

Drivers of animal welfare policy in the Americas

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Summary

Owing to its large size and ethnic, social, cultural and economic diversity, the Americas' production volume is set to make the region one of the world's leading providers of animal foodstuffs. Animal husbandry, transport and slaughter conditions vary from country to country in response to their differing climatic and geographic characteristics. This article examines the main drivers of animal welfare in the Americas, including the standards of the World Organisation for Animal Health (OIE), legislation, codes of practice and advances in education, training, research and development. It recognises the important roles played by all the various stakeholders in changing perceptions of animal welfare by raising public awareness and promoting communication and cooperation as drivers of overall change in the Americas. Regional and international organisations, public and private-sector bodies, academia and non-governmental organisations have launched a number of initiatives with encouraging results. In 2009, the OIE established the Chile–Uruguay Collaborating Centre for Animal Welfare Research, which is now the OIE Collaborating Centre for Animal Welfare and Livestock Production Systems and has recently incorporated Mexico. The Collaborating Centre works closely with official OIE Delegates and the Focal Points for Animal Welfare of national Veterinary Services. The OIE Regional Animal Welfare Strategy for the Americas was adopted in 2012, under the coordination of the OIE Regional Representation for the Americas, as a guide for developing future policies based on a regional approach. The way to achieve cultural change for improving animal welfare, operator safety and the sector's profitability is through training and knowledge transfer. The results demonstrate that the joint efforts of all institutions and the active role of the Collaborating Centre have been most effective, as have the continuing education programmes implemented by universities.

Keywords

Animal welfare – OIE Collaborating Centre – Production animal – Regional strategy.

Introduction

Animal welfare is a complex, multifaceted, interdisciplinary issue with scientific, ethical, economic, political, cultural and religious ramifications, which emerged as a field of research in the 1970s (1). It is one of the most modern sciences, having been recognised as such less than half a century ago. Its roots are multidisciplinary and it encompasses other sciences, including ethology, physiology, pathology, biochemistry, genetics, immunology, nutrition and epidemiology. In addition, it has clearly defined ethical and scientific components (2).

It is widely accepted that a close link exists between the use of animals for various purposes and human welfare (3). Throughout the world, consumers are becoming increasingly concerned about the welfare of production animals and more demanding about animal-derived foodstuffs (4, 5).

The World Organisation for Animal Health (OIE) made animal welfare one of the priorities in its Third Strategic Plan (2001–2005) and, supported by all of its Member Countries, it has confirmed it as a priority in all subsequent strategic plans. Thus the OIE, as the international

reference organisation for animal health, was mandated to develop standards and guidelines on animal welfare that reaffirmed welfare as a key component of animal health and production (6).

The OIE Permanent Working Group on Animal Welfare, established in 2002, developed the first recommendations and guiding principles on animal welfare, which were included in the OIE *Terrestrial Animal Health Code* in 2004 (6). Subsequently, the OIE established *ad hoc* groups to develop animal welfare standards, which have since been included in the *Terrestrial* and *Aquatic Animal Health Codes* (7, 8). They currently number 12 and deal with: transport by land, sea and air; slaughter for human consumption; killing for disease control purposes; control of stray dog populations; use of animals in research and education; animal welfare in beef cattle production systems, animal welfare in broiler chicken production systems; and the welfare of farmed fish during transport, slaughter and killing for disease control purposes (6).

In addition, the OIE has held three global conferences on animal welfare, the first in Paris (France) in 2004, the second in Cairo (Egypt) in 2008, and the third in Kuala Lumpur (Malaysia) in 2012. All three targeted OIE Member Countries, as well as livestock producers, veterinarians, and non-governmental organisations (NGOs) working in animal welfare (6). There has been increasing emphasis on the need for OIE support in developing and implementing regional animal welfare strategies, as well as for starting to plan the development of a global animal welfare strategy.

These and other OIE initiatives have clearly spurred a rapid change in thinking, at different levels and to varying degrees depending on the country or region. The OIE has asked each Member to appoint a national focal point to be responsible for their country's relations with the OIE on animal welfare. Moreover, the global network of these focal points is called upon to spearhead the gradual harmonisation and improvement of national and regional animal welfare policies.

The OIE regularly invites focal points to follow training programmes with the support of OIE Collaborating Centres, updating their knowledge and helping them to access regional and international information on the subject.

