Australian Government

Vietnam-Australia Beef Cattle Symposium

Reimagining innovation and development of the Vietnam-Australian beef cattle sectors. Strengthening technical collaboration, trade, and investment.

14-15 November 2023, Hanoi, Vietnam

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INTRODUCTION

The first Australia-Vietnam Beef Cattle Symposium, with the topic Reimagining innovation and development of the Vietnam-Australian beef cattle sectors. Strengthening technical collaboration, trade, and investment was held in Hanoi, Vietnam on the 14th and 15th November.

The symposium was supported by the Australia-Vietnam Enhanced Economic Engagement Grant (AVEG) initiative launched by the Australian Department of Foreign Affairs and Trade (DFAT) and was implemented by Griffith University, IPSARD, FGGAP and MLA in partnership with the Vietnam Ministry of Agriculture and Rural Development (MARD).

Australia and Vietnam have a long history of research, technical collaboration, trade and investment in the beef and cattle sectors. However, markets and trade, along with external shocks are driving significant changes for both countries. The purpose of the symposium was to take stock of the current situation and explore new mutually beneficial opportunities for technical collaboration, investment, trade, and capability development. The symposium was a valuable opportunity for leading experts to come together and address priority challenges in the Vietnam-Australian beef cattle sectors and share information in critical areas of interest. The symposium also provided a vehicle for promoting technological innovation and cooperation in sector development and strengthening bilateral technical cooperation, investment, and trade.

The following priority themes were covered during the symposium:

1. Markets, industry, and trade outlook;
2. Breeding and genetic improvement;
3. Profitable forages and fattening systems;
4. Modernising slaughtering and processing.
5. Strategies and technologies for reducing GHG emissions in the beef cattle sector

The symposium brought together over 130 experienced beef sector stakeholders from across Vietnam, Australia, and beyond including representatives from the Ministry of Agriculture and Rural Development, including Departments of Livestock Production, Department of Animal Health, Department of Agro-Forestry and Fisheries Quality Management, Department of Science, Technology, and Environment, the National Institute of Animal Science (NIAS) and The Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD).

The symposium was a unique opportunity for industry, researchers and government representatives from both countries to come together and share ideas and propose key next steps in the reimagined relationship. This proceedings provides an overview of the symposium presentations and discussions.

KEY OUTCOMES

- Vietnamese and Australian researchers have been able to share practical information and solutions to some of the key challenges facing the cattle sector in Vietnam which impact on trade. These include challenges with feed and fodder availability and quality, breeding and genetics and processing quality and transparency. Scientists were also able to benefit from exchange of research findings related to climate change and GHG emission mitigation.
- Vietnamese importers, manufacturers and retailers were able to update their Australian counterparts on current market conditions, drivers and potential challenges. At the same time, Australian suppliers were able to discuss current prospects for cattle and beef exports from Australia to Vietnam.
- Proposed next steps for collaboration were shared by participants and synthesised into an action plan in the final session of the symposium. This is being used as a guide for upcoming activities.
- Government and industry representatives from Laos have shared a proposal for a tripartite cattle investment project with Australian and Vietnamese counterparts and the Laos government have sent an official proposal for a collaborative action research project ”Strengthening collaboration between Lao, Vietnamese and Australian governments to develop cattle feed industry in Laos”
- Initial enquiries from Vietnamese industry about sourcing Australian products and from Australian industry interested in the Vietnamese market.

Deputy Ministry Mr Phung Duc Tien delivered opening remarks at symposium.

SYMPOSIUM PROGRAM

Vietnam-Australia Beef Cattle Symposium
13 to 15 November, Pan Pacific Hotel, Hanoi

Reimagining innovation and development of the Vietnam-Australian beef cattle sectors. Strengthening technical collaboration, trade, and investment.

Monday 13th November 2023

18:30 - 21:00	**Networking function** Turtle Lake Brewing Company, 105 Quảng Khánh, Tây Hồ	

Vietnam-Australia beef cattle symposium program

Tuesday 14 November 2023

8:00 - 8:15	**Arrival and Registration**	15 min
8:15	**Official welcome** **Dr. Nguyen Anh Phong**, Deputy Director General, Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD)	5 min
8:20	**Opening remarks** **Mr. Phung Duc Tien**, Deputy Minister, Ministry of Agriculture and Rural Development (MARD)	10 min
8:30	**Opening remarks** **H.E. Andrew Goledzinowski**, Australian Ambassador to Vietnam	10 min
8:40-8:50	**Official Photographs**	10 min
8:50 - 10:10	**Session 1. Current beef cattle industry, markets and trade situation, priorities, and outlook** **Chairs: Dr Pham Kim Dang**, Deputy Director General, Department of Livestock Production (DLP) and **Assoc. Prof. Dominic Smith**, Griffith Asia Institute (GAI), Griffith University	80 min

8:50 — 10 min

Strategic priorities for growing Vietnam's beef cattle sector

Dr Pham Kim Dang, Deputy Director General, Department of Livestock Production (DLP)

9:00 — 10 min

Navigating an uncertain future. Opportunities to strengthen collaboration and trade in the beef cattle sector

Mr. Tony Harman, Counsellor (Agriculture), Australian Embassy, Hanoi

9:10 — 50 min

Sector panel session

Recent drivers and trends in beef cattle markets and trade in the Asia region – outlook and implications

Panel moderator: Assoc. Prof. Dominic Smith, GAI, Griffith University

- **Assoc. Prof. Hoang Kim Giao**, President, Vietnam Ruminant Husbandry Association (VinaRUHA)
- **Mr. Tran Bao Son**, General Director, Thaco Agri Company
- **Mr. Mark Harvey Sutton**, CEO Australian Live Export Council (ALEC)
- **Mr. Wayne Collier**, CEO LiveCorp
- **Mr. Spencer Whitaker**, SEA Market Manager, Meat and Livestock Australia (MLA)
- **Dr Phouthavong Kaviphone**, Director General, Department of Livestock and Fisheries (DLF) of Laos PDR

10:00 — 10 min

Launch of Vietnam's National Animal Welfare Standards

Representatives from Department of Animal Health (DAH) and MLA

10:10 - 10:30 — 20 min

Morning tea

10:30 - 12:00 — 90 min

Session 2. Meeting net zero emission targets in the beef cattle sector

Chair: Assoc. Prof. Dominic Smith, GAI, Griffith University

10:30 — 5 min

Brief overview of session – importance, context, and purpose

Assoc. Prof. Dominic Smith, GAI, Griffith University

10:35	**Net zero emission targets, accounting and activities in the beef and livestock sector in Vietnam** **Assoc. Prof. Le Thi Thanh Huyen**, Head of Department of Livestock System and Environment Research, (NIAS)	15 min
10:50	**Carbon Neutral by 2030 – a road map for the Australian red meat sector (remote)** **Dr. Margaret Jewel**, Program Manager, Environmental Sustainability, MLA	15 min
11:05	**Meeting the climate challenge. Innovations to reduce emissions and achieve net zero in the Australia-Vietnam beef sector (remote)** **Prof. Ben Hayes, Research Director**, Zero-Net Emissions CRC, Queensland Alliance for Agriculture and Food Innovation (QAAFI)	15 min
11:20	**Funding net zero and nature positive. Opportunities for financing in the beef cattle** **Mr. Guy Williams**, Executive Director, Pollination Group	15 min
11:35	**Questions and comments** **Assoc. Prof. Dominic Smith**, GAI, Griffith University	25 min
12:00 - 13:00	**Lunch**	60 min
13:00 - 15:00	**Session 3. Profitable forage and fattening systems** **Chair: Dr. Rodd Dyer**, FocusGroupGo Asia Pacific	120 min
13:00	**Session overview, context, and importance.** **Dr. Rodd Dyer**, FocusGroupGo Asia Pacific	5 min
13:05	**Commercial cattle feeding challenges and innovations in Vietnam** **Mr. Hoang Van Hoang**, Director, HTL Company Limited	20 min
13:25	**Insights from 30 years of cattle feeding and feedlot management in Indonesia (remote)** **Mr. Greg Pankhurst**, Feedlot consultant, Queensland Livestock Exporters Association, Frontier International PTY Limited	20 min

13:45 — **Industry panel – Managing challenges in the commercial fattening and feedlot sector in Vietnam** — 55 min

Panel moderators: Dr Pham Kim Dang, Deputy Director General, DLP and **Dr. Rodd Dyer**, FocusGroupGo Asia Pacific

- **Mr. Ha Van Thang**, President of Vietnam Agricultural Business Council
- **Mr. Hoang Van Hoang**, Director, HTL Company Limited
- **Mr. Nguyen Viet Dung**, Import Officer, Hoa Phat Agriculture Development Joint Stock Company

14:40 — **Questions and discussion** — 20 min

Dr. Rodd Dyer, FocusGroupGo Asia Pacific

15:00 - 15:20 — **Afternoon tea** — 20 min

15:20 - 17:00 — **Session 4. Profitable forage and fattening systems 2** — 100 min

Dr. Rodd Dyer, FocusGroupGo Asia Pacific

15:20 — **Profitable feeding strategies for low-input cattle fattening** — 20 min

Prof. Dennis Poppi, University of Queensland and **Dr. Dinh Van Tuyen**, De Heus Company Limited

15:40 — **Recent innovations in forage production and preservation for beef cattle fattening systems in Vietnam** — 15 min

Assoc. Prof. Le Thi Thanh Huyen, Head of Department of Livestock Systems and Environment Research, (NIAS) and **Dr. Melanie Blanchard**, CIRAD

15:55 — **Utilization of agricultural byproducts as feed for cattle** — 15 min

Dr. Nguyen Thi Vinh, Vice Dean, Faculty of Animal Science, Department of Animal Husbandry, VNUA.

16:10 - 17:00 — **Mini-panel session – insights from cattle producers and exporters** — 50 min

Moderator: Dr. Rodd Dyer, FocusGroupGo Asia Pacific

16:10 — Feeding strategies for maximizing growth and performance of cattle for live-export markets — 10 min

Dr. Steve Petty, Clean Agriculture, and International Tourism, TH Group

16:20	**Feeding for profitability – live-export and feedlot markets in central Queensland** **Mr. Ryan Olive**, Raglan Live-export yards and feedlot, Private sector	10 min
16:30	**Questions and discussion** **Dr. Rodd Dyer**, FocusGroupGo Asia Pacific	30 min
17:00	**Close**	
18:00	**Bus depart Pan Pacific for Los Fuegos Argentine Steakhouse**	
18:30-21:00	**Symposium dinner – Los Fuegos Argentine Steakhouse @** 35A, Alley 12 Đ. Đặng Thai Mai, Tây Hồ	150 min

Tuesday 15 November 2023

8:00 - 8:15	**Arrival and Registration**	15 min
8:15-10:10	**Session 5. Improving breeding and genetics in Vietnam** **Chair: Dr. Pham Doan Lan**, Deputy Director General, NIAS and **Dr. Rodd Dyer**, FocusGroupGo Asia Pacific	115 min
8:15	**Session overview, context, and importance.** **Dr. Rodd Dyer**, FocusGroupGo Asia Pacific	5 min
8:20	**National cattle breeding and genetic improvement strategies and opportunities in Vietnam.** **Mrs. Pham Kim Dung,** Head of Department of Animal Breeding and Genetics, DLP	15 min
8:35	**Advancing Meat-Oriented Beef Breeding Formulas and Some Recommendations for the Future of Beef Cattle Development in Vietnam.** **Dr. Phung The Hai**, Deputy Director, Vietnam Ruminant Breeding Center (Vinalica)	15 min
8:50	**Applications of genetic and breeding technologies and lessons from Australia.** **Prof. Wayne Pitchford**, School of Animal and Veterinary Science, University of Adeliade	20 min
9:10	**How can genomic tools support breeding and genetic improvement in Vietnam? (Remote)** **Prof. Ben Hayes**, Centre Director, Animal Science, Queensland Alliance for Agriculture and Food Innovation	20 min
9:30	**Questions and discussion** **Chair: Dr. Pham Doan Lan**, Deputy Director General, NIAS	40 min

10:10 - 10:30	**Morning tea**	20 min
10:30 - 12:15	**Session 6. Applied approaches to breeding and genetic improvement** **Chair: Dr. Rodd Dyer**, FocusGroupGo Asia Pacific	105 min
10:30	**Evaluating genotypes for beef cattle productivity and market specifications. A case study from northern Australia** **Mr. Tim Schatz**, Head of Livestock, Northern Territory Department of Industry, Tourism and Trade	15 min
10:45	**Importing productive breeding cows. A strategy for genetic improvement in Vietnam?** **Mr. Neil McDonald**, Beef cattle consultant	15 min
11:00	**Maximizing genetic gain by improving reproductive performance of productive breeders** **Dr Kieren McCosker**, Senior Research Fellow, Queensland Alliance for Agriculture and Food Innovation, Queensland University	15 min
11:15	**Industry and expert panel – new technologies and approaches for breeding and genetic improvement in Vietnam.** **Chair: Dr. Rodd Dyer**, FocusGroupGo Asia Pacific • **Ms. To Tue Lang**, Director, Asia Pacific Dairy Company • **Dr. Ngo Dinh Tan**, Director, Ba Vi Cattle and Forage Research Centre, NIAS • **Dr. Karen Marshall**, Principal Scientist, Animal Breeding and Genetics, International Livestock Research Institute • **Dr. Phung The Hai**, Deputy Director of the Vietnam Ruminant Breeding Centre (VINALICA)	40 min
11:55	**Questions and discussion** **Chair: Dr. Rodd Dyer**, FocusGroupGo Asia Pacific	20 min

