



The mModern human diet consists of a wide variety of food materials from different sources. The active promotion of fFruits and vegetables as are an important essential part of a healthy diet, and their promotion has has lead to significantly increased the amount of in fresh produce being eaten all over the worldglobally. However, rRecent outbreaks of foodborne illnesses related to consuming fresh produce consumption haves heightened concerns that these foods might maybe a source of in increasing source of illness. Fresh and freshly cut produce The requires minimal processing that does not involve required for fresh and freshly cut produce which omits any effective microbial elimination step even though results in these food products naturally carrying microorganisms, some of which may aybeare potentially hazardous to the human health.

Some of the foodborne pathogens like *Salmonella* spp., *E.coli*, *Citrobacter* spp., and *Enterobacter* spp. produce curli, which help in-during the initial steps of biofilm formation and enhances the resistance of cells in biofilms for-against sanitizers and disinfectants. Curli are proteinaceous components of the a-complex extracellular matrices and are-produced by many *Enterobacteriaceae*. They are thin, coiled fibers expressed on theat surfaces of cells that bind several matrix-matrices and plasma proteins such as fibronectin, laminin, plasminogen, and azo dyes like Congo red.

-Raw <u>fruits</u>, vegetables, <u>fruits</u> and unpasteurized juices contain <u>a number ofseveral</u> curli_producing foodborne pathogens which are associated with<u>that can cause</u> food related diseases. These curli producers form biofilms on fresh produce <u>as well as onand</u> food contact surfaces, <u>and</u> result<u>ing</u> in <u>the</u> cross_contamination of produce.

-Curli_producing bacterial strains are characterized by their ability to bind Congo red, which provides a simple screening method <u>for</u> *in vitro* curli production. The Congo red binding technique <u>has can follow either</u> a qualitative <u>approach or</u> as well as a quantitative approach. <u>In the present study, c</u>Curli producers were isolated from fresh produce and **Commented [E1]:** Consider deleting "and freshly cut" unless there is a noteworthy difference between these terms that you expect the reader will understand.

Commented [E2]: Consider deleting "and freshly cut" unless there is a noteworthy difference between these terms that you expect the reader will understand.

Commented [E3]: Note that these was no grammatical error here. However, the term "fruits and vegetables" is extremely common in English, and so reversing the order of these words sounds unnatural.

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unpasteurized carrot juice using <u>a</u> modified Luria Bertani <u>(LB)</u> medium. Curli-producing organisms formed dry red rough colonies on modified LB medi<u>aum</u>, while nonproducers formed smooth white colonies. The pFurthermore, parameters that control curli production, such as temperature and osmolarity, were evaluated using the Congo red binding technique. The ressitance resistance of biofilms formed by <u>curli-curli-producing organisms</u> was evaluated, revealing that and found that curli production increased <u>biofilms's</u> resistance to against various commercially used sanitizers.

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