



Farm animal welfare as a key element of sustainable food production

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Article info

Received: 09 August 2023

Received in revised form: 29 August 2023

Accepted: 31 August 2023

Published online: 04 September 2023

Keyword

Farm animal welfare
Sustainable food production
Environmental sustainability
Ethical consumption
Consumer demand
Pasture-based farming

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Abstract

This comprehensive review article explores the critical relationship between farm animal welfare and sustainable food production, addressing the growing awareness of the ethical, environmental, and economic implications of animal treatment in agriculture. Prioritizing farm animal welfare is not only a moral imperative but also a key element in achieving a truly sustainable and resilient food system. The study examines the challenges and opportunities associated with enhancing animal welfare practices and their profound impact on sustainability. It analyzes potential benefits and barriers for farmers, consumers, and society at large in adopting more ethical and humane food production practices. By addressing these issues, the article aims to foster a more sustainable food production system that promotes animal welfare, environmental conservation, and social responsibility. Emphasizing the importance of ethical treatment, the review discusses improved animal health and productivity, the environmental impact, consumer perspectives, and successful case studies that highlight the transformative potential of embracing farm animal welfare in shaping a compassionate, resilient, and sustainable food industry.

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1. Introduction

Farming and agriculture have been vital to human survival and development for millennia. However, in recent times, the intensification of agricultural practices has raised concerns about farm animal welfare (Bock and Buller 2013; Broom 2021). As consumers become more aware of the ethical and environmental implications of food production, the treatment of animals in agriculture has come under scrutiny (Boyle and O'Driscoll 2011). Addressing farm animal welfare is not only an ethical imperative but also a key element of sustainable food production (Christensen et al. 2019). The concept of sustainability extends beyond just environmental conservation; it encompasses social and economic aspects as well (Dawkins 2023). Farm animal welfare plays a significant role in achieving sustainability across all these dimensions. Ethical treatment of animals is fundamental to promoting compassion and social responsibility within the food industry (Fernandez-Mateo and Franco-Barrera 2020). Additionally, animal welfare is intrinsically linked to environmental sustainability, as factory farming and poor husbandry practices can lead to resource depletion and pollution (Garcia 2017). This review article aims

to explore the critical relationship between farm animal welfare and sustainable food production. It examines the challenges faced in ensuring better treatment for farm animals, the potential benefits of improved welfare practices, and the barriers that must be overcome to create a more humane and sustainable food system (Harper and Makatouni 2002). By highlighting the importance of farm animal welfare in the context of sustainability, positive inspiration would be encouraged in relation to changes in food production and consumption.

2. Materials and methods

The methodology employed in this review article involved a comprehensive analysis of existing literature to explore the intricate relationship between farm animal welfare and sustainable food production. The following steps were undertaken to gather, assess, and synthesize the information presented in this article.

2.1 Literature search

A systematic literature search was conducted across various academic databases, research repositories, and authoritative

sources. The search aimed to identify peer-reviewed articles, research papers, reports, and case studies related to farm animal welfare, sustainable food production, ethical consumption, and environmental sustainability. The inclusion criteria prioritized studies published from the year 2010 onwards to ensure relevance to contemporary discussions.

2.2 Selection criteria

The gathered literature was meticulously screened based on relevance, credibility, and alignment with the core theme of the article. Only studies providing substantial insights into the relationships between farm animal welfare and sustainability were included in the analysis.

2.3 Data extraction and synthesis

Pertinent data points, findings, and arguments were extracted from the selected literature. These data were synthesized to construct a comprehensive narrative that highlights the multifaceted dimensions of farm animal welfare and its influence on sustainable food production. The data extracted were grouped into categories representing the benefits of improved animal welfare, challenges faced, consumer perspectives, and successful case studies.

2.4 Case study evaluation

Case studies of successful implementations from various regions were evaluated for their relevance, impact, and lessons learned. These case studies were examined to identify common trends, successful strategies, and measurable outcomes.

2.5 Qualitative analysis

Qualitative analysis techniques were applied to identify recurring themes, trends, and insights present across the reviewed literature. The data were analyzed in the context of ethical, environmental, and economic considerations, as well as the overarching goals of sustainability. The methodology outlined above allowed for a comprehensive exploration of the key aspects of farm animal welfare in relation to sustainable food production. By rigorously selecting and analyzing relevant literature, this review article aims to provide an informed perspective on the critical role that ethical treatment of farm animals plays in shaping a more sustainable and compassionate food industry.

