

## Composition of wheat plants (cv. BRS Umbu) destined for silage production, subjected to regimes of cuts in Guarapuava – PR

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**Introduction** Brazil has no tradition in the production of silage from wheat plants, however, in the south of the country, where there are adverse weather during the winter, as excessive rains and frosts, making the cultivation of winter maize unfeasible. Keeping this in view, the use of winter cereals is being seen as an alternative for making silage in the winter, since in many situations the wheat has good weather resistance and nutritional values (Bumbieris Jr. et al., 2011). It is possible to obtain stocks of forage winter cereals, considering that species such as wheat is able to produce about 1.5 to 2.5 times more than non-grain grass silages in temperate regions; some studies show values higher than 10 t ha<sup>-1</sup> of dry matter (DM). All winter cereals can pass through the ensilage process, but some species without arista are preferred, such as wheat, which also has good value grain / stem-leaf (Lamat, 2005). In this work, we report results of the botanical composition of wheat cultivar BRS dual purpose Umbu (EMBRAPA), subjected to regimes of cuts in the region of Guarapuava - PR.

**Material and Methods** The experiment was conducted at the Center for Animal Production (NUPRAN), Department of Agricultural and Environmental Sciences of the State University Midwest (UNICENTRO), in Guarapuava - PR, located in the subtropical zone of Paraná, in the geographical coordinates 25°23'02" south latitude and 51°29'43" west longitude. The planting was realized on May 13, 2011. The fertilizer used was 400 kg ha<sup>-1</sup> of 04-20-20 chemical fertilizer formula. Besides the basic fertilization, were realized 2 split applications of urea, totaling 280 kg ha<sup>-1</sup> N. The experimental design was a randomized block design with 3 treatments (without cut – just one harvest for silage; with one cut – one forage harvest and one silage harvest; with two cuts - two forage harvest and one for silage) and 5 replicates, totaling 15 plots, each plot contained an area of 15 m<sup>2</sup>, with planting done in 17 cm spacing between rows, sowing rate of 220 seeds/m<sup>2</sup> and planting depth of 4 cm. Cultural practices were carried out during the experiment, such as herbicide-based *metyl metsulfuron* (Ally® commercial product: 6.6 g ha<sup>-1</sup>), based insecticide of *Thiamethoxam* + *lambda*cylhalothrin (commercial product ENGEO Pleno®: 150 ml.ha<sup>-1</sup>) and the base fungicide *Epoxiconazole* + *pyraclostrobin* (Opera® commercial product: 1l.ha<sup>-1</sup>). Were harvested when the plants were 30 cm high, lowering it to 8 cm of soil. Each plot had an area of 8 m<sup>2</sup> evaluated, discarding the borders. With the collected material was estimated production of green biomass per hectare and yield of dry biomass for assessment is used to forced air oven at 55 °C until reaching constant weight of the samples. Assessment of plant composition was made by manual separation of the components stem, leaf and ear. Data were subjected to analysis of variance and means were compared by Tukey test at 5% probability.

**Results and Discussion** Table 1 is described the composition and physical structure of wheat plants BRS Umbu when silage production for both treatments. It is possible observe that the occurrence of cuts increased ( $P < 0.05$ ) the presence of ear in silage, reducing the participation of stems and leaves, possibly providing a silage of higher energy value. Meinerz et al. (2011) obtained similar results for wheat cultivars dual purpose, where obtained 16.6% of the leaf blade, stem 42.7% and 40.7% of ears + grains.

**Table 1** Composition and physical structure of the plant at the time of silage production wheat BRS Umbu under different management systems.

Treatment	Participation in the physical structure of the plant,% DM		
	Leaf	Stem	Cob
Without cut	37.6 a	9.6 c	52.8 b
With one cut	40.2 a	17.2 a	42.6 c
With two cuts	28.0 b	12.6 b	59.4 a
Average	35.3	13.1	51.6
CV%.	10.07	11.87	5.28
Probability	0.0015	0.0002	< 0.0001

Means followed by lower case letters in columns differ by Tukey test at 5%.

**Conclusion** Concluding with this work that the wheat BRS Umbu presents great potential for the production of silage at the time of silage production is evident the high percentage of ears, also showing that the regime of cuts significantly changed the percentage of ears, reducing participation of stems and leaves.

## References

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