

Asia Hub and CIAERA Annual Meeting 2024

November 12-15, 2024 | Centara Riverside Hotel, Chiang Mai, Thailand

Innovations and Sustainability in Ruminant Farming: Current Practices and Future Directions

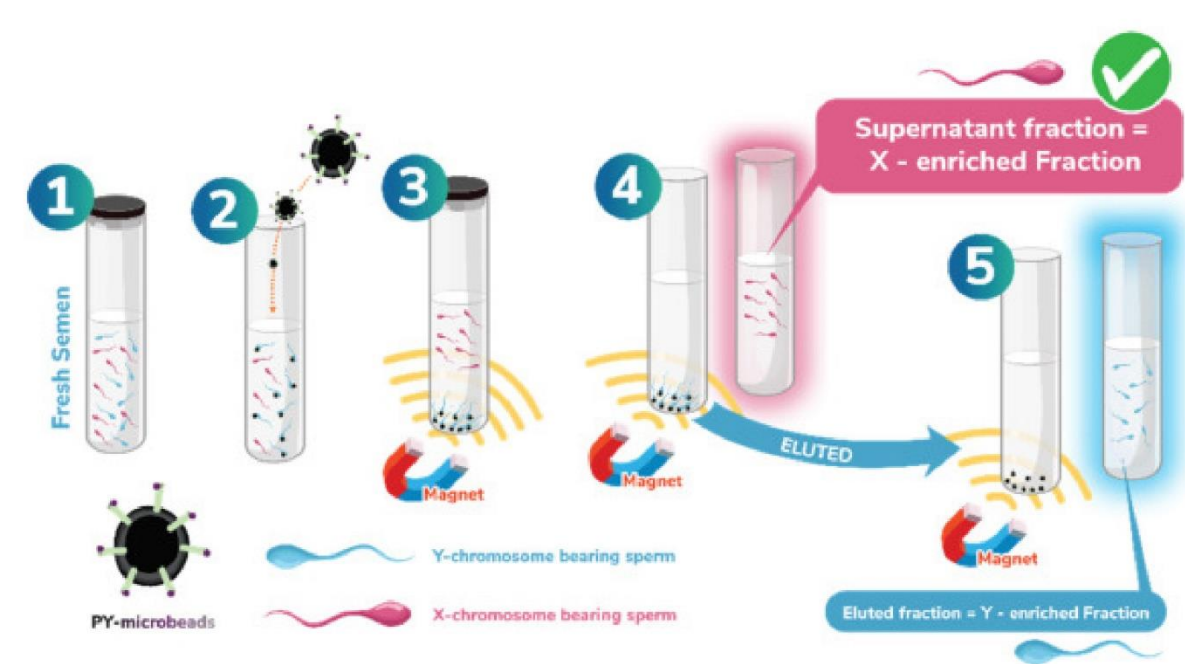
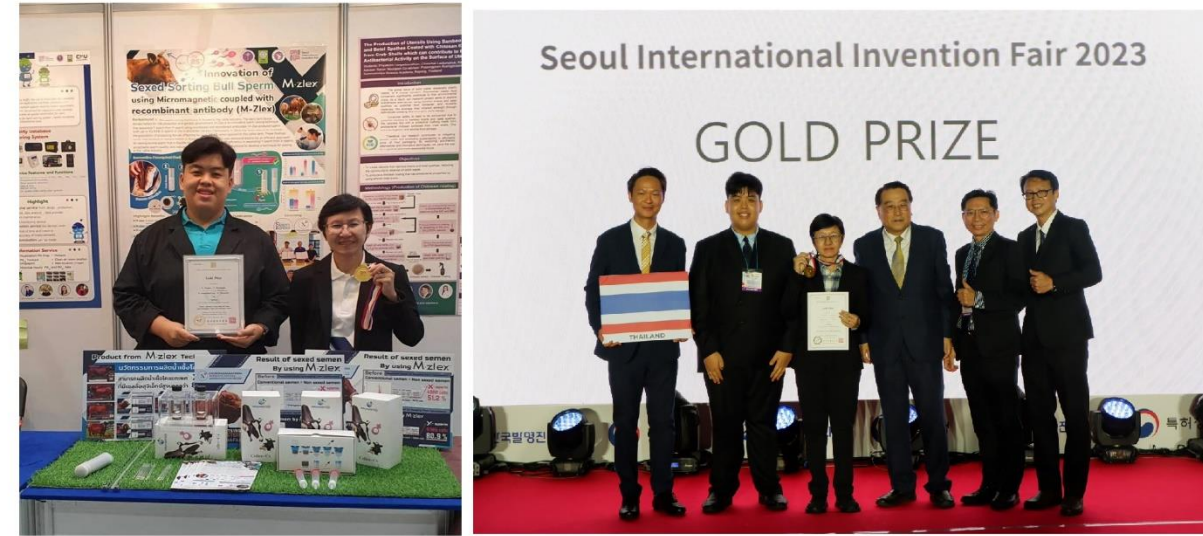
(Department of Animal and Aquatic Sciences, Faculty of Agriculture, Chiang Mai University)