12:15 - 13:15	**Lunch**	(60 min
13:15 - 15:10	**Session 7. Modernizing processing, value adding and integrity systems** **Chair: Mr. Spencer Whitaker**, Market Development Manager, MLA	115 min
13:15	**Session overview, context, and importance** **Mr. Spencer Whitaker**, Market Development Manager, MLA	5 min
13:20	**Strategies, priorities, and opportunities for modernizing beef processing, food safety and value adding** **Representative** from NAFIQPM	15 min
13:35	**Improving meat quality and adding value in beef processing – technical innovations and opportunities** **Mr. Greg Butler**, Consultant, MLA	15 min
13:50	**Improving animal welfare and integrity systems in beef cattle supply chains** **Dr. Michael Patching**, Director, Alta Food and Agriculture Company	15 min
14:05	**Industry panel – challenges and innovations in improving beef processing – meat quality, food safety and value adding** **Moderator: Mr. Nguyen Huy Tien**, Business Development Manager, Meat and Livestock Australia • **Mr. Michael Patching**, Director/Founder, Alta Food Agri • **Mr. Greg Butler**, MLA Consultant, Meat and Livestock Australia • **Mr. Tuong Duy Giang**, Sales Director, BeeBee Export and Import Company • **Mr. Nguyen Dang Phu**, Deputy General Director, Vissan	45 min
14:50	**Questions and discussion** **Mr. Nguyen Huy Tien**, Market Development Manager, MLA	20 min

15:10 - 15:30	**Afternoon tea**	20 min
15:30 - 17:00	**Session 8. Key stakeholder messages and next steps for collaboration** **Dr. Pham Kim Dang**, Deputy Director General, DLP	90 min
15:30	**Key messages, opportunities and recommended next steps for collaboration from key stakeholders (3-5 min each)** *Priorities and next steps for technical collaboration, industry, and trade in the beef cattle sector between Vietnam and Australia (G2G and B2B priorities)* • **Mr. Tony Harman**, Counsellor (Agriculture), Australian Embassy • **Mr Mark Harvey Sutton**, CEO, Australian Livestock Export Council • **Dr. Nguyen Anh Phong**, Agro-Info Director, IPSARD, MARD • **Dr. Kaviphone Phoutthavong**, Director General, Department of Livestock and Fisheries, Ministry of Agriculture and Fisheries of Lao PDR	30 min
16:00	**General stakeholder comments** (3-5 min per comment)	20 min
16:20	**Closing comments, key takeaways, call to action for future collaboration** **Dr. Pham Kim Dang**, Deputy Director General, DLP	10 min
16:30	**Close**	

SESSION SUMMARIES

Session 1: Current beef cattle industry, markets and trade situation, priorities, and outlook

Current Status of Beef Cattle Farming in Vietnam - Dr Pham Kim Dang, Deputy Director General, Department of Livestock Production (DLP)

The paper offers insights into the contemporary status and progression of beef cattle farming in Vietnam over the span of 2018 to 2023. It delineates the objectives and prospective directions, implementation approaches, and pertinent statistics concerning cattle herds and meat production.

The text emphasizes the significance of yellow cattle, particularly for ploughing, and details programs like “Sind hóa” and “Zebu hóa.” Crossbreeding ratios are underscored, with the Southeast and Mekong Delta regions exceeding 90%. The minimum live weight of cattle varies across regions, with the Northern Midlands and Mountainous regions having lower weights compared to other areas.

It presents the distribution of cattle herds by ecological region, indicating variations in cattle numbers across the Red River Delta, Northern Midlands and Mountains, North Central and Central Coast Highlands, Southeast, and Mekong River Delta. The numbers exhibit fluctuations from 2018 to 2022.

The regulatory framework is discussed, referencing Circulars No. 22/2019/TT-BNNPTNT and 23/2019/TT-BNNPTNT on livestock sector management, national standards and technical regulations, and the livestock development strategy for 2021-2030. Various documents encouraging and guiding development in agriculture and rural areas, including support for cooperatives and areas affected by natural disasters, are mentioned.

The paper identifies challenges such as high investment ratios, long production cycles, and slow capital recovery times. It notes that livestock farming in the value chain has a low proportion, and small-scale, scattered farming dominates. Despite challenges, there are opportunities arising from economic integration and trade agreements, leading to increased investments from businesses in terms of capital, technology, and management capacity.

The document concludes with a list of implementation solutions, including improving livestock industry institutions, adjusting regional planning, enhancing environmental control, developing large-scale livestock breeding production, ensuring market connections, improving local cattle herds, and applying science, technology, and agricultural extension in livestock farming.

Keywords:
1. Livestock farming 2. Beef sector 3. Livestock waste treatment
4. Market connection 5. Local cattle herds

Navigating an uncertain future: Opportunities to strengthen collaboration and trade in the beef cattle sector - Mr. Tony Harman. Counsellor (Agriculture). Australian Embassy, Hanoi

The paper explores the evolving dynamics of the beef cattle industry between Vietnam and Australia. Over the past decade, Vietnam has witnessed a substantial surge in beef consumption, triggering a rise in both domestic production and imports, notably from Australia. Australian beef exports to Vietnam have soared from USD 13 million in 2012 to over USD 112 million in 2022, with cattle exports reaching USD 400 million in 2020.

The business relationship between the two nations has undergone development despite early challenges, with significant investments from both sides. However, the sectors have faced various shocks, including disruptions from COVID-19, transboundary diseases (LSD and FMD), food safety concerns, and fluctuations in cattle prices. In response to these challenges, a new phase of collaboration is emphasized, focusing on partnership and investment for sustainable livestock sector development.

A notable aspect of this collaborative phase is the export of breeding cattle from Australia to Vietnam, moving beyond traditional exports of fattening or slaughter cattle. The paper identifies key areas of collaboration and investment, as outlined in the Australia-Vietnam Enhanced Economic Engagement project "Blueprint for beef cattle sector development, trade, and investment between Vietnam and Australia" (AVEG1). These priority investment areas include market information, breeding and genetics, feedlot efficiency, processing, value addition, food safety, animal welfare, epidemics and transboundary diseases, digital technologies, data analytics, and regulation.

Various forms of investment between the two nations are explored, including technical collaboration, research and development, innovation, technology adoption, trade in cattle, beef, and genetics, skills and labour, infrastructure, relationships, collaboration, and policy development. The symposium discussed in the paper is presented as a direct response to the priorities outlined in AVEG1, aiming to strengthen technical collaboration and identify concrete next steps for future business, trade, and technical collaboration. Overall, the paper underscores the importance of adapting to the changing landscape and fostering strategic partnerships for a resilient and sustainable beef cattle sector in both Vietnam and Australia.

Keywords:
1. Beef cattle sector 2. Collaboration 3. Trade 4. Investment 5. Vietnam 6. Australia 7. Technical collaboration 8. Market demand 9. Livestock sector development 10. Sustainable development

Panel Discussion Summary:

The panel discussion focused on the current state and future trends in beef production, trade, and collaboration between Australia, Vietnam, and Laos. Here are key points from each panel member:

Panel Discussion Summary

Assoc. Prof. Hoang Kim Giao

Vietnam Ruminant Husbandry Association

- Vietnam has a long history of beef cattle production, with the majority owned by household-level farms.
- Emphasized the need for improving the quality of beef, focusing on meat yield per cattle and overall meat quality.
- Stressed the importance of collaboration with Australia for crossbreeding programs and technical training.

Mr. Tran Bao Son

Thaco Agri Company

- Thaco Agri is engaged in large-scale commercial farming, including beef cattle production and fruit farming.
- Imports heifer breeds from Australia for crossbreeding in Vietnam.
- Highlighted the potential for collaboration in breeder supply, nutrition, production techniques, and meeting market needs.

Mr. Mark Harvey Sutton

Australian Livestock Exporters Council

- Discussed the varied characteristics of Southeast Asian cattle exports, with a focus on the unique market dynamics in Vietnam.
- Acknowledged the growth in Vietnam's market and the importance of collaboration for mutual benefits, including food security.

Mr. Wayne Collier

LiveCorp

- LiveCorp is involved in research, development, and services for livestock exports, focusing on animal welfare, supply chain efficiency, market access, and biosecurity.
- Highlighted the challenges related to the seasonal cycle of supply in Australia and the increasing demand for protein globally.
- Emphasized the importance of resilient and diverse relationships in the face of market dynamics.

Spencer Whitaker

Meat and Livestock Australia - MLA

- MLA works on behalf of all Australian red meat producers, focusing on sustainability, profitability, and global competitiveness.
- Described MLA's activities in Vietnam, including projects to improve production efficiencies, animal welfare, and meat quality.
- Emphasized the need for strong relationships and collaboration with Vietnamese partners.

Phouthavong Kaviphone

Department of Livestock and Fisheries, Laos PDR

- Laos has small-scale cattle production, similar to Vietnam, with potential for expansion.
- Shared progress in trade negotiations with China for live cattle exports and plans for frozen and dried meat exports.
- Expressed hope for collaboration with Vietnam and Australia to tap into the Chinese market.

Main Priorities for Australia and Vietnam Cooperation

Mark Harvey Sutton (ALEC)

Emphasized the importance of continued partnerships and suggested organizing similar symposiums, in the future to strengthen relationships.

Hoang Kim Giao (VinaRUHA)

Stressed the need for technical training and collaboration with Australia to enhance productivity, slaughtering processes, and product development.

Tran Bao Son (Thaco Agri Company)

Focused on collaboration in breeder supply, nutrition, production techniques, and meeting market needs.

Spencer Whitaker (MLA)

Highlighted the key role of relationships and meeting the changing requirements of Vietnamese consumers through high-quality beef production.

Wayne Collier (LiveCorp)

Emphasized the importance of ongoing connections, sharing information, and learning about the targets and goals of the Vietnamese industry.

Phouthavong Kaviphone (DLF, Laos PDR)

Expressed hope for continued collaboration, formalizing cattle trade, and leveraging Australia's advanced breeding technologies for the Chinese market.

Session 2: Meeting net zero emission targets in the beef cattle sector

Net Zero Emission Targets, Activities, and Opportunities in the Beef and Livestock Sector in Vietnam - Le Thi Thanh Huyen, Tran Thi Bich Ngoc, Chu Manh Thang, Nguyen Thanh Trung, Pham Doan Lan, NIAS

The paper explores the current state of livestock production, greenhouse gas (GHG) emissions, national emission targets, reduction strategies, and potential opportunities for technical collaboration in Vietnam's beef and livestock sector.

The livestock population in Vietnam, including dairy cattle, beef cattle, buffalo, sheep, goats, horses, pigs, chickens, and ducks, is outlined for the years 2018 to 2022. The paper presents estimates of GHG emissions from livestock production between 1990 and 2020, with a focus on enteric fermentation and manure management as major sources. Additionally, the sources of livestock waste in Vietnam, including solid and liquid waste, are highlighted.

The authors discuss the livestock development strategy for 2021-2030, with a vision to 2045, projecting estimated livestock populations for the year 2030. National emission targets and reduction strategies are detailed, referencing the National Strategy on Climate Change to 2050 and the GHG Emission Mitigation Plan for Agriculture, Forestry, and Land Use to 2030.

The paper emphasizes the importance of GHG inventory and monitoring, reporting, and verification (MRV) systems. Decree 06/2022/ND-CP is mentioned, which outlines the MRV system for greenhouse gas emissions reduction. The authors stress the need to enhance the capacity of the Ministry of Agriculture and Rural Development (MARD) and other stakeholders to conduct GHG inventories, particularly in the livestock sector.

The GHG mitigation measures in the livestock sector are presented, including improving diets for dairy and beef cattle, enhancing the quality of diets for buffaloes and goats, and adopting technologies for reusing livestock waste as organic fertilizer.

The paper also outlines supporting projects and programs, such as the "ASEAN and Africa Climate Smart Agriculture Program," which aims to improve GHG inventories for livestock in ASEAN countries. A collaboration project between Vietnam, New Zealand, and China is discussed, focusing on developing a regionalized Livestock GHG inventory and strengthening the capacity of technical members in MARD.

Finally, the paper explores opportunities for technical collaboration with Australia in areas such as developing emission reduction technologies, nutrition and feed additives, manure management, breeding and genetics, and offsets and carbon sequestration. The authors express the significance of addressing these aspects to meet national objectives for livestock development and GHG mitigation in line with Vietnam's Nationally Determined Contributions (NDC).

Keywords:
1. Livestock 2. GHG Emissions 3. Vietnam 4. Agriculture 5. Mitigation
6. Sustainability

MLA Sustainability Update - Margaret Jewell, Meat and Livestock Australia

The paper focuses on sustainability research and development (R&D) efforts by the MLA (Meat and Livestock Australia). The National Greenhouse Gas Inventory accounts play a crucial role in measuring and reporting greenhouse gas (GHG) emissions, particularly in the Agricultural Emissions and Land Use Land Use Change categories. The paper notes that over $140 million has been invested in sustainability R&D since 2017.

One key distinction highlighted in the paper is between being carbon neutral and climate neutral. Carbon neutrality involves no net release of GHGs, measured by the Global Warming Potential over 100 years (GWP100). On the other hand, climate neutrality focuses on preventing further temperature increases and employs metrics such as GWP*, Radiative Forcing, and direct methane reduction (30-60%).

The industry's leadership role in sustainability is emphasized, with efforts directed at GHG emissions avoidance, carbon storage, and the implementation of integrated management systems. Various strategies for emission avoidance are outlined, including the use of additives, genetic selection, legumes, and optimal management practices like savanna burning.

The paper introduces the concept of environmental credentials for grassfed beef, incorporating the MLA carbon calculator. It also touches upon a biodiversity stewardship theme, displaying management practices that enhance on-farm biodiversity. The role of CIBO labs in vegetation and groundcover mapping is highlighted, and tiered credentials are introduced, with different levels of engagement and action for industry participants.

Looking ahead, the paper outlines future steps, including a portfolio review, exploration of emissions reduction and carbon storage technologies, industry preparation for technology adoption, and ongoing evolution of the carbon calculator and environmental credentials platform. Continuous monitoring of climate science knowledge is emphasized to ensure that sustainability targets remain appropriate, achievable, and beneficial for the industry.

> **Keywords:**
> 1. Environmental credentials 2. Net-zero 3. Emissions reduction 4. Carbon storage technologies 5. Carbon calculator 6. Credentials platform 7. Learning modules 8. Biodiversity stewardship 9. Grazing systems 10. Genetic selection 11. Feed additive 12. Methane emissions 13. Carbon neutral 14. Climate neutral 15. Greenhouse gas emissions 16. RD&A effort 17. National Greenhouse Gas Inventory.

