

Preparing the scientific poster presentation on raw cow milk quality in Thailand during October 2022 to September 2023

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1) Background and Problem Statement:

The Bureau of Quality Control of Livestock Products (BQCLP) is responsible for food safety inspections and serves as the center of laboratory network in Thailand, encompassing the inspection and quality assurance of raw milk.

The BQCLP compiles data on the quality of raw milk nationwide and publishes in an BQCLP annual report summarizing the test results. This report is disseminated to related agencies to elevate and update the milk quality within the Department of Livestock Development, including the Regional Veterinary Research and Development Centers and is also presented at the annual National Dairy Fair.

Communicating scientific information on raw milk quality through the creation of scientific posters is a valuable tool in bridging the gap between farmers, researchers, government officials, and the public to create understanding and awareness of the current situation of raw milk quality in Thailand.

2) Project Objectives:

To produce scientific poster to provide information on the current situation of raw milk quality in Thailand for fiscal year 2023 (October 2022 to September 2023).

3) Methods Used:

1. Gather data on raw milk quality in Thailand, during October 2022 to September 2023.
2. Creating content and design of scientific poster presentation by using the knowledge and guideline from the GLLP training session#4 on Competency 4: Communication and Competency 9: Research.
3. Publish a complete poster presentation on BQCLP website

4) Results:

1. Totally 191,572 samples of raw milk collected from dairy farms across Thailand in fiscal year 2023 (October 2022 - September 2023). These samples were analyzed for milk quality using a Milkoscan machine, The test methods and the analysis criteria followed the National Agricultural Standard for raw cow's milk, which includes fat, protein, non-fat solids, and total solids.

2. Create content and design the presentation of scientific posters by following the guideline for Communication scientific information which has learned from GLLP training #4. The information must be presented in a clear, concise, and eye-catching poster format. The scientific poster in this project consists of the structures as follows:

- Introduction
- Objective
- Materials and methods
- Results
- Conclusion
- Discussion
- References

Introduction: Bureau of Quality Control of Livestock Products (BQCLP) is responsible for laboratory testing in raw milk, quality assurance control and serves as the center of laboratories network in Thailand. The BQCLP compiles data on the quality of raw milk across the country and publishes in an annual report summarizing the findings of testing results, which is open to farmers, researchers, private sector and general public to visit to create understanding and awareness of the current situation of raw milk quality in Thailand.

Objective: To provide an overview of the current status of raw milk quality in Thailand for fiscal year 2023 (October 2022 to September 2023) and to identify potential areas for improvement.

Materials and methods: There were 191,572 raw milk samples from dairy farms throughout Thailand in fiscal year 2023 (October 2022 to September 2023). Milk quality analysis according to Agricultural National Standards regarding raw cow milk, including Fat, Protein, Solid non fat, Total solids.

Results: Raw milk is divided into 3 quality grades based on the amount of Fat, Protein, Solids non fat and total solids: premium, good and standard as shown in figure 1, 2, 3, 4 respectively.

