SELECTION OF *Panicum maximum* HYBRIDS IN BRAZIL

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Introduction

In search of new cultivars with differentials that better meet the needs of the cattle ranchers, crosses between five sexual plants and the apomictic accessions PM20, PM21 and Myiage were carried out at Embrapa Beef Cattle, Campo Grande, MS, Brazil.

Accessions PM20 and PM21 were used to generate shorter hybrids for use under grazing and for crop-livestock integration;
Myiage was used because of its ability to retain seeds.

Methods

Visual evaluation of 1,116 hybrids in the field

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Two-year evaluation of 154 selected hybrids, progenitors and eight cultivars as controls.

CRBD, 2 reps; Plots 2 lines, 5 plants/line, spacing 0.5 m.

Field established February 2016; Standardization: May.

Dry-season harvests: September; Rainy season harvests every 35 [illegible]

Nutritive value: NIRS.

Data analysis: SAS.

Conclusion

Twenty-eight higher yielding hybrids or with higher nutritive value were selected.

The use of progenitors SP5 and SP3 are indicated in crosses aiming to increase productivity and nutritive value in the progenies.

Objective

Selection of 20-25 superior hybrids to be evaluated in a national network in Brazil.

Results and Discussion

Hybrids of female progenitor SP5 and hybrids of male progenitor Myiage presented higher yields. Hybrids of female progenitors SP5 and SP3 presented higher leaf digestibility (Table 1).

Table 1. Yield and quality of hybrids of female and male progenitors

Progenitor	Total Leaf dry matter yield (t/ha)	Mean leaf crude protein (%)	Mean leaf Digestibility (%)
a) Female			
SP5	45.6 a*	12.3 a	65,6 a
SP4	32.4 b	11.3 a	58,9 b
SP3	27.9 b	13.9 a	66,4 a
SP1	22.5 c	11.6 a	58,6 b
SP2	21.6 c	11.4 a	59,4 b
b) Male			
Myiage	53.1 a*	11,5 a	65,9 a
PM21	33.3 b	12,4 a	64,1 a
PM20	30.6 b	12,5 a	64,3 a

*Different letters in the column differ ($p<0.01$) by Waller-Duncan test.

Differences among crosses were only found for leaf dry matter yield, but not for crude protein and digestibility (Table 2).

However, crude protein among hybrids varied within the crosses in yellow (Table 2). Digstibility among hybrids only varied for SP3 x PM20.

Table 2. Yield and quality of crosses, female and male progenitors and controls

Crosses	Evaluated genotypes	Selected genotypes	Total Leaf dry matter yield (t/ha)	Mean Leaf crude protein (%)	Mean Leaf Digestibility (%)
SP5 x Myiage	14	6	49.5 a*	11.4 a	62.0 a
SP4 x PM20	13	1	42.8 b	12.2 a	61.4 a
[illegible]	[illegible]	[illegible]	40.4 bc	11.7 a	63.2 a
[illegible]	[illegible]	[illegible]	38.1 bc	12.0 a	63.6 a
SP2 x Myiage	10	0	38.1 bc	12.0 a	61.8 a
SP2 x PM20	16	2	37.1 cd	11.7 a	61.7 a
SP3 x PM21	38	8	32.1 de	12.7 a	65.1 a
SP3 x PM20	21	4	31.0 e	12.8 a	64.7 a
SP1 x PM20	4	0	30.4 e	12.3 a	60.8 a
Fem. Progenitors	5		29.9 e	12.1 a	61.8 a
Male Progenitors	3		39.3 bc	12.1 a	64.8 a
Controls	8		38.9 bc	12.2 a	62.8 a
Mean signif. diff.			0.6	1.5	4.8

*Different letters in the column differ ($p<0.01$) by Waller-Duncan test.

Values for hybrids for leaf dry matter yield varied from 10.4 to 76.5 t/ha, for crude protein from 9.7% to 14.3% and for digestibility from 56.6% to 71.5%.