OIE Collaborating Centres for animal welfare have been established on different continents, including those for: Animal Welfare Science and Bioethical Analysis (New Zealand/Australia); Animal Welfare and Livestock Production Systems (Chile/Uruguay, together with Mexico, which was incorporated in May 2013); Laboratory Animal Welfare and Science (United States); and Veterinary Training, Epidemiology, Food Safety and Animal Welfare (Italy) (9).

One of the OIE's future priorities for animal welfare research and education is to promote its general principles for the welfare of animals in livestock production systems (1) as a way to guide the development of more specific standards on the issue (10).

The OIE has encouraged the establishment of a Regional Animal Welfare Strategy for the Americas. This builds on existing regional initiatives to implement OIE standards and recognises the key roles played by the OIE Regional Commission, governments, industry and other organisations, and encourages the participation of all stakeholders in the region in order to improve animal welfare and develop sustainable production systems (11).

This article examines the main drivers of animal welfare policy in the Americas, including OIE standards, country legislation, codes of practice, advances in education and training, and research and development in animal welfare. It also recognises the crucial role played by all the various stakeholders in changing perceptions of animal welfare by raising public awareness, developing research and promoting communication and cooperation as drivers of overall change in animal welfare in the Americas.

The Americas

Owing to its large size and ethnic, social, cultural and economic diversity, the volume of production in the Americas is set to make the region one of the world's leading providers of animal foodstuffs (12).

According to inter-agency studies, global demand for agricultural products will continue to increase. It will be important to pay attention to the growth of the industry, and to the environmental impact this may have, and to invest in such areas as research, infrastructure, technological innovation, education and training. This aim of improving productivity and sustainability poses a great challenge in a changing world that must also adapt to climate change (3, 13).

Animal welfare is becoming increasingly important as animal production becomes more intensive. As the Americas region is a key player in this area, it is essential for it to learn from Europe's mistakes and the various stakeholders, including governments, must look to the future with greater awareness of sustainable animal production.

The Americas has a wide variety of food-producing animal species (including cattle, horses, sheep, pigs, camels, rabbits, guinea pigs and fish) and each country has different animal husbandry, transport and slaughter conditions and differing geographic, climatic, social, cultural and marketing characteristics (14, 15).

Supply chains involve a large number of stakeholders, including producers, livestock managers, transport operators, processing plant workers and other professionals, all of whom play a key role and all of whom are likely to severely undermine the welfare of food-producing animals if they fail to carry out their duties properly (16, 17). If these stakeholders are to contribute to global change in animal welfare in the near future, they must be properly trained (17).

The agriculture sector in the Americas is beginning to change as a result of world trends, such as globalisation, the internationalisation of markets and multinational trade agreements. The use of animals in (mainly intensive) production systems has major ethical, production and economic implications, which is why one of the emerging issues is finding tools to produce animal foodstuffs while respecting the welfare of the animals involved (18).

Consumers of animal foodstuffs are starting to play a key role, especially those who associate animal welfare with the ethical quality of food and animal resistance to disease. In Europe, consumers have begun to demand more and better information and are willing to pay a premium for animal products with animal welfare guarantees (4, 5). The European Welfare Quality® project has developed protocols to measure welfare both at animal production facilities and during the slaughter of several species of food-producing domestic animals (cattle, pigs and poultry) (19, 20, 21).

In Latin America, which consumes and exports large quantities of meat, concern for animal welfare is growing progressively, which has led to the introduction of specific rules and practices, especially for the production of red meat (22).

This makes it necessary to develop, promote and disseminate strategies designed to improve the welfare of production animals in Latin America (23). The OIE Regional Commission plays a vital role by encouraging the implementation of OIE standards. This will also improve the quality of final products, access to markets and people's standard of living.

The OIE, through its Member Countries, organised the first OIE Inter-American Meeting on Animal Welfare (Panama, 2008) and the first Workshop for OIE National Focal Points for Animal Welfare in the Americas (Chile, 2010). Both meetings recommended that the OIE Inter-American Committee on Animal Welfare should help to draft a Regional Animal Welfare Strategy. The Strategy was adopted in Barbados in 2012 and describes the actions and guidelines required for implementing OIE standards in the region (11).