Meeting Net Zero Emissions in the Beef Cattle Sector - Ben Hayes, QAAFI

The paper discusses strategies for achieving net-zero emissions in the beef cattle sector, primarily focusing on reducing methane emissions associated with grazing livestock in Australia and emphasizes the importance of low-cost solutions, aiming for less than $A0.20 per day per animal.

Two promising feed additives, 3NOP (Bovaer) and Asparagopsis (Red Seaweed), are highlighted for their potential to achieve a significant (30%-90%) reduction in methane emissions. However, the paper raises questions about the cost of these additives and their practical delivery in extensive environments.

Genomic selection is proposed as an effective solution, as methane emission levels are heritable (0.2). Despite being expensive to measure, genomic selection, which is already implemented in countries like Ireland, Australia, and Europe, could be instrumental in breeding low-emission cattle.

The paper emphasizes the need for large reference populations of genotyped and phenotyped animals for successful genomic selection. It suggests that selecting for improved fertility can also contribute to reducing farm system emissions.

Furthermore, early-life rumen modification through feed additives is discussed, citing evidence that altering the rumen in early life can result in a long-term reduction in methane emissions.

The incorporation of legumes, particularly Leucaena, is identified as another strategy to reduce farming systems emissions. The paper suggests exploring the selection or modification of pastures to minimize emissions when grazed by cattle.

In conclusion, the paper highlights a range of technologies to reduce methane emissions, emphasizing the importance of their cost profile for widespread adoption. To achieve net-zero emissions, the integration of multiple technologies is recommended.

Keywords:
1. Methane 2. Emissions 3. Cattle 4. Genomic 5. Feed additives

The Role of Finance in Transitioning the Beef and Livestock Sectors: Lift to Shift, lessons from Australia - Guy Williams, Pollination

The paper discusses the pivotal role of finance in facilitating the transition of the beef and livestock sectors, drawing insights from Australia's experience. Pollination, a global advisory firm with a presence in over eight countries, focuses on systems transformations, including those in food and fibre, industrials, finance, and environmental markets. Their work involves developing holistic supply-chain solutions for various sectors, with a particular emphasis on regenerative agriculture practices and wetland restoration.

In collaboration with major stakeholders such as Fonterra, a global dairy cooperative, Pollination designed a regenerative agriculture transition financing model. The model involves collaboration with large food companies, major U.S. banks, and leading farming operations. The goal is to mobilize capital and financial flows to support climate-smart agricultural practices and enhance knowledge and capacity among producers.

The paper outlines key lessons learned in transitioning systems, emphasizing the need to alleviate the burdens on producers. The proposed systematic approach involves understanding frameworks and standards, assessing performance, planning and financing practice changes, implementing those changes, monitoring outcomes, and leveraging improved performance.

The case of Vietnam is highlighted as a reference for successful implementation. Market signals from Vietnam are presented as a guide for other regions looking to emulate a similar transition.

The paper concludes with practical takeaways for financing the transition in Vietnam. Recommendations include investing in internal capabilities to support producers with the latest

science and technologies, designing financial products with a user-experience lens to reduce burdens on producers, coordinating capital deployment systematically, investing in solutions like renewable energy for processors, and developing multilateral investment funds to assist smaller production segments.

Keywords:
1. Transition 2. Financing 3.Agriculture 4. Regenerative 5.Practices 6. Wetland restoration 7.Systems transformation 8. Supply-chain solutions 9. Climate-smart 10. Knowledge

Summary of Question and Answers

During a question and answer session moderated by the Head of the Department of Livestock System and Environment Research, the following key points were discussed:

The first question focused on genetic selection, particularly the size and setup of a reference population. The speaker emphasized the need for a large reference population, around 10,000 animals, for broad applications across multiple breeds. For a global effort, the population might need to be even larger, approaching 30,000. It was suggested that the reference population should include animals related to the target population across various populations.

The second question revolved around the development of greenhouse gas emission programs in Vietnam. The emphasis was on engaging household-based farmers, comprising 90% of the farming community. Farmers were chosen based on perceiving clear benefits and adaptability to their specific conditions. Ongoing efforts included raising awareness and enhancing capacity in greenhouse gas emission reduction.

The final question came from the owner of a breeding company in Quang Ninh seeking information on approaching Australia for funding for a cattle farm and support for adopting greenhouse gas reduction technologies. The response highlighted that Australian government investment is not directed toward private enterprises for private benefit. Instead, potential opportunities lie in forming investment partnerships with private establishments in Vietnam. The suggestion was to discuss with interested partners who might take an equity share in the establishment, potentially offering growth opportunities in the near future.

Session 3: Profitable forage and fattening systems

Green Forage Solutions for Fattening Beef Cattle - Hoàng Văn Hoàng, HLT Company

The paper focuses on green forage solutions for fattening beef cattle, particularly in the context of Vietnam and proposes future developments that involve cooperation, mechanization, and self-sufficiency in forage production.

The nutritional protocols of some large farms in Vietnam, with a focus on buffalo, are outlined. These farms allocate their feed costs, with 65-70% on concentrate feed, 28-33% on forage, and 3-5% on nutrition mix, salt, molasses, etc. The paper highlights challenges in preparing forage for beef cattle, such as limited and decentralized grassland resources, small and scattered hilly lands, and inadequate amounts of cattle feed. Farmers often face uncertainties in feed preparation, impacting the growth and development of cattle.

The paper identifies the sources of forage, including purchasing from other farmers, and emphasizes the need for a stable nutritional protocol. It notes that raw material supply sources have not been developed and linked, leading to questions about the origin of forage and biomass corn.

To address these challenges, the paper proposes two main solutions. First, it suggests that farms should cooperate with companies and cooperatives to develop raw material areas. This involves mobilizing farmers to grow forage and biomass corn, ensuring a stable food source for the farm.

The second solution advocates for farms to grow their own forages, emphasizing mechanization in biomass corn production. A case study of Mr. Quoc's feedlot is presented, illustrating how a large farm with 70 hectares of fresh vegetables successfully uses machinery for both animal and crop production.

The paper concludes by emphasizing the importance of close cooperation between farmers, cooperatives, and slaughterhouses to achieve sustainable and stable development in animal production. This involves providing materials for farms and cooperatives to produce food for livestock farming, resulting in a stable source of cattle, guaranteed meat quality, and reduced livestock costs.

Keywords:
1. Forage 2. Livestock 3. Fattening 4. Vietnam 5. Cattle 6. Solutions 7. Cooperation 8. Mechanization 9. Sustainability 10. Feedlot

Insights from 30 Years of Cattle Feeding and Feedlot Management in Indonesia - Greg Pankhurst

The paper provides a comprehensive overview of the cattle feeding industry in Indonesia over the past three decades. Indonesia, with its vast population, diverse geography, and booming economy, has emerged as a significant player in the global cattle market.

The author recounts his experience starting in 1992 with Tipperary Indonesia, where unconventional feeding practices, such as rolling silage with elephants, were employed. The paper highlights the growth of feedlots in Indonesia since the late 80s, utilizing by-products like pineapple, palm, rice, and tapioca in cattle rations. The challenges of high manual labour costs, expensive fuel, and the tropical climate are discussed, with insights into feedlot design, construction, and considerations for Vietnam to adopt similar practices.

The statistics on Australian live cattle exports to Indonesia are presented, indicating the substantial contribution of these exports to Indonesia's beef requirements, along with the significant employment generated by the industry. The paper emphasizes key aspects of feedlot management, such as land and site selection, feedlot design, and construction considerations.

Detailed information on cattle types, feeding practices, and weight gain patterns in Indonesian feedlots is provided. The author emphasizes the importance of cattle comfort, best practices in animal welfare, and consistent feeding routines. The nutritional aspects of feeding, including the composition of rations, water intake, and sale weights, are discussed in detail.

The paper extends its insights to feeding commodities and forage, stressing the importance of cost-effective feed sources and the unique situation of buy price being less than sell price in Indonesia. The author anticipates a shift towards corn as the main feed commodity in the coming years.

The paper concludes with relevant insights for Vietnam, emphasizing the significance of cattle comfort, feed consistency, knowledge of feed quality, and external advice in feedlot and yard design. The importance of individual monitoring and recording of performance data is highlighted, along with the need for setting specific targets for days on feed.

Keywords:
1. Feedlot 2. Indonesia 3. Cattle 4. Livestock 5. Feeding 6. Rations

Industry panel – Managing challenges in the commercial fattening and feedlot sector in Vietnam

In this panel discussion, moderated by Dr. Rodd Dyer, the panel members included Mr. Hoang Van Hoang, Mr. Nguyen Duy Hoan, and Mr. Ha Van Thang. The focus was on the agricultural business, particularly the importation and feedlotting of Australian cattle.

The discussion began with Mr. Nguyen Duy Hoan, Director of Hoa Phat Agriculture Development Joint Stock Company, providing an overview of his company's business. Hoa Phat had been involved in farming since 2004, with a significant focus on Australian beef cattle. They faced challenges in 2019-2020 due to an economic downturn and high cattle prices, leading to a decrease in imports. Market conditions and border barriers for exporting beef to China remained concerns, requiring adjustments to animal numbers.

Mr. Hoang Van Hoang from MTV HLT Vietnam Limited Company shared experiences from his company, which faced challenges after 2020. The then-current high price of around $4 per kg liveweight, compared to $2/kg previously, made profitability difficult. He emphasized the need for strong policies on hygiene, safety, and additive use.

In response to further questions, Mr. Hoang discussed challenges faced by farmers and cattle producers. He stressed the importance of building sustainable connections between Vietnam and Australia in the beef cattle industry. Key concerns included fluctuating prices, lack of stability and regulations, and the need for sustainable partnerships. He also addressed challenges such as limited grazing areas, dependence on additives, GHG emissions, and waste treatment. Mr. Hoang emphasized the need for circular production systems, partnerships with green feed producers, and the development of standards for beef cattle imports to ensure human health and safety.

Questions and discussion

A representative from VinaRUHA, with extensive industry experience, expressed deep concern over the formidable challenges faced by farmers in Vietnam. Predicting a looming shortage of breeding cows in the next 5-7 months, the commentator observed that smaller farmers, heavily dependent on livestock for their livelihood, are being compelled to sell off their animals despite minimal profits. The plummeting prices of cattle, coupled with difficulties in exporting to China, have exacerbated the situation. Informal importation from neighbouring countries like Cambodia and Thailand has further depressed prices. The commentator highlighted additional cost burdens related to transportation, slaughtering, and feed. Furthermore, food safety and hygiene concerns in the local market were identified as significant challenges. Emphasizing the need for cohesive connections within the value chain, the commentator called for stronger government policies to regulate the informal importation of cattle, citing risks associated with harmful feed and additives.

Another participant, hailing from Tay Nguyen University in the central highlands of Vietnam, shed light on the region's substantial beef cattle population, constituting 14% of the national total. Acknowledging the importance of ample pastureland for maintaining a robust cattle herd, the speaker discussed the formation of a group for growing animal feed with the support of ACIAR. However, challenges were underscored, including the difficulty of collecting large quantities of additives and the complex process of converting them into quality animal feed. Concerns were also raised about crude methods in the beef sector impacting food safety, such as the practice of pumping water into animals to artificially increase their weight, creating unfair competition.

During a subsequent question posed by Steve Petty from Clean Agriculture and International Tourism, regarding interest in purchasing heifers from Australia for feedlots, the response highlighted the current interest of Vietnamese businesses in Australian heifers. The focus was on studying the use of heifers not just for fattening but also as breeding cows, given their lower prices compared to steers. The commentator echoed a sentiment shared by the representative from the central highlands, emphasizing the need for producers to be agile and flexible in utilizing agro-byproducts efficiently. Economic efficiency through aggregation and contractual agreements for utilizing agro-byproducts like corn was stressed.

In a broader context, a participant remarked on the disparities between Vietnam and Australia in terms of geography and social conditions. The fragmented nature of landholdings in Vietnam posed a substantial challenge to agro-byproduct aggregation, despite its widespread use. The participant suggested two key directions – addressing the livelihood dependence of smallholder farmers on cattle, focusing on breeders and agro-byproduct aggregation, and promoting large-scale farming for product uniformity and quality consistency. Noting that some large businesses are already importing cattle from Australia, the participant advocated for further pursuit to meet consumer needs. Additionally, a call was made for government and business investment in the foundational aspects of developing livestock, specifically promoting breeders, similar to the approaches taken in the piggery and poultry sectors, to ensure consistent herd quality.

Session 4: Profitable forage and fattening systems II

Moving into more profitable beef production systems: case studies from Indonesia- Dennis Poppi (University of Queensland) and Dinh Van Tuyen (De Hues Vietnam)

This paper addresses the challenge of increasing beef production in Indonesia. The focus is on helping farmers transition to more commercially oriented supply and value chains.

The authors emphasize that while profit is a key goal, it doesn't always align with biological performance. They highlight the difficulty of achieving higher growth rates at a profit, considering factors such as daily income over food cost (IOFC) and acceptable risk levels.

The current beef production situation in various regions of Indonesia is outlined, including different breeds and feeding systems. Growth relationships for breeds are discussed, with key findings indicating that Euro X breeds exhibit higher growth rates compared to Ongole and Brahman breeds, emphasizing the need for high metabolizable energy (ME) content in rations for optimal weight gain.

The researchers pose critical questions about breed selection, ration composition, and feeding levels to achieve high live weight gain (LWG) with low feed for gain ratios. They stress the importance of understanding the biological principles of breed growth, including the response of LWG to ME intake and breed variations.

The paper introduces a Least Cost Ration (LCR) system called ACIAR LCR and an accompanying app named Beef-upp. These tools aim to formulate rations that provide high LWG and low feed for gain ratios. The researchers specify criteria for the rations, including minimum ME, crude protein (CP), neutral detergent fiber (NDF), and upper limits for certain ingredients.

Case studies from different regions, such as East Java and Sumbawa, showcase formulations using the LCR system. The results demonstrate the potential for devising new systems, such as incorporating cassava with pasture grasses or legumes. The paper concludes with a summary of key findings, emphasizing the opportunities for agri-businesses and farmers to utilize the ACIAR LCR and Beef-upp app for formulating high IOFC rations.

