

Diversity of Domestic Grasses for Sheep Browse in the Coastal District Gebang, Cirebon Residence

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Abstract

In general, sheep browse in Indonesia comes from the availability of domestic grasses (Family Poaceae and Cyperaceae), just an effort to make agronomic improvements is still very limited. Therefore we need basic research on domestic forage to determine its potential as a forage cultivation. The purpose of this study is to identify potential sources of herbaceous species forage of sheep. Research carried out by the method of survey, observation, collection of plants by way of example, shooting, maintenance ex-situ, making herbarium and species identification. In total there are 39 types of forage from the Family Acanthaceae, Cyperaceae, Leguminosae, Liliaceae and Poaceae. Types grasses are found, divided into three belts: Belt-1 (0-1 km from coast) consisting of: 8 of the Family Poaceae species and 9 species of Cyperaceae Family. The dominant species of livestock are available for Xerochloa Cheribon (Steud.) Ohwi and Chloris barbata Swartz. Belt-2 (1-2 km) consisting of 13 species of the Family Poaceae and 4 species of Cyperaceae Family. The dominant species of livestock are available for Cynodon dactylon (L.) Pers., Paspalum conjugatum Berg. and Cyperus scariosas R. Br. Belt-3 (2-3 km) consists of: 12 species of the Family Poaceae and two species of Cyperaceae Family. The dominant species of livestock are available for Paspalum conjugatum Berg., Cynodon dactylon (L.) Pers. and Eleusine indica (L.) Gaertn. Getting away from the beach Family Poaceae is dominant as the compared to the potential forage Cyperaceae Family. Based on field observations and statements of farmers, sheep prefer grasses of the Poaceae Family.

Keywords: domestic grass, coastal, sheep

Introduction

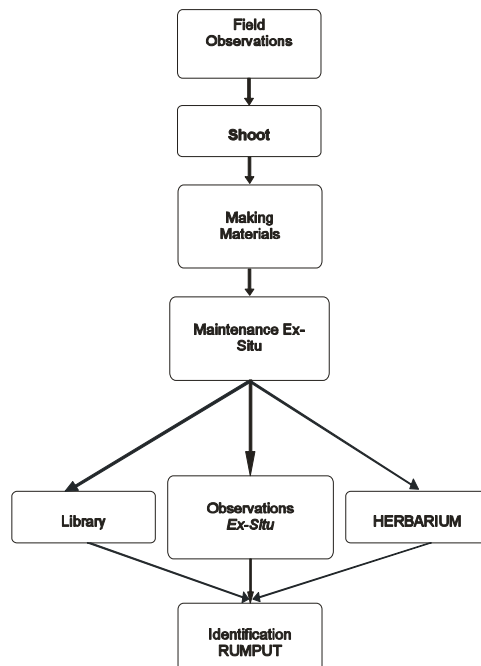
Lamb is one type of animal that has the potential to meet the needs of animal protein, because lamb can easily accepted by all people and religion, especially in Indonesia. The problem that usually encountered in the development of sheep farming is the low productivity due to low availability of forage quality, especially grass.

Fresh fodder as feed is one of the main base for support, especially for livestock farms both large and small ruminants, which every day takes quite a lot of forage, because more than 60% of all ruminant livestock feed consumed is fresh, both in the form of fresh or dried. Haryanto (2004) stated that reduced the carrying capacity of natural resources (feed) to the business of cattle due to conversion of agricultural land, as well as changing patterns of farming became one of the causes of declining livestock population. Besides being used for forest and coastal tourism, coastal areas can be utilized as a forage-producing areas of quality forage.

Materials and Methods

Research material is locally grown forage grass in the District Gebang and tools were used quadrant measuring 0.5mx 0.5m, knives, plastic bags, stationery, alcohol 70%, scrap paper, and label. The method used in this study is a survey research method to conduct interviews with some sheep ranchers farm-related conditions, as well as direct review of the diversity of forage grasses. Gebang district is divided into three Belts based on distance from shore observations are: Belt 1st (0-1 km from the loast);-2nd Belt (1-2 km from the coast), and Belt-3rd (2-3 km from the coast).

Data obtained from field survey and sub-cultivated in a descriptive profile includes general picture of the state of research sites, as well as the characteristics of sheep farming in the study site. Data processing method used is the identification of forage grass.



Results and Discussion

Gebang district, at is lowland areas, with an average height of 6 meters above sea level. The temperature of 28°C - 32 °C. Humidity is 83.07 - 86.1%.

Sheep was dominantly (5200 head) maintained in District Gebang, compared to other ruminants (cattle, buffaloes and goats). Lamb is generally a side business of farmers' fields. Types that are kept are fat tail and a thin tail.

