

The effects of environment on variability of corn silage quality. (A03-wilson396527-poster)

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Abstract:

This study is an effort to quantify the impact of environment and climate variability on the silage quality of corn grown across the US using simple realistic models that employ soil and climate data as inputs. The justification of the study is the recognition that management strategies in corn silage production are becoming a tedious and risky undertaking as the climate-environmental variability effects on silage quality vary increasingly from site to site and from year to year. Field studies needed to determine the effects of climate on silage quality are normally limited to few locations and seasons and do not represent all the possible outcomes. To adequately determine the response of corn silage quality to the wide range of climate and environment conditions across the US would require many decades of research. The use of a valid silage quality modeling system provides useful information on seasonal silage quality variability to guide specific management practices. The primary weather data for this study consist of daily max and min temperature, rainfall, and solar radiation from national weather stations, and the silage yield/quality data are obtained from Hi-Bred Pioneer International, Inc. Preliminary results suggest that corn silage quality variations from site to site are related to weather patterns such as hot/dry and cool/wet conditions that occur during the growing season.

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