

**THE PERFORMANCES OF GOAT FED GLIRICIDIA LEAVES  
AS SOLE DIET**

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**ABSTRACT**

The study was carried out on Enrekang Region to find out the performances of goats fed gliricidia leaves as sole diet. The management of the animals was under local farm condition. Total member of animals being observed at the beginning were 616 heads composed of 56 males and 560 females. These animals were allocated into 56 groups, each group consisted of 1 male and 10 females. Each group of animal was taken care by the farmer group. Fresh gliricidia were taken from the farm area. Data on numbers of new born, mortality rate, and the total numbers of goats were taken in September each year starting from 2000 up to 2003. Goats population tended to be increased, even though the numbers born were fluctuated, the same case in mortality rate. It was concluded that fresh gliricidia leaves could be used as sole diet for raising goats under local condition.

(Key words : Goats, Gliricidae leaves, Population, Birth rate, Mortality rate).

Buletin Peternakan 27 (4) : 147 - 150, 2003

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## PENAMPILAN KAMBING YANG DIBERI DAUN GAMAL SEBAGAI PAKAN TUNGGAL

### INTISARI

Penelitian ini dilaksanakan di Kabupaten Enrekang untuk mengetahui penampilan kambing yang diberi pakan daun gamal. Pemeliharaan ternak sesuai dengan kondisi usaha tani setempat. Jumlah ternak yang diamati pada awalnya adalah 616 ekor terdiri dari 56 jantan dan 560 betina. Ternak ini ditempatkan dalam 56 group, tiap group terdiri 1 jantan dan 10 betina. Tiap group ternak dipelihara oleh kelompok tani. Daun gamal diambil dari kebun. Data diambil pada bulan September setiap tahun mulai dari tahun 2000 sampai dengan 2003. Populasi ternak memperlihatkan kecenderungan yang meningkat walaupun jumlah yang lahir berfluktuasi, begitu pula mengenai angka kematian. Disimpulkan bahwa daun gamal (*gliricidia*) dapat digunakan sepenuhnya sebagai pakan dalam memelihara kambing sesuai dengan kondisi setempat.

(Kata kunci : Kambing, Daun gamal, Populasi, Jumlah kelahiran, Jumlah kematian).

### Introduction

Goat production is one of the opportunities identified by the farmers in increasing the family income of farmers. Interest in goat raising by the farmers are just starting as a result of the increasing demand for goat's meat. It appears that there is a good prospect of raising goats on integrated farming system practices in order to improve farmer's income.

On integrated farming system practice by the farmers in Enrekang Region, they produced a lot of *gliricidia* leaves, because the farmer use the respective plant as a shade trees for estate crops, as alley between crops, supporting trees or as a living fences. In South Sulawesi *gliricidia* was increasingly used as forage crop in cut-and-carry system. Combellas et. al. (1996) said that *gliricidia* was a valuable feed resource for improving live weight (LW) gain of cattle. They found out that *gliricidia* leaves had Protein content of (Nx6.25) 23.5 %, Neutral Detergent Fiber (NDF) 58.9 %, Ca 1.19 % and P 0.30 % dray matter basis.

Him Aun (1999) found out that during the dry season, *gliricidia* had of 27.9 % crude protein (DM 18.3 %) and during the rainy season, crude protein content was 30.0 % (DM

19.2 %). Norton et. al. (2000) stated that *gliricidia* in Indonesia generally contain Nitrogen 37.0 grams/kg dry matter or equal to 231.25 grams protein/kg dry matter.

Ahn et. al. (1989) said that *Gliricidia* leaves contain anti-nutritional factors like condensed tannins, cyanide coumarins, and cyanogenic glycosides, another important factor in *gliricidia* feeding is the repulsive smell that put animals off at first introduction (Lowry, 1990).

*Gliricidia* leaves has widely been used by the farmer as animal feed in Enrekang Region, but there has been lack of data on the effect of *gliricidia* leaves when given as a sole diet for goat.

### Materials and Methods

#### Location

The study was conducted at Enrekang Region, South Sulawesi, in the villages of Balla, Salukanan, Lunjeng, Tongko, Batu Kede, Rampunan and Bubun Lamba. These villages were the location of Sulawesi Rainfed Agriculture Development Project (SRADP). One of the project component was farm development by introducing integrated farming systems and one of the sub system on integrated farming systems was goat raising.