M-Zlex (Sexed Sorting Bull Sperm Technology)

- Higher proportion of live female calves (83.64%) using X-enriched semen in AI trials

Producing high-quality X-sperm and increasing the number of female offspring



- Do not harmful to X-sperm in sexed semen
- High quality of sexed semen
- Low-cost production
- Very quick process (15-20 min)
- Mass quantity production



Smart Agriculture Dairy Production Innovation Learning Center



- Knowledge sharing
- Enhanced skills
- Career readiness
- Innovative thinking
- Improved milk quality
- Access to technology

Reproductive Management

- Improved reproductive efficiency & conception rates
- Shortened calving interval
- Increased use of artificial insemination (AI)
- Better management of resources
- Enhanced genetic improvement
- Enhanced profitability
- Reduction in heat detection errors
- Enhanced herd management
- Reduced stress and labor
- Long-term sustainability



Smart Aggie Animal and Aquatic Products (SAAAP)

- Value addition
- Reduced waste
- Market demand response
- Improved product quality
- Brand development
- Diverse marketing



Learning Center for Milk Quality Development & Student Business Model (Mormilk)

- Practical experience
- Entrepreneurial skills
- Market understanding
- Teamwork & Collaboration
- Impactful learning



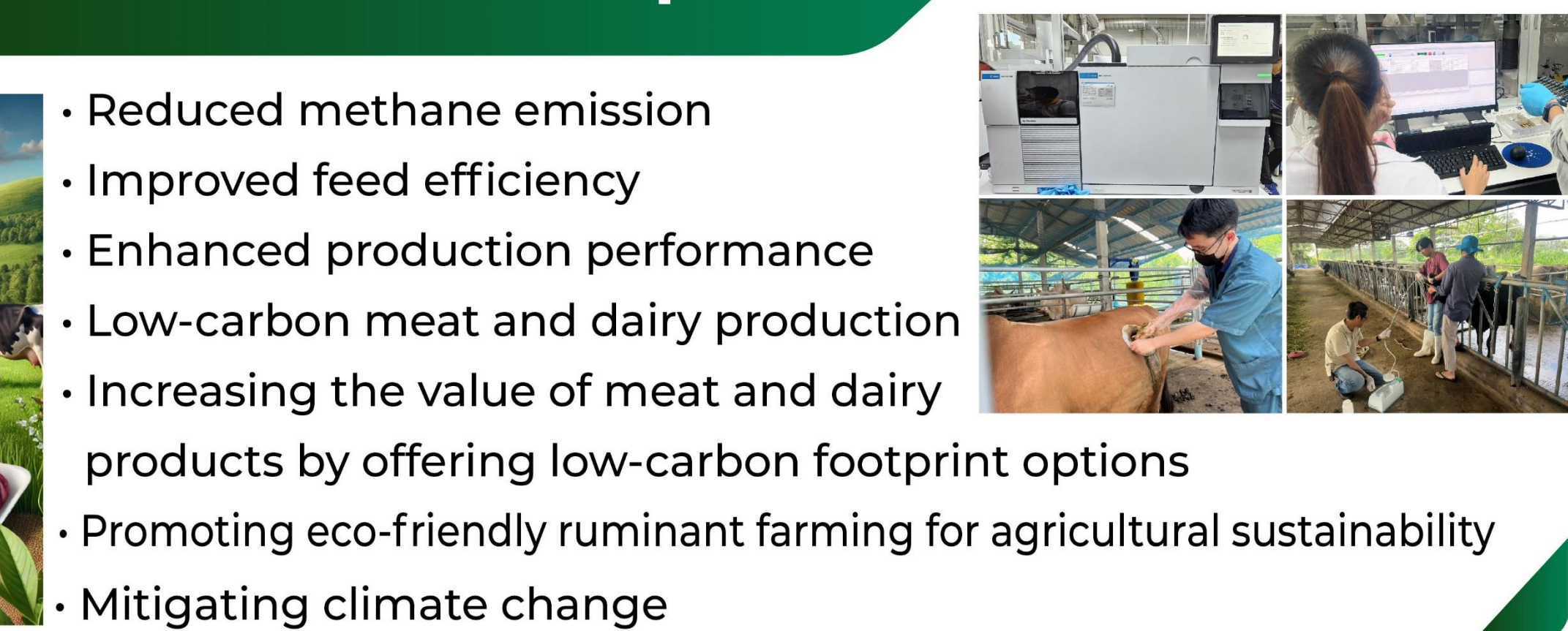