3. Benefits of improving farm animal welfare

3.1 Enhanced animal health and productivity

Ensuring good animal welfare results in healthier and happier animals (Horgan and Gavinelli 2006). When animals are provided with appropriate living conditions, balanced nutrition, and proper healthcare, they are less susceptible to diseases and stress-related ailments. This, in turn, can lead to increased productivity in livestock (Hashem et al. 2020). Healthy animals grow faster, produce higher-quality products such as meat, milk, or eggs, and have reduced mortality rates. Improved animal health not only benefits farmers economically but also

contributes to the overall resilience of the food system (Tucker et al. 2013).

3.2 Positive impact on the environment and climate change

Sustainable agriculture aims to minimize its ecological footprint, and farm animal welfare plays a crucial role in achieving this goal (Velarde et al. 2015). Intense animal farming practices are associated with environmental issues such as greenhouse gas emissions, water pollution, and deforestation (Vargas-Bello-Perez et al. 2017). In contrast, implementing more ethical and humane practices, such as pasture-based systems, can reduce the environmental impact of animal agriculture. Animals raised in healthier and more natural environments can better contribute to ecosystem balance and soil health, making agriculture more sustainable in the long run (Lever and Evans 2017).

3.3 Ethical considerations and moral case for animal welfare

Ethical concerns surrounding the treatment of animals have led to a growing demand for more transparent and compassionate agricultural practices (Main et al. 2003). As consumers become increasingly conscious of where their food comes from, they seek assurance that the animals involved were treated humanely (Broom 2021). Embracing better animal welfare practices not only aligns with societal values of compassion and empathy towards animals but also demonstrates a sense of responsibility towards the living creatures that support our food production.

3.4 Enhanced reputation and consumer loyalty

Food producers and retailers that prioritize farm animal welfare often enjoy a positive reputation among consumers (Bock and Buller 2013). Brands that adopt ethical and sustainable practices tend to build trust and loyalty with their customer base. This loyalty can translate into increased sales and market share (Boyle and O'Driscoll 2011). Consumers are willing to support companies that are committed to responsible sourcing and humane treatment of animals, reinforcing the economic incentives for businesses to prioritize animal welfare.

3.5 Social and cultural benefits

Improving farm animal welfare not only benefits animals and the environment but also positively impacts rural communities and societies at large (Christensen et al. 2019). It fosters a sense of pride and satisfaction among farmers who can take pride in their responsible stewardship of animals. Additionally, promoting humane treatment of animals helps cultivate a more compassionate and caring society, reflecting the values we wish to uphold for future generations. By realizing these benefits and recognizing the interconnectedness of farm animal welfare with broader sustainability goals, we can work towards building a more resilient and ethical food production system. Embracing animal welfare as a fundamental pillar of sustainable agriculture is not only beneficial for animals but

also for farmers, consumers, and the planet as a whole.

4. Farm animal welfare and sustainable food systems

Farm animal welfare is an essential element of building sustainable food systems that can meet the needs of the present without compromising the ability of future generations to meet their own needs (Dawkins 2023). A sustainable food system is one that is environmentally responsible, economically viable, and socially just. Let's explore how farm animal welfare contributes to each of these dimensions:

4.1 Environmental responsibility

Intense animal farming practices, such as confined animal feeding operations (CAFOs), can lead to numerous environmental issues (Garcia 2017). These include water pollution from excessive manure runoff, greenhouse gas emissions from enteric fermentation and manure management, and habitat destruction due to land clearance for feed crops (Harper and Makatouni 2002). Implementing more ethical and humane farming practices, such as pasture-based systems and rotational grazing, can mitigate many of these negative impacts (Hashem et al. 2020). Animals that have access to the outdoors and natural environments can graze on pasture, which helps restore soil health, reduces the need for chemical fertilizers, and sequesters carbon.

4.2 Economic viability

Sustainable food production requires a robust and viable agricultural sector (Horgan and Gavinelli 2006). Improved farm animal welfare can contribute to the economic viability of farms in several ways. Healthier animals are less susceptible to diseases, reducing the need for veterinary interventions and associated cost (Hashem et al. 2020). Moreover, when animals are raised in conditions that meet their natural behavioral needs, they are less likely to develop harmful habits and behaviors that can lead to economic losses (Tucker et al. 2013). Additionally, consumer demand for ethically produced food products can create new market opportunities for farmers and incentivize them to adopt more sustainable practices (Velarde et al. 2015).

