

They should be grazed frequently during the wet season otherwise they produce a lot of stems which are unpalatable. Establishment from stolons is easy. Planting from seed is often difficult since it is slow to establish, even from good seed. Seed quality is frequently poor.

B. humidicola can be fed to sheep and goats in small quantities only. Feeding large quantities may cause photosensitization (see Section 3, Special Considerations).

Note: 'Yanero' was previously known as *Brachiaria dictyoneura* CIAT 6133.

- 1 *B. humidicola* (here 'Yanero') tolerates heavy grazing (WS)
- 2 *B. humidicola* (here 'Yanero') spreads by stolons (WS)
- 3 'Tully' is excellent for controlling soil erosion (WS)
- 4 'Tully' and 'Yanero' form a thick pasture (JH)



Grasses

Brachiaria ruziziensis

Recommended variety:
'Ruzi'

- good seed production
- establishes easily from seed or cuttings
- provides high quality forage

but

- needs high soil fertility
- poor persistence on infertile soils
- not adapted to long dry seasons



'Ruzi' is a leafy, medium height, stoloniferous grass which is used extensively in Thailand. It has short hairy leaves. In many areas it produces high seed yields. The seed quality and germination percentage are usually high.

It is adapted to well-drained, fertile soils in high rainfall areas. In these conditions it provides higher quality feed than other *Brachiaria* species. It is not well suited to infertile soils, poorly drained soils or areas with a long dry season.

'Ruzi' should never be fed to sheep, goats or young cattle (see Section 3, Special Considerations).

It can easily be planted from seeds or stolons.



- ① 'Ruzi' grows well in fertile soils (JH)
- ② It has hairy leaves (JH)
- ③ Seed production is high (WS)
- ④ 'Ruzi' spreads by stolons (JH)
- ⑤ It does not grow well in the dry season (JH)



Grasses

Panicum maximum

Recommended variety:
'Si Muang'

- tall grass suitable for cutting
- suited to more fertile soils
- produces high quality feed

but

- must be fertilised regularly
- becomes stemmy if not cut frequently
- not suited to long dry seasons



'Si Muang' is a tall grass suitable for cutting which can also be lightly grazed. It produces high quality feed if grown in fertile soils. It has been selected by the Department of Livestock Development in Thailand because it is leafier and has broader adaptation than other varieties of *Panicum maximum*.

It is adapted to areas with a short or no dry season although it can survive in areas with long dry seasons. It needs high soil fertility; manure or fertiliser needs to be applied to maintain good growth. 'Si Muang' is best suited to well drained, fertile soils but will survive on moderately fertile soils. It does not tolerate waterlogging.

'Si Muang' is known for its fast regrowth after cutting. It must be cut frequently, otherwise it quickly produces hard, unpalatable flowering stems.

It can easily be established from rooted cuttings or seed. Seed yield of 'Si Muang' is high in many areas and seed quality is better than earlier *P. maximum* varieties.

Note:

Another promising variety, 'Tobiata', is taller and has broader leaves than 'Si Muang'. 'Tobiata' has hard hairs on the base of stems which can irritate skin during cutting.



- ① 'Si Muang' has purple stems (JH)
- ② It is a tall, upright grass (LS)
- ③ 'Si Muang' used for cut and carry in northern Laos (JH)
- ④ It produces good seed throughout Southeast Asia (JH)

Grasses

Paspalum atratum

Recommended variety:

'Terenos'

- tall grass for cutting
- grows well on infertile, acid soil
- wet tropics with short or no dry season
- can tolerate some waterlogging
- very leafy

but

- not suited to long dry seasons



'Terenos' is a tall bunch grass with broad leaves. It is very leafy and palatable when growing in good conditions. 'Terenos' can become coarse and unpalatable during dry periods. It produces large quantities of seed in most areas except those close to the equator.

