidad de la República, UDELAR-FV (Uruguay). The coordination and link is performed by the Universidad Autónoma de Barcelona, Spain.

This integration between Europe and Latin America is essential in order to respond to the globalization of the issue and to develop widely applicable welfare assessment systems and practical solutions for problems affecting animal welfare. Progress in this field in a given geographical area is affected by and should be matched to progress in other areas of the world. The cooperation between animal welfare scientists working within Welfare Quality® in Europe and relevant groups in Latin America reinforce the achievement of results that benefit human and animal quality of life.

The proposal had four objectives: 1) to study consumers’ attitudes and beliefs towards animal welfare in Brazil, Chile, Mexico and Uruguay; 2) to test and implement the animal welfare monitoring system (for pigs, cattle and poultry) developed in Sub Project 2 (WP 2.4) in the conditions encountered in Latin America; 3) to develop practical strategies to improve the welfare of farm animals (pigs, cattle and poultry), with particular emphasis on animal handling during loading and transport; and 4) to increase existing knowledge of some of the major welfare problems of extensive systems of animal production and its integration to environmental sustainability issues. It was expected that the above objectives complement and contribute to the achievement of the objectives of Welfare Quality® and their global uptake in several ways. Working together, experienced scientists from both continents in a variety of climatic, economic and social conditions have provided robustness and scientific quality of the strategies and assessment tools developed in Welfare Quality®.

This chapter deals with the second objective of the project, namely to test and implement the animal welfare monitoring system (for pigs, cattle and poultry) developed in Sub Project 2 of Welfare Quality (WP 2.4) in the conditions encountered in Latin America. The experience gained by Latin American scientists when applying the animal welfare monitoring system in their own countries has revealed a number of areas that deserve further attention.

8.2 ACTIVITIES DEVELOPED IN LA COUNTRIES WITHIN SP10

The activities of SP10 covered the following aspects: workshops in four Latin American countries, training of observers in the protocols methodology, application of animal welfare assessment protocols at farm and slaughterhouses, evaluation of practical problems observed in the application of the protocols and implementation of solutions and evaluation of other issues related to Welfare Quality®.

8.3 WORKSHOPS ON ASSESSMENT OF WELFARE QUALITY® PROTOCOLS

In order to adapt the animal welfare monitoring system developed in Europe to the conditions commonly encountered in Latin America, three workshops on cattle, pigs and poultry were held in Uruguay, Brazil And Chile. The workshops had the assistance of European and Latin-American experts and facilitators in order to transfer knowledge and experiences in the application of the animal welfare assessment protocols developed in the European countries. Travel expenses of European experts were covered by the European Commission through DG SANCO.

8.3.1 Workshop on Welfare Assessment in Cattle (Beef and Dairy)

The first workshop on Welfare Assessment in Cattle (beef and dairy) took place in Uruguay, August 2007. The main point discussed during the activities was the use of the assessment protocol taking into consideration the extensive and semi-extensive conditions in Latin American systems and the need to translate the protocol into Portuguese and Spanish.

8.3.2 Workshop on Welfare Assessment in Pigs

The workshop on Pigs' Welfare Assessment was carried out at Concordia, Santa Catarina (Brazil) in November 2007. The main objective was to introduce the protocols for pig welfare assessment, developed by the experts linked to the Welfare Quality® Project, evaluating their applications in the Latin American environment.

The activities were carried out in two private farms and in one private slaughterhouse. In general not many differences were found in the application of the protocols and the workshop was important to clarify some aspects in the protocols application.

8.3.3 Workshop on Welfare Assessment in Poultry

The Welfare Assessment in Poultry training was held in Santiago, Chile, January, 2008 and the main purpose was to train Latin American members of the project on the Welfare Quality® poultry protocol and to discuss the applicability of the protocols to the Latin American conditions.

Regarding the applicability of the protocols, the general feeling was that the monitoring system is sufficiently applicable to the Latin American conditions. The main concern was related to how objectively the Qualitative Behavioural Assessment could be measured, considering there were some words that in Spanish are used in a different way (e.g. inquisitive) and in smaller degree the participants found the interview part of the protocol too long.

8.4 TRAINING OBSERVERS

Following the workshops, more observers were trained in each participating country in order to start the visits to farms and slaughterhouses and evaluate and validate the protocols. In all cases, the practical trainings were carried out at the Universities using the information, material and support provided by Welfare Quality® instructors during the previous workshops.