4.3 Social justice

A sustainable food system must also consider the well-being and social equity of all stakeholders involved, including farmers, farmworkers, and local communities (Vargas-Bello-Pérez et al. 2017). Treating animals humanely fosters a favorable working environment for farmers and farm laborers, leading to job satisfaction and cultivating a sense of pride in their work (Lever and Evans 2017). Furthermore, sustainable animal farming practices can have positive spill-over effects on local communities. For example, pasture-based systems can support local economies by encouraging the consumption of locally produced feed and reducing the need for large-scale feed imports (Miele and Lever 2014). By embracing farm

animal welfare as an integral part of sustainable food systems, we can move towards a more holistic approach to food production that benefits the environment, society, and the economy.

5. Challenges in ensuring farm animal welfare

Despite the many benefits associated with improving farm animal welfare, there are significant challenges that must be addressed to achieve meaningful progress in this area:

5.1 Intensive livestock production

The dominant model of intensive livestock production, such as modern farming, prioritizes high output and low-cost production (Christensen et al. 2019). These systems often prioritize efficiency over animal welfare, confining animals in crowded and often stressful conditions (Miele and Lever 2014). Transitioning away from intensive practices may require significant investments and changes to existing infrastructures.

5.2 Economic pressures

Farmers, especially those operating on a large scale, face economic pressures to maximize profits (Fernandez-Mateo and Franco-Barrera 2020). The initial investment required to adopt more animal-friendly practices, such as providing more space or implementing free-range systems, may be financially burdensome. Additionally, these changes could lead to a temporary decrease in production, affecting farmers' income and stability during the transition.

5.3 Consumer demand and awareness

Although there is an expanding group of consumers inclined towards ethically produced food, the majority still prioritize affordability and convenience (Garcia 2017). Shifting consumer behavior towards valuing animal welfare more can be a slow and challenging process. Moreover, there is a need to raise awareness among consumers about the link between their food choices and animal welfare, as well as the broader implications for sustainability.

5.4 Regulatory and policy barriers

In some regions, existing agricultural policies and regulations may not prioritize or adequately address farm animal welfare concerns (Vargas-Bello-Perez et al. 2017). There might be a lack of consistent standards or enforcement mechanisms, hindering progress in improving animal welfare practices. Additionally, political and industry resistance to change can impede the implementation of more stringent welfare regulations. Addressing these challenges requires collaboration among various stakeholders, including governments, farmers, consumers, and industry players (Harper and Makatouni 2002). By working together, we can find solutions that balance animal welfare considerations with economic realities and societal demands.

6. Approaches to enhancing farm animal welfare

Improving farm animal welfare requires a multifaceted approach that considers the unique needs of different species and production systems. Here are some key approaches to enhancing farm animal welfare (Broom 2021):

6.1 Alternative farming systems

Transitioning from intensive cooperative farming to more ethical and sustainable farming systems is a crucial step towards improving animal welfare (Bock and Buller 2013). Systems such as organic farming, free-range, and pasture-based systems provide animals with more space, access to the outdoors, and opportunities to exhibit natural behaviors. These systems can reduce stress levels and improve the overall well-being of the animals (Boyle and O'Driscoll 2011).

6.2 Technology and innovation

Advancements in technology can play a significant role in promoting farm animal welfare (Christensen et al. 2019). For example, precision livestock farming uses sensors, data analytics, and automation to monitor animal health and behavior. This technology enables farmers to detect early signs of illness, optimize feed distribution, and create tailored environments for animals, enhancing their comfort and health (Dawkins 2023).

6.3 Education and awareness

Educating farmers and consumers about the importance of animal welfare and its connection to sustainability is vital (Fernandez-Mateo and Franco-Barrera 2020). Training programs can help farmers understand and implement best practices for animal care. Increasing awareness among consumers about the impact of their choices on animal welfare can drive demand for more ethically produced food and encourage the adoption of welfare-friendly practices throughout the supply chain (Garcia 2017).

6.4 Genetics and breeding

Selective breeding can contribute to better animal welfare outcomes (Harper and Makatouni 2002). Breeding for traits that promote disease resistance, stress tolerance, and adaptability to specific environments can improve animal health and reduce the need for interventions. Focusing on animal welfare traits alongside production traits can lead to healthier and more resilient livestock populations (Horgan and Gavinelli 2006).

7. Government and industry initiatives

Government and industry have a significant role to play in promoting farm animal welfare as a key element of sustainable food production. Here are some initiatives that can drive positive change.

