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Production raigras according topographic position and year in natural grasslands Buenos Aires , Argentina

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Key words : alkaline lowland ,humid lowland ,topographical position ,grassland ,productivity

Materials and methods The study was carried out during the period from March to October 2007 ,2006 ,and 2005 ,in lot 6 of Chacra Experimental White Grande (36°29'67" lat .Sur ; 60°50'62" long .West) ,of Pcia .Buenos Aires .The climatic zone are warm temperate ,with average annual rainfall of 900 mm . a period free of frost 208 days .The soils are the type Natracuol .The treatments are raised three namely hill ,bass and witness .The first two took place promoting raigrás through chemical control with glyphosate at a rate of 4 liters per ha .Treatment witness is an area where vegetation is uncontrolled field naturally .We designed a system of plots randomly distributed in the following manner : 6 in the hill ,6 on bass and 2 at the witness .The plots for each treatment were built closures 2 m² each ,which were conducted 5 cuts over the trial ,in an area of 0 .25 m² for estimating the forage available .The samples were obtained by cutting with scissors manual to 6 cm .Height above the soil surface to allow regrowth after cutting with machine total of the plot ,and that the dates were harvested on the same parcel .The material live separately as dried in oven with forced air circulation to 60°C to constant weight .We measured the accumulation of MS (Kg . ha⁻¹) for each treatment .For statistical analysis ANOVA (INFOSTAD 2007)

Table 1 shows the forage supply for the different treatments recorded during the test and the four sampling dates expressed in kg DM / Ha .(A ,B ,C ,D ,E ,F hill ,G , H ,I ,J ,K ,L bass ,M ,N witness) Level of significance at $p < 0 .05$ and ** level of significance at the $p < 0 .01$.

	07/05/2007	20/07/2007	06/09/2007	24/10/2007
A	1920*	600	520	1760*
B	1840*	800	680	1880*
C	1520	800	680	1800*
D	1760	1000*	520	1600
E	1520	1000*	520	1480
F	1480	800	520	1600
G	1440	800	600	1280
H	1320	1000*	1000*	2360**
I	1880*	1200*	680	1400
J	1040	1200*	720	1040
K	1320	1200*	640	1440
L	1240	1000*	680	1800*
M	1800*	600	600	1920*
N	1640	600	800	1560

Table 2 Evolution differential between the dates with their levels of correlation .

	07/05/2007	20/07/2007	06/09/2007	24/10/2007
07/05/2007	1	0 .07	0 .22	0 .41
20/07/2007	-0 .5	1	0 .58	0 .19
06/09/2007	-0 .35	0 .16	1	0 .14
24/10/2007	0 .24	-0 .37	0 .42	1

Results and discussion The table shows that the major production of fodder were obtained in the position hill during the fall and spring seasons .The values obtained were consistent with the precipitation peaks in the region . Meanwhile we note that the forage production was higher in the position Under during the winter .This coincides with a period of very low water availability (drought) and strong frosts during the trial ,outside the normal range in the region . Under these conditions ,where the under presents favourable conditions in terms of water availability over the hill ,Raigrás presenting greater production .

The variation between treatments expressed hill and a half hill during different seasons has a direct bearing on the evaluation of treatments found significant differences in the analysis between sampling dates $p < 0 .01$. Within the parameters of setting the highest correlations were achieved with the period March to July and the year 2005 defined a better production with rain June July .The period subsequent to July was not significantly better on the issues explored and this may speak of a lower incidence of the variables in this part .This may be defining periods critical for the formation of forage and the parameter most affected would not be growth but development according to the interaction between climate .

Conclusions Biomass production in 2007 was less than what happened in 2005 but showed a gain with respect to 2006 . The reasons for the success in 2005 were due primarily to a better distribution of rainfall during the period March July with the peak in the last month of the period .Besides the days with temperatures lower than 4 degrees ,was 100 in 2005 y 2006 to 122 in 2007 ,which impact on the total forage production .