A total of 48 persons were trained on protocols application. Sixteen in Brazil, 11 in Chile, 11 in Mexico and 10 in Uruguay acquired the necessary skills to apply the protocols at farms and slaughterhouses.

8.5 APPLICATION OF ANIMAL WELFARE ASSESSMENT PROTOCOLS AT FARMS AND SLAUGHTERHOUSES

8.5.1 Poultry

A total of 33 visits to evaluate poultry protocols were performed in the four countries involved, including nine intensive broiler farms; 17 laying hens farms; two free range facilities and five slaughterhouses.

Poultry production is very similar in most of the big exporting countries in Latin America (Brazil and Chile). However, most of the observers found that the application of the protocols took too much time inside the farm. Moreover, strong biosecurity measures applied in almost all the facilities adding some limitations to perform the visit.

8.5.2 Pigs

A total of seven extensive and 13 intensive farms were visited and protocols were successfully applied on almost 30,000 animals in all the countries involved in the project. Further, six slaughterhouses for pigs were visited in Brazil.

8.5.3 Beef

Due to the different characteristics of livestock between Europe and America, a total of 26 extensive and semi-extensive beef cattle farms were visited in three countries (Uruguay, Chile and Brazil) and 4,500 animals were tested. The average size of the farms varied from 250 hectares in Chile to 2,700 in Brazil, and the average number of cattle per farm ranged from 752 in Chile to 3,600 in Uruguay.

Some important problems on the applicability of the protocols were found, arising mainly from farm and herd size, extensive pastoral systems, cattle identification and, occasionally, climatic conditions. Alternative approaches to overcome these difficulties were developed during the welfare assessment protocols' application (described below).

8.5.4 Dairy

A total of 55 dairy farms of different systems were visited in the 4 countries involved in the study, and some 6,500 animals were registered. In some countries there is semi-extensive dairy production thus some alternative methodologies were developed during the application of the welfare assessment protocols (described below).

8.5.5 Slaughter

A total of 12 cattle slaughterhouses, 6 slaughterhouses for pigs were visited in BR, MX and URU and only in Brazil four broiler slaughterhouses were visited.

8.6 DIFFICULTIES WHEN APPLYING THE PROTOCOL IN LATIN AMERICA

The difficulties identified from the experience in Latin America fall into three categories:

- a. Areas of concern equally applicable to European and Latin American conditions.
- b. Methodological and logistical problems encountered when applying the animal welfare monitoring protocols in Latin-American conditions.
- c. Points that are missing or are not applicable when using the animal welfare monitoring system in Latin-American extensive farms.

8.6.1 Areas of Concern Equally Applicable to European and Latin American Conditions

- Qualitative assessment is seen as an innovative and useful methodology. One problem encountered by observers, however, is that some of the original English terms are difficult to translate into Spanish or Portuguese. We believe that this difficulty may also apply to non-English speaking European countries. Although it is recognized that a precise definition of each term may not be essential, some observers may feel that they are not qualified to do the assessment if many of the terms do not have a clear meaning to them.
- Defining the appropriate sample size (i.e. number of animals assessed per farm) appears to be one of the most difficult areas, taking into consideration the size of many farms in LA. The problem is further complicated by the fact that a given sample size will account for a larger percentage of animals on a small farm compared with a large farm. This will mean that the reliability of the data would be higher on small farms than on bigger farms.
- Related to the previous problem, defining which animals have to be assessed on a given farm is also a difficult issue.
- The sensitivity of heat stress parameters was questioned. One important welfare problem in cattle (particularly dairy) is heat stress and yet, the welfare monitoring system does not include any parameter related to this problem. Although this will be particularly important in hot climates, it is worth emphasizing that Holstein dairy cows may suffer heat stress when the temperature rises above 25-30 °C, which is not at all uncommon in summer even in temperate countries. As for fattening pigs, wallowing behaviour was not taken into account and the reliability of the parameter manure on the body was questioned.
- Breed or age differences may have an important effect on some parameters and on how to interpret them. For example, flight distance in broilers may be short not because of lack of fear but because of lameness; as the prevalence of lameness varies between grillers and roosters, interpretation of results might be confounded.