7.1 Developing and enforcing welfare standards

Governments can establish clear and enforceable animal welfare standards that apply to all agricultural operations

(Hashem et al. 2020). These standards should cover aspects such as housing, space requirements, access to the outdoors, and humane handling practices. Regular inspections and penalties for non-compliance can incentivize farmers to prioritize animal welfare (Lever and Evans 2017).

7.2 Incentive programs

Governments can provide financial incentives and support to farmers who adopt more humane and sustainable farming practices (Miele and Lever 2014). This could include grants, subsidies, or tax breaks that facilitate the transition to welfare-friendly systems.

7.3 Collaboration with industry stakeholders

Collaboration between governments, farmers, retailers, and animal welfare organizations is crucial in driving positive change (Main et al. 2003). Industry stakeholders can work together to set industry-wide standards, share best practices, and ensure that animal welfare considerations are integrated into supply chain management.

7.4 Research and development

Governments can invest in research and development to advance knowledge and technologies related to farm animal welfare (Tucker et al. 2013). Funding research on innovative farming practices, technology applications, and animal behavior can lead to practical solutions that improve animal welfare (Velarde et al. 2015).

8. Barriers to implementing farm animal welfare

Despite the evident benefits of enhancing farm animal welfare, several barriers hinder the widespread adoption of welfare-friendly practices:

8.1 Economic constraints

The upfront costs associated with transitioning to more humane farming systems can be a significant barrier for farmers, especially those operating on tight profit margins (Vargas-Bello-Pérez et al. 2017). The financial investment required for new infrastructure, equipment, and changes to management practices can be challenging to manage without adequate support.

8.2 Lack of awareness and education

Many farmers may not be aware of the benefits of improved animal welfare or may lack the knowledge and resources to implement welfare-friendly practices effectively. Education and training programs can bridge this gap and help farmers adopt more humane practices.

8.3 Consumer demands

Balancing consumer demands for affordable food with the costs of implementing animal welfare measures can be a challenge for farmers and producers. While there is a growing interest in ethical food choices, the price sensitivity of

consumers may limit the willingness to pay a premium for welfare-friendly products.

8.4 Resistance to change

The tradition and familiarity of existing farming practices can create resistance to change among farmers. Convincing farmers to adopt new approaches requires building trust in the benefits of improved welfare and demonstrating how it aligns with their long-term goals. Addressing these barriers requires a collaborative effort from governments, industry stakeholders, consumers, and advocacy groups. By working together, we can develop solutions that promote animal welfare while also maintaining the economic viability of the agricultural sector.

9. Consumer perspectives and market demand

Changing consumer preferences have played a significant role in shaping the landscape of the food industry, including farm animal welfare practices. Here are some key aspects of consumer perspectives and market demand concerning animal welfare:

9.1 Growing interest in ethical consumption

A notable trend in recent years is the rise of ethical consumption (Dawkins 2023). Consumers are increasingly concerned about the ethical implications of their food choices, including the treatment of farm animals. They seek information about how animals are raised and are willing to pay a premium for products that align with their values of animal welfare and sustainability.

9.2 Consumer preferences for ethically sourced food products

Labels and certifications that indicate higher animal welfare standards have gained popularity among consumers (Bock and

Buller 2013). Labels like "Certified Humane" or "Animal Welfare Approved" provide assurance that the animals used to produce the food were treated humanely. These labels help consumers make informed choices and support farmers who prioritize animal welfare.

9.3 Influence of certifications and labels on purchasing decisions

A growing number of consumers look for welfare-focused certifications when making purchasing decisions (Christensen et al. 2019). Studies have shown that products with clear labeling related to animal welfare tend to attract more consumer attention and generate higher sales. As a result, businesses and retailers have recognized the value of obtaining such certifications to cater to this consumer demand.

9.4 Advocacy and information sharing

Social media and online platforms have provided advocacy groups and individuals with powerful tools to raise awareness about animal welfare issues (Fernandez-Mateo and Franco-Barrera 2020). Consumers are now more exposed to information about farming practices, animal cruelty, and welfare-friendly alternatives. As a result, they are making more informed choices and actively advocating for change in the food industry.

The demand for ethically sourced and welfare-friendly food products is an encouraging sign of consumers' increasing consciousness about the impact of their choices on animals and the environment (Fernandez-Mateo and Franco-Barrera 2020). Meeting this demand can create opportunities for businesses and farmers to transition towards more sustainable and welfare-focused production methods. The table below provides a comparison of different animal welfare certification labels or schemes that consumers may encounter.

