Enteroaggregative Escherichia coli is the predominant diarrheagenic E. coli pathotype among irrigation water and food sources in South Africa

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Enteroaggregative *Escherichia coli* is the predominant diarrheagenic *E. coli* pathotype among irrigation water and food sources in South Africa.

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ABSTRACT

Diarrheagenic *E. coli* (DEC) has been implicated in foodborne outbreaks worldwide and have been associated with childhood stunting in the absence of diarrhoea. Infection is extraordinarily common, but the routes of transmission have not been determined. Therefore, determining the most prevalent pathotypes in food and environmental sources may help provide better guidance to various stakeholders in ensuring food safety and public health and advancing understanding of the epidemiology of enteric disease. We characterized 205 *E. coli* strains previously isolated from producer distributor bulk milk (PDBM)(118), irrigation water (48), irrigated lettuce (29) and street vendor coleslaw (10) in South Africa. Enteropathogenic *E. coli* (EPEC), enterotoxigenic *E. coli* (ETEC), enteroaggregative *E. coli* (EAEC) and diffusely adherent *E. coli* (DAEC) were sought. We used PCR and partial gene sequencing for all 205 strains while 46 out of 205 that showed poor resolution were subsequently characterized using cell adherence (HeLa cells).