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Res. Agr. Eng.

Vegricht J., Miláček P., Ambrož P., Machálek A.: Parametric analysis of

the properties of selected mixing feeding wagons

Res. Agr. Eng., 53 (2007): 85-93

Eight different mixing feeding wagons (MFW) were investigated under identical conditions in preparing total mixed ration (TMR) for three various cattle categories. Investigated were the uniformity of distribution of the feed into the trough, homogeneity of TMR distributed, the machine capacity in feed extracting from storage and loading, TMR mixing and distributing into the trough, fuel consumption and power consumption required. The least uniformity was found for TMR with a high hay proportion (average value of standard deviation 49.9%). Better results were achieved with MFW designed with horizontal mixing augers (average standard deviation 33.7%). MFW with vertical augers distributed feeds at average standard deviation of 61.3%. Standard deviation of the proportion of feed particles on the separator screens which is considered as

bellow 20% in most cases. This suggests a hint of a very good mixing efficiency of all the MFW followed up. No influence of different designs of the working elements of MFW on TMR homogeneity has been proved. With respect to the machine capacity (output) in preparing and distributing TMR, no large differences between various MFW were found and their output averaged from all measurements varied within the range of 4.79 – 5.48 t/h. The least average specifi consumption of fuel for preparing and distributing TMR was found in the MFW equipped with vertical mixing augers (1.10 – 1.11 l/t). MFW with one