

MULATO II

Brachiaria hybrid cv CIAT 36087

Brachiaria hybrid Mulato II is a unique perennial grass. It is a highly innovative alternative for improving meat and milk production in semi-intensive production systems in tropical and subtropical regions.

It is particularly suitable for areas with acid soils of low fertility, high temperatures and long periods of drought during the summer. In South America, it is recommended to plant Mulato II in areas at risk for bedbug attacks.



SCIENTIFIC NAME: *Brachiaria ruziziensis x Brachiaria decumbens x Brachiaria brizantha cv Mulato II*

MAIN STRENGTHS

- More meat and more milk of better quality
- Increased loading capacity
- Excellent palatability and digestibility
- Abundant foliar production and semi-prostrate growth habit
- Resistance to diseases and insects, especially bedbugs
- Very good tolerance to drought and summer stress

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ORIGIN AND SELECTION

Mulato II is a hybrid resulting from three generations of crosses between *Brachiaria ruziziensis* x *B. decumbens* x *B. brizantha* and numerous trials conducted as part of a project of the International Centre for Tropical Agriculture (CIAT), based in Cali - Colombia, to improve tropical forages. It was developed from a first cross between *B. ruziziensis* and *B. decumbens*, followed by two generations of hybridization by direct contact with pollen of *B. brizantha* in open field.

Mulato II was marketed by the Papalotla Group in Mexico in 2004. It is the second hybrid variety of *brachiaria* developed by CIAT. Being an apomictic hybrid, it remains stable and homogeneous during the different phases of production.

FEATURES AND CHARACTERISTICS

Plant growth habit	<i>Very leafy, semi-prostrate</i>
Appetence	<i>Excellent</i>
Digestibility	<i>High</i>
Protein potential	<i>Up to 18%</i>
Tolerance to flooding	<i>Low</i>
Sowing rate	<i>8 to 10 kg/ha, suitable for direct sowing</i>
Number of days after establishment for a first use (mowing or grazing)	<i>70 to 80 days on average</i>
Period between 2 uses	<i>25 to 45 days</i>
Minimum height to take the animals out to graze	<i>25 cm</i>
Soil fertility requirements	<i>Medium to high</i>
Adaptation for use at altitudes	<i>Between 0 – 1.200 m above sea level</i>
Adaptation to acidic soils	<i>High</i>
Resistance to bedbug attacks	<i>High</i>
Forage uses	<i>Grazing, hay, silage or green</i>



GRAZING, HAY, SILAGE OR GREEN CHOP

Mulato II is a hardy perennial grass of medium height, reaching between 80-100 cm, without considering inflorescences. It is a very leafy plant, with 5 to 8 leaves (40-60 cm long and 6-7 mm wide) per stem. Its intense green leaves are strongly pubescent on both sides. Pubescence on cylindrical stems is low.

PRODUCTIVITY AND FORAGE QUALITY

In acid soils (pH 4.7) of low fertility, Mulato II produced between 14 and 17 tons of dry matter per hectare per year. 70% of the yield was harvested during the 6 months of the rainy season and the remaining 30% during the 6 months of the dry season without irrigation.

In better quality soils (pH 6.3), Mulato II sown at the end of April produced 35 tons of dry matter per hectare in 7 months, with 11% crude protein, low fiber content and a high percentage of leaves (85%).

In trials conducted in Central and South America, Mulato II produced a higher milk production than other brachiaria varieties.

CRUDE PROTEIN CONTENT

In poor soils in Thailand, Mulato II produced fodder with a crude protein content of 10 to 14% and in better quality soils in Florida in the United States this percentage was 12 to 18%.

LIVESTOCK PRODUCTION

In Florida, USA, young cattle grazing a grassland sown with Mulato II and with a load of 4 to 6 animals per hectare showed a daily increase in live weight of 400 to 600 g, without any concentrate supplementation.

On the other hand, in the trials conducted by CIAT with dairy cows consuming different types of brachiaria, an 11% increase in milk production was observed during the dry season and a 23% increase during the rainy season in cows consuming Mulato II compared to other types of brachiaria.

In Mexico, dairy cows, which consumed Mulato II, gave 30% more milk production due to better forage quality and greater grassland persistence, with a higher load of animals per hectare.

DROUGHT TOLERANCE

The root system of Mulato II is compact, allowing it to tolerate drought and to grow rapidly at the beginning of the rainy season. The pubescence of the leaves allows it to effectively use the moisture deposited on its leaves by the dew from evening until late the next morning.

This ability of Mulato II to maintain good dry matter production, mainly in the form of leaves (85% leaves) during the dry season, makes it an exceptional forage.

ADAPTATION TO ACIDIC SOILS

Mulato II grows very well in acidic soils with a pH of 4.5 to 5; in the particular case of Thailand, it has demonstrated its superiority over other brachiaria varieties in very acidic soils.

Mulato II also tolerates soils with a high aluminium content. However, to ensure the persistence of the grassland in this case, it is essential to spread phosphate fertilizer to avoid aluminum toxicity.

SHADE TOLERANCE

Mulato II grows well in less sunny conditions (50 to 70% sunshine).



MOWING AND GRAZING MANAGEMENT

Mulato II can be used for rotational grazing, green chop, hay or silage according to the farmer's needs. In addition, due to the quality of its forage and its productivity.

Mulato II is very suitable for intensive farming. This hardy and robust species tolerates animal wear very well, with a high recovery power after grazing. During the rainy season, it is advisable to leave a rest period of 30 to 40 days between pastures, depending on the soil and fertilization. During the dry season without irrigation, longer rest periods (50 to 60 days) between pastures are recommended.

It is recommended to cut at a height of about 15 cm, both for grazing and mowing. By respecting this cutting height, regrowth will be faster. The best results will be obtained in good quality soils and with adequate fertilization.



ESTABLISHMENT/SOWING

SOIL PREPARATION

Prepare a good seedbed to ensure establishment using appropriate equipment according to the constraints at the time of sowing. Soil preparation is one of the most important aspects for germination and establishment of crops. The objective is to get a crumbled soil on a few centimeters with a levelled and moderately compacted surface free of weeds and plant debris, which will also allow planting at the right depth.

The sowing depth is 0,5 to 1 cm. After sowing, roll to compact the soil and ensure good contact of the soil with the seeds.

In sandy soils, the use of a roller is recommended before and after sowing. Installation must be done when daylength and temperatures are adequate for germination.



FERTILIZATION

A soil analysis to determine the soil's ability to provide minerals to crops, its chemical composition, nutritional deficiencies and imbalances is advisable. Based on the results, it will be possible to make recommendations on the necessary fertilizer applications.

If the analysis is not carried out, it is advisable to apply a deep fertilizer 18-46-0 (DAP) or a universal NPK fertilizer 15-15-15-15 or 11-11-11 plus micronutrients at a rate of 250 - 300 kg/ha. After each cut, top-dress with a nitrogen-rich fertilizer. It should be considered that in soils with a high organic matter content, fertilizers remain available to the plant for a longer period of time.



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