

Abstract:

Red raspberry fruit characteristics were measured and the significance of genotype (G), environment (E) and genotype x environment (GxE) effects determined. Fruit characteristics were measured on red-ripe fruit of six Pacific Northwest (PNW) red raspberry cultivars harvested from three locations in the PNW in 1997 and five cultivars in 1998. There were significant G or E effects for all variables except chroma of fruit in 1997 and the L* value of fruit in 1998. There were no significant GxE effects in 1997 and only for number of aborted drupelets, pH, soluble solids, titratable acidity, and hue angle in 1998. Five cultivars were sampled in both years in two locations. This data subset was analyzed and G, E, year (Y), GxE, GxY and GxExY effects partitioned. There were significant G effects for 10 of the 13 variables, E effects for 6 variables, Y effects for 7 variables, GxE effects only for pH, GxY effects for 4 variables, and GxExY effects for 6 variables. There were significant GxY or GxExY effects for 8 of the 13 variables. This implies that for most of these traits, testing in several environments may be less important than testing over several years.