Keywords:
1. Ration 2. LWG 3.Feed ingredients 4. ACIAR LCR 5. Breed types 6. IOFC
7. High live weight gain 8. Feed for gain ratio 9. Least cost ration 10. Formulation

Sillage maize used as cattle feed

Innovations in Forage Production and Conservation for Enhanced Beef Cattle Fattening in Vietnam - Dr. Melanie Blanchard and Dr. Le Thi Thanh Huyen CIRAD; NIAS

The paper discusses innovations in forage production and conservation to enhance beef cattle fattening in Vietnam. Beef cattle farming is a significant part of the agricultural systems in various regions of Vietnam, particularly in the Northern Mountains and the Northern and Southern Central Coast, with a predominant presence among smallholders.

One of the key challenges faced by the commercial supply chain stakeholders in Vietnam is the high cost of imported cattle and feed, coupled with seasonal roughage shortages. The paper explores the potential for improvement by integrating smallholder households into the commercial beef supply chain.

Forage development and roughage availability across different regions of Vietnam are discussed. The Red River Delta, Northern Mountains, Central Highlands, Mekong River Delta, Northern & Southern Central Coastal, and Southeast regions each have varying forage conditions, influenced by factors such as land availability and crop residues.

The diversity of farms and livestock systems is emphasized, including specialized livestock farms with ruminant systems and mixed farms with both ruminant and monogastric systems. The paper highlights the need for adaptation to diverse production goals, feeding needs, and seasonal challenges.

The livestock systems in Northwest Vietnam are categorized as pastoral and semi-intensive, each facing specific challenges such as weak feeding autonomy and labour efficiency. However, there is identified potential for intensifying beef production through forage innovation.

The paper explores the seasonal aspects of forage and feed resources, including grasses, pulses, and crop residues. It emphasizes the importance of innovation and adoption of forage production techniques, introducing a greater diversity of forage species and varieties suitable for different agroecological zones.

Innovation in forage production extends to forage processing and conservation techniques, such as hay making and silage production. Challenges to the adoption of these techniques include the need for technical expertise and small, low-cost equipment.

Crops residues and by-products use are also discussed, with a focus on improving harvesting and transportation capacities. The paper suggests organizational and institutional innovations, involving local actors and utilizing information and communication technology (TIC) for awareness.

The takeaway messages include the need to diversify forage species, increase the adoption of legumes, developing a regional forage seed market, and using appropriate equipment for harvesting and storage. The dissemination strategy involves grassroots efforts, leveraging local actors and value chain development for sustainable forage production in Vietnam.

Keywords:
1. Forage production 2. Beef cattle fattening 3. Innovation 4. Conservation 5. Livestock farms 6. Agroecological zones 7. Legumes 8. Crop residues 9. By-products 10. Scaling-out 11. Sustainability.

Utilization of agro-byproducts and supplements for commercial feeding and fattening in Vietnam - Nguyen Thi Vinh and Nguyen Xuan Trach, Vietnam National University of Agriculture

The paper explores the utilization of agri by-products and supplements for commercial feeding and fattening in Vietnam. The key motivations for such utilization are the high cost of imported concentrates (70% from foreign countries) and the need to find economical feed resources. The authors argue that the use of crop and food processing by-products, which are abundant in Vietnam, can significantly reduce feed costs and contribute to the value-added production of animal products.

The paper emphasizes the importance of preventing environmental pollution by properly utilizing agri by-products, as improper disposal could lead to serious environmental issues. Circular agriculture is highlighted as a driving force for sustainable development.

The authors argue that if crop residues are effectively utilized, Vietnam could double its ruminant population without tapping into feed resources meant for monogastrics. This indicates the potential impact of proper agri by-product utilization on livestock farming in the country.

The authors provide statistics on the abundance of various agri by-products in Vietnam, including rice straw, maize stover, cassava foliage, paddy husk, fruit and vegetable processing residues, sugarcane bagasse, and more. The utilization rate of crop by-products is reported to be 52.25%.

The paper categorizes agri by-products into fibrous, protein-rich, and food processing byproducts, each with specific characteristics and treatment methods. The systematic ways to use these by-products as raw materials for commercial feeds include Total Mixed Ration (TMR) and Fermented Total Mixed Ration (FTMR).

Experimental results are presented, demonstrating the positive effects of urea treatment of rice straw on the growth performance of cattle. The authors also discuss the application of rice straw treatment in households and on large farms, such as TH True Milk in Nghe An province.

Finally, the paper concludes with recommendations for cooperation with Australia, suggesting the development of a joint collaboration project to survey potential agricultural by-products for feed, evaluate and select substitute feed ingredients with Australian experts, develop local processing methods, commercialize TMR feed products, and invest in the construction of TMR raw materials plants. The proposed collaboration aims to enhance feed production efficiency and contribute to sustainable livestock farming in Vietnam.

Keywords:
1. Agro-By-Products 2. Livestock 3. Feed 4. Vietnam 5. Utilization
6. Circular Agriculture 7. Sustainability 8. Ruminants 9. Commercial Feeding
10. By-Product Utilization

Production and feeding strategies for the Vietnam live-export market Opportunities for greater collaboration between the North Australian and Vietnamese cattle industries - Steve Petty

The paper discusses production and feeding strategies for the Vietnam live-export market, emphasizing opportunities for collaboration between the North Australian and Vietnamese cattle industries. The focus is on the Clean Agriculture and International Tourism (CAIT) Cattle Business, owned by TH Group Vietnam, which encompasses three cattle stations covering 861,600 hectares. The CAIT operation manages 65,000 head of cattle, including 26,000 breeding cows, with an annual turnoff of approximately 17,000 head, primarily for live export. The stations are managed with a commitment to “Best Practice” standards, and significant investments, exceeding A$14.5 million, have been made in development and infrastructure upgrades.

Despite the substantial cattle operation, only 13% of the sale cattle go to Vietnam, with the Indonesian market dominating at 72%. CAIT aims to increase cattle sales to Vietnam, diversify sales by class, and sell heavier cattle. Strategies include holding cattle for an additional season to increase weight and implementing feeding systems to optimize the cost of gain. For instance, growing fodder such as Sorghum and Cavalcade to graze cattle and harvesting silage for feedlot sale cattle are among the proposed strategies.

The paper explores various options for live export marketing to Vietnam. CAIT aims to provide higher quality bulls for premium beef, establish a year-round demand, and sell non-pregnant cows, heifers, and feeders. The potential for selling pregnant heifers or cows as breeding stock is also highlighted as an efficient system. The discussion emphasizes the importance of establishing a feeding regime in Vietnam to avoid excessive fatness, offering a cheaper entry price, and catering to small farmers and feedlots, particularly those engaged in forage-based feeding.

Keywords:
1. Live-export 2. Vietnam 3. Cattle 4. CAIT 5. Collaboration 6. Feeding 7. Turnoff
8. Infrastructure 9. Marketing 10. Forage-based

Question and answer session

Various questions, answers, and comments were raised concerning the beef cattle industry, with a focus on Australia's role as a significant supplier to Vietnam.

One participant from an academic institution queried the viability of marketing entire bulls and once-bred heifers as they are considered commodity products, raising concerns about their quality in comparison to the demand in the wet market. The response highlighted the need for diversity in the supply chain, emphasizing the potential for various products to find their niche in the Vietnamese market. The focus was on providing a diverse range of products to meet the varied demands rather than solely aiming for a premium quality market.

A comment stressed the importance of collaboration between Australian exporters and Vietnamese partners to meet the country's live cattle and meat demands. Additionally, there was an emphasis on the utilization of agro-byproducts in Vietnam to potentially increase the number of cattle heads.

A beef cattle farmer expressed concerns about unfair competition faced by domestic producers in Vietnam, especially in light of complex procedures and regulations for both meat importation and the use of agro-byproducts.

Another participant posed questions about the potential of the Vietnamese market for beef cattle and why Australia sells heifers to be fattened in Vietnam. The response explained that reducing breeder numbers in Australia was a strategy to prevent overstocking if heavier animals were sold to Vietnam. The surplus of heifers, not required for breeding, presents an opportunity for export.

Another contributor shared insights into the challenges faced by small-scale farmers in meeting the national target of increasing beef supply. The discussion included difficulties in implementing crossbreeding programs due to scattered herds and the need to import quality breeds to boost production efficiently.

Overall, the question and answer session covered a range of topics, including market dynamics, supply chain diversification, competition challenges, and the potential for technology and imports to contribute to the growth of the beef cattle industry in Vietnam.

Session 5: Improving breeding and genetics in Vietnam

National cattle breeding and genetic improvement strategies and opportunities in Vietnam - Mrs. Pham Kim Dung, Head of Department of Animal Breeding and Genetics, DLP

The paper discusses the breeding work, genetic improvement, and implementation solutions for beef cattle husbandry in Vietnam. It provides information on various beef cattle breeds available in the country, emphasizing mature weights and statures. Breeds mentioned include Bò Red Sindhi, Bò Sahiwal, Bò Brahman, Bò Charolais, Bò Limousin, Bò Senepol, Bò Đen Nhật Bản, and Bò Blanc Blue Benge (BBB). The document stresses the importance of breeding management and the decisive role of the breed in achieving desired traits like quick growth, large volume, high carcass rate, refined meat rate, and good meat quality.

The genetic improvement section outlines government-directed programs dating back to the end of the 20th century. Notable programs include the Livestock Breeding Program, "Lai Sind Cattle Breed" crossbreeding program, Beef Cattle Breeding Program, and programs specifically aimed at improving Vietnam's VANG cattle herd. The paper details beef cattle breed improvement programs, emphasizing the selection of breeding cows for reproduction and calves raised for meat.

The implementation solutions section discusses specific programs such as the "Lai Sind Cattle Breed" crossbreeding program. It involved importing Red Sindhi cattle in the 1920s and implementing progressive crossbreeding with Vietnamese yellow cattle. By 2003, Lai Sind cattle accounted for about 30% of the total herd, displaying the success of the program. Additionally, the "Zebu Crossbred" program of Vang cows is outlined, involving a multi-step process using bulls or Zebu semen to create Zebu hybrids, followed by mating with beef cattle breeds to produce meat-specializing hybrids.

Keywords:
1. Cattle 2. Breeding 3. Genetics 4. Vietnam 5. Livestock

Advancing Meat-Oriented Beef Breeding Formulas and Some Recommendations for the Future of Beef Cattle Development in Vietnam - Phùng Thế Hải, VINALICA

The paper discusses the advancements in meat-oriented beef breeding formulas and offers recommendations for the future of beef cattle development in Vietnam. The focus is on improving productivity, quality, and economic efficiency in beef production.

The breeding history in Vietnam is traced, highlighting the shift from the Vietnam Yellow Cattle before the 1970s to the introduction of breeds like Red Sindhi, Brahman (Cu Ba), and Sahiwal during 1970-2000. From 2015 onwards, proven breeds such as Brahman, Red Angus, and Droughtmaster have been preferred, along with high-yielding varieties like BBB and Charolais, and high-quality breeds like Wagyu and Senepol. The advantages of these breeds include less selectivity about feed, fast growth, a high percentage of meat, and good short-term economic returns. However, challenges exist, such as the requirement for large-sized breeding cows, poor adaptation to Vietnam's weather, and fertility issues in their F1 generation.

The paper outlines key milestones in the development of the beef cattle industry in Vietnam, including the establishment of the Moncada Frozen Semen Center, now known as VINALICA. The Center focuses on frozen semen production and distribution, playing a crucial role in the development of artificial insemination (AI) systems nationwide.

Research results indicate a growing demand for beef in Vietnam, both in quantity and quality. The implications suggest a preference for crossbreeds with high meat yield for economic efficiency, although crossbreeds with high-quality meat face challenges due to similar market prices with other breeds. Crossbreeds for breeding offspring with good fertility and improved physique are deemed unattractive due to low market value.

The paper concludes with recommendations for the future of beef production in Vietnam. Specific policies, technical barriers, and tight control are proposed to monitor and train stakeholders, control slaughter techniques, and determine meat cut classifications and selling prices. The recommendations also emphasize value chain linkages, suggesting benefits and responsibilities for all parties involved, as well as larger-scale operations to cut down transaction costs. Support from Australia is suggested, including assistance in breeding, crossbreeding, training, monitoring, and the development of value chains and processing technologies for effective livestock product exploitation.

Keywords:
1. Crossbreeding 2. Meat Yield 3. Beef Cattle 4. Economic Efficiency 5. Frozen Semen 6. Breeding History 7. AI Systems 8. Vietnam Yellow Cattle 9. Market Demand

Applications of genetic and breeding technologies and lessons from Australia - Prof. Wayne Pitchford, School of Animal and Veterinary Science, University of Adelaide

The paper explores the applications of genetic and breeding technologies in livestock, drawing lessons from Australia. The research emphasizes the importance of genetic selection for efficiency and cow weight in various market endpoints, such as 350kg, 450kg, and 550kg live weight. Days to calving is identified as a key trait, with heritability and core results presented for Brahman and Composite breeds.

The study highlights the impact of changing body composition on traits like scrotal circumference and sperm defects. Genetic correlations and breeding value correlations are discussed, shedding light on the complex interplay of traits in livestock breeding. The paper stresses the significance of utilizing the experiences of smallholders and the potential for accurate ranking and scoring of animals, which remain highly heritable.

Genomic tools are explored as means to describe breed composition, with examples from tropical composite cattle in Kenya and Kerala. The importance of genomics for multi-breed evaluation is emphasized, with a call to account for heterosis and manage inbreeding. The paper suggests embracing crossbreeding judiciously, valuing local cattle adaptation and fertility, and developing robust measurement systems.

The discussion extends to the implications of buying cattle from Australia, emphasizing the importance of composites for various market sectors, tropical adaptation, maternal performance, early growth, and meat quality. Maximizing genetic gain is explored through strategies like genomic testing, embryo transfer, and artificial insemination.

Key messages for Vietnam include the development of a breeding objective, the establishment of a breeding nucleus, and the implementation of performance recording systems. The paper recommends capturing data from different regions, focusing on both productivity and likeability traits. Developing systems for estimating breeding values, importing genetics aligned with objectives, and disseminating superior stock widely are suggested as critical steps for successful breeding programs in Vietnam.

