

### Abstract:

Strong anecdotal evidence suggests that sensory quality is a primary driver of consumer acceptance of fresh cabbage (*Brassica oleracea* var. *capitata*). In 1999, we initiated a series of studies to better understand the mechanisms driving cabbage sensory quality, in part to develop production systems which maximize it. Results from 1999 and 2000 suggested that cultivar and planting date impact perceptions of overall fresh cabbage sensory quality. Unstructured evaluation of forty cultivars of spring- and summer-planted cabbage by a small number of experienced tasters showed a wide range in various traits among the samples. In 2001, twenty-one untrained but experienced panelists were asked to evaluate samples of 26 cultivars planted in May and June at the OARDC Vegetable Crops Research Branch in Fremont, Ohio. Panelists scored the overall desirability of samples and their acceptability based on flavor, aroma, texture, and color. Linear scales were also used to quantitatively describe flavor and texture components (hot, sweet, bitter, crisp) relative to a known reference (cv. Bravo) which was also included as a sample. Panelists detected distinct quality differences among the cultivars. Also, multiple regression analysis revealed that variation in flavor acceptability explained 75% of the variation in overall sample desirability, while texture, aroma and color collectively explained less than 10% of the variation in overall sample desirability. The importance of individual flavor components varied with planting date. To our knowledge, this is the most comprehensive explanation to-date of the contribution of specific quality components and major production factors to fresh cabbage sensory quality.