

Agronomic evaluation of different corn hybrids cultivated at different location at the time of silage production

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Introduction Corn is considered the default culture for silage due to tradition, high productivity and good nutritional value. Thus it becomes an alternative to forage feed essential in the production chain of cattle (Neumann, 2006). The aim of this study was to evaluate the plant height, ear height, number of leaves per plant at different altitude at the time of planting silage.

Material and methods The study was coordinated by the Center for Animal Production (NUPRAN) Sector of Agricultural and Environmental Sciences of the State University Midwest (UNICENTRO) in Guarapuava, PR, and evaluated three variables: plant height, ear high and number of leaves per plant of six corn simple (P1630H, P2530, AS1555PRO, 30R50H, 30F53H and X40B143H) associated with two cultivation sites (Location A: located at latitude S25°34'513" longitude W51°41'576", Location B: located at latitude S25°42'480" longitude W51°56'795"). Corn plants of different treatments were taken at 20 cm in the reproductive stage of hard grain (R5) to obtain the data. The data collected for each parameter were subjected to analysis of variance with comparison of means at the significance level of 5% by Tukey test, through the SAS (1993).

Results and Discussion Table 1 shows the means for plant height, cob insertion and number of leaves per plant of different corn hybrids cultivated at different regions at the time of silage production on the 2012/2013 harvest in the region or the major region of Guarapuava - PR. According to the data we realized that for the variables of plant height and ear height of region B was the one that had the highest average, and for the number of leaves showed no statistical difference between the regions. The hybrid that had the best average when measured at plant height was X40B143H, and in relation to ear height obtained the highest value and was statistically equal to hybrid 30R50H. The latter, together with P1630H presented a higher number of leaves per plant.

Oliboni (2009) conducted their experiment in the same region with 81 hybrids between them: parents, crosses and witnesses, obtained values of average plant height of 2.4 meters and ear height of high 1.38 meters, and similar values to the present work. Neumann (2006) obtained an average height of 2.43 m and height of plant average ear high 1.42 meters using the hybrid P-30S40, also located in Guarapuava, the harvest of 2004/2005.

Table 1 Averages for plant height, ear insertion height and number of leaves per plant of different corn hybrids cultivated at different regions at the time of silage production (Crop 2012/2013, Guarapuava-PR).

Local Cultivation	Hybrids						Average
	P1630H	P2530	AS1555PRO	30R50H	30F53H	X40B143H	
Plant height, m							
A	2.44	2.44	2.25	2.50	2.24	2.63	2.42 b
B	2.57	2.46	2.35	2.64	2.36	2.78	2.53 a
Average	2.51BC	2.45C	2.30D	2.57B	2.30D	2.71A	
Ear height, m							
A	1.06	1.21	1.05	1,38	1.17	1.35	1.20 b
B	1.19	1.23	1.21	1,57	1.29	1.56	1.34 a
Average	1.13C	1.22B	1.13C	1,48A	1.23B	1.46A	
Number of leaves per plant							
A	4.1	2.7	2.3	5.2	2.9	3.2	3.4 a
B	5.2	2.8	2.6	4.1	3.1	3.3	3.5 a
Average	4.7A	2.8B	2.5B	4.7A	3.0B	3.3B	

Means followed by lower case letters in the column differ by F test at 5%.

Means followed by capital letters in the line differ by Tukey test at 5%.

Conclusion The cultivation site B had the highest mean values of plant height and ear height in relation to the number of leaves, the two places (A and B) did not differ in value. Comparing hybrids, which had the highest plant height was X40B143H, the height of insertion of X40B143H and 30R50H were the largest and the hybrids that obtained the highest number of leaves were the P1630H and 30R50H.

References

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