Strategies for improving animal welfare in the Americas

In the Americas, regional and international organisations, public and private sectors, academia and NGOs are pursuing various initiatives to improve animal welfare, including research, training and legislation, with encouraging results.

For example, increased training for staff working with animals on good pre-slaughter handling practices has noticeably reduced the incidence of bruising in cattle and pigs (18). In recent years, farmers, animal handlers, market and slaughterhouse workers, professionals and drivers transporting live animals have received training to raise awareness of animal welfare and good animal husbandry practices by means of courses, seminars and conferences, to varying degrees depending on the country and region (23, 24).

OIE actions to promote animal welfare policies in the Americas

OIE Collaborating Centre for Animal Welfare and Livestock Production Systems

In May 2009, the World Assembly of Delegates of the OIE established the OIE Collaborating Centre for Animal Welfare Research, a bipartite initiative between Chile and Uruguay. It was implemented by the faculty of veterinary science of the Southern University of Chile in Valdivia and the faculty of veterinary medicine of Uruguay's University of the Republic (FV-UDELAR). At the 81st General Session of the OIE World Assembly of Delegates in May 2013, the faculty of veterinary medicine and animal husbandry of the National Autonomous University of Mexico was incorporated into the existing Collaborating Centre, in order to address the needs of all three Americas, at which point it was renamed the OIE Collaborating Centre for Animal Welfare and Livestock Production Systems (9).

The Collaborating Centre's main aim is to promote research into animal welfare, with special emphasis on production animals and livestock in production systems specific to the Americas, as well as to serve as a reference centre on animal welfare matters that helps to promote OIE standards and guidelines in the region.

The tasks assigned to the Collaborating Centre are to:

- conduct research
- provide specific advice on animal welfare issues

- disseminate information on methodologies and techniques that contribute to animal welfare
- propose and develop methods to facilitate the harmonisation of international standards on animal welfare
- provide scientific and technical training on animal welfare to other countries as required
- organise scientific meetings
- coordinate studies in collaboration with other institutions or organisations.

The Collaborating Centre works closely with official OIE Delegates and, in particular, with national focal points for animal welfare in the Veterinary Services of countries in the Americas. It also works with other public and private institutions in the food and agriculture sector and NGOs in countries of the region, promoting improvements in animal welfare and the sector's economy, with special emphasis on training for all stakeholders.

OIE Regional Animal Welfare Strategy for the Americas

In 2012, the Regional Animal Welfare Strategy for the Americas was adopted to add to that already in place for Asia, the Far East and Oceania. The strategy recognises the activities of governments, industry and organisations in improving animal welfare and developing sustainable production systems. It provides for a regional consultation approach for animal welfare that includes government sectors and aims to boost regional support for the implementation of OIE standards and guidelines (11).

The strategy also sets the framework for achieving results in the area of animal welfare, based on scientific evidence and knowledge. Thus, it recognises the importance of education, training and research in animal welfare, and attaches great importance to the animal welfare activities of OIE Collaborating Centres.

The principal objectives of the strategy include: promoting the implementation of OIE standards on animal welfare; disseminating and promoting the concept of science-based animal welfare through education and training; achieving improvements in animal welfare based on the development of regional research and programmes; and building partnerships to optimise results.

It provides for the planning of regional activities under the coordination of the OIE Regional Representation for the Americas. In future it will promote the establishment of national animal welfare committees whose mandate will include encouraging the nationwide implementation of animal welfare activities.

The strategy was designed to improve animal health and welfare by promoting the development and implementation of OIE standards and guidelines. It recognises the relationship between animal welfare, animal health, the environment, production, and food safety and security. It also acknowledges the need to take into account the region's distinctive characteristics and provides a regional consultative approach to animal welfare that welcomes the involvement of governmental and non-governmental sectors. It recognises that the main objective of Member Countries in the Americas is to maximise the production and productivity of animal foodstuffs for regional consumption and as a contribution to sustainable global food supply.

The strategy will also address such issues as the welfare of animals destined for purposes other than trade and food production, including wild, companion, laboratory and recreation animals.

In summary, the Regional Animal Welfare Strategy for the Americas brings together the drivers for a regional approach that includes animal welfare, provides a guide for the development of future animal welfare policies based on a regional consultative and inclusive approach, and serves as a framework for cooperation among Member Countries and stakeholders in promoting and advancing animal welfare in the region.

