CHEMISTRY COMPOSITION DURING RED GRAPES MATURATION FOR WINES ELABORATION IN NORTHEAST BRAZIL

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INTRODUCTION

In Brazil we observe two different models of production: production concentrated in a short period of time, due to more severe winters (South and Southeast) and staggered production during the year, due to the soil, climate and irrigation conditions (Northeast, especially in the São Submédio Francisco). Monitoring of maturity and the date of decision-making picking grapes destined for wine making is crucial to determine their potential enological and the quality of wines obtained. Considering the lack of winter dormancy in the São Francisco Valley (SFV) region, the possibility of scaling and production of two crops per year, at different times, with different analytical aspects, this study aimed to determine physical characteristics and chemical composition of grapes cvs. Syrah and Tempranillo, during maturation.

METHODOLOGY

The experiment was conducted in commercial vineyards located in the municipality of Casa Nova, Bahia, VSF, in one of the 2008 crop. Sixty vines of each cultivar were used in total, Tempranillo and Syrah, previously marked at random and divided into three blocks of twenty plants each. The vines, planted in 2006, in ascending vertical driving system type espalier, conducted on grafted on IAC 766 rootstock and drip irrigated. The grapes (400 unit) were collected in the morning and immediately taken in refrigerated container to the laboratory where they were separated into three lots of 100 units each to be certain physical parameters - mass of berries, bark and seeds. The 100 remaining berries was obtained by manual pressing, the must, to determine, in triplicate, the volume and the analytical parameters: pH; titratable acidity (TTA, mg tartaric acid.100g^{-1}); total soluble solids (TSS, °Brix) (OIV, 1990); maturation index (MI) the ratio SST and AT; total polyphenol index (TPI, I_{280nm}), by reading the absorbance at 280 nm, and organic acids (tartaric, malic and citric) by high-performance liquid chromatography (HPLC) with a wavelength of 212 nm and mobile phase (phosphoric acid and acetonitrile in ultrapure water, Milli-Q, Millipore ®). From the shells in three lots of 300 for each variety were obtained hydroalcoholic extract (ethanol and tartaric acid in water), which were determined: total anthocyanins by spectrophotometry differential pH, color intensity (CI) - sum of the absorbance at 420, 520 and 620 nm and tone (T) - the ratio between the absorbance at 420 and 520 nm. All analyzes were performed in triplicate. Linear regression was performed using the t-Student test, and was carried out Principal Component Analysis (PCA) for the breakdown of the samples through Statistic7® software.

RESULTS

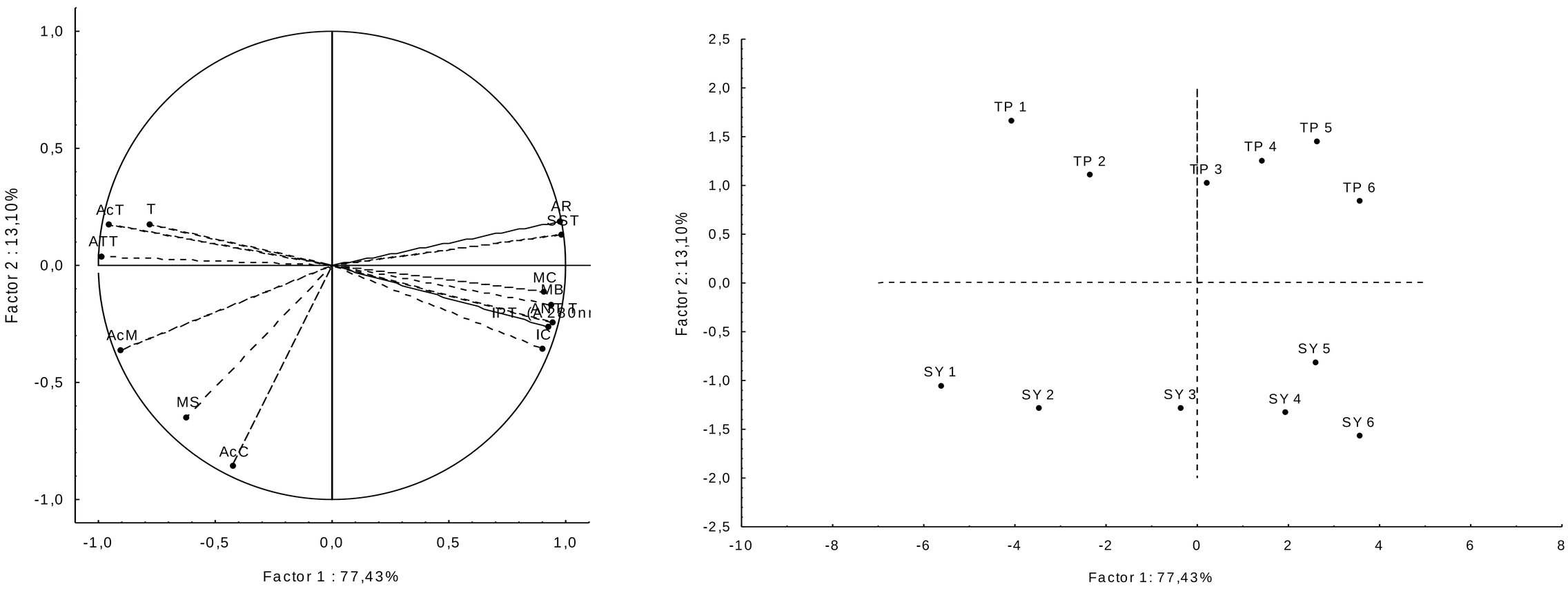

Figura 5. PC1 x PC2 obtido a partir de todas as variáveis avaliadas durante a curva de maturação para as cvs. Syrah e Tempranillo, safra 2008, explicando 90,5% da variabilidade total, onde: (A) Contribuição das variáveis analíticas na discriminação das amostras; (B) diferentes amostras de uvas tintas (SY= Syrah e TP = Tempranillo) durante a maturação; MB = massa da baga; MC = massa da casca; MS = massa da semente; SST = sólidos solúveis totais; AR = açúcares redutores totais; AT = acidez total total; AcT = ácido tartárico; AcM = ácido málico; AcC = ácido cítrico; IC = intensidade de cor; T= tonalidade; IPT (A_{280nm}) = índice de polifenóis totais; e ANTT= antocianinas totais