

## Research Article

**Smallholder dairy cattle production in the northeast of Vietnam**Suphawadee Yaemkong<sup>1\*</sup>, Tuan Nguyen Ngoc<sup>1</sup>, Panadda Kolnathon<sup>1</sup>, Sirikranda Yaemkong<sup>2</sup><sup>1</sup> Pibulsongkram Rajabhat University, Phitsanulok Province 65000<sup>2</sup> Uttaradit Rajabhat University, Uttaradit Province, 53000

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**Naresuan Phayao J.** 2018;11(2):45-48.**Abstract**

A survey was aimed to characterize the dairy cattle production of small scale farming in Ba Vi district, Ha Tay Province, Vietnam. Two hundred fifty purposive responders were enrolled. The majority of farmers were men (68.7%), with an average (SD) age of 43.7 (8.1) years and average farm experience was 11.9 (6.8) years. Most of them (94.0%) were family members. The average herd size was 6 (3.4), and mostly (37.8%) were milking cows, Holstein Friesian crossbred and were fed by the cut and carried grasses (92.59%) as well as all supplemented with the mineral and salt. The livestock production contributed up to 64% of farmer income in the area. Other characteristics will be described.

**Keywords:** Dairy cattle, farmers, Vietnam**Introduction**

Dairy development in Vietnam has been strongly promoted by the Government since October 2001, with the aims of (i) replacing imports, (ii) generating rural employment and (iii) increasing rural incomes. By 1920 to 1923, Red Sindhi dairy cows were brought to Vietnam and raised in Lo Duc dairy farm and Mursen farm in Ba Vi district (Ha Tay province), north to Hanoi. [1] In 2013, the number of dairy cattle in Ba Vi district was 7,420 cows, a 30% increase from 2012, accounting for 62% dairy cattle of Ha Noi. In 2014, the target of Ba Vi will have 8,500 to 9,000 dairy cattle; milk production will reach 25,000 tones. The Vietnamese government has developed a policy aimed at introducing dairy production in rural smallholder farms in order to alleviate poverty [2].

As a result, the number of dairy cattle has increased in recent years. But further increases will depend on whether it can be demonstrated that farming households benefit economically from the development. Past experience in various developing countries has shown that such developments can result in unsustainable systems, when they are not based on an understanding of local production systems. [3] However, field surveys therefore have to be conducted to describe the current situation and consider the sustainability of the development dairy cattle production. Moreover, under the current economic and social situations, which they have full of competitions, increasing efficiency to produce dairy cattle with high quality and quantity by using low cost of production would create more profit to the dairy farmers. According to this, efficiency development of dairy cattle production is necessary. It would help the dairy farmers manage their limited resources and opportunities to be suitable for their dairy cattle production more efficiently. The

information also would help the government or organizations provide support to their farmers more appropriately and effectively. The study was aimed to characterize the dairy cattle production of small scale farming in Ba Vi district.

## Material and Method

A total of 50 responders were randomly recruited from 4 communes (Van Hoa, Yen Bai, Tan Linh, and Xuas Khanl) in Ba Vi District, using purposive sampling. The climate of the area is tropical and it can categorize into four seasons as cold, winter, hot, and rainy.

A single-visit, multiple-subject survey was carried out using face-to-face interviews between May and July 2015. The questionnaire was categorized into three categories: 1) farmers' characteristics - gender, age, level of education, livestock inheritance, farm experience, household size and facility of the farm; 2) farms' characteristics - number of cattle, dairy production, reproduction and selection of sire and dam, feeding nutrition of animals, decision making and animal health care of farms; and 3) problem and obstacle of dairy cattle production.

Before the survey started all questions in the questionnaire form were pre-tested in the field, modified and clarified for later official interviews. In practice, the interviewer was conducted among the respondents, who were representative for the household and well understood the farm activity.

Descriptive data analysis included the number, percent, average, range, and standard deviation.