The strategy is aimed at individuals and organisations in the region, including: those responsible for animals; animal users; veterinary professionals and those working in related fields, such as agricultural-science and animal-science; research institutions; livestock farmers; processors; industry and transport operators; conservation and animal protection organisations; veterinary statutory bodies (national veterinary associations); academics; researchers; consumers; undergraduate educational establishments and their teachers; official Veterinary Services; and other governmental and non-governmental entities.

In 2008, the Food and Agriculture Organization of the United Nations held a meeting of animal welfare experts in Rome that produced a document with recommendations for capacity-building to implement good animal welfare practices (24).

Regional organisations and institutions

The Americas' wide geographic, cultural and ethnic diversity makes the circumstances of its regions very different. Based on these differences, countries have formed regional groups or blocs essentially around their trading interests.

In their agreements, some blocs allude to animals, mostly production animals, with respect to their care, but make no special mention of animal welfare.

Andean Community

The Andean Community (CAN) comprises Bolivia, Colombia, Ecuador and Peru. The distinctive geographic, social and cultural nature of these Andean countries makes it difficult to apply good animal welfare practices owing to local characteristics and, in some cases, limited livestock development.

Nevertheless, CAN member countries attach great importance to the issue of animal welfare, which is not only linked to ethical and commercial considerations, but is also a market requirement.

A European Union/CAN cooperation project (INTERCAN) is currently under way to promote regional economic integration in the Andean Community, aimed primarily at strengthening intra-regional cooperation and forging closer relations between the European Union and CAN countries (25). Expected outcomes include the development of an Animal Welfare Plan for the Andean Sub-region providing harmonised guidelines and standards that can be implemented in line with the conditions of CAN member countries in order to facilitate trade and the movement of animals and animal products within countries, among countries in the sub-region and with non-CAN countries. It prioritises the role of veterinarians, which is linked closely with the development of good practices that enable the establishment, adoption and implementation of standards on animal welfare and food safety.

In Peru's public sector, for example, the Directorate-General for Agricultural Competitiveness is developing good practice manuals, especially for the pig sector, and cooperates with the National Agricultural Health Service (SENASA).

In Ecuador, the Ecuadorian Agency for Agriculture Quality Assurance (Agrocalidad) is endeavouring to implement animal welfare training and dissemination plans to improve the country's standing in this area.

The private sector is highly proactive in disseminating OIE standards on animal welfare. For instance, the Colombian Livestock Producers' Federation (FEDEGAN) strongly supports animal health and welfare through initiatives such as training programmes for producers and foot and mouth disease vaccination for animals.

Regional Organisation for Plant Protection and Animal Health

The Regional Organisation for Plant Protection and Animal Health (OIRSA), is an inter-governmental organisation comprising Belize, Costa Rica, the Dominican Republic,

El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama. OIRSA specialises in food and agricultural health and provides its member countries' ministries and departments of agriculture and livestock with technical cooperation, promoting safe food production for public welfare.

The Organisation is concerned about the poor animal welfare development of most of its member countries. From a survey of its member countries, it concluded that legislation is scarce, except in Mexico and Costa Rica, that there is little regulation of animal welfare during transport and slaughter, and that more research is needed (26).

The Organisation has begun work to develop harmonised guidelines among its member countries, develop regulations on animal transport based on OIE actions, and train transport operators on how to transport animals properly. It also intends to increase awareness of animal welfare among producers and processors of animal foodstuffs, as well as to promote research and the inclusion of animal welfare in the curricula of degree courses connected in any way with production animals, as a means of encouraging the adoption of good animal welfare practices.

Southern Common Market

The Southern Common Market (MERCOSUR) comprises Argentina, Brazil, Paraguay, Uruguay, and Venezuela, and an initiative is in place to also include Bolivia. In essence, MERCOSUR's objective is an economic one, based primarily on the free movement of goods, services and factors of production between countries by such means as removing customs duties and non-tariff restrictions on the movement of goods and any other equivalent measures.

From an animal welfare standpoint, the biggest problem encountered is the transport of live animals, mostly within countries themselves, as some are very large (Argentina and Brazil). Long distances from farm to slaughter, adverse weather conditions, long journeys for animals inside transport vehicles, and, sometimes, violent cultural practices in the handling of animals, cause animals physical injury and impair meat quality, all of which are limiting factors that the various sectors are trying to remedy (14).

