Sources of Variation in Forage Quality in Large Bales of Alfalfa Hay. (C06-putnam003247-Poster)

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Abstract:

Popularity of large (greater than 300 kg) square bales has necessitated reexamination of sampling methods for forage quality. Trials were conducted in 1999 in Bakersfield, CA and 2000 in Merrill, OR to evaluate sampling methods for large bales of 100% alfalfa hay. Large (>900 kg) packages of alfalfa were baled under normal (140 g kg-1 dm) and dry (76 g kg-1dm) conditions. Grid sampling of ends and interior of bales in five replicates at each location indicated up to 80 g kg-1 differences in ADF or NDF between individual cored samples throughout a bale. A separate experiment comparing five baler types indicated no differences between baler types in ADF, NDF, and CP baled under either dry or wet conditions. No significant differences were found between top and bottom or middle bale sampling locations. No consistent patterns of variation across bale ends were seen in the bales used in this study. Within-bale variances were a greater percent of the total variance components than between-bale variances. Recommendations are likely to include use of 20 cores or greater, with methods to characterize between- and within- bale variation in large bales of alfalfa hay.

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