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PaperTitle **Evaluation of the Possible Link Between Polluted Irrigation Water and Microbially Contaminated Minimally Processed Foods in the Western Cape.**

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ABSTRACT

Agriculture in the Western Cape is not only one of the most important economic sectors but also provides many job opportunities. During the last few years the sustainability of this important industry has become threatened by the pollution of rivers from where water is drawn to irrigate produce. Some of the food products that have been irrigated with the polluted water will be sold by retailers as minimally-processed foods (MPFs) and will be consumed raw. This situation where produce might be contaminated with potential pathogens not only poses an enormous risk to the health of the consumer but also to farmers who stand to lose their export licenses. Urbanisation can be attributed to being one of the main causes of this pollution. People relocate, but due to a lack of housing they are forced to live in informal settlements which often lack the necessary sanitary infrastructure, resulting in dangerous effluents being disposed of into nearby rivers. Even in areas where sanitary facilities are found, sewage systems are often faulty and some waste still ends up in rivers which are subsequently used for produce irrigation. Another main source of pollution is industrial effluent which enters the rivers before the required treatment at the municipal waterworks. Chemical pollution (pesticides, herbicides, antibiotics etc.) poses mostly a long-term threat as it first has to accumulate in the soil, while microbiological pollution (Faecal coliforms, E. coli, Salmonella, and other potentially dangerous bacteria and viruses) is already a problem and is predicted to only get worse. A study is thus necessary to investigate the seasonal microbial pollution in rivers used for irrigation of MPFs in order to quantify the risks.