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“Bridging the gap between increasing knowledge and decreasing resources”

Implications of Introducing a New Dairy Technology for Small-Dairy Production in the Peruvian Andes

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Abstract

Developing countries face a need for higher quantities of food and food of improved quality. Improving milk quality, especially milk composition, in parallel with increased milk production may benefit local supply chains and enhance their sustainability. One of the main difficulties associated with improving milk quality is to count with an adequate control, i.e. to have the necessary measuring equipment and to have sufficient knowledge to interpret the results. This paper investigates the effects of the in-field introduction of ultrasonic milk analyser equipment (UMA) on the perception of milk quality of small-scale dairy farmers and processors in a Peruvian Andean context, characterised by scarce resources, a dual market and high milk demand. For this analysis, an UMA was used to investigate milk quality on 20 dairy farms and 3 dairies over a 12-months period. Milk samples were analysed *in situ* to obtain measurements that could be immediately discussed with stakeholders. Concurrently, 10 dairies who bought an UMA after the researchers' intervention, were interviewed about their use of the device. Farmers showed a lack of knowledge of milk quality but were interested and desired to learn more about it. They reflected on possible variations in cow diets or the milking process to explain milk composition fluctuations. However, no main changes were observed during the 12-month monitoring period, since processors were not ready to pay more for better milk quality. From the processors' perspective, although the UMA provided a range of variables that described the chemical quality, dairies were mainly focused on density, as a quality indicator, as milk adulteration was their main concern and because of a lack of training on the other variables. Moreover, since milk demand is higher than supply in the area, most of dairies did not use the equipment periodically because they feared that farmers, unhappy with quality control, would move to processors with less interest in quality aspects of milk. It was concluded that the successful implementation of new technologies like UMA required the establishment of a more coordinated quality improvement scheme between stakeholders along dairy supply chains, including public authorities in charge of national regulations.

Keywords: Farmers, logistics, milk quality, processors