**Animal**

Total number of animals being observed at the beginning were 616 heads composed of 56 males and 560 females. These animals were allocated into 56 groups, each group consisted of 1 male and 10 females and kept in the individual stable. Each group of animal was taken care by the farmer group.

**Management**

The goats fed each day at about 4.30 in the afternoon by giving fresh gliricidia leaves with the stems. Goats consumed the leaves and the skin of the stems. Fresh gliricidia were taken from the farm area.

**Data collection**

Data were taken in the month of September each year starting from 2000 up to the year of 2003. Data collection concentrated on numbers of born, death and total population each year.

**Result and Discussion**

Table 1. shown the number, of does born, died and the total numbers of goats in September during the year of 2000, 2001, 2002 and the year of 2003.

Table 1. Goat performance of the year 2000, 2001, 2002 and 2003

Criteria	Year			
	2000	2001	2002	2003
Born	-	465	700	566
Die	-	125	40	149
Population	616	956	1616	2033
Increase population rate (%)	-	55.91	69.03	25.80
Mortality rate (%)	-	20.29	4.18	9.22

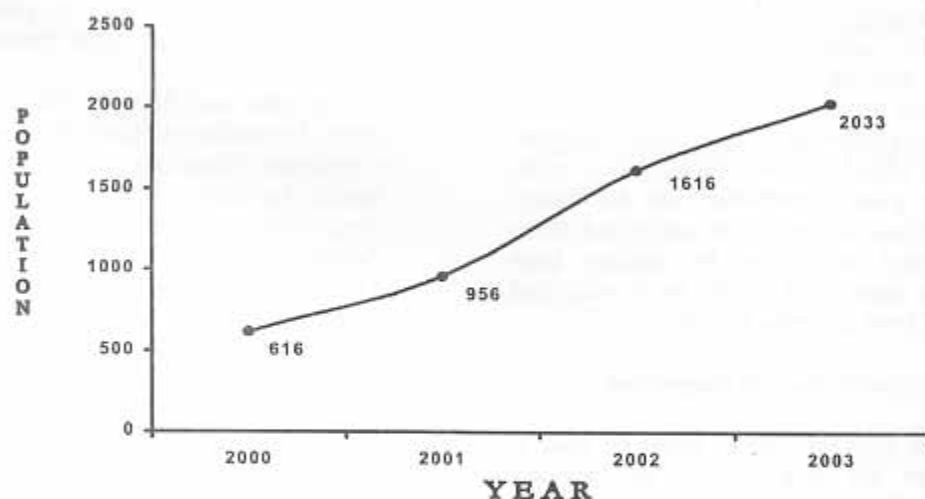


Figure 1. Goat population.

The figures shown that there were 465 born from September 2000 up to September 2001, 700 in September 2001 up to September 2002, and 566 in September 2002 up to September 2003. The highest numbers of doe being born were between September 2001 up to September 2002, these may be caused by some females goat gave birth to twin does.

The highest mortality rate recorded were in the year of 2001, these might be due to the effect of adaptation processes, where animals provided by the project come from outside of Enrekang. The other reason may be due to adaptation processes by using *gliricidia* as ration.

The figures also shown the lowest population rate were in the year of 2003, these were due to decreasing numbers of animal being born and the highest numbers of animal died during that time. Highest numbers of animal died during these period due to the fact that the project failed to provide provided any more medicine for the animals, another factor could be to the intensity of extension worker to the villages were quite low.

Figure 1. also showed the total population from year to year were increasing, the meaning of all these figures suggested that utilization of *gliricidia* as sole feed for goats were promising.

The same case was observed by Nguyen Van Hao and Nguyen Van Hiep (2003) that during the dry period when there were little pasture or forage grasses available, leaves of *gliricidia* could be used as a major feed for goats. Chadhokar and Kantharaju (1980) found out that both cattle and sheep had normal production by feeding large quantities namely 60 to 70 % of total feed intake of fresh *gliricidia* leaves.

### Conclusion and Suggestion

Fresh *gliricidia* leaves could be used as sole feed for goat raising in Enrekang condition. Since fresh *gliricidia* leaves contain

low level of phosphorus, it is advisable these limitation could be corrected by giving the animal salt- bone meal- molasses blocks.

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