



## Development of Goat Powder Novel Product Derived from Organic Goat Farming in Narathiwat Province

Thanaporn Suesuan<sup>1,2</sup>, Nuengruethai Timyaingam<sup>1</sup>, Suriyan Cha-um<sup>1</sup> and Yeeraphat Kritthanathip<sup>1\*</sup>

<sup>1</sup>Innovation and Free-trade Business Institute, Kasem Bundit University, Bangkok, 10250 Thailand

<sup>2</sup>Faculty of Management Sciences, Kasetsart University (Seeracha campus), Seeracha, Chonburi 20230 Thailand

\*Corresponding author. E-mail: [v7july@gmail.com](mailto:v7july@gmail.com)

### Abstract

Goat milk is well-known as nutraceutical product for human health. It enriches with many nutritional compositions, i.e. short chain fatty acid, anti-proliferative factor (APF-AH), casein ( $\alpha$ -S1), vitamin A, vitamin E, vitamin B2, vitamin B3,  $\text{Ca}^{2+}$ , phosphorus and glutathione. Organic farming system of goat is a challenge issue for Goat Culture Co-Op, Narathiwat, which has been developed several products as pasteurized milk, soap, lotion and cosmetic products. However, the goat milk harvesting was peaked depending on the pregnant season of their goat in the closed farming system. The cold room facility was minimally requested for pasteurized milk to keep long life preservation. A novel product, goat powder milk was an alternative way to make a dry form with long shelf-life as well as to develop the value-added product in the high-end market as "NARA GOAT MILK" branding and to design the aluminum foil packaging as well as the Halal process. A spray dry processing i.e. temperature (85-90°C) and flow rate (0.5 – 1.0 mL s<sup>-1</sup>) was developed as procedure. In addition, the market sharing should further be validated using cooperative with retail and wholesale consumer product channels.

**Keywords:** Branding, Calcium, Enriched vitamin, Nutraceutical, Spray dry technology