Certification label	Criteria and standards	Key focus areas	Consumer perception
Certified Humane	Adequate space, shelter, and gentle handling Access to fresh water and high-quality feed Absence of hormones and antibiotics Enriched environments for natural behaviors	Animal health and well-being Ethical treatment of farm animals Sustainable and humane practices	Positive perception of animal welfare Assurance of higher welfare standards Consumer trust in ethical food production
Animal Welfare Approved	Pasture-based systems Animal-centered practices Environmentally responsible farming No use of hormones or antibiotics	Animal welfare as a priority Preservation of natural behaviors Reduction of environmental impact	Strong support for humane farming practices Recognition of environmental consciousness Favorable perception among conscientious consumers
Global Animal Partnership (GAP)	Six-step tiered program based on animal welfare practices Includes criteria for housing, transportation, and slaughter Focus on transparency and traceability	Gradual improvement of animal welfare conditions Producer accountability and transparency Consumer awareness and informed choices	Increasing demand for products with higher GAP ratings Trust in step-based approach to welfare improvement Empowerment of consumers to make ethical choices

10. Case studies of successful implementations

Several countries and regions have implemented successful initiatives to improve farm animal welfare, setting examples for the rest of the world. Here are some case studies showcasing positive outcomes in promoting animal welfare in agriculture:

10.1 Sweden

The Swedish animal welfare model is a successful example of collaborative efforts among government, industry stakeholders, and consumers (Garcia 2017). Sweden has stringent animal welfare laws and regulations, including housing and handling standards for various species. The government actively supports farmers in adopting welfare-friendly practices through financial incentives and advisory services. Consumers in Sweden have also shown a strong preference for products with high animal welfare standards, which has further incentivized farmers to invest in animal welfare improvements.

10.2 United Kingdom

The UK has made significant strides in promoting farm animal welfare through various initiatives and labeling schemes (Hashem et al. 2020). The "Red Tractor" label, for example, assures consumers that food products meet comprehensive animal welfare, environmental, and safety standards. Moreover, the "RSPCA Assured" label certifies products that meet higher welfare standards set by the Royal Society for the Prevention of Cruelty to Animals (RSPCA) (Lever and Evans 2017).

10.3 Denmark

Denmark is recognized for its focus on animal welfare in its pig farming industry (Miele and Lever 2014). The Danish pig sector has voluntarily adopted the "Danish Quality Scheme for

Pig Production," which includes strict animal welfare requirements. This scheme covers various aspects of pig farming, such as housing conditions, enrichment, and veterinary care. As a result, Denmark has become a leader in animal welfare standards for pig production globally.

10.4 New Zealand

New Zealand has embraced pasture-based farming systems for its dairy industry, providing cows with ample access to open pastures (Velarde et al. 2015). The country's strong focus on extensive farming practices has garnered praise from consumers and animal welfare advocates. Consumers in New Zealand and abroad value the emphasis on natural behaviors and outdoor grazing for dairy cows, which has positively influenced the reputation of New Zealand's dairy products in international markets.

10.5 California, USA

In 2008, California voters approved Proposition 2, which mandated that farm animals have enough space to stand up, lie down, turn around, and fully extend their limbs (Tucker et al. 2013). This legislation impacted egg-laying hens, breeding pigs, and veal calves, leading to the implementation of more humane housing systems. Following the passage of Proposition 2, many egg producers in California shifted towards cage-free egg production systems, setting a precedent for animal welfare reforms in other states.

These case studies demonstrate that improvements in farm animal welfare are achievable through a combination of legislative measures, consumer demand, and industry-driven initiatives (Christensen et al. 2019). By focusing on collaboration, clear standards, and consumer education, these regions have made significant strides in ensuring the ethical treatment of farm animals while maintaining successful

Country/ Region	Key initiatives and strategies	Outcomes and impacts
Sweden	Stringent animal welfare laws and regulations Government support for farmers adopting welfare-friendly practices Strong consumer preference for high animal welfare standards	Improved animal health and productivity Increased consumer trust and loyalty Positive reputation for ethical and humane practices
United Kingdom	"Red Tractor" label indicating comprehensive standards "RSPCA Assured" label certifying higher welfare standards	Consumer assurance of welfare-friendly products Incentives for farmers to prioritize animal welfare Strengthened industry credibility
Denmark	"Danish Quality Scheme for Pig Production" voluntary standards Strict requirements for housing, enrichment, and veterinary care	Internationally recognized leadership in pig welfare Positive impact on pig farming reputation Improved animal welfare conditions
New Zealand	Emphasis on pasture-based dairy farming Access to open pastures for dairy cows	Enhanced animal well-being through natural behaviors Strong consumer and industry appreciation Positive international perception of dairy products
California, USA	Proposition 2 mandates improved space for farm animals Transition to cage-free egg production systems	Improved living conditions for egg-laying hens and other animals Setting a precedent for animal welfare reforms in the US Positive impact on industry practices and consumer perception

agricultural sectors. The table given above summarizes successful case studies of farm animal welfare implementations from various regions.

