

**PANGOLA
AND
COLONIAL GUINEA
GRASS MANAGEMENT
ADDITIONAL NOTES**

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(All photographs by E. Y. Hosaka)

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Grass Management—Additional Notes

PANGOLA

In Hawaii, pangola grass has become very popular because of its high nutritive value, palatability, and ease in establishment. It covers the ground rapidly and keeps down the establishment of weeds. The thick mat lowers soil temperature, retains moisture, and protects the soil (fig. 1). In the last few years, thousands of acres in the moist regions have been planted to this grass from sea level to 5,000-foot elevations. This wide distribution is due to its ability to grow in a wide variety of soil and climatic types. The protein content has been found to range from 5 to 12 percent based on dry weight. This variation in the amount of protein depends both upon the rate of nitrogen fertilization and the age of the grass at the time of harvesting.

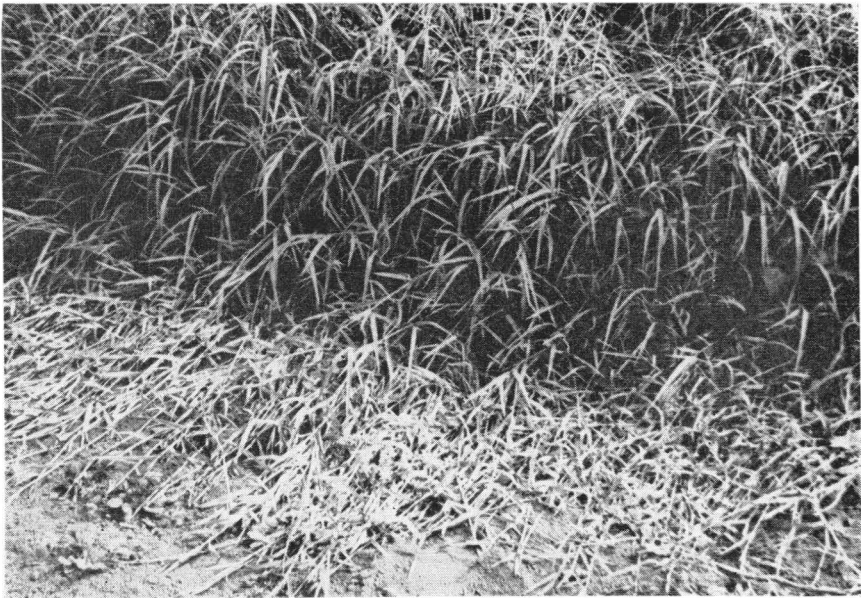


Figure 1. Pangola grass showing the spreading of creeping stems.



Figure 2. Dr. A. W. Sampson in a pangola-intortum pasture.



Figure 3. A large clump of Colonial guinea grass.

Several ranchers have found that pangola can grow on fairly poor soil because the heavy root system covers a large area and seeks the nutrients necessary for its normal growth. Pangola is better adapted to acid soil than many other common grasses. It has been found that pangola responds to superphosphate, potash and nitrogen fertilizers. Two hundred pounds each of superphosphate and ammonium sulfate per acre, with ample rainfall, have increased the yield of an established stand installed by the University of Hawaii Agricultural Extension Service and the Pacific Chemical and Fertilizer Company. It has been found in Florida that pangola is sensitive to copper deficiency and that when copper is a limiting factor, growth is slow and the young leaves become pale yellow and spotted with brown markings. But when about 5 pounds of copper sulfate per acre is applied, plants recover within 2 weeks.

Test plantings at Kona, Hawaii, and at Haiku, Maui, indicate that pangola can check the spreading of rice grass (*Paspalum orbiculare*) and yellow foxtail (*Setaria geniculata*). At Kona, Hawaii, pangola was planted in association with Kaimi clover (*Desmodium canum*) and at Paauhau, Hawaii, in association with intortum (*Desmodium intortum*). When pangola was grazed low, a good pangola-Kaimi clover mixture resulted; but under deferred grazing practice, intortum did very well (fig. 2).

At elevations above 1,500 feet, pangola does very well in mixture with big trefoil (*Lotus uliginosus*). The big trefoil grows as high as the pangola and forms excellent entanglement when its fertility requirements are met. Some excellent pangola-big trefoil stands have been developed in the moist Kaala paddock of Parker Ranch, on the Island of Hawaii.

Management experience indicates that pangola should be grazed before it produces flowers. Many ranchers have found that mature flowering pangola, like other grasses, is only fairly palatable. Pangola has a good feature in its ability to retain its nutritive value for a longer period than many other grasses such as kikuyu grass and Rhodes grass. It also produces new sucker shoots from the prostrate stems. It has been found in Puerto Rico that a pangola pasture can carry 1.12 head per acre annually.

Pangola should be grazed lightly in about 3 to 4 months after planting until the original plants are well established. Animals, in moving over the pasture, help to trample the stems into the ground. This will encourage the trailing stems to spread out and cover the open areas. When the plant reaches a height of 16 to 18 inches, it should be grazed down to 3 to 4 inches. Under favorable growing conditions, a pangola planting is ready for regrazing in about 20 days.



Figure 4. Common guinea grass growing with koa haole.

The long runners are the best part of the plant to sprig into the ground, but often it is not possible to select only the runners and the upright stems need to be used. When using these stems, place them in a stack about a foot deep, and cover with burlap bags. Keep the sprigs thoroughly watered for about 5 days to force the roots. These rooted stems develop quickly.

COLONIAL GUINEA GRASS

Dr. Robert J. Kleberg of King Ranch and Mr. M. W. Irwin of Brazil think well of Colonial guinea grass; however, some ranchers in Hawaii think differently because it becomes rank and stemmy (fig. 3). Dr. Kleberg told me that the secret in getting the most out of Colonial guinea is in its management, so I am passing this information on to the ranchers.

Dr. Kleberg has seen excellent pastures of Colonial guinea in Brazil. The secret is to keep it grazed fairly low at all times after a thick stand is established. Prepare the land by loosening up the soil surface, and broadcast the seed immediately at the rate of about 8 to 10 pounds per acre. Let the grass come to seed to develop more seedlings. Colonial guinea has a growth habit of

spreading sideways at the base; this helps to cover the interspaces between the stools. After the seeds have shattered, graze the paddock as long as there are palatable leaves and young stems. If the paddock is free of rocks and can be mowed, it should be cut back to 3 to 4 inches; but in rocky paddocks, the clumps should be grazed down, maybe with old cows. From this stage on, it should be managed to prevent rank growth. It should be managed differently from the common guinea (fig. 4).

Mr. Irwin, after looking over some of our Colonial guinea pastures in Hawaii, thinks we have a mixture of two strains of guinea grass; the broad leaf Colonial guinea that we are familiar with, and the less familiar "simpre verde" strain with a slightly narrower leaf.

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