EFFECT OF FERTILIZATION AND CONTENT OF PHOSPHORUS IN SOIL ON THE
PROPERTIES OF POTATO STARCH PASTE

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The potato an important food source and usually high doses of phosphate fertilizers are used in their cultivation. Starch is the most abundant reserve carbohydrate and purity of higher plants the starch is related to the content of minor constituents present in the composition. Among the minor constituents, lipid fractions and phosphorus are the most important because they influence the functional properties of starches. This study aimed to determine the influence of phosphorus fertilization and soil type on paste properties of starch potato 'Agata'. The experiment was conducted as independent variables rates of phosphorus fertilizer (0, 125, 250, 500, and 1000 kg ha$^{-1}$ of P$_2$O$_5$) and soil type (low and high levels of phosphorus). The behavior of the starch paste was evaluated in Rapid Viscosity Analyzer (RVA). We evaluated the peak viscosity, breakdown, final viscosity and retrogradation, whose results were expressed in RVU. There were significant differences for each parameter evaluated, with increasing doses caused increased linearly in both soil parameters for the peak and viscosity breakdown. In soil with low phosphorus fertilization with 1000 kg ha$^{-1}$ resulted in breakdown viscosity parameter increase of 38%, besides increasing the tendency of downgrading from 49.9 to 137.7 RVU, showing that the phosphorus in potato cultivation interfere with the starch paste properties, which are of great importance for the applicability.