

**TITLE:** ASSESSING THE MICROBIOLOGICAL QUALITY AND SAFETY OF READY-TO-EAT MINIMALLY PROCESSED VEGETABLES SOLD IN PIRACICABA, SP – BRAZIL

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**ABSTRACT:**

The market of ready-to-eat minimally processed vegetables (RTE MPV) has increased in Brazil and many other countries over the past decades. These products provide convenience to consumers and have gained ground in many establishments that prepare, serve or sell fresh produce. However, concomitant with an increased consumption, a higher number of foodborne outbreaks have been associated with the consumption of fresh and fresh-cut vegetables, concerning consumers, governments and the food industry. This study aimed to assess the microbiological quality and safety of RTE MPV samples sold in the city of Piracicaba, SP – Brazil, and verify whether the results obtained meet the microbiological standards established by the current legislation. A total of 100 samples were collected in supermarkets and grocery stores located in the city and submitted to enumeration of total coliforms and coliforms at 45 °C using the standard most probable number (MPN) method. Samples were also tested for *Salmonella* spp. according to the ISO 6579:2002 method. The average count of total coliforms was 2.9±0.5 log MPN/g. For coliforms at 45 °C, 20 samples were positive (average 1.5±1.0 log MPN/g), of which five showed counts >2.0 log MPN/g. Only one sample of RTE chicory was positive for *Salmonella* sp./25 g, confirmed at the molecular level by a conventional polymerase chain reaction-based method. Although most of the samples were in accordance with the current limits established by the Brazilian Surveillance Agency for fresh-cut vegetables (<2 log MPN/g for coliforms at 45 °C and absence of *Salmonella*/25 g), the occurrence of *Salmonella* in one sample and high counts of coliforms at 45 °C in five of them point to poor microbiological quality, indicating hygiene failure during the processing of these products, which can pose health risks to consumers.

**Keywords:** food safety, fresh-cut vegetables, indicator microorganisms, *Salmonella* spp.

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