

# Monitoring Composition of Waste Milk Fed to Dairy Calves

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With the increasing size of dairy farms and the aim to reduce costs of raising heifers, many farms are opting to pasteurize waste milk for feeding to calves. However, when using this feeding practice, the producer needs to know the composition of the milk being fed. A 700-cow Holstein farm in Ohio was used for collecting daily samples of waste milk. The milk was sampled prior to pasteurization and was analyzed for milk components at the farm using a LactiCheck. Samples of the milk also were sent to DHI Cooperative, Inc. for analysis of milk components. The pH and ethanol coagulation were taken as indicators of whether or not the waste milk was spoiled. Readings with a brix refractometer were taken on each of the milk samples. Among the 55 samples collected, the average pH of the milk was  $6.61 \pm 0.29$  and the brix reading was  $10.1 \pm 0.4$ . Only three (5.5%) of the samples tested positive with the ethanol coagulation test, realizing that at least one of the samples tested positive due to lack of refrigeration. The brix readings were highly correlated ( $P < 0.01$ ) with the concentrations of fat and solids in milk (both with on-farm and DHI measurements). Given that the brix readings were not very variable (8.9 to 10.4) in our study, an equation ( $Y=2.077 + 0.9984x$ , where  $Y$  = milk solids and  $x$  = brix reading) from a previously published study (*J. Dairy Sci.* 92:3503-3509, 2009) was applied to our data, with an average error of 0.48% milk solids for the 55 samples. Using the methods described to measure total solids allows the dairy producer to fortify waste milk with the appropriate amount of milk replacer to increase total solids to the desired level, which will improve calf performance and will increase farm profitability.