Another factor that may affect animal welfare in supply chains is the use of intermediaries in livestock marketing systems, because, if animals are handled improperly during the intermediate marketing stage, it can harm not only the animal but also the producer, by reducing the latter's income. Such losses have been quantified in North American countries (27, 28, 29) and in some South American countries (30, 31), and in both cases the figures are sobering.

The official Veterinary Services of several countries are working with private producers' organisations, shipping agents and the cold-chain industry, to help implement OIE standards in MERCOSUR member countries, disseminate information, gear the standards to the realities of each country and enforce compliance, as well as to implement European Union regulations in cases where the type of trade requires it (15). In Argentina, Brazil, Chile and Uruguay, the official authorities, together with the private sector and academia, have made great progress in animal welfare (18).

There is greater awareness of animal welfare and public policy in MERCOSUR countries than in other countries of the Americas, and there are training plans and regulations in both the public and private sectors.

Argentina established a national animal welfare committee with representatives from across the agricultural spectrum, including NGOs, which are actively involved in the country and their proposals are processed by the government agency (Ponce del Valle, personal communication).

Consumers in the Americas still do not demand high animal welfare standards, nor are they as aware as European consumers. At present, they are unwilling to pay a premium for products with animal welfare guarantees, although they would like to be better informed (32, 33).

In contrast, universities and trade associations are quite heavily involved and government agencies intend to seek strategies for promoting animal welfare and align them with OIE standards on animal welfare, as a means of improving product quality and productivity in the sector (18).

In Uruguay, a small South American country with approximately 3 million inhabitants and nearly 12 million beef cattle of European origin, beef accounts for 14% of the country's total exports (34).

However, studies by FV-UDELAR found that on-farm methods for moving cattle – sticks, electric prods and untrained dogs – caused injury to 62%, 21% and 32% of animals, respectively (35).

Other studies at FV-UDELAR conducted by Huertas *et al.* (17) showed that different factors in the pre-slaughter stage, including the distance travelled from farm to slaughter, the state of the roads and the use of sharp implements to move animals, were linked with subsequent carcass bruising. Of all the animals slaughtered in 2003 and 2004 (approximately 2 million per year), 60% were found to have at least one injury per carcass, 25% two injuries, 16% three injuries and 25% more than three injuries, with an average loss of 2 kg of meat per animal (17, 35).

The first Uruguayan beef quality audit, conducted jointly by the National Meat Institute (INAC), the National Institute for Agricultural Research (INIA) and the University of Colorado in the United States, concluded that economic losses from spoilage amounted to US\$32.52 per animal (30). Similar results had been found in other countries, including the United States (27, 28, 29).

Given that one way of improving animal welfare and preventing economic losses is to provide training to all stakeholders, a few years ago FV-UDELAR began working on training programmes through its continuing education programme and the OIE Collaborating Centre, together with various public and private institutions involved in livestock production (36, 37).

For veterinary professionals, this entailed refresher training and the acquisition of new knowledge and skills to make them more effective in their daily work and able to contribute to the improvement of animal health and welfare, ensuring both their personal safety when performing tasks with animals and the quality of foodstuffs (38, 39).

For the other actors in the chain (farmers, livestock managers, intermediaries and transport operators), information was disseminated on animal welfare and good animal husbandry practices with the aim of improving the quality of beef produced in Uruguay and enabling compliance with OIE standards and with the requirements of international markets (23, 36, 38).

Countries that have begun to transfer knowledge do so chiefly through training courses offered to veterinary professionals in private practice, slaughter plant managers, animal handlers and managers, students of veterinary and agricultural sciences and all those working directly with animals. In many cases, the World Society for the Protection of Animals (WSPA) provides support through its Steps Programme, which has developed printed and audiovisual training aids (40).

In all cases, the course structure was found to consist of a theoretical part, which taught and reaffirmed basic concepts of animal welfare and the behaviour of production animals, and a practical part, in which participants worked directly with animals at handling facilities.

To date, more than 250 animal welfare training courses have been held in Uruguay, attended by more than 4,000 participants. Students of veterinary and other agricultural sciences also receive training through elective courses, and plans are in place to include animal welfare as a subject in veterinary curricula as from 2014.