Keywords:
1. Livestock 2. Genetic 3. Breeding 4. Efficiency 5. Genomics 6. Adaptation 7. Cattle 8. Traits 9. Genomic Testing 10. Vietnam

How can genomic tools support breeding and genetic improvement in Vietnam? - Ben Hayes, QAAFI

This paper discusses the application of genomic tools to support breeding and genetic improvement in the livestock industry, with a focus on the context of Vietnam. The key drivers for using genomic tools in breeding programs are identified as fertility, meat quality, methane reduction, and adaptation to local conditions.

The Queensland Alliance for Agriculture and Food Innovation (QAAFI), a research institute of The University of Queensland, has been actively involved in livestock genomics, with over 20 million animals genotyped. The paper highlights the challenges in the beef industry, including the large number of breeds, crossbreds, and two sub-species (Bos taurus and Bos indicus), as well as the lack of routine recording for certain traits under extensive conditions.

To address these challenges, the Northern Genomics Project is presented as an example. This project involves collaboration with 60 herds across northern Australia, where 29,391 heifers were genotyped, and trait recorded. The data collected include information on various traits such as weight, hip height, body condition score, heifer puberty, pregnancy status, temperament, tick score, and buffalo fly lesion score.

The herds are profiled for fertility, growth, tick and fly resistance, and temperament, allowing benchmarking against other herds in the region. Genomic Breeding Values (GBV) derived from the Northern Genomics Project are discussed as valuable tools for selecting bull teams and culling heifers, with applications in multi-breed, composite, and crossbred cattle.

The study concludes by emphasizing the availability of good genomic models for developing tools applicable to diverse populations. The accuracy of GBV for selection is highlighted, even in the absence of pedigree information. The paper encourages the use of genomics to accelerate genetic gain by selecting and breeding from animals at an early age. Additionally, it suggests that even relatively small herds can serve as references for genomic evaluation.

Keywords:
1. Genomic 2. Breeding 3. Livestock 4. Fertility 5. Meat Quality 6. Adaptation 7. Genotyping 8. GBV

Questions and discussion

The Q&A session included comments from participants regarding the state of Vietnam's beef industry. One speaker raised concerns about the declining number of beef cattle due to external factors like the war between Ukraine and Russia and illegal imports. Challenges faced by legal producers, including the need for control over harmful additives and issues with crossbreeding, were highlighted. The suggestion was made to turn the workshop into an annual event with a more specific focus on building the beef cattle industry.

Another participant discussed genetic improvement, crossbreeding, and related issues. Achievements in crossbreeding Lai Sind were acknowledged, but concerns were raised about the lack of genetic selection and evaluation for yellow cattle. The need for more research in crossbreeding, especially with BBB cattle, was emphasized, along with a call for deeper cooperation between Australia and Vietnam.

During the Q&A, a question was posed about reducing the age of puberty in Brahmin crosses through crossbreeding. The response suggested using British breeds with tropical adaptation, such as Angus and Senepol. The tension between lean meat preference and early puberty, requiring more body condition, was noted.

Another question focused on the use of indigenous knowledge in breeding programs globally. The response emphasized the crucial role of breeders' input, particularly regarding animal behaviour traits like temperament and likability. Examples were given, highlighting the importance of incorporating local knowledge and continuous research collaboration for the development of Vietnam's beef cattle industry.

Dr Pham Kim Dung, DLP delivers her presentation on national cattle breeding and genetic improvement strategies and opportunities in Vietnam.

Session 6: Applied approaches to breeding and genetic improvement

Importation of Australian breeding cows: Some lessons learnt from the importation of commercial Brahman heifers to Indonesia 2015 – Neil MacDonald

The paper discusses the importation of Australian breeding cows, specifically focusing on the lessons learned from the importation of commercial Brahman heifers to Indonesia in 2015. The project involved importing 2078 heifers to an Indonesian province with the aim of rural development and improving the living standards of poor farmers. These heifers were distributed among approximately 1000 farmers organized into 47 groups.

The project encountered challenges from the start, with the importation occurring at the wrong time of the year—during the wet season—resulting in a high death rate in quarantine, particularly among heavily pregnant cows. The Australian Government provided technical support from April 2016 to March 2018, and despite a difficult first year, by 2018, the scheme had become successful, providing a good income for the farmers. The cattle were reportedly thriving as of October 2019.

The relevance of this experience to Vietnam is highlighted, suggesting that importing Australian breeding cows could rapidly introduce productive genetics and increase the size of Vietnam's domestic cattle herd. The paper deliberates on the choice between importing heifers or cows, weighing the advantages and disadvantages of each. It also considers the option of importing pregnant or non-pregnant cattle, emphasizing the complexities and risks associated with the timing of calving.

The importance of a supportive structure for farmers is emphasized, with the paper discussing the role of farmer groups, government staff, and various training programs in ensuring the success of the project. The well-built infrastructure on farms, coupled with positive observations on animal behaviour and health, adds to the overall success of the endeavour.

Key recommendations for Vietnam include the consideration of importing pregnant heifers, non-pregnant heifers, or pregnant cows, each with its own set of advantages and disadvantages. The paper stresses the need for proper nutrition, particularly during lactation, and highlights the significance of weaning for re-conception. Additionally, challenges related to artificial insemination, the importance of bulls in reproduction, and the necessity of addressing issues like heat detection and maintaining the cold chain in the breeding process are discussed.

Keywords:
1. Cattle 2. Importation 3. Breeding 4. Indonesia 5. Heifers 6. Livestock 7. Agriculture 8. Farmers 9. Genetics

Breeding beef cattle to suit the environment and meet market specifications: A case study from northern Australia. - Tim Schatz, Livestock Industry and Trade, DITT Northern Territory

The paper discusses breeding strategies for beef cattle in the Northern Territory (NT), Australia, focusing on adapting to the local environment and meeting market specifications, particularly

for the Southeast Asian live export market. The NT faces a harsh environment characterized by heat, ticks, and seasonal low nutrition, similar to parts of Vietnam.

Given the low stocking rates and vast scale of NT cattle operations, the breeding goal is to produce cattle that are resilient, low maintenance, and meet market requirements. Most cattle in the region have a high Bos indicus (Brahman) content due to their adaptability to stressful conditions. The presentation emphasizes the breeding efforts to develop cattle suitable for the live export market in Indonesia, where environmental conditions and market demands are challenging.

One notable breeding program involves crossbreeding Brahman cows with F1 Charolais x Brahman bulls, aiming to create cattle with improved stress resistance, growth, yield, and value-adding potential. Additionally, the paper discusses a specific project involving the crossbreeding of Senepol bulls with Brahman cows. This initiative aimed to produce cattle with better meat quality, adaptability to NT conditions, and acceptance in both live export and Australian domestic markets.

The results of the Senepol crossbreeding project indicate several advantages, including heavier weaning weights, higher growth rates, and more tender meat compared to pure Brahman cattle. The study also evaluates the performance of F1 Senepol and Brahman steers in Indonesian feedlots, concluding that F1 Senepols outperformed Brahmans in terms of growth, weight gain, and carcass yield.

Furthermore, the presentation highlights the benefits of crossbreeding for cattle breeders and feedlotters, emphasizing increased growth, fertility, and market versatility. The importance of considering breed characteristics, selecting suitable genotypes for specific environments, and utilizing objective data such as Estimated Breeding Values (EBVs) in breeding programs is emphasized.

The paper highlights successful breeding programs in the NT aimed at producing cattle that thrive in challenging environments and meet market demands, particularly for the Southeast Asian live export market. The use of crossbreeding, specifically with tropically adapted Bos taurus breeds like Senepol, demonstrates the potential for improving various production traits in beef cattle.

Keywords:
1. Crossbreeding 2. Senepol 3. Adaptability 4. Live Export 5. Resilience 6. Breeding 7. Market 8. Tropically Adapted 9. Bos Indicus 10. Cattle

Exploiting Genetic Gain: Optimizing the Reproductive Performance of Productive Females - Kieren McCosker, QAAFI

The paper focuses on improving cattle productivity through strategic breeding and management practices. The key drivers highlighted are the consistent supply of efficiently growing calves, minimizing mortality, and optimizing reproductive performance.

The paper underscores how these factors collectively contribute to a more sustainable beef industry. By reducing the environmental footprint per unit of beef produced and enhancing farmers' income, the research aims to foster economic growth.

This provides insights into the significance of body weight and maturation rates in different cattle breeds, categorizing them into early maturing (e.g., Angus, Wagyu), late maturing (e.g., Charolais, Limousin, Simmental), and medium maturing categories. The author suggests that the medium-maturing category may offer a balanced set of characteristics.

Additionally, the research explores the 100-day pregnancy percentages across different regions, highlighting variations in reproductive performance. Crucial nutritional requirements, including stocking rates, distinctions between heifers and cows, and the inclusion of additives/legumes, are identified. The paper stresses the importance of addressing mineral deficiencies.

Body condition scores at calving and the management of lactation are discussed in relation to their impact on reproductive success. Factors influencing calf survival, such as animal class, environmental conditions, disease risks, nutrition, ease of birth, and predation, are also explored.

In conclusion, a simple approach is recommended, with an emphasis on mastery of basic principles before intensifying efforts. It encourages the effective use of available feed resources, the selection of appropriate genotypes, and the implementation of sound breeding practices and technologies to enhance genetics.

Keywords:
1. Reproductive 2. Productivity 3. Genetic 4. Cattle 5. Sustainability 6. Breeding 7. Management 8. Nutrition 9. Maturation 10. Livestock

Dr Kieren McCosker talks about maximizing genetic gain by improving reproductive performance of productive breeders.

Panel Discussion Summary

The panel discussion, moderated by Dr. Rodd Dyer, featured key figures in the livestock industry in Vietnam. The panelists included Ms. To Tue Lang from Asia Pacific Dairy Company, Dr. Ngo Dinh Tan from Ba Vi Cattle and Forage Research Centre, Dr. Karen Marshall from International Livestock Research Institute and Dr. Phung The Hai from Vietnam Ruminant Breeding Centre (VINALICA).

Ms. To Tue Lang discussed Asia Pacific Dairy Company's 12 years of experience in importing genetic materials and genomes for major livestock industries in Vietnam. They import frozen semen from the US for dairy cows and also bring in shipments of dairy cows to provide large farms access to genetics from developed countries. Ms. Lang highlighted the dynamic adoption of technological changes in Vietnam and the increasing awareness among farmers about genetics. However, she emphasized the need for support from developed countries like Australia to open opportunities for new technologies and genomic selection in the beef cattle sector.

Dr. Ngo Dinh Tan, Director of Ba Vi Cattle and Forage Research Centre, addressed the challenges faced by farmers in remote areas with limited accessibility to technical facilities and semen distributors. He emphasized the need for investment in infrastructure and equipment to improve artificial insemination (AI) service delivery in these areas.

Dr. Karen Marshall, a Principal Scientist from the International Livestock Research Institute, shared insights from a project in Northwest Vietnam, focusing on a value chain approach to address issues in smallholder production systems. The project aims to improve feeds, forages, and seed systems, and it includes capacity building for farmers in breeding and AI.

Dr. Phung The Hai, Deputy Director of VINALICA, discussed the center's 50 years of experience in research, training, and semen production. He highlighted the challenges in maintaining breeder herds and the importance of better linkages along the value chain to ensure benefits flow to farmers.

During the general questions and discussion, participants raised concerns about importing female breeds from Australia, considering issues related to temperament, high prices, and adaptability in Vietnamese conditions. The panelists addressed these concerns, emphasizing the need for handling and acclimatization and acknowledging the challenges associated with pricing and survival rates.

Overall, the panel highlighted the progress in the livestock industry in Vietnam, the importance of technology adoption, infrastructure development, and collaborative efforts to address challenges and promote sustainable development in the sector.

Panel discussion on new technologies and approaches for breeding and genetic improvement in Vietnam

Session 7: Modernising processing, value adding and integrity systems

Improving meat quality and adding value in beef processing: technical innovations and opportunities – Greg Butler

The paper addresses strategies for improving meat quality and adding value in beef processing in Vietnam, focusing on four major meat trading pathways. These pathways involve various processing methods, including traditional hot processing, chilled carcasses processed post-rigor, and a distinctive approach of chilled carcasses processed post-rigor, tender-stretched, vacuumed, and aged.

The study conducted blind taste tests to evaluate the impact of pre- and post-rigor processing on retail beef, comparing hot boning and chilled boning for bulls and steers. The results suggested that aged (vacuumed) beef received higher scores, indicating improved tenderness and adding value.

The paper then validates these findings by comparing the eating quality of beef products, specifically the Vissan Beef Brand, against local and imported brands. The study includes various beef types, such as hot-boned local cattle, cold-boned chilled beef, and chilled and aged beef. The results reveal that aged (vacuumed) beef consistently scored higher in consumer satisfaction and justified a price premium.

The discussion delves into key attributes affecting eating quality, emphasizing the importance of pH decline in the chilling process. The effects of curfew periods and transportation on pH decline are highlighted, indicating that minimizing time off feed is crucial for maintaining quality.

The paper identifies opportunities for improved product presentation and increased profits through optimal cooking methods. Sales data suggests that product display and sampling in stores significantly boost sales, with Australian beef experiencing a notable increase on specific days.

In summary, the paper recommends pursuing an advanced supply chain approach to add value, including feeding cattle strategically, locally processing Australian origin cattle, and collectively producing consumer-driven products. The author proposes evaluating commercial outcomes through the utilization of secondary primals by cooking method and promoting Australian origin cattle processed in Vietnam through in-store product sampling and point-of-sale materials.

The presented findings provide valuable insights for stakeholders in the Australian live cattle trade and the chilled and frozen beef market in Vietnam, emphasizing the importance of consumer-driven strategies and advanced supply chain practices to enhance meat quality and profitability.

Keywords:
1. Beef 2. Processing 3. Quality 4. Tenderness 5. Value 6. Chilled 7. Origin
8. Consumer 9. Supply Chain

Improving animal welfare and integrity systems in beef cattle supply chains – Michael Patching, Agri Food Alta

The paper addresses the evolution of Vietnam's abattoir sector, focusing on aspects such as animal welfare, integrity, and the challenges faced by the industry. The author emphasizes that integrity is a multifaceted concept encompassing various factors such as antibiotic resistance, disease control, combatting illegal imports, increasing productivity and quality, anti-brand counterfeiting, food safety, transparency, trust-building with partners, and sustainable livestock farming to reduce waste.