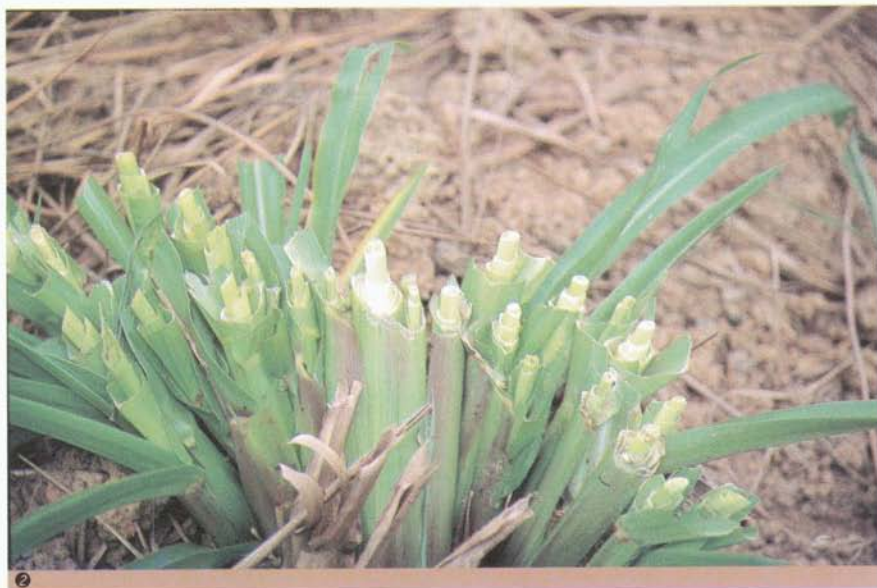
It is a good choice for moderately fertile and infertile soils in the wet tropics. It is particularly useful for soils that are occasionally waterlogged. 'Terenos' can survive in areas with a long dry season but will not grow well. It grows well in cooler areas (eg. high elevation) where it tolerates some dry periods.

Farmers often like 'Terenos' because it is easy to cut and has fast regrowth. It can also be grazed.

It can be planted from seed, but is also easily propagated using rooted tillers.

Note: A related species is *Paspalum guenoarum* 'Bela Vista' (see page 70).

- ① 'Terenos' grown along a fence in Indonesia (WS)
- ② Regrowth of *P. atratum* is very fast (WS)
- ③ It produces good seed (WS)
- ④ 'Terenos' is easy to cut (MH)



Grasses

Pennisetum purpureum and hybrids

Recommended varieties:

'Napier'

(local varieties of *P. purpureum*)

'Mott'

(*P. purpureum* cv. Mott)

'King'

(*P. purpureum* x *P. glaucum*
hybrid)

- very tall grasses for cut & carry
- highest yielding species with high soil fertility and irrigation
- high quality feed

but

- will not persist without fertilising
- not suited to long dry seasons
- becomes stemmy if not cut frequently



Pennisetum purpureum and the hybrid (*P. purpureum* x *P. glaucum*) are very tall grasses which are well suited to cutting. 'King' is taller, leafier and more productive than 'Napier' or 'Mott' in soils of high fertility, but is less robust and persistent under declining fertility or during dry periods.

'Mott' (sometimes called 'dwarf napier') has many more tillers and is leafier than 'Napier'. 'Mott' is better suited to planting in hedgerows than other *Pennisetum* varieties, although all *Pennisetum* varieties need a lot of nutrients and tend to compete with nearby crops.



Pennisetum species are potentially the most productive grasses available, but do not tolerate low fertility or dry conditions. They are best suited to fertile soils in areas with high rainfall and only a short dry season.

Fertiliser or manure must be added regularly to maintain productivity. Many farmers grow these species close to the animal shed to make it easier to apply manure.

They must be cut frequently to remain leafy. If the plants are allowed to grow tall, they produce a lot of unpalatable stem.

They can easily be planted from stem cuttings.

- ① 'King' grass in the early dry season in Indonesia (JH)
- ② 'Napier' grass for cut & carry in Thailand (JH)
- ③ *Pennisetum* varieties can be leafy when cut often (JH)
- ④ Using 'King' grass as a fence around a chicken pen in Indonesia (WS)
- ⑤ They have very high yields but get very stemmy if not cut frequently (JH)
- ⑥ *Pennisetum* varieties need manure or fertiliser for good growth (JH)



Grasses

Setaria sphacelata

Recommended varieties:

'Lampung'

(*S. sphacelata* var. *splendida*)

'Solander'

(cv. *Solander*)

- erect grass for cutting
- soft and palatable leaves
- can survive in poor soils
- can tolerate waterlogging for short periods
- grows well in cool areas

but

- needs good moisture and soil fertility for high production
- some leaf disease in the humid tropics
- should not be fed to horses



Setaria sphacelata is an erect, perennial grass of medium height. It has soft, palatable leaves and young stems. It can be recognized by the grey-green colour of its leaves. It is suitable for cutting, although it can be lightly grazed.

'Lampung' does not produce seed and has to be propagated vegetatively. 'Lampung' is best suited to the wet tropics with a short dry season. Leaf diseases can occur in very wet conditions.

'Solander' produces seed and is better suited to cooler conditions (eg. high elevations) than 'Lampung'. Although both varieties will survive in infertile soils, they need moderately fertile soils for good growth. They are able to withstand several days of waterlogging.