## Results

Most of the farmers were men (68.7%) with the average [range], (SD) age of 43.7 [26 to 60], (8.1) years old. The average farm experience was 11.9 [1 to 30], (6.8) years. More than half of

interviewed farmers completed the primary school level (51.02%), high school (44.9%), bachelor or higher (4.08%). The majority was a member family (94%), and the remaining workers (6%) were hired.

The average dairy cattle herd size was 6 [2 to 23], (3.4) heads per household, and the proportion of dairy cattle was milking cows (37.8%), heifer calves (29.4%), pregnancy cows (26.05%), and heifers (6.7%) respectively. The dairy cattle were fed by cut and carried grasses (92.5%), cassava (5.5%), and legumes (1.8%), and supplemented with mineral and salt as well.

Both technical staffs of private cooperative (66%) and government sector (34%) were hired for artificial insemination. The machine (66%) and manual (34%) milking were performed. The milk was transferred to the middleman (66.6%), and collection center (33.3%). The main income sources were the livestock production (64%), live livestock and small trading (32%), and other careers (4%) such as teacher and officer. **(Table 1)** The milk production in the area was relatively high (16.10 liters per cow per day).

**Table 1** Characteristics of dairy cattle farm

	Percent
Type	
Milking cow	37.8
Heifer calve	29.4
Pregnancy	26.05
Heifer	6.7
Machine milking	66
Milk transfer to	
Middleman	66.6
collection center	33.3
Income source	
Livestock production	64
Livestock production and small trading	32
Other	4

The health of dairy cattle was the most problem and obstacle to farmers in managing their

farms. In this small-scale farm system, recognizing the importance of their own animals, all cattle were vaccinated. However, there were still 43.4% of farmers considered disease as the biggest constraint to farm management. As statement from them, mastitis was the most frequently occurred to their cattle (47.5%), followed by others such as nails, arthritis, and bloat (27.5%), low pregnancy rates (12.5%), respiratory disease (6.2%), lameness (2.5%), digestive disease (2.5%) and internal parasites (1.2%). The disease of dairy cattle can become more serious if farmer do not pay much attention in prevention which normally occurs in small farm where animals are raised under poor condition with lack of equipment.

## Discussion

Livestock production was playing the most important to farmer in term of income. These results were similar to those reported in several previous literatures. [4-7]. The survey information was similar to those of the dairy farmers in Thailand where most farmers raising dairy cattle were rather old because the younger labors were busy with studying or able to move far from home to get better jobs. A case study stated that the margin per kg of milk was corresponded to the highest experience farmers. [8] Anyhow, working in the animal farms seemed not need too high educated labor rather than long experience and the knowledge passing from earlier generation. However, it is necessary to support these young people to come back to work on farm if they want to upgrade their farm to be larger scale. Although farmers relied on livestock production as the main income, it seemed to be unaffordable for farmer to hire labor from outside due to the rarity and costly. Thus, shortage of labor force was a major problem and constrains for managing small-scale livestock farms nowadays. Therefore, the different household

activities on livestock farms were widely carried out by women, children and older people. [9].

The average farm size of 6 heads is higher compared with nearby area (3.7), [10] but from Thailand (21 to 31) but similar to Cambodia (3.7). [11] The milk production was lower than Thailand. [12] In general, the shorter production chain, the greater profit farmer can get. A study of Vietnam pointed out that an intermediate between farmer and processor, mainly short-time storage and transportation, play a proportion from 3-6% in the total value added. [13]

On the survey, the labor cost and the expected land profit cost were not calculated. If these factors included, the production cost would be higher. However, dairy milk production in Vietnam seemed to be profitable, it is hard for farmers to expand their farms. Besides limitation of land area, accessing financial loan was also a difficulty. [14] Other obstacles were low milk price and unstable market, as well as shortage of grass land [11,15]

In conclusion the situation analysis suggested that the approaches in developing dairy production should include government supported trainings and promotion in order to improve farmers' livelihoods and develop sustainable farming systems, the changing economic circumstances of dairy cattle production should receive more attention of researchers, governmental institutions and stakeholders.

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