

Corn Silage Feeding Management Practices in California Dairies

N. Silva-del-Rio¹, DVM, PhD; J.M. Heguy², MS; A. Lago³, DVM, PhD, DABVP-dairy

¹University of California Cooperative Extension - Tulare County, CA 93274

²University of California Cooperative Extension, San Joaquin and Stanislaus Counties, CA 95205

³APC, Inc., Ankeny, IA 50021

Introduction

It has been estimated that dairies can lose up to 35% of their corn silage either as a run-off, volatile organic compounds or as feed wasted. These losses could be minimized with good management practices at harvesting, ensiling, and feeding out. The aim of this study was to obtain information on current management practices when feeding corn silage in California's Central Valley dairies.

Materials and Methods

In summer 2009, a feed management survey was mailed to dairy producers in Tulare, Stanislaus, and San Joaquin counties, the first, third, and seventh largest producing dairy counties in California, respectively. Producers received an envelope containing an invitation letter, a one-page survey, and a pre-paid return envelope.

Results

Response rate was 16.9% (120/710). Herd size ranged from 160 to 6,600 cows (median=950). Corn silage in California was more frequently stored in piles (85.0%) and on concrete (75.0%), versus bunkers or dirt. Dairies reported top surface spoiled forage: <3.0 in (<7.6 cm; 25%), 3.0 to <6.0 in (7.6 to 15.2 cm; 53.9%), 6.0 to <9.0 in (15.2 to <22.9 cm; 15.7%), ≥9.0 in (≥22.9 cm; 4.9%). Only one producer indicated that silage was not covered. A total of 54.7% (n=55) of dairies covered silage with oxygen barrier (OB) technology. Top surface

spoiled forage was reported to be <6.0 in (<15.2 cm) in 89.3% of silages covered with OB technology and in 64.0% of silages covered with conventional plastic material. Bacterial inoculants of various types were used in 54.0% of corn silages. Most respondents (73.4%) considered that silage faces were maintained smooth, but only five producers used face shavers. The entire width of the silage face was removed daily in 41.7% of dairies, and of those, 27% removed less than <6.0 in (<15.2 cm) depth per day. Of dairies that did not remove the entire width of the silage face (1/2 face-24.0%, 1/3 face-26.9%, 1/4 face-7.4%), 15.0% advanced less than 5.9 in (15 cm) depth per day. Determination of silage dry matter (DM) was conducted at least once a month in 52.3% of dairies. Only 8.3% of dairies determined DM weekly, or more often. Most dairies delegated DM determination to an outside nutrition consultant (86.6%). A total of 25.0% of dairies suspected mycotoxins in 2008. Top surface spoiled forage was discarded by 70.4% of dairies suspecting mycotoxins, and by 55.8% of those that did not suspect mycotoxins.

Significance

Survey results served to understand current corn silage feed out management practices in California Central Valley dairies. There is a need to increase awareness of the importance of removal rate, surface spoilage, and pile size. The implementation of best management practices when feeding corn silage has the potential to increase feed efficiency and minimize the impact dairying has on the environment.