Sheep maintenance system in the District Gebang consists of two systems, namely intensive and semi-intensive. Semi-intensive maintenance system are found in 1st Belt (0-1 km from the coastline). In this system, farmers tending their flocks during the day starting at 08.00 am and will impound the animals at 16.00 pm. They choose to release or indulgence in flocks on the there are many forage grasses that can be used for feeding their animal. Mr. Tono, one of the owners of sheep farmers in 1st Belt has a unique habit of feeding forage for livestock. During the day from 08.00 am until late afternoon at 16.00 pm he graze the livestock on the coast, while in the evening he gave them extra feed that is api-api leaves (*Avicennia marina* (Forsk.) Vierh.) that grow in coastal areas of Gebang district. Based on his story, giving that leaves did not have a negative effect on his sheep.

Intensive systems are found in the observation Belt 2nd and 3rd is the agricultural Belt. In the intensive systems, animal cages all day on the grounds because peasant-farmers are busy in the fields all day and if the cattle was grazed, they feared it could damage agricultural crops around. In the zone or the distance is not directly adjacent to the coast (Belt-2nd and Belt-3rd), a pattern that is widely used for livestock grazing is a intensive maintenance system. The pattern of forage supply in this zone is to use the pattern "cut and carry". Cattle were fed twice a day in the morning and afternoon. Feed given to cattle sheep is a 100% field grass that grow around the edge of the road, river, rice fields and plantations. Forage is cut with a sickle or crescent. The breeders take the cutting of browse into sacks and carry the grass clippings by using a bicycle and becak.

According Djajanegara *et al.* (1993), in tropical area sheep and goats are usually kept by the breeder (farmers, ranchers) with semi-intensive system. The ranchers graze their cattle or to graze in the afternoon and impound their animals at night. Impounding the animals at night for security reasons and so that is not lost or stolen.

Based on interviews with some of the breeders in the district Gebang about the utilization of fresh fodder (Table 1.) there are three types of forage grass that is most preferred *Dactyloctenium aegyptium* (L.) Ritch., *Echinochloa colonum* (L.) Link., and *Eriochloa polystachya* H. B. K.. Note also that grasses, there is some fresh grass with sheep preferred degree among *Brachiaria eruciformis* (J. E. Smith) Griseb., *Brachiaria subquadripata* (Tan) Hitchc., *Chloris barbata* Swartz., and *Paspalum conjugatum* Berg.. In general, feeds such as legumes forage preferred by sheep. However, the granting of a legume forage such as *Leucaena leucocephala* LAMK,

Table 1. Field and forage grass species and the degree of favorite feed supplements by sheep

Local name	Latin Name	Family	Degree of favorite
-	<i>Cyperus babakan Steud.</i>	Cyperaceae	-
Waling	<i>Cyperus elatus L.</i>	Cyperaceae	-
Teki	<i>Cyperus rotundus L.</i>	Cyperaceae	+
Teki	<i>Cyperus scariosas R. Br.</i>	Cyperaceae	+
Teki	<i>Cyperus trinervis R. Br.</i>	Cyperaceae	+
Nyiur-nyiuran	<i>Cyperus iria (L.) Rikl.</i>	Cyperaceae	-
-	<i>Ficinea Sp.</i>	Cyperaceae	-
-	<i>Fimbristylis acuminata Vahl</i>	Cyperaceae	-
-	<i>Fimbristylis hookeriana Bacek</i>	Cyperaceae	-
-	<i>Fimbristylis schoenoides (Retz.)</i>	Cyperaceae	-
-	<i>Fimbristylis tomentosa Vahl</i>	Cyperaceae	-
-	<i>Fimbristylis vahlii (Lamarck) Link.</i>	Cyperaceae	-
-	<i>Mapania Sp.</i>	Cyperaceae	-
-	<i>Agropyron repens (L.) Beauv.</i>	Poaceae	-
Suket reketek	<i>Brachiaria eruciformis (J. E. Smith) Griseb.</i>	Poaceae	++
-	<i>Brachiaria subquadripara (Tan) Hitche.</i>	Poaceae	++
-	<i>Chloris barbata Swartz.</i>	Poaceae	++
-	<i>Cryspogon aciculatus (Retz.) Trin</i>	Poaceae	+
Grintingan	<i>Cynodon dactylon (L.) Pers.</i>	Poaceae	+
Tapak jalak	<i>Dactyloctenium aegyptium (L.)</i>	Poaceae	+++
-	<i>Digitaria ciliaris (Retz.) Koel.</i>	Poaceae	+
Jampang piit	<i>Digitaria nuda Schuamch.</i>	Poaceae	+
Tuton	<i>Echinochloa colonum (L.) Link.</i>	Poaceae	+++
Jajagoan	<i>Echinochloa stagnina (Retz.) Beauv.</i>	Poaceae	+
Godong ulo	<i>Eleusine indica (L.) Gaertn.</i>	Poaceae	+
Bebekan	<i>Eragrotis tenella (L.) Beauv.</i>	Poaceae	+
Suket peronan	<i>Eriochloa polystachya H. B. K.</i>	Poaceae	+++
Meniran	<i>Panicum paludosum Roxb.</i>	Poaceae	+
Lempuyangan	<i>Panicum repens L.</i>	Poaceae	+
Paitan	<i>Paspalum conjugatum Berg.</i>	Poaceae	++
-	<i>Xerochloa cheribon (Steud.) Ohwi.</i>	Poaceae	+
Lamtoro	<i>Leucaena leucocephala LAMK</i>	Leguminoceae	++
Gamal	<i>Gliricidia sepium (Jacq.) Steud.</i>	Leguminoceae	++
Turi	<i>Sesbania grandiflora L. PERS</i>	Leguminoceae	++

