Abstract

One strategy to increase the yield and nutritional quality in agricultural regions is the search for cultivars with better adaptation to different environmental conditions. The aim of this study was to characterize green beans cultivars based on their phenology, growth, yield, nutritional quality and profitability, in temperate climate and rainfall conditions. Three varieties of determinate growth habit ‘Opus’, ‘Strike’ and ‘Black Valentine’ and ‘Hav-14’ of indeterminate growth were planted on May 7, 2008 in San Pablo Ixayoc Mexico, at a density of 6.25 plants m⁻². We found differences in terms of life cycle from 90-119 days to the last cut, as well as in yield and number of green beans. These differences were related to a greater degree with accumulated rainfall (PP, r = 0.83**), total crop evapotranspiration (ETc, r = 0.71*) and accumulated thermal units (TU, r = 0.65*). The variety ‘Opus’ showed the highest percentage of minerals, phosphorus, ADF, lignin, NDF and protein. The highest net income was for ‘Opus’ and ‘Black Valentine’. However, in a period of five years (half-life of the trellis) ‘Hav-14’ promises more advantage from the economic point of view. These results suggest that ‘Hav-14’, ‘Opus’ and ‘Black Valentine’ would be the most appropriate cultivars for greater production under rainfall conditions in temperate climate in San Pablo Ixayoc.

Keywords