

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

LOSSES IN STORING CORN SILAGE UNDER DIFFERENT COVERING METHODS

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In the conservation of forages as silage, reduction of losses and inhibition of secondary fermentations are important goals to be achieved. Thus, this study aimed to evaluate the effect of covering methods on dry matter losses in corn silage storage. The following treatments were evaluated: sealing with black polyethylene film; sealing with black polyethylene film + sugarcane bagasse; sealing with black polyethylene film + Silostop[®] oxygen barrier film. A bunker silo (87.30 m²) was filled simultaneously, and at the end of the filling and compaction steps, it was divided lengthwise into three parts, so that each part of the silage mass covered with one of the covering methods. During the silo supply, 24 nylon bags, called tracer bags, were distributed, eight tracer bags for each treatment, contained approximately 0.3 kg fresh forage and positioned at two depths (ten and forty cm) from the surface. The silo was opened after 200 days. Tracer bags were weighed during the silo supply and after opening, and their dry matter contents determined. The dry matter recovery rate (DMR) was obtained by the quotient between the amount of dry matter recovered from the tracer bags (opening) and the amount of dry matter initially conditioned in the tracer bags (ensiling) and expressed as a percentage. The experiment was conducted in a split-plot completely randomized design, in which the plots were represented by three treatments and the subplots by two depths (tracer bags), with four replications. Data were tested by analysis of variance and the means were compared by the Tukey's test at 5% significance. DMR was influenced ($p < 0.05$) by the treatments. The lowest mean value was found for silage sealed with black polyethylene film (71.75%). The silos sealed with black polyethylene film + sugarcane bagasse and black polyethylene film + Silostop[®] oxygen barrier film resulted in similar mean values of 87.37 and 91.12%, respectively. For the silage sealed with black polyethylene film, there was effect of the interaction treatment x depth ($P < 0.05$), with mean values of 60.25 and 83.25%, for the depths of ten and forty cm, respectively. However, for the silos sealed with black polyethylene film + sugarcane bagasse or with Silostop[®] oxygen barrier film, there was no difference in DMR for the depths of ten and forty cm. The use of black polyethylene film + sugarcane bagasse or Silostop[®] oxygen barrier film, under farm conditions, resulted in a higher DM recovery from corn silage.

Keywords: forage conservation, plastic film, sealing

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