Table 1. Continued

Local name	Latin Name	Family	Degree of favorite
Kaliandra	<i>Calliandra calothyrsus</i> Meissn.	Leguminosae	+
Jerami padi	<i>Oryza sativa</i> L.	Poaceae	+
Daun bawang	<i>Allium cepa</i> L. Rank.	Liliaceae	-
Daun jagung	<i>Zea mays</i> L.	Poaceae	-
Daun api-api	<i>Avicennia marina</i> (Forsk.) Vierh.	Acanthaceae	++

Source: Primary data processing 2011

Table info: - : disliked; + : a biliked; ++ : preferred; +++ : highly preferred

Gliricidia sepium (Jacq.) Steud., and *Sesbania grandiflora* L. PERS is rarely do because of its availability is very little or limited in District Gebang.

Sometimes the animals were given additional fresh forage during the rest of the farm post-harvest due to the very large stock availability at the time, but the farmers claim they are reluctant to provide livestock forage because the rest of agriculture often cause digestive health problems in livestock such as the provision of fresh onions that often cause diarrhea to their sheep

Breedeers in the district Gebang very rarely provide additional feed their sheep in the form of concentrates and pulp out because according to the farmers, the provision of concentrates and pulp for their sheep only give additional cost of maintaining the sheep. Because sheeep is not the main business but only a side business of farming.

Zoning for the sampling of grass in this study were divided into three belts based on distance from the coast and the election of District Gebang point sampling forage grasses based on consideration of the many ranchers who graze on the site. 1st Belt is the belt at a distance of about 0-1 km from the coast, the 2nd Belt is the belt at a distance of about 1-2 km from the coast, and 3rd Belt is the sampling belt at a distance of 2-3 km from the coast. In Figure 1 can be seen that there is a pattern of distribution of type of forage grass field that is unique.

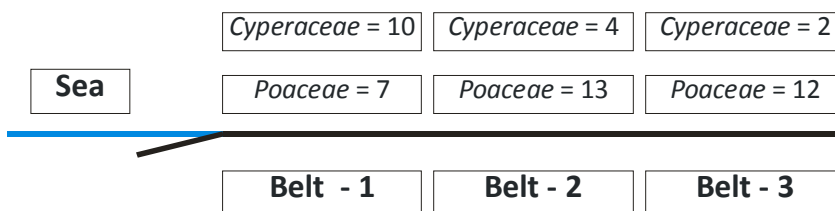


Figure1. The Pattern of Distribution of Vegetation Types Based on the Distance from the Beach (Source: Primary data 2011).

The farther the distance from the coast will be more spacious with the type of vegetation found Poaceae getting closer to shore and vice versa is more found in type Cyperaceae fresh field. Poaceae is a member of the tribe of flowering plants. In general, a hallmark of plant Poaceae trunked jointed, was crowned flowers, and ribbon-shaped leaves. Interest-tekian or Cyperaceae puzzle is one of the members of the tribe of flowering plants. Interest rates are the closest relatives of grains (Poaceae) and have many similarities. The difference between simply Poaceae and Cyperaceae can be seen in cross-sectional shape on the trunk. Poaceae has a cross section of rod-shaped oval or round, while Cyperaceae has a triangular cross-section rod. Most abundant grass in 1st belt is *Xerochloa cheribon* (Steud.) Ohwi. by percentage botanical composition about 57.0%. On the field 2nd belt is dominated by grass *Cynodon dactylon* (L.) Pers. with a percentage of the botanical composition about 41.83%. while on the most dominating 3rd belts based on the botanical composition of *Paspalum conjugatum* Berg. with a percentage of the botanical composition about 43.39%.

Conclusion

There are differences in the amount of forage grass species in each Belt in the District of Gebang, with total forage grass species that grow in the District Gebang reached 31 species of Poaceae and Cyperaceae Family.

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