8.6.2 *Methodological and Logistical Difficulties Encountered When Applying the Animal Welfare Monitoring System in Latin America Extensive Farms*

- On large extensive farms or pastoral systems, doing a herd scan may not be possible. Some observers also commented on the fact that, even when feasible, this parameter may not yield very useful information. For example, a herd scan could be done when animals are regrouped into the handling facilities; however changes in their behaviours (e.g. increased fear) will make the behavioural measures not representative of the normal state of these animals.
- Most of the beef and dairy farms in Latin America are extensive or semi-intensive systems, where feeding troughs are used at all or only rarely. Thus avoidance distance at the feed trough is impossible or very difficult to assess.
- Another problem observed was that it was impossible to assess 70% of the cows in lactation in some farms, since the number of lactating cows is very large, in some case more than 1000.
- Also, individually identifying or even observing the animals may be difficult in some farms. For example, pens might be too large to see the animals, even with binoculars, or the animals may be out of sight if the vegetation is very high. Further, not all farms have adequate individual identification systems. The same difficulty applies to observe the same side of all individuals as required by the cattle/dairy cow protocol.
- Seeing enteric problems and hearing respiratory conditions (coughing or sneezing) is very difficult when animals can not be easily approached or lie on the mud.
- In some cases when the animals are free in the pastures, observation would be impeded by some grass species, ground's slope or presence of dangerous animals (like snakes).
- In relation to cleanness of animals in extensive system, it is unusual to see dirty animals, except for some dirt on the hocks due only to occasional bad weather conditions.

8.6.3 *Methodological and Logistical Difficulties Encountered When Applying the Animal Welfare Monitoring System in Latin American Slaughterhouses*

Differences in the size and speed of the slaughterhouse may lead to problems when trying to observe some of the parameters. For example, in some countries slaughterhouses kill more than a thousand animals per day, slaughtering an average of 100–150 animals per hour or more, the speed is so high that it is difficult to apply the protocol.

An additional problem is that in some slaughterhouses it is not possible, or at least it is very difficult, to assess the effectiveness of the stunning process in 200 animals as required by the protocol. Also, as the average number of bulls slaughtered per day may be very low, assessing the minimum number of bulls as required by the protocol may be difficult. Finally, when animals are driven from the lairage area to the stunning box in large groups, identifying individual animals becomes very difficult.

Related to unloading of animals from the trucks, the consideration of a truck as a unit is not feasible; the consideration of animals individually is more practical.

Moreover, Latin American experts found that it is extremely difficult to record each animal from the corral to the stunning box.

Some signs of inadequate stunning were not always possible to measure, such as pupil dilatation, eye rotation, corneal reflex, response to pain stimulus, only the most obvious signs can be recorded, such as extensive kicking, righting reflex or attempts to raise the head, because the facilities do not allow getting close to the animals.

Measures of pH of the same animals are very difficult to perform and imply visiting the slaughterhouse one more day. Nevertheless in exporting industries this is a routine procedure and the protocols can be used.

8.6.4 Points that Are Missing or Are Not Applicable When Using the Animal Welfare Monitoring System in Latin America Extensive Farms

Some of the main aspects that have a clear impact on welfare and are not included in the current protocol are:

- risk of predation;
- horn flies and ticks;
- sunburn;
- pasture size and condition;
- mineral supplements;
- wallowing facilities (only pigs);
- water supply from natural sources;
- shade;
- mounting;
- branding (in cattle), it is compulsory in some countries and very common in others;
- distance walked (from pasture/paddock to milking parlour) and quality of the walkway (in dairy cows).

8.7 SUGGESTED REMEDIAL STRATEGIES AND RECOMMENDATIONS

Some of the areas of concern that are equally applicable to European and Latin American conditions require careful discussion among scientists involved in SP2 and SP10. In this regard, it is worth mentioning that several of the participants attended the final SP2 meeting

and had the opportunity to discuss many of the issues raised in this report with the scientists in SP2.

On the other hand, we strongly believe that many of the problems that are encountered when applying the monitoring system to extensive farms could be solved if there is some flexibility in the methodology and a readiness to use alternatives when a particular measure is not applicable, as well as to incorporate new, relevant measures (although we do recognize that this may pose some problems in the integration phase). For example, at the slaughterhouse it would be possible to record information on the group instead of the individual animals when animals are driven in group to the stunning box and start recording individual information just after the entry into the stunning box. It could be useful to divide the driving area into several sectors (defined specifically for each plant); for large slaughterhouses we suggest at least 50 animals per sector (e.g. pen, corridor, shower, and line chute).

It is important to mention, however, that this flexibility should not fundamentally change the monitoring system. Therefore, it is very important that observers are well trained not only in the system itself but in the characteristics of the production system so that they can understand and achieve the objectives of the assessment.