The abattoir and meat distribution sector in Vietnam have been a significant constraint on the development of the cattle industry. Before 2014, small and unhygienic abattoirs were prevalent, primarily located in urban areas. Trust among participants compensated for the lack of consideration for animal welfare. The introduction of Australian cattle brought improvements in consistency and quality, but challenges such as integrity issues and the need for significant investment persisted.

The impact of COVID-19 on the industry is discussed, highlighting the shift in consumer behaviour towards imported frozen meat due to its consistency, high quality, affordability, and accessibility during market disruptions. The paper notes the challenges faced by the industry in maintaining integrity and the costs associated with restoring it.

The modern abattoir operations are described, emphasizing high standards for environment, food safety, and animal welfare. However, the industry in Vietnam faces obstacles such as high overheads, low staff costs, limited access to quality infrastructure, and global market instability affecting local prices.

The importance of enforced ESCAS (Exporter Supply Chain Assurance System) standards is acknowledged, requiring continued investment and training. The role of government support in setting standards for chilled meat, animal welfare, and border closures is discussed. The paper suggests reducing reliance on new technology and focusing on understanding how to sell animals consistently.

Two potential future scenarios for Vietnam's beef industry are outlined: Consolidated Production with large-scale, high-quality abattoirs processing significant volumes for major cities, or a Niche Model with smaller, local abattoirs catering to a chilled local meat market.

Key takeaways include the remarkable development of the industry, the need for consistent enforcement of legal standards, the integral role of abattoir development in modernizing the beef industry, and the challenges of balancing animal welfare, integrity, traceability, and environmental considerations with production costs in a competitive global market.

Keywords:
1. Abattoir 2. Integrity 3. Animal Welfare 4. Vietnam 5. ESCAS 6. Industry
7. Development 8. Challenges 9. Modernization 10. Sustainability

Industry panel – challenges and innovations in improving beef processing – meat quality, food safety, and value adding

In the panel discussion led by Mr. Nguyen Huy Tien, Business Development Manager at Meat and Livestock Australia, industry experts explored the historical shifts and challenges in Vietnam's meat market. The panel members were Mr. Michael Patching, Director/Founder, Alta Food Agri; Mr. Greg Butler, MLA Consultant, Meat and Livestock Australia; Mr. Tuong Duy Giang, Sales Director, BeeBee Export and Import Company; and Mr. Nguyen Dang Phu, Deputy General Director, Vissan.

Vissan Group, a stalwart since 1970, shared their evolution from dealing with hot beef, favored by Vietnamese consumers, to introducing chilled meat, particularly Australian beef. Mr. Nguyen Dang Phu highlighted the importance of market assessments and the promising collaboration with MLA in slaughtering and chilled meat.

Greg Butler, an MLA Consultant with two decades in Vietnam, discussed the industry's transformation. From initial skepticism to embracing change, the journey included challenges in selling different meat portions with the shift to chilled meat.

Michael Patching, Director/Founder of Alta Food Agri, noted the impact of cheaper meat imports on industry dynamics, providing both challenges and opportunities for a more sophisticated understanding of beef in the market.

Post-COVID, consumer habits shifted towards supermarkets and chilled meat. Tuong Duy Giang, Sales Director of BeeBee Export and Import Company, highlighted challenges in altering perceptions favoring imported products and the need for collaborative efforts among traders.

The panel discussed the impact of Indian buffalo meat, posing competition in the market. Transparency and communication emerged as crucial factors in guiding consumer choices, emphasizing the need to communicate the quality of local products.

Tuong Duy Giang, in the distribution sector, highlighted challenges with Indian buffalo meat, citing perceived lower quality and issues of transparency in introducing chilled buffalo meat to Vietnamese consumers.

Greg Butler emphasized the importance of proving value for money to persuade companies to embrace chilled meat. Tasting sessions with major hotels served as evidence of the viability of chilled meat, underlining the pivotal role of consumer acceptance and commercial worthiness.

In summary, the panel discussion encapsulates the industry's journey, challenges, and the collective effort towards a dynamic and consumer-centric future in Vietnam's meat market.

Industry panel – challenges and innovations in improving beef processing – meat quality, food safety and value adding

Session 8: Key stakeholder messages and next steps for collaboration

Chaired by Dr. Pham Kim Dang

Deputy Director General, Department of Livestock and Production, MARD, Vietnam

First of all, I would like to extend greetings to all the experts and invite the panel members to provide the key messages of the symposium and share the next steps for collaboration and opportunities for partnership between Australia and Vietnam for beef cattle sector.

As we could see from the presentations from both Vietnamese and Australian experts, there is an optimistic future for the cattle and beef market with increasing trade and market due to growing population and rising income, changing dietary pattern like growing preference for chilled and tender meat, and Vietnamese government's effort in promoting beef consumption over pork due to the potential disease risks in pig industry. There is a clear trend in the changing market influenced by generational changes among Vietnamese, and a growing shift in the production pattern from household-based subsistence production to a growing complexity in meeting the market requirements. Therefore, it is not without its set of challenges. We have seen from our partnership over the years as well as this symposium that Australian experts have a deep understanding of the Vietnamese cattle and beef industry. So, what are some of the key messages, opportunities and next steps for collaboration for further development of the beef cattle sector development in Vietnam?

Tony Harman

Counsellor (Agriculture) Australian Embassy in Vietnam

Thank you very much. It has been a wonderful couple of days to bring together the expertise we have got in the room. There is a palpable passion, and everyone has come together united by their investment in the industry – their time, efforts, energy, passion and love of the sector brings us all together. This provides a firm platform and springboard for taking things forward. It's amazing the program has been curated, compliments to the organiser, in collaboration with the DoP (Department of Production, MARD), IPSARD (Institute for Policy and Strategy for Agriculture and Rural Development), and representative from Laos. People have come a long way, invested a lot and I think it's been very worthwhile. It's amazing to see the connections and collaborations that are formed. In terms of the opportunities, going forward, there is research collaboration, technology exchange, knowledge sharing and formation of those connections that we will be able to take forward as well as the trade and investment opportunities, and scoping of those to identify where we may be able to move forward. We have a very strong collaborative supply chain here with beef and cattle partnership and it's only getting stronger. Events like this (symposium) are really the foundation for taking that forward.

In terms of collaboration, I think a fantastic example, particularly looking at the industry and government level is the work done for animal health standards. Animal welfare standards are now becoming embedded into the narrative around how you do things

in the industry here. Very proud that Australia has been a part of that journey of developing world-leading animal health standards with profound impact. We will also be talking to Lao representatives on how we may be able to extend some of that work over to Laos. There are lots of opportunities that have been catalysed over the last few days to further cooperation and collaboration. We did a lot of work identifying those priorities, the challenges and their identification during the first phase of this grant program and flesh it out through the program and bringing those technical experts. Everyone is a part and it's amazing how powerful and how far you can go when you put all those together to harness the opportunities. I have been amazed by how much energy there has been in the room, and we are all bound by a strong energy and interest in cattle and beef supply chain. And I think the future looks very bright.

Mark Harvey Sutton

CEO, ALEC

I will be leaving this symposium invigorated by the opportunities that lie ahead. I just think the spirit of cooperation and the desire to do something together is powerful and excellent. It's an opportunity not to be missed. If I think about the opportunities for this industry, going forward, as a representative of Australian cattle exporters to Vietnam, there are 3 things that I would like to highlight in terms of opportunities that lie ahead:

1. Building commercial relationships and providing a forum for that to occur. So, in some other markets, we have import-exporter meetings and that would be a valuable addition to a symposium like this where we actually have a meeting the day before between the exporters and the importers, and it provides an opportunity for commercial friendships and partnerships to further develop.

2. I think the other opportunities that exist for Vietnam is to look backward to look forward. Exporting cattle from Australia has been a new market as it has only been around 10 years since Australian cattle market and live exports started. It's different to a lot of other cattle markets with greater focus on quality of the meat. If we look forward, with tremendous economic growth Vietnam has experienced for a very long time and continues to experience, we are going to see great food service sector growth with, as we have seen earlier, greater focus on quality as consumer matures. The reason that the Australian market really developed is because Vietnam liked heavier cattle that yield well. So, there's interconnectivity in building on these aspects of high quality and consumer demand.

3. Other things that we should do collectively is focus on increasing the consumption of beef. If we collectively grow beef consumption, it will not only benefit Australian beef but all of us. So, I think these are the 3 things I look forward to in terms of opportunities.

Nguyen Anh Phong

Agro-Info Director, IPSARD, MARD

We have listened to various presentation and exchanges over the last 2 days. It was technically intensive with vast opportunities for technological transfer and collaboration

between the two countries. While everyone recognises and talks about the changing consumer taste like growing preferences from hot beef to chilled beef and demand for high quality beef, there is the need to understand the domestic consumers in Vietnam and their tastes and preferences. With lack of current market research, there is a need to conduct such market research to understand different market segments and consumer needs and develop necessary strategies.

Another area is increasing digital transformation in agriculture, input management in terms of quality and quality is very important. While several digital transformation solutions were mentioned, one of the key areas required in Vietnam is the development of a robust economic model for livestock farming for greater efficiency in terms of input-output management. Therefore, research and institutional support at a wider scale in these aspects are vital if we are to further develop the industry. Circular economy is gaining traction and growing momentum; and this is evident in Australian beef raised in Vietnam. We have also seen from the presentations earlier on the need for waste management and treatment. Therefore, a consolidated package in animal husbandry sector is required to develop a circular economy in animal husbandry. Currently, Ministry of Agriculture and Rural Development (MARD) is developing a circular economy master plan for agriculture and once it is approved by the Prime Minister, the technical departments, including the livestock sector, need to develop the technical guidelines. So those are our focus areas, and we hope that scientist and experts, and international development partners can contribute and collaborate together.

Kaviphone Phoutthavong

Director General, Department of Livestock and Fisheries, Ministry of Agriculture and Fisheries of Lao PDR

The focus of Lao Government in agriculture has been on food security and agriculture commercialisation. Regarding cattle industry, we have a clear vision of continuing to conserve our local yellow cow for local consumption, where people like to consume both meat and offal, as well as also working towards reducing environmental impacts and encouraging shift from subsistence to increasing commercialisation. This is especially important if we are to tap the big Chinese market with huge demand for both quantity and quality. We have also seen from this symposium about these aspects in the cattle and beef industry.

While it seems difficult for even Vietnam, who has been in this industry for long time, Laos has just only begun to prepare for the open market. However, we stand to benefit and learn from the Vietnamese experiences and experts from Australia. Considering the huge congregation of experts, investors, farmers in this room, it is a very good opportunity for us to network and know each other. There is opportunity to bring together investors for collaborative business partnerships. Looking forward, we want to collaborate with livestock production department in beef cattle industry in areas like feeding, breeding and artificial insemination (AI) services. But we need Australian assistance in long-term growth of the livestock industry in both the countries [Laos and Vietnam].

General stakeholders' comments

Comment 1:

Hoi Le, Clean Agriculture and International Tourism Pty Ltd

First of all, I would like to thank the symposium organisers for enabling us to participate in this very useful for the wonderful symposium. We highly appreciate the Australian support in the field because while we have big challenges, big commercial companies are not interested to invest due to high risks and challenges involved in the beef cattle sector.

In terms of challenges, we have the challenges of changing consumer demand with increasing demand for high quality beef and requirements to meet high standards. The message I would like to relay is that today we have state agencies, scientist, private sector enterprises, but I feel that one missing stakeholder is the smallholder family-based farmers. The outcome of the investments and collaboration should bring win-win situation for both big enterprises as well as smallholders, who form the majority proportion of farmers in Vietnam and Laos. It becomes increasingly challenging for these smallholders to gainfully engage in the chain. Therefore, trainings and capacity development of these smallholders should be developed concurrently to increase their efficiency. When technical collaboration and partnerships develop, which will immensely benefit Vietnam and Laos, we should not forget the smallholders' livelihoods.

Response:

As highlighted and discussed during the Day 1 of the symposium, the characteristics of beef cattle sector farmers in Vietnam is different from other countries. Recognising the smallholding and fragmented farming characteristics of our smallholder farmers and their livelihood-dependence, as well as the role of these farmers, the MARD (Ministry of Agriculture and Rural Development) ensures that food security remains a priority and attention is paid to smallholder farmers in remote areas with difficult accessibility during our trade and technical collaborations. Towards this, Australian government has been providing development support to help the smallholders.

Comment 2:

Thisadee Chounlamountry, Department of Agricultural Land Management, Lao PDR.

While we engage in research with scientific focus, we need to see whether it is also linked to market requirement or not. It is also important that we consider the needs of the smallholder farmers.

The second thing I want to share is on collaboration and partnership between countries. Partnership between countries and organisations are important. There is huge potential and opportunities in new collaboration between Laos and Vietnam with Australian support.

The other aspect in terms of research is the importance of doing research in soil quality. I think that this is an important area to study if we are to further develop animal feed in the industry.

Finally, policy is also very important. I think government support is the most important thing. A good research and scientific findings can be shelved if government or policy makers do not understand it. Therefore, framing good policies need partnership and government support.

After the symposium, I want to see new cooperation between Lao and Vietnam and further support from Australian experts. I want to see that the outcome of this symposium will be different in seeing the words turning into actions.

Comment 3:

Dr. Truong Tan Khanh, Tay Nguyen University

The greatest difficulty and challenge for Vietnam is the limited land availability for forage production. While crossbreeding can be done, forage remains a challenge for the farmers. Although TMR (Total Mixed Rations) and FTMR (Fermented Total Mixed Rations) can serve for supplementary nutrition for animals, more research on the use of agri-byproducts is required.

As around 78 percent of beef cattle are raised by smallholder farmers, who are mostly scattered, there is a need to organise and form farmer groups and cooperatives.

In terms of prospects, importing adult cattle from Australia, fattening them in Vietnam and marketing it remains a great opportunity. In long term, breeding is another promising prospect.

In terms of agri-byproducts, if Vietnam is supplying key raw materials and inputs to Korea and Japan for production of agri-byproducts, why can't its production be undertaken in Vietnam.