Argentina, Brazil, Chile and Colombia, also conduct training programmes and disseminate good animal husbandry practices, with other countries starting to do so.

In Uruguay, a multi-agency project was conducted to provide training to 1,461 primary school teachers from 1,083 rural schools on zoonoses, diseases of production animals and animal welfare (37). These training activities, along with 'Plan Ceibal', which is a Uruguayan Government initiative that provides a laptop to every pupil and teacher in state primary schools, have contributed significantly to the dissemination of animal welfare concepts.

After three years of education and training for the various actors in the chain, the results of a second Uruguayan beef quality audit showed that the percentage of bruising had halved from 60% to 30%, and that the ensuing economic losses had also decreased (31).

As knowledge transfer and the training of veterinarians in animal welfare are key to achieving major improvements, a survey was conducted in Uruguay in 2012 aimed primarily at documenting veterinary professionals' perceptions about training programmes and their willingness to continue to receive animal welfare information and training.

The results were presented at the Third OIE Global Conference on Animal Welfare in Kuala Lumpur, Malaysia, in 2012 (38). Two hundred and fifty veterinarians were surveyed, with a response rate of 45%. Forty-seven percent of respondents reported having completed three or more animal welfare courses and 18%, one course. Eighty-two percent of respondents worked in areas relating to large animals (mainly cattle for meat production) and the cold-chain industry, divided equally between the two, 10% worked in areas relating to small animals (mainly companion animals) and the rest worked in the poultry sector (production and industry).

Ninety-five percent of survey respondents said they believed animal welfare to be highly relevant to their day-to-day work with animals.

When asked to what extent they had applied the concepts learned in the training courses in their day-to-day work, 65% claimed to have applied them 'a lot', 20% said that they had applied them 'a little', and the rest did not answer.

In reply to a question asking whether they believed that animal welfare should be part of veterinary curricula, 85% said yes, while 100% expressed their willingness to attend further training courses on the subject if they were offered.

Non-governmental organisations

The WSPA (www.wspa.org.uk) is the largest NGO involved in animal welfare. Jointly with the University of Bristol

in the United Kingdom, it has developed educational material entitled 'Concepts in Animal Welfare', which has been disseminated widely in a number of countries in the Americas. The syllabus contains 34 interactive teaching modules covering a range of animal welfare issues, from the welfare of companion animals to that of farm and laboratory animals.

The WSPA is also promoting a Universal Declaration on Animal Welfare.

The WSPA in Brazil has developed the Steps Programme for improving the welfare of production animals, especially at the time of slaughter (40). Under this programme, and with the support of the Chile–Uruguay–Mexico Collaborating Centre for Animal Welfare and Livestock Production Systems, training courses on stunning cattle, pigs and poultry have been held in several countries of the Americas since 2009, in some instances simultaneously in Chile and Uruguay, as in March 2011.

Conclusions

All this demonstrates the prominence that animal welfare has gained in countries of the Americas and the importance of a regional strategy that brings together and promotes the key elements that drive global change in animal welfare in the Americas, these include: OIE standards, national legislation, scientific research, education, and development.

Research and capacity building will improve stakeholder awareness and education, promoting a regional approach that leads to better animal welfare. Training, knowledge dissemination and transfer are the way to achieve a cultural change that improves animal handling practices. Incorporating these animal husbandry practices into stakeholders' daily work will help to improve animal welfare, operator safety and the sector's profitability.

The results demonstrate how effective joint efforts by all public and private institutions involved in livestock production have been, as have the active role of the OIE Collaborating Centre for Animal Welfare and Livestock Production Systems and continuing education programmes by universities.

It is necessary to develop scientific research that meets consumer requirements, while respecting cultural and religious differences and ethical and moral values, without overlooking the economics and sustainability of production systems, through public awareness and education.

Veterinary professionals are clearly interested in receiving appropriate training on these issues, both at university and after graduation. There is no doubt that training for veterinary professionals is key to improving animal welfare because it leads to a change in attitudes towards animals by all stakeholders.

If the Americas support and drive animal welfare actions and policies through a sustainable animal welfare strategy for the region, it will become a continent that respects and promotes animal welfare in compliance with OIE standards.

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