8.7.1 A Suggested New Indicator: Human–Animal Interactions during Handling

The human–cattle interactions are intense during handling in the pens. Therefore, we understand that the quality of handling (and consequently of the interaction) should be assessed. We suggest that after avoidance distance and clinical scoring assessments the animals should be driven by the farm's team, simulating a routine procedure moving them from one pen to another, walk through the corral pens, squeeze chute, line chute, restrainer or scale; without carrying out any other procedure. The assessment has to be done on all the animals of the group or with at least 100 animals. We suggest the following indicators:

- use of resources to drive the animals (flags, sticks, electric prods, others);
- aggression towards the animals (number of occurrences);
- speed to drive the animals: slow (walk), fast (trot), very fast (run);
- human vocalization (nothing, talk and whistle, shouts)
- number of occurrences of falling, slipping, jumping, animals that jump on other animals (trampling), lying down, hits by gates and animal vocalizations.

Since injuries caused by a bad practice in the vaccine application are common in Latin American herds, we suggest considering the injuries due to vaccination such as lesions/swellings.

In most of the countries iron branding is compulsory by law, we suggest to include the iron branding scars as a general comment about the herd or define if should be considered as a 'hairless patches' or a lesion / swellings.

Fortunately, tail docking is not common in LA dairy farms; some finding could be caused by accidents or bad handling. Moreover, we suggest considering (when doing the clinical assessment) if the cow's tail is broken, since this observation is quite easy to carry out and it offers an idea about the quality of the handling.

In dairy farms, we also suggest taking into consideration the time spent by the cows in the waiting room and in the milking parlour; and the resources available in the waiting room (water, bed, food, shade, sprinklers, etc.).

8.8 OTHER ISSUES RELATED TO WELFARE QUALITY®

It is important to point out that the INCO-WQ Project in Latin America contributed to promoting a large variety of events in animal welfare in the region that we consider as other outcomes, besides the assessment of the protocols. Example include: developing extension material (brochures, papers, books, web pages, etc); participation in seminars and congresses; promotion of animal welfare laws; diverse research projects linked with Welfare Quality® in different countries; degree, master and doctor's theses on animal welfare topics; improving the engagement on animal welfare issues with different stakeholders in each country and growing of international recognition of Latin America's work in animal welfare.

8.8.1 Dissemination Material

Material such as brochures and books, development of web pages in Spanish and Portuguese and presentations in seminars and congresses were done during this period (see references).

8.8.2 Animal Welfare at the University Level

- In the four countries considerable effort has been made to include animal welfare in the curricula at the Veterinary and Animal Science Schools and Faculties.
- More than 20 monographies and theses (Masters and PhD) have been produced in all LA groups engaged in the INCO-Welfare Quality® project.
- Different programs through Permanent Education in the University or similar have been carried out in all the countries to capacitate truck drivers, stockmen, producers and stakeholders in Good Management Practices. Only in Uruguay more than 3,000 people have qualified.

8.8.3 Animal Welfare at Legislative Level

- In Uruguay an Animal Welfare Law was approved in 2008 at the legislative level, and it is presently passing the regulation process before being implemented.
- Members of the Animal Welfare Group have coordinated and drafted the General Animal Welfare Bill in Mexico. This initiative has been presented to the Mexican Senate and will be voted during the end of 2009. Furthermore, this group has participated in the updating of 4 regulations on different animal welfare issues.

8.8.4 Animal Welfare and the Commitment of Stakeholders

- In most of the countries, an increase in the awareness on animal welfare at different levels was observed, both within the country and between participating countries.
- Authorities of the Ministries of Agriculture or Livestock in all countries were directly involved in different animal welfare programs.
- Finally, both producers and industry collaborated in spreading extension programs of good management practices.

8.8.5 Collaboration between Countries and Other Institutions

- Interchange of different Universities of the involved countries (e.g. students, professors, etc).
- Creation of the Latin American Coalition on Animal Welfare supported by the World Society for the Protection of Animals (WSPA).
- Inter American Committee on Animal Welfare of the Americas under the support of the International Organization of Animal Health (OIE).
- Creation of the first OIE Collaborating Centre on Animal Welfare for the Americas, an enterprise between Uruguay and Chile, with the cooperation of both Ministries of Agriculture or Livestock and Universities.
- A proposal for the creation of an OIE Collaborating Centre on Animal Welfare at the Faculty of Veterinary Medicine of the National Autonomous University of Mexico (UNAM) has been presented at the OIE General Assembly in Paris during May 2009.

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