Closing comments, key takeaways, call to action for future collaboration

Dr. Pham Kim Dang

Deputy Director General, DLP

First of all, thank you for your interest and concern for the development of beef cattle sector, and the partnership between Australia and Vietnam in the industry. On behalf of the Minister of the Ministry of Agriculture and Rural Development, I would like to bring to close the symposium. Actually, the agenda looked ambitious in the beginning, but we covered a wide range of topics covering various segments of the value chain. Among the topics covered, carbon emission is one of the top priorities for Vietnamese government if we are to promote and develop a sustainable and responsible livestock industry. With around 45 external participants, 50 zoom attendees and more than 1800 views on a YouTube channel at the moment, a wide range of participants from all sectors in the beef value chain were able to participant in the symposium.

As I mentioned earlier, sustainability, with its 3 tenets of economic, environmental and social including animal welfare remains important and ever more relevant. Towards this, we launched the National Animal Welfare Standards during the symposium, and we are in the process of developing the technical regulations. Thank you all, local and Australian participants for your great contributions.

In terms of the key takeaways, in working towards a sustainable environment-friendly beef industry, we have seen that there is huge opportunity to collaborate with one of the largest beef cattle producers, Australia. We are confident that we have the necessary

human resource capacity, facilities and environment for the growth of the industry. If we can achieve so much success with dairy cows and aquaculture, which is supposedly more difficult, I am sure the same can be achieved with the beef industry. It is also in keeping with the Prime Minister's order for greater market-driven production. We are grateful to Australia for the cooperation, and I can see stronger cooperation between in the two countries in times to come for sustainable development of the industry.

In terms of issues, I see transparency as an important issue. We have seen from earlier presentation on the vitality of transparency in the value chain. It is good that this symposium is different in the sense that it has lots of international experts who have a good understanding of Vietnamese market and the overall situation. Furthermore, digital transformation is necessary if we are to upgrade and develop greater transparency in the value chain.

The government is also committed to net-zero emissions. However, we need to ask 'where' and 'how' do we start? Waste management in livestock remain an important area to intervene and more support is required. Question also remains as to whether we can develop a sustainable beef cattle model for promotion of transparency and reduction of greenhouse gas emissions. Technical assistance and capacity building and relevant programs are required in the field.

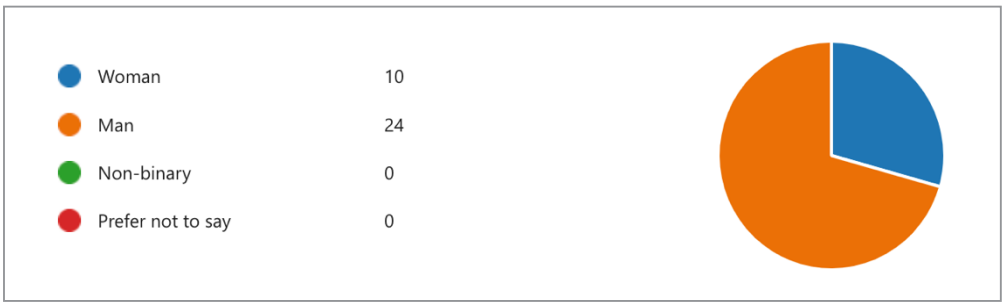
Breed improvement also remains an important area for intervention and cooperation. Many bulls are imported from Australia and continued cooperation is required.

All in all, a sustainable and greater cooperation is required to further develop the beef cattle industry.

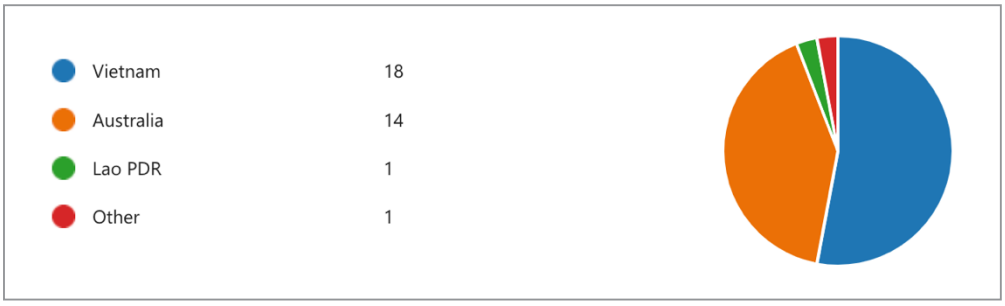
APPENDIX 1: EVALUATION OF THE SYMPOSIUM

A total of 34 of the 135 participants (25%) completed an online evaluation of the symposium using the Microsoft Forms platform. Participants were given the option of filling in the evaluation in English or in Vietnamese.

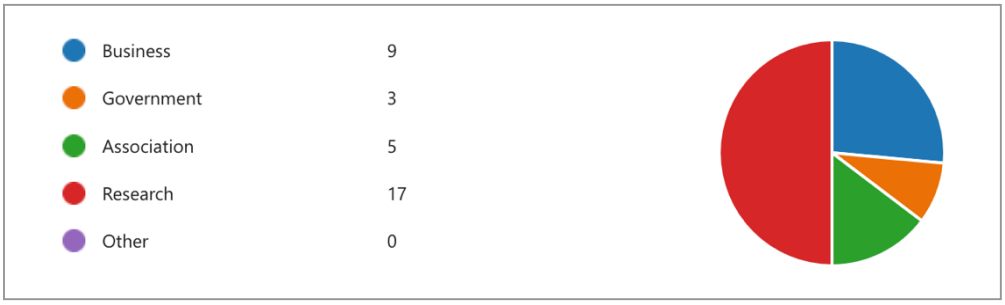
Around 29.5 percent (10 out of 34) of the evaluation respondents were female, similar to the overall proportion of women attending the symposium (29.6%).



18 of the 34 respondents (around 53 percent) were from Vietnam, a lower proportion than for the overall symposium (70 percent of the symposium participants were from Vietnam).

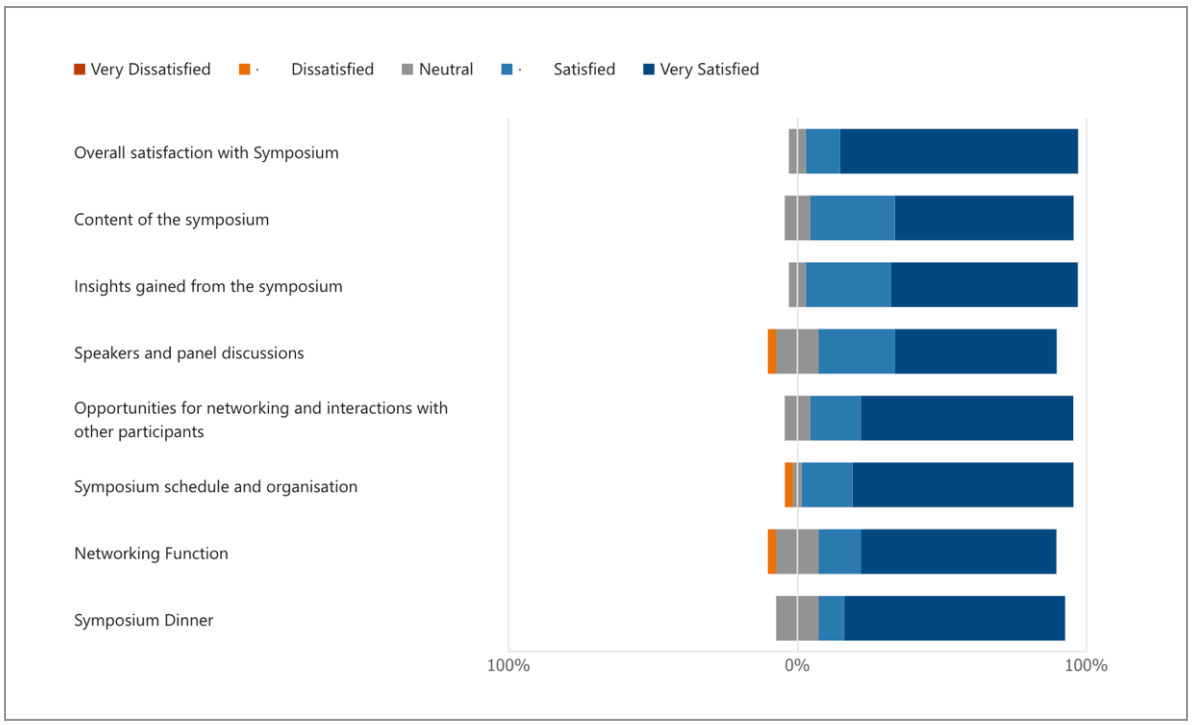


Half of the respondents were from the research sector, with business and associations making up a further 41 percent of the respondents. Less than 10 percent of respondents were from government.

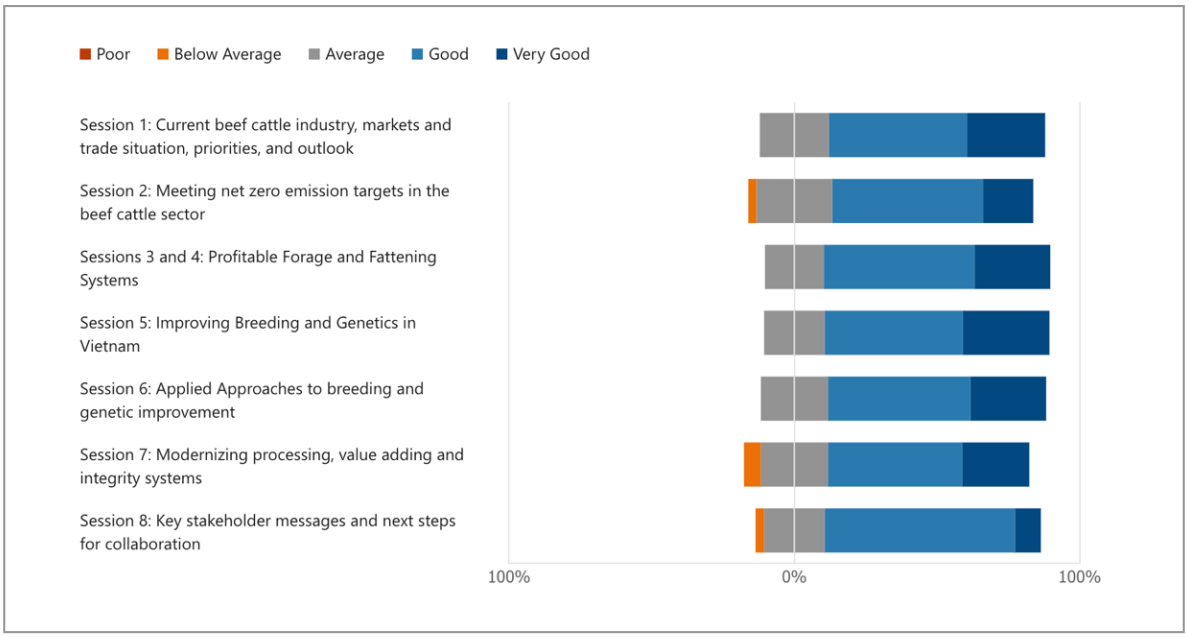


Respondents expressed a high degree of satisfaction with the symposium overall, with more than 82 percent of respondents indicating that they were highly satisfied (the highest option). The proportions were similar across the different demographic groupings.

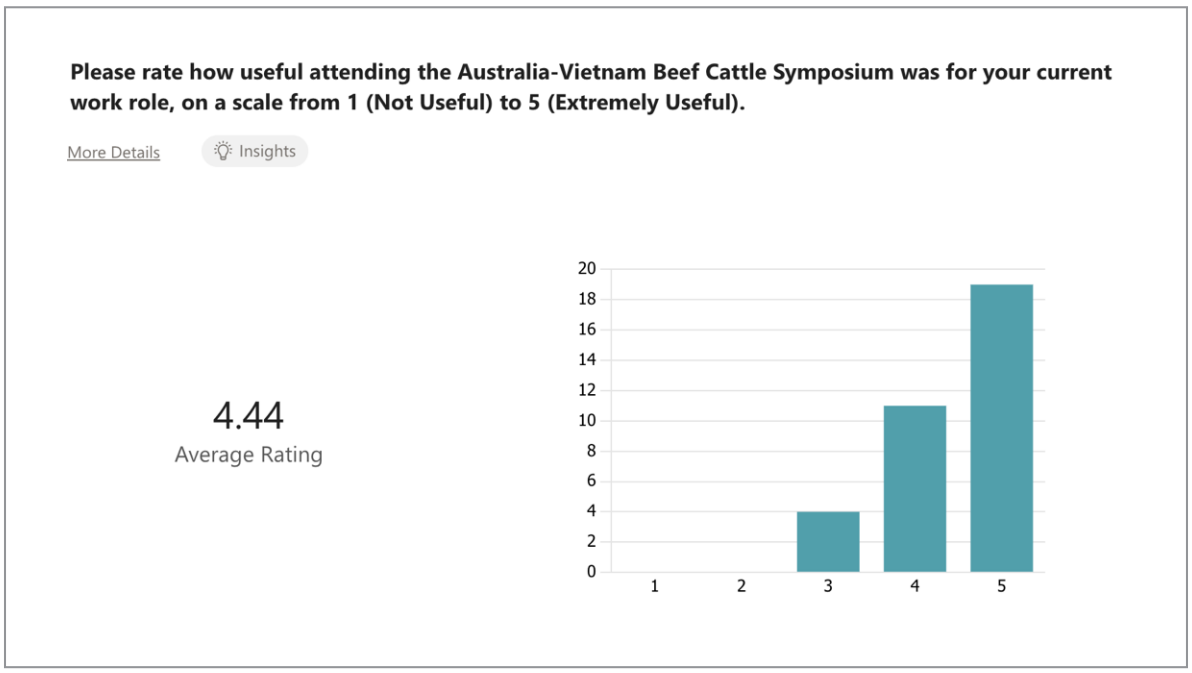
Respondents generally indicated high levels of satisfaction with various aspects of the symposium (see fig **). Networking function, speakers and panels and the timetabling ranked slightly lower in satisfaction than other aspects of the symposium.



