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The XXI International Grassland Congress / VIII International Rangeland Congress took place in Hohhot, China from June 29 through July 5, 2008.

Proceedings edited by Organizing Committee of 2008 IGC/IRC Conference

Published by Guangdong People's Publishing House

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Yield of double purpose winter species as pasture and silage

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Key words: wheat, triticale, rye, oat, barley

Introduction Increasing the grazing season, and improving distribution of cool-season forages would benefit pasture-based dairy systems in south Brazil. This work aims to winter species as precocious pasture to be grazed during winter and harvest as silage during spring season.

Material and methods The experiment was conducted at Agronomy research station in Passo Fundo, Rio Grande do Sul state, Brazil. A randomized complete block design replicated three times. The plots were composed by seven rows 0.2 m apart and 5.0 m long. Seeding date was April from 2003 to 2005. The fertilizer applied was 250 kg/ha of 5-25-25 (N-P₂O₅-K₂O) plus 30 kg N/ha (urea) at tillering and after the harvest. The plants with 30-cm height average were clipped to a 7.0-cm stubble height.

Results The forage was harvest as green forage with 32.0 cm plant height average and 94.7 cm to silage (Table 1). The average DM yield was 846 kg/ha as green forage and 5.58 t/ha as silage. Rye BRS Serrano was detach, but did not differs from barley and wheat genotypes, oat UPF 18, and triticale BRS 203 as precocious forage. However, as silage and total DM was the best.

Table 1 Plant height (PH) as green forage (GF) and as silage (S), DM concentration (DM) and DM yield of winter cereals managed as pasture and harvest to silage.

Genotypes	PHG (cm)	PHS (cm)	DMG (%)	DMS (%)	DMG (kg/ha)	DMS (t/ha)	Total DM (t/ha)
Oat UPF 18	32.6	110.8 b	15.0 cd	29.5 ef	892 ab	6.16 bc	7.05 bc
Oat IPFA 99009	30.7	116.7 b	15.0 cd	28.5 fg	674 bc	6.45 bc	7.13 bc
Oat Agro Zebu	29.7	111.8 b	15.4 cd	25.7 g	570 c	5.42 b-e	5.99 bcd
Rye BR 1	32.9	136.4 a	16.3 bcd	37.8 ab	697 bc	7.03 b	7.72 b
Rye BRS Serrano	33.8	141.8 a	18.3 ab	39.1 a	1051 a	9.72 a	10.77 a
Barley BRS 195	30.2	57.2 f	17.0 bc	31.7 def	1070 a	3.64 e	4.71 d
Barley BRS 224	34.6	72.6 de	14.8 cd	30.2 def	931 ab	4.70 cde	5.63 cd
Barley BRS 225	30.0	66.1 ef	14.8 cd	32.5 cde	809 abc	3.96 de	4.77 d
Triticale BRS 148	28.8	98.6 c	15.4 cd	33.0 cd	718 bc	5.38 b-e	6.09 bcd
Triticale BRS 203	32.6	95.9 c	14.7 cd	32.8 cd	828 abc	4.74 cde	5.57 cd
Triticale Embrapa 53	33.3	93.3 c	14.2 d	35.2 bc	598 c	5.59 bed	6.19 bcd
Wheat BRS Figueira	33.3	67.8 ef	18.0 ab	36.9 ab	1038 a	5.02 cde	6.06 bcd
Wheat BRS Umbu	34.4	77.1 de	15.8 bcd	38.1 ab	926 ab	5.09 cde	6.02 bcd
Wheat PF 990423	31.4	80.0 d	19.9 a	38.4 ab	1046 a	5.18 cde	6.22 bcd
Média	32.0	94.7	16.1	33.5	846	5.58	6.42

Values within a column followed by the same letter are not different ($P > 0.05$) by Duncan.

Conclusions Rye BRS Serrano yield more than other genotypes of cool-season species. It is possible get precocious forage using others winter species such as oat, rye, triticale, barley, and wheat.