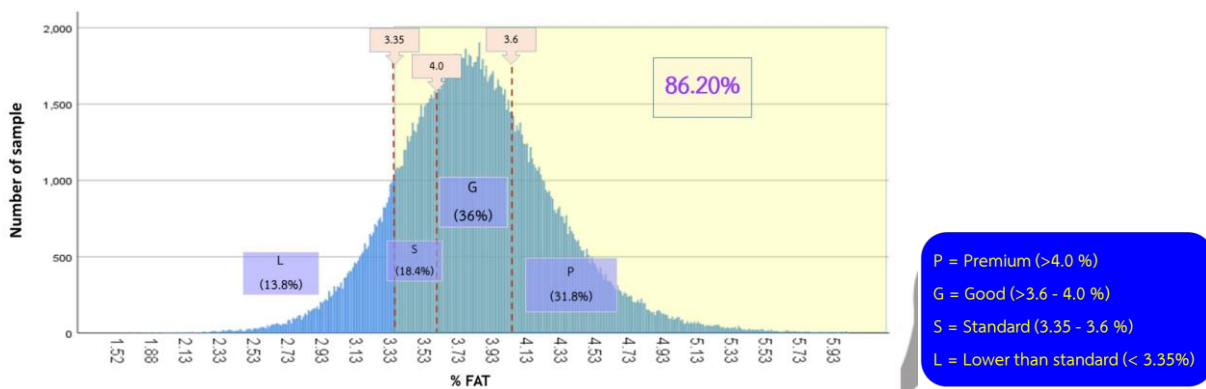


Figure 1 Milk Fat quality grade

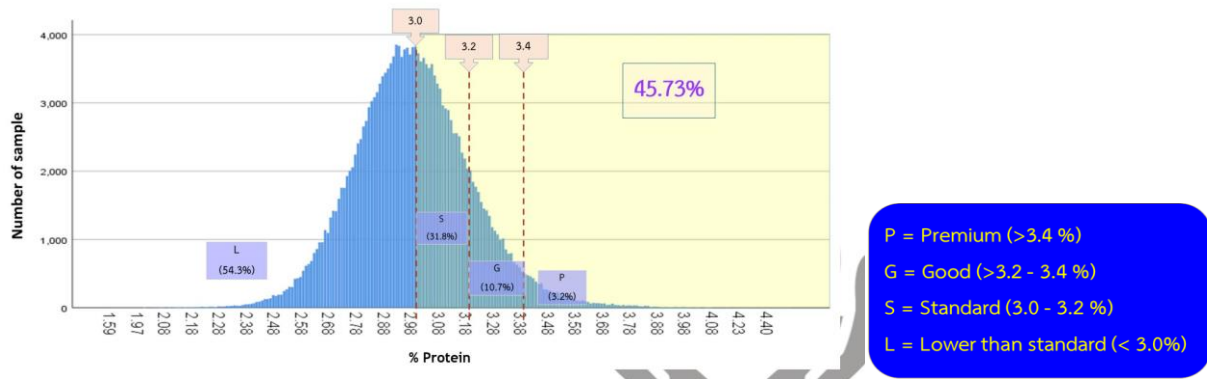


Figure 2 Milk Protein quality grade



Figure 3 Milk Solid non fat quality grade

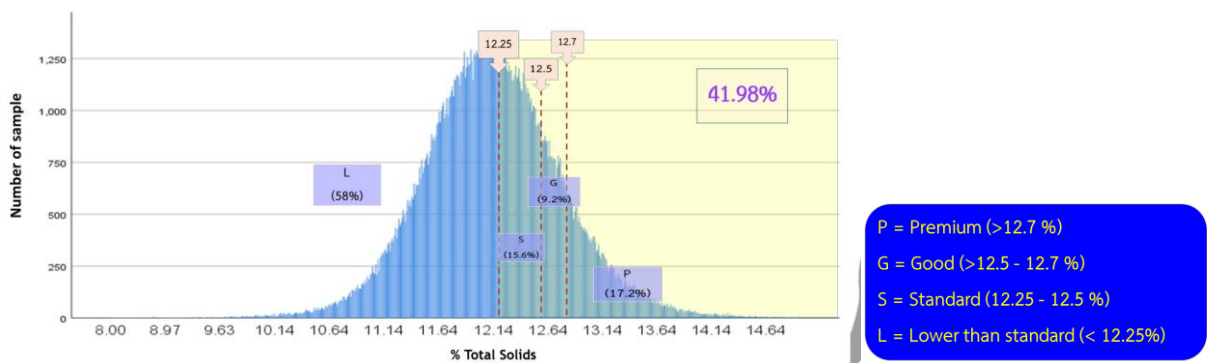


Figure 4 Milk Total solids quality grade

Conclusion and discussion: Raw milk samples from dairy farms across the country during October 2022 to September 2023 were concluded that 86.2% of milk fat passed the standard, 45.73% of protein passed the standard, 59.8% of solids non fat passed the standard, 41.98% of total solids passed the standard. The goal of improving milk quality should focus on the composition of milk. Especially milk Protein, Solid non fat and Total solids.

By adhering to dairy farming management practices, including proper animal feed management, milk quality can be improved, leading to the production of safe, high-quality dairy products and increased income for dairy farmers.