Nutritional Management

- Increased milk production
- Enhanced milk quality
- Improved reproductive health
- Better feed efficiency
- Use of feed additives
- Screening and characterizing bacterial inoculants for TMR production



Environmental Impacts

- Reduced methane emission
- Improved feed efficiency
- Enhanced production performance
- Low-carbon meat and dairy production
- Increasing the value of meat and dairy products by offering low-carbon footprint options
- Promoting eco-friendly ruminant farming for agricultural sustainability
- Mitigating climate change



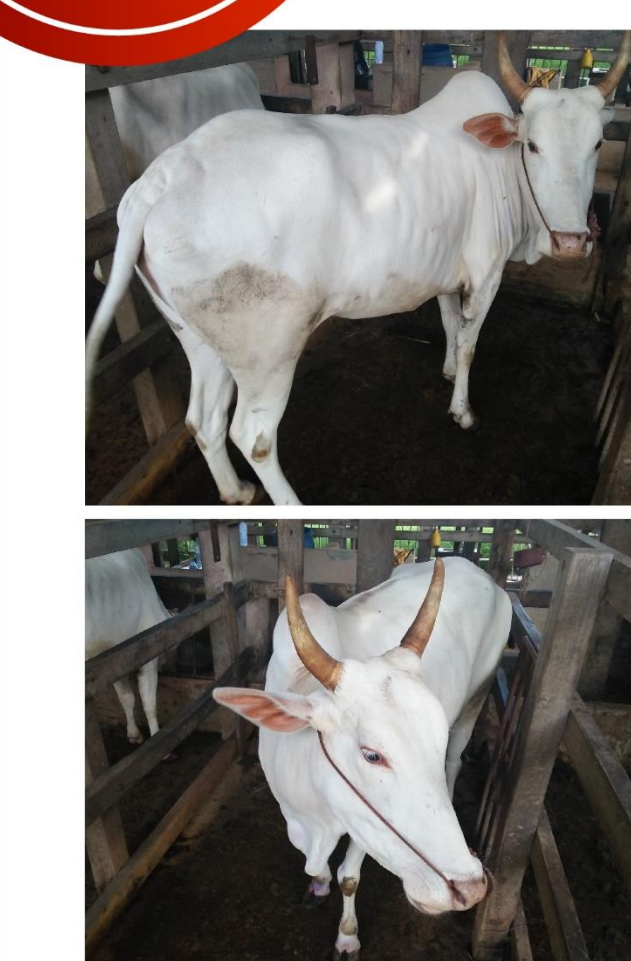
Lanna High Quality Milk

- Premium; plate count < 200,000, SCC < 200,000, protein > 3.5%, fat > 4%, and TS > 12.7%
- Good; plate count 200000-400,000, SCC 200,000-350,000, protein > 3.2-3.4%, fat > 3.6-4%, and TS > 12.5-12.7%
- Standard; plate count 400,000-600,000, SCC 350,000-500,000, protein 3.0-3.2%, fat 3.2-3.6%, and TS 12.3-12.5%
- Noted: plate count (colonies/ml) somatic cell count (SCC) (cells/ml)



CMU Beef

Future direction of beef cattle: Integrating education, research, and community involvement



- Enhancing beef production
- Improving beef quality in northern Thailand using the region's agricultural resources
- Promote sustainability in agriculture
- A unique breed of cattle representing Chiang Mai University