

In collaboration with the Vermont Agency of Agriculture, Food and Markets, researchers at the University of Vermont have created the Taste of Place Initiative, involving research and outreach with cheesemakers to understand the quality of their product by identifying unique sensory characteristics. This particular research project investigates how the natural environment influences the final sensory characteristics of a particular alpine style farmstead cheese by identifying and characterizing key differences in sensory notes and chemical flavor compounds, and determining whether those differences are attributable to differences in the makeup of the pasture and practices of two Vermont artisan cheesemakers and their facilities. During this project SmartNose® and gas chromatography-olfactometry analysis, sensory panels, observation, sample collection and cheesemaker interviews were conducted. First, pasture samples were collected from both farms on the same two days in early summer and two days in the fall. The pasture samples and aged cheese samples from two wheels of the cheese made the day of summer pasture collection and fall pasture collection were frozen and stored in a -32°C freezer until they were shipped to the CoRFiLaC lab in Ragusa, Sicily, and later analyzed using SmartNose®, gas chromatography-olfactometry to identify similarities in volatile compounds between the pasture and corresponding cheese samples. A half-kilogram of each wheel of cheese sent for SmartNose® and GC-O analysis was also sampled during sensory analysis using Quantitative Descriptive Analysis. Preliminary results revealed overlaps across methodologies as similar descriptors found during QDA were defined during cheesemaker interviews and also correlated with environmental observation. The correlation between pasture and cheese samples has yet to be determined. By defining unique sensory characteristics of this artisan cheese, the results can impact struggling rural areas by keeping historically local products in production, thus creating rural employment and stabilizing rural population.