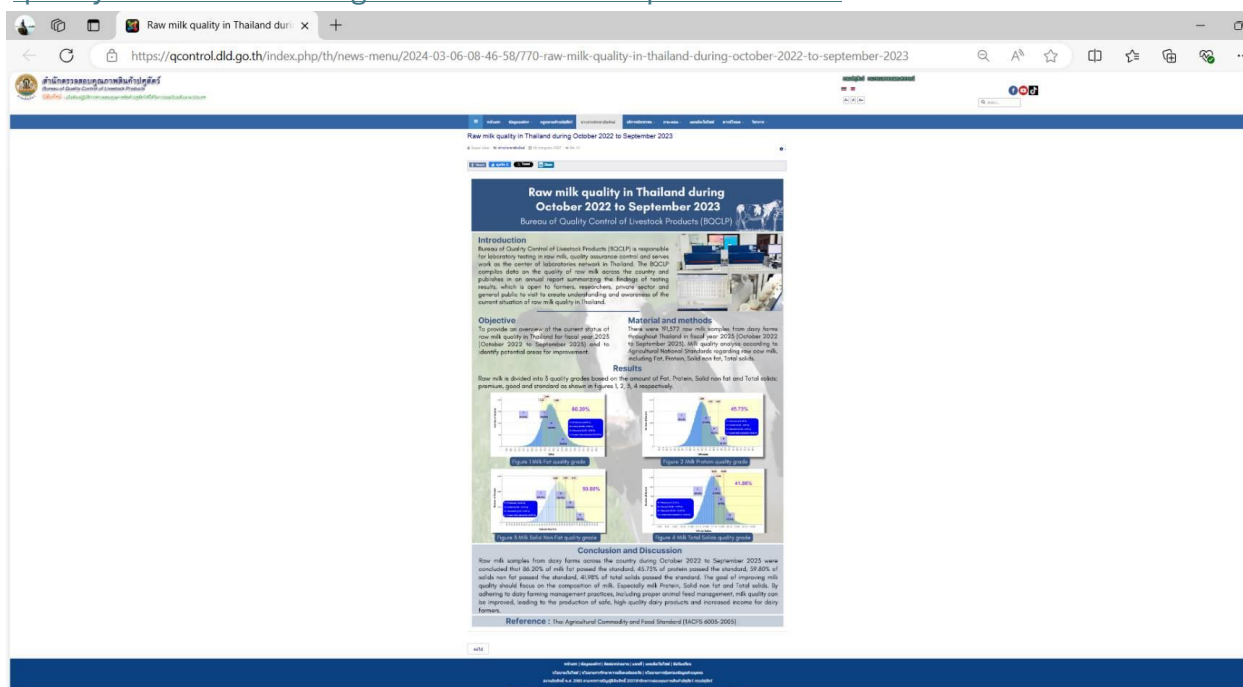
Reference: Thai Agricultural Commodity and Food Standard (TACFS 6003-2005)

1. Publish a complete poster presentation on BQCLP website

3.1 The completed scientific poster has been printed and already placed in this report below.

3.2 For another way, we has upload the scientific poster to the BQCLP website with the following link below.

<https://qcontrol.dld.go.th/index.php/th/news-menu/2024-03-06-08-46-58/770-raw-milk-quality-in-thailand-during-october-2022-to-september-2023>



5) Conclusions and Next Steps:

Conclusions: The scientific poster presents the status of raw milk quality in Thailand during October 2022 - September 2023 would be useful in supporting the scientific information to update the current testing of milk quality in terms of protein, solids non-fat, and total solids to meet standards and achieve consistently high quality.

Next Steps: To continue updating the testing of raw milk year by year and to propose this kind of scientific information in term of poster presentation which is expected to present in the next annual National Dairy Fair.

6) Challenges identified and lesson learnt:

- Creating posters enhances communication, design, and presentation skills.

Annex

Raw milk quality in Thailand during October 2022 to September 2023

Bureau of Quality Control of Livestock Products (BQCLP)



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Material and methods

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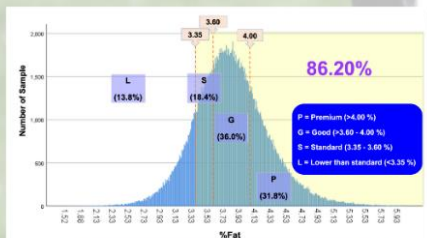


Figure 1 Milk Fat quality grade

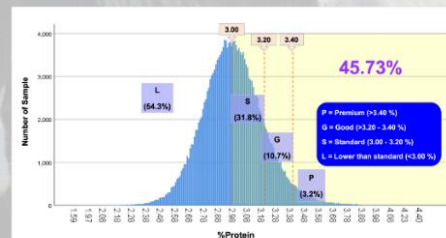


Figure 2 Milk Protein quality grade

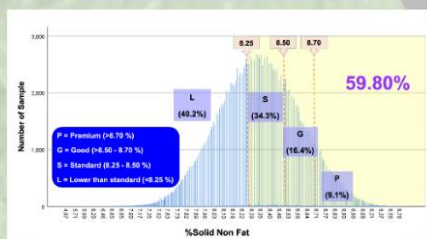


Figure 3 Milk Solid Non Fat quality grade

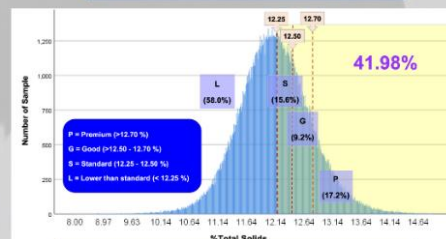


Figure 4 Milk Total Solids quality grade

Conclusion and Discussion

Raw milk samples from dairy farms across the country during October 2022 to September 2023 were concluded that 86.20% of milk fat passed the standard, 45.73% of protein passed the standard, 59.80% of solids non fat passed the standard, 41.98% of total solids passed the standard. The goal of improving milk quality should focus on the composition of milk. Especially milk Protein, Solid non fat and Total solids. By adhering to dairy farming management practices, including proper animal feed management, milk quality can be improved, leading to the production of safe, high-quality dairy products and increased income for dairy farmers.

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