TRENDS IN AGRICULTURE SCIENCE
Popular Article
Vol.3 Issue 08 August 2024, Page: 2151-2154

# Veterinary Agriculture: The Future of Food Production

**Karishma Choudhary, Hina Ashraf Waiz, and Vinod Kumar Palsaniya**
Livestock Production and Management
CVAS, Navania, Udaipur
DOI: 10.5281/TrendsinAgri.13624096

As the global population continues to grow, the demand for sustainable and efficient food production has become increasingly critical. According to the World Bank Report (2013), post-harvest losses in India amount to 12 -16 million metric tonnes of food grains each year, an amount that the World Bank stipulates could feed one-third of India's poor. The Government of India procured 63 million tonnes of food grains for PDS of which 28 million tonnes of food grain are stored in the open space which has resulted in a loss of Rs. 60,000 crore (FCI 2015). Wastage of food due to a shortage in storage caused food damage. A study shows that about 1.06 lakh tonnes of wheat were damaged in Punjab and Haryana in the year 2012. This also caused bad quality of grain. On average, 30-40% of all food produced is lost or wasted resulting in losses for farmers and unnecessary pressures on natural resources (Godfray *et al*. 2010). Total food storage capacity in India is 336.04 including hired space whereas food production in the year 2011-12 was 667.89 lakh tonnes. Further due to lack of proper maintenance and skilled staff, 3.12 lakh tonnes of storage capacity were lying unutilized.

Moreover, the integration of veterinary knowledge into agricultural practices can lead to advancements in food safety and quality. Veterinary professionals can provide expertise in areas like pathogen monitoring, food-borne illness prevention, and residue management, ensuring that the food we consume is safe and meets regulatory standards. This holistic approach to food production benefits human health and contributes to the agricultural system's overall sustainability.

**What is Veterinary Agriculture?**

Veterinary agriculture combines the expertise of veterinary science with agricultural practices to enhance food production. This approach focuses on optimizing animal health, nutrition, and welfare to improve productivity, reduce environmental impact, and ensure food safety and quality. By integrating veterinary knowledge into farming operations, veterinary agriculture offers innovative solutions to the challenges of sustainable food production, benefiting


**Published**: 30 August 2024
**ISSN:** 2583-7850

both human and animal well-being. As the global population grows, this holistic approach to agriculture is poised to play a crucial role in meeting the world's increasing demand for food.

**Principles of Veterinary Agriculture**

Veterinary professionals also play a crucial role in ensuring food safety by monitoring potential contaminants and implementing robust quality control measures.

1. **One Health:** In veterinary agriculture, One Health could help address issues such as the transmission of antibiotic resistance genes between livestock and humans. This can happen through direct contact, food products, or airborne transmission. It involves collaboration among health sciences such as veterinary medicine, human medicine, environmental science, and public health.
2. **Food production and Animal Welfare:** The principles of veterinary agriculture encompass a comprehensive approach to food production. This includes optimizing animal health and welfare through preventive care, disease management, and nutrition-based strategies. Veterinary Agriculture prioritizes animal welfare, ensuring that animals are raised in humane conditions that promote their well-being.
3. **Sustainable Agriculture:** It promotes sustainable agricultural practices that prioritize soil health, biodiversity, and efficient water use. The principles of veterinary agriculture also emphasize the importance of data-driven decision-making. By leveraging advanced technologies and data analytics, farmers can optimize resource allocation, monitor animal health, and make informed choices to enhance overall productivity and sustainability.
4. **Precision Livestock Farming (PLF):** PLF is a set of electronic tools and methods used for the management of livestock. PLF involves automated monitoring of animals to improve their production, reproduction, health, welfare, and impact on the environment. It leverages technology, such as precision livestock farming, to optimize animal health and productivity.
5. **Ecosystem Services**: Veterinary Agriculture recognizes the importance of ecosystem services, such as pollination and pest control, in maintaining agricultural productivity. Furthermore, the integration of veterinary expertise with sustainable farming practices can lead to the development of more efficient and environmentally friendly agricultural systems, addressing the pressing need for global food security.
6. Additionally, the field of veterinary agriculture promotes collaborative efforts between veterinarians, agronomists, and other stakeholders to develop holistic solutions that address the multifaceted challenges of modern food production. This interdisciplinary approach is crucial in driving innovation and ensuring the long-term viability of the agricultural sector.

**Benefits of Veterinary Agriculture**


**Published**: 30 August 2024
**ISSN:** 2583-7850

1. **Improved Animal Health and Productivity**: The benefits of veterinary agriculture extend far beyond improved animal health and productivity. It ensures that animals receive proper care, leading to better health, immunity and reduced antimicrobial resistance.
2. **Environmental Sustainability**: By optimizing livestock management, veterinary agriculture can reduce the environmental footprint of food production, mitigating issues like greenhouse gas emissions, water pollution, and land degradation. It promotes sustainable agricultural practices that mitigate climate change, conserve natural resources and protect biodiversity.
3. **Enhanced Food Safety**: The enhanced food safety and quality assurance provided by veterinary expertise can lead to improved public health outcomes, reducing the risk of foodborne illnesses and ensuring the nutritional value of the food we consume. As the world grapples with the challenges of sustainable food security, veterinary agriculture emerges as a holistic solution.
4. **Economic Benefits**: It contributes to the economic viability of agricultural systems, improving the livelihoods of small and marginal farmers. By leveraging data-driven insights and cutting-edge tools, veterinary agriculture can optimize resource allocation, enhance precision farming, and promote sustainable intensification.

Furthermore, the integration of veterinary knowledge into agricultural practices can foster innovation and technological advancements. This synergistic approach not only benefits food production but also contributes to the overall resilience and adaptability of the agricultural sector, enabling it to meet the evolving needs of a growing global population. As the world continues to face complex food security challenges, veterinary agriculture emerges as a transformative solution.

**Conclusion**

In conclusion, veterinary agriculture represents a holistic and innovative approach to food production that holds immense promise. By integrating veterinary expertise with agricultural practices, this field can enhance animal welfare, improve productivity, ensure food safety, and mitigate environmental impact. As the world grapples with the challenges of sustainable food security, veterinary agriculture emerges as a transformative solution, poised to revolutionize the way we cultivate and consume our food. Through collaborative efforts and data-driven decision-making, this field is set to play a crucial role in meeting the evolving needs of a growing global population.

The potential of veterinary agriculture extends far beyond its immediate impact on food production. By fostering a deeper understanding of the interconnectedness between animal health, environmental sustainability, and human well-being, this field paves the way for a more holistic and resilient agricultural ecosystem. As we navigate the complexities of the 21st century, veterinary agriculture stands as a beacon of hope, offering innovative solutions that can help us


**Published**: 30 August 2024
**ISSN:** 2583-7850

achieve global food security, environmental stewardship, and improved public health outcomes for generations to come.

**References:**

Godfray, H. C. J., Beddington, J. R., Crute, I. R., Haddad, L., Lawrence, D., Muir, J. F., ... & Toulmin, C. (2010). Food security: the challenge of feeding 9 billion people. *science*, *327*(5967), 812-818.

World Bank. (2013). *The World Bank Annual Report 2013*. The World Bank.



**Published**: 30 August 2024
**ISSN:** 2583-7850