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Prospect of Dairy Goat Production for Small-Scale Enterprise in Payakumbuh West Sumatra

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Abstract Twenty-five goat farms were surveyed to gain data and information about population, farming practices, goat performances and market prospect. Data were then analyzed to compare the prospective of dairy goat farm in compare to meat-types as a suitable livestock enterprise for small-scale or part time farmers. Results found from the 25-selected farms, there were 14 farms (56%) raising meat-type goat and 11 dairy goat farms (44%), but the total population of dairy goat of about 395 animals was higher than that of meat type goat of 200 animals. Each dairy goat farm kept about 35.9 animals, while meat-type goats were only 14.3 animals. Dairy goat farm has better prospect in compare to meat-types as an alternative livestock enterprise suitable for small-scale farmer or part-time livestock producer in Payakumbuh region. The potential market for goat's milk and higher price of bucks made the farmer to be able to increase their farm scale and to raise their goats more intensively in order to achieve optimum production performances and incomes.

Keywords Dairy goat production, Small-scale livestock enterprise

1. Introduction

Region of Payakumbuh which cover Payakumbuh city and Limapuluh Kota district is known as national livestock production center in West Sumatra. Livestock production was mainly dominated by commercial-scale poultry enterprises, especially layer and broiler chickens. Payakumbuh supplies egg and broiler chicken not only in region of West Sumatra but also to the neighbor provinces of Riau and Jambi.

Payakumbuh has potency in goat production too. Total number of goat in Payakumbuh was noted about 32,512 heads, where 5,294 heads located in Payakumbuh city and 27,218 heads Limapuluh Kota district [1]. They are run by small-scale farming and distributed mainly in six sub districts, which are dominated by annually small-scale crop estates e.g. Lareh Sago Halaban, Harau, Mungka, Luhak, Payakumbuh Timur and Payakumbuh Barat.

There were no data found about population of dairy goat and goat's milk production in this region. Goat milk has specialized market. Dairy goat production is a promising enterprise for increasing consumption of animal protein as well as raising income level of small-scale livestock producer. Dairy goats contribute to income generation through the sales of milk, milk products, live animals and manure [2]. The present research was undertaken to explore the prospect of dairy goat in compare to meat-types as an alternative livestock enterprise suitable for small-scale farmer or part-time livestock producer in Payakumbuh region.

2. Materials and Methods

The study was initiated by discussing with the local government of Payakumbuh city and Limapuluh Kota district that are responsible to livestock services to gain data and information about: general livestock development program, program and budget allocation for goat production, and special guidance and services program for goat farmers. A rapid rural appraisal was then undertaken by visiting 25 goat farms and interviewing the farmers as respondent. Farms were distributed in seven sub-district areas located in Payakumbuh city and Limapuluh Kota district. Selection of sub-districts was based goat population, number of farms and agro-ecosystem condition. Farms were selected based on farm scale and accessibility. Farmers were interviewed to collect data and information about farming management practices, goat performances and marketing strategies. Their farms were observed for assessing stall and animal conditions, farmer activities and feeding and feed offered.

3. Results and Discussion

Table 1 showed that total number of goats raised by 25 farms as respondents was 595 heads. There were 14 farms (56%) raising meat-type goat and 11 farms (44%) raising dairy goats, but the population number of dairy goats of 395 heads was found much higher than that of meat-type goat (200 heads). Each dairy goat farm kept about 35.9 goats, while meat-type goat farm was only 14.3 goats. Goat breeds were dominated by Peranakan Etawa (PE) and Jawarandu for dairy types, while for meat types were Kacang and Benggala. Dairy goat farms were mostly developed in the sub-districts of Payakumbuh Barat of Payakumbuh city and Tanjung Haro Selatan which were located in adjacent to the Payakumbuh city.

Table 1. Survey results from 25 goat farms in Payakumbuh, West Sumatra

No.	Parameters	Meat-type goat	Dairy goat
1	Number of goat farms, farms	14 (56.0%)	11 (44.0%)
2	Education level of farmer, minimum senior high school, %	5 (35.7 %)	8 (72.7%)
3	Total goat population, heads	200.0	395.0
4	Average number of goat per farm, heads	14.3	35.9
5	Breed of goat, breeds	2 (Kacang, Benggala)	2 (PE, Jawarandu)
6	Number of farms as major income sources for the farmers' family, farms	4 (28.6%)	5 (45.5%)
7	Feeding system with cut and carry, farms	5 (35.7%)	11 (100%)
8	Reproductive performances:		
	a. Average age at first kidding, months	12.4	10.8
	b. Average litter size per birth, kids	2	2.1
9	Price of buck, Rp.000/buck	1,000-1,500	2,000-4,500

All dairy goat herds were fed by cut and carry systems. They are offered supplemented concentrated feeds and kept in better housing system, while most of meat-type goat farmer (64.3%) let their goat to graze during the day and kept in stall at night. Because of better

management, performances of dairy goat were also found slightly better than that of meat-type goat. Young does of dairy goat gave birth at the first time at 10.8 month of age with average litter size of 2.1 kids, while meat-type goat of 12.4 month and 2.0 kids, respectively. Sexual maturity and litter size is affected by rearing system. It has been shown to be younger and higher in intensive system than in semi-intensive system [3].

In compare to meat type, raising dairy goat has two advantages for farmers. They earned daily income from selling milk and buck of dairy breed had higher market value than that of local breed. Goat's milk was sold on farm with the price ranged from Rp.25,000 to Rp. 40,000 per liter. There was no problem in selling of goat's milk. Farmers even said that they could not fulfill demand from their costumers which come not only from Payakumbuh but also from Padang, Bukittinggi, Pekanbaru and Medan city. The loyal costumers admitted that goat milk has peculiar properties and healthful. Goat milk is richer than cow milk in some important nutrients: vitamin A, niacin, choline, and inositol; but it is poorer in folic acid [4,5]. Goat milk also contained a higher proportion of short and medium chain fatty acids with smaller globules than cow milk, this makes goat milk promising in relieving stress and constipation [6,7]. Market demand for this product will grow in the future in accordance with the increasing of the human welfare and public awareness on health.

Due to higher body weight and carcass meat portion, the selling price of dairy bucks was ranged from Rp.2,000,000 to Rp. 4,500,000, while the price for the local meat type was only Rp.1,000,000 to 1,500.000 per head. It was predicted that there will be a prospective market demand in the future for goat meat in West Sumatra in accordance with development of restaurant which offered goat meat curry (or *gulai kambing*). Goat meat curry is a traditional Minang's cuisine made from goat's meat which is cooked by using specific herb spices might give special sensational taste and flavor to the consumers.

4. Conclusion

Dairy goat farm has better prospect in compare to meat-types as an alternative livestock enterprise suitable for small-scale farmer or part-time livestock producer in Payakumbuh region. The potential market for goat's milk and higher price of bucks made the farmer to be able to increase their farm scale and to raise their goats more intensively in order to achieve better production performances and incomes.

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