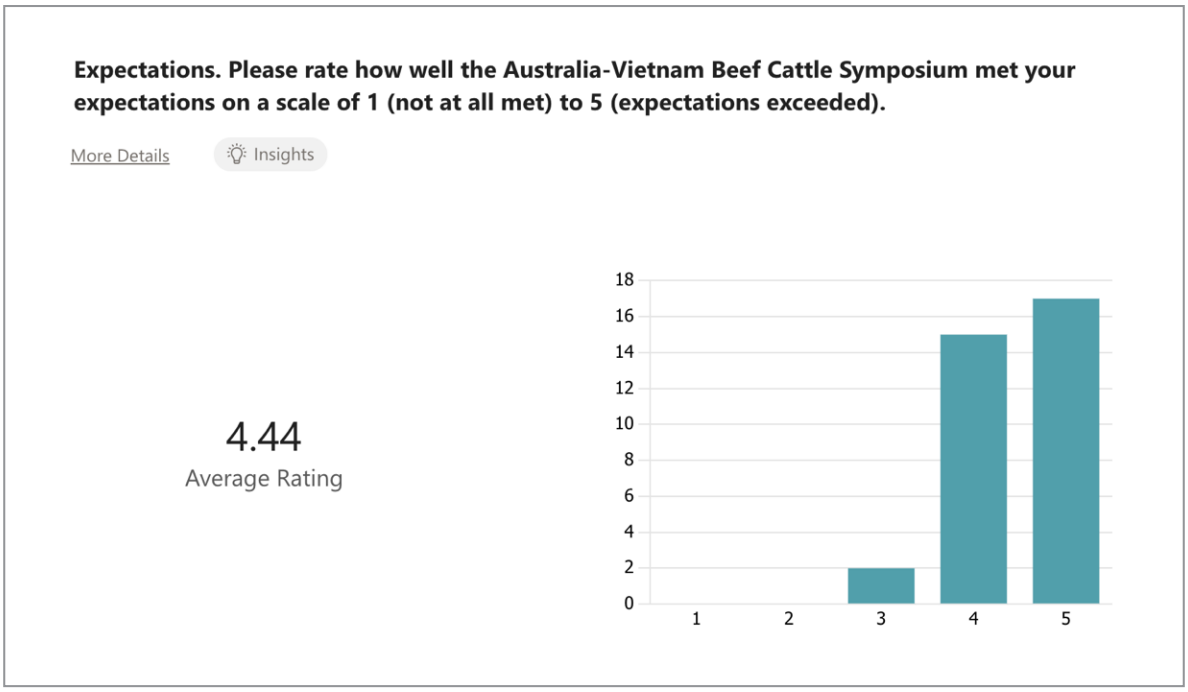
Respondents gave similar ratings on the usefulness and relevance to their work of each of the Symposium sessions. The main ranking given was a “good” level of usefulness and relevance.



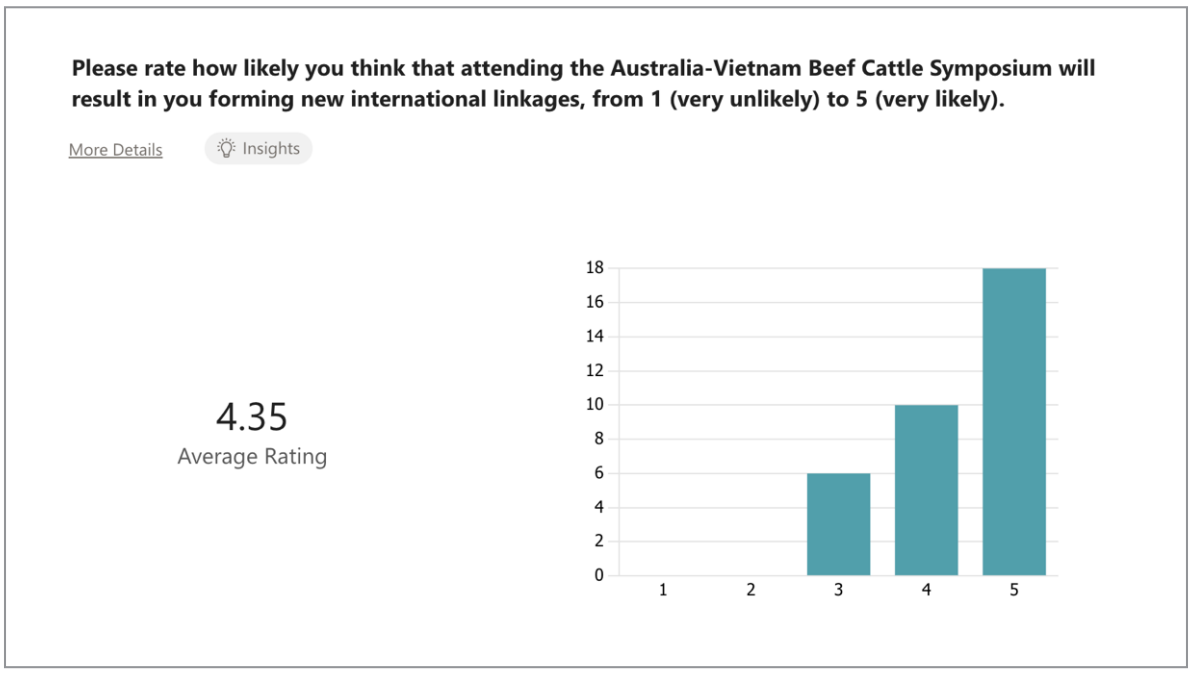
On average, respondents evaluated attending the symposium as being “useful” for their current role (ranking of 4.44 out of 5).



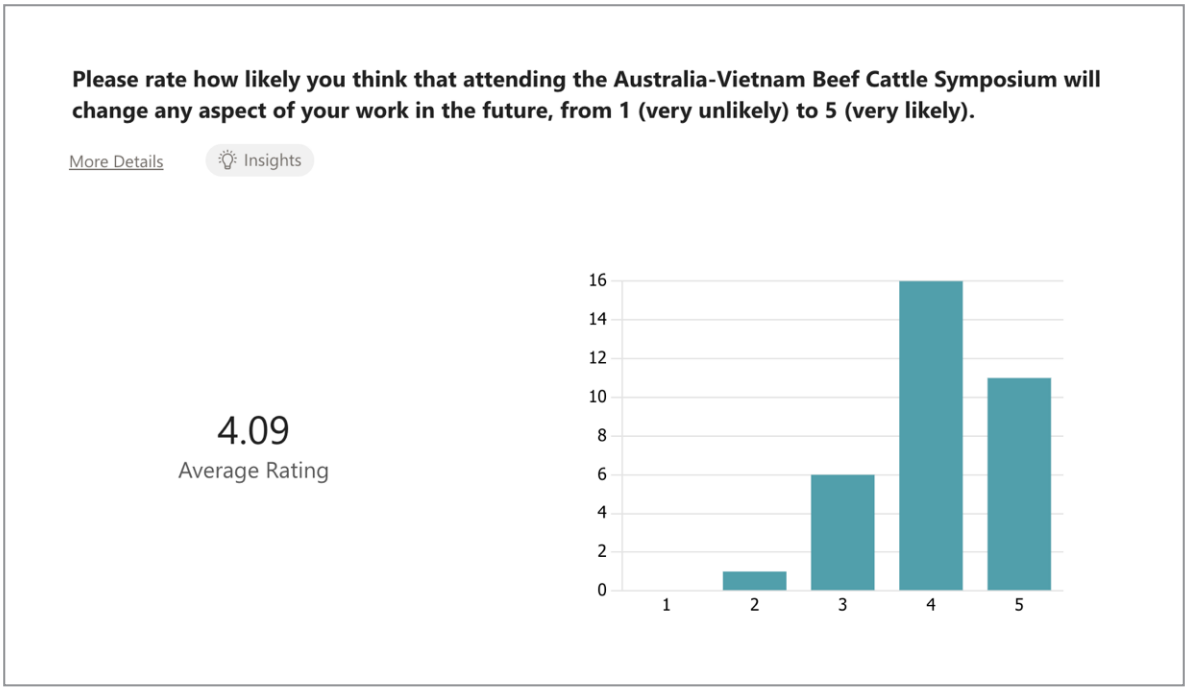
The same average ranking (4.44 out of 5) was given by respondents in relation to the symposium meeting their expectations.



On average, respondents thought that it was “likely” (4.35 out of 5) that attending the symposium would result in them forming new international linkages.



Looking forward to a potential intermediate timeframe outcome of the symposium, on average participants thought that it was likely (4.09 out of 5) that attendance would change any aspect of their work. While the average response is similar to that recorded for other questions here, as shown in fig **, the distribution of answers is further down the scale compared to the answer distribution for other questions.



As part of the evaluation, respondents made recommendations for next steps for Australia-Vietnam collaboration in the beef cattle sector, building on the results of the symposium. Participants expressed enthusiasm for exploring opportunities to collaborate and underscored the importance of information sharing to advance goals related to nutrition, genetics, and increased trade.

An emphasis was placed on extending collaborations beyond the symposium, with suggestions for fostering smaller group discussions on specific topics. Attendees recommended minimizing floor lectures and incorporating a mix of policy discussions and technical sections. The idea of integrating countries and institutions through facilitated discussions with allocated groups, facilitators, and translators was also proposed to encourage knowledge exchange.

Additionally, there was a call to invite Lao businesspeople to participate, leveraging existing networks. Collaborative efforts were urged in understanding consumer preferences, marketing strategies, and increasing the demand for beef. Participants envisioned an annual symposium with an importer-exporter meeting, creating a platform for sustained engagement.

Looking forward, the participants proposed a follow-up event in 12 months, possibly in Australia, featuring tours and presentations highlighting profitable fattening systems and genetic improvements. They suggested providing details of individuals and organizations that could assist Vietnam in sourcing relevant information in Australia, including semen suppliers and nutritionists.

Direct meetings between Australian cattle breeders with crossbred cattle and Vietnamese importers were seen as a means to organize sales outside the current system, such as agreeing on longer-term contracts at mutually acceptable prices. A future visit to Australian farms, feedlots, and stations was recommended, along with collaborative projects to promote effective livestock farming techniques.

The participants envisioned developing projects focused on beef cattle genetic improvement, including importing heifers and using genomics. This includes research projects to enhance beef cattle genetics, improve fattening techniques, and advance slaughtering and preservation technology. The collaboration aims to promote the import of heifers into Vietnam for breeding.

The overarching hope is for strengthened cooperation and sharing between Australia and Vietnam in the future. Considerations also included improvements in slaughter technology, the development of a better variety of beef at suitable prices and connecting researchers from both countries for collaborative efforts. The participants emphasized the importance of continuing the symposium and exploring linked events, such as importer-exporter meetings or government-to-government technical visits, to build lasting relationships. A commitment to involving more businesses, importers, and exporters in these collaborative endeavours was a recurring theme throughout the recommendations.

Vietnamese participants enjoy symposium networking dinner

Prof Dennis Poppi enjoying Symposium dinner with colleagues


Focus Group Go
create link innovate
Australian Government
Vietnam-Australia beef cattle symposium
Hanoi 2023


HỘI NGHỊ KỸ THUẬT CHĂN NUÔI BÒ THỊT VIỆT – ÚC
Tăng cường Hợp tác Kỹ thuật, Thương mại và Đầu tư
Ngành Chăn nuôi Bò thịt Việt - Úc
VIETNAM – AUSTRALIA BEEF CATTLE SYMPOSIUM
Reimagining innovation and development of the Vietnam-Australian
beef cattle sectors. Strengthening tech l collaboration, trade, and i ent


Australian Government
HỘI NGHỊ KỸ THUẬT CHĂN NUÔI BÒ THỊT VIỆT – ÚC
Tăng cường Hợp tác Kỹ thuật, Thương mại và Đầu tư
Ngành Chăn nuôi Bò thịt Việt - Úc
VIETNAM – AUSTRALIA BEEF CATTLE SYMPOSIUM

The symposium was generally viewed positively by participants, who expressed overall satisfaction and appreciation for a well-executed event. Attendees commended the organizers for their dedication and planning, recognizing the considerable effort invested in bringing together such a successful gathering.

There were several positive remarks regarding the symposium's organization, with specific praise for the high-quality content presented and the enjoyable culinary offerings. Participants acknowledged the importance of such events, especially in the current post-Covid context, highlighting the symposium as a significant achievement in rebuilding relationships and fostering collaboration.

While the general sentiment was positive, valuable suggestions for improvement were shared. Some attendees advocated for greater involvement of policy makers and representatives from the ministry levels in presentations and discussions. Additionally, there was a call for a more focused approach in future symposiums, centred around specific aspects rather than delivering a broad, generic event.

A common thread in feedback was the desire for increased diversity in representation, including a balanced gender mix among chairs, panel members, and speakers. Recommendations were made to involve a broader range of stakeholders, such as feedlotters, abattoirs, and retailers, to ensure a more comprehensive and inclusive perspective.

Participants emphasized the need for the symposium to yield firm commercial outcomes, suggesting a shift in focus for future events. Furthermore, there were calls for more context in the lead-up to discussions, providing a clearer understanding of the outcomes sought.

Notably, there was a preference for industry bodies, as opposed to government representatives, to provide insights into Australian cattle productive systems and markets. Attendees recommended a careful balance between government ideals and actual industry outcomes.

Specific sessions were highlighted for their excellence, with Section 7 receiving particular acclaim. Attendees suggested incorporating more sessions of similar quality in future symposiums. Additionally, there were recommendations to facilitate more interaction between Vietnamese and Australian participants during social functions, promoting a cross-cultural exchange of ideas.

Constructive feedback extended to logistic aspects, with suggestions for improved cabin translation to enhance communication. Some participants expressed a desire for a more unified approach to topics, noting that discussions seemed spread out with little unification of ideas for future progression.

The symposium was commended for presenting valuable lessons from diverse regions, including Indonesia and Northern Australia. Participants expressed hope for the continuation of such events, fostering increased collaboration between the two countries.

In anticipation of future conferences, attendees recommended a one-day workshop format and emphasized the importance of including more sections on nutrition and care tailored to the specific breed and field conditions of Vietnam. Overall, while acknowledging the symposium's success, participants provided insightful feedback aimed at further enhancing the quality and impact of future events.

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