11. Discussion

Enhancing farm animal welfare is a complex endeavor that requires the involvement of various stakeholders, including farmers, consumers, governments, and industry players. The multifaceted approaches outlined in this article highlight the potential for improving the lives of farm animals while ensuring sustainable food production. However, several key points and considerations emerge from these approaches.

11.1 Balancing ethical considerations with economic realities

One of the fundamental challenges in promoting farm animal welfare is striking a balance between ethical considerations and economic realities. While the benefits of improved animal welfare are widely acknowledged, the transition to more humane farming systems can come with significant upfront costs. Farmers, especially those operating on tight profit margins, may find it challenging to invest in new infrastructure, equipment, and management practices that align with higher welfare standards (Vargas-Bello-Perez et al. 2017). This highlights the need for financial incentives and support from governments and industry stakeholders to facilitate the adoption of welfare-friendly practices (Miele and Lever 2014).

11.2 Educating stakeholders for change

Education and awareness play a pivotal role in driving positive change. Effective training programs can empower farmers to understand, implement, and maintain best practices for animal care (Fernandez-Mateo and Franco-Barrera 2020). Educating consumers about the impact of their choices on animal welfare can create a demand for more ethically produced food, leading to a shift in the market towards welfare-friendly products (Garcia 2017). Bridging the gap in awareness and knowledge can catalyze the adoption of sustainable and humane practices throughout the supply chain.

11.3 Harnessing technological innovations

Technology emerges as a powerful tool in promoting farm animal welfare. Precision livestock farming, which employs sensors, data analytics, and automation, enables real-time monitoring of animal health and behavior (Dawkins 2023). This technology not only improves animal well-being but also offers benefits to farmers in terms of early disease detection and optimized resource management (Christensen et al. 2019). Integrating technological innovations into agricultural practices can create win-win situations, enhancing both animal welfare and farm efficiency.

11.4 Collaboration for systemic change

Realizing substantial improvements in farm animal welfare requires collaboration among various stakeholders.

Governments can play a crucial role in setting clear and enforceable animal welfare standards (Hashem et al. 2020). Collaboration between governments, farmers, retailers, and animal welfare organizations is essential to establish industry-wide standards and share best practices (Main et al. 2003). Such collective efforts ensure that animal welfare considerations are integrated into every aspect of the supply chain, from farm to table.

12. Conclusions

Farm animal welfare is undeniably a key element of sustainable food production. As consumers become more aware of the ethical and environmental implications of their food choices, the demand for animal welfare-friendly products continues to grow. Embracing better animal welfare practices is not just a moral responsibility but also a strategic move for the food industry to build consumer trust and loyalty. The benefits of improving farm animal welfare are far-reaching, spanning from enhanced animal health and environmental sustainability to positive social and economic impacts. Moreover, successful case studies from various countries demonstrate that significant progress can be made through collaboration, policy support, and consumer education.

To achieve a truly sustainable food system, it is essential for governments, industry stakeholders, and consumers to work together towards promoting more ethical and welfare-friendly agricultural practices. By prioritizing farm animal welfare, we can create a more compassionate, resilient, and sustainable food production system that aligns with the values and aspirations of society. The path to sustainable food production must prioritize the well-being of farm animals as a fundamental element of ethical and responsible agriculture. By doing so, we can cultivate a food system that not only nourishes our bodies but also nourishes our conscience and preserves the planet for future generations.

Declarations

Funding: None

Conflict of interest: None

Ethical approval: Not applicable

Acknowledgements: The completion of this review article would not have been possible without the support and contributions of various researchers, experts, and sources. We gratefully acknowledge their valuable insights and efforts in shedding light on the crucial topic of farm animal welfare in sustainable food production.

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Citation

Sardar MA, Khan MIA, Salman M, Ullah I. (2023). Farm animal welfare as a key element of sustainable food production. *Letters in Animal Biology* 03(2): 01 – 08.