An Experimental Evaluation of Coliform and E. coli Bacteria in School Lunch Produce

There has been public concern in American Samoa that vegetables grown locally may be unsafe to eat. As the majority of elementary and high school students consume locally-grown produce from the school cafeteria, the purpose of this study was to determine if coliform and E. coli bacteria were present in cabbages, lettuce, cilantro, and sprouts from the School Lunch Program and selected local stores. Nineteen pak choi, four heads of lettuce, and alfalfa sprouts were collected from the School Lunch Program to conduct Enzyme Substrate Tests at the ASCC Land Grant to determine if cabbages contained coliform and E. coli bacteria. Green cabbage, napa cabbage, pak choi, green and red lettuce were purchased from three local stores for testing. The pak choi leaves from the local stores were bleached to eliminate the possibility of E. coli and coliform. The results from forty-four Colilert-18 tests indicate that all nineteen pak choi and two of the lettuce heads from the School Lunch Program contained coliform and E. coli bacteria and all cabbages from the three local stores contained the presence of coliform, regardless of whether or not they were bleached. The sprouts and red and green lettuce contained coliform but no E.coli. The cilantros contained coliform, however, one had little E.coli while the other had a higher Most Probable Number (MPN) count. This study raises a health concern for American Samoa, and steps to reduce or eliminate an outbreak of illnesses due to excessive E. coli and coliform in our food and water need to be taken. Since the initial results of these tests were released to the Department of Agriculture, the Governor of American Samoa has placed a ban on selling pak choi cabbages to the School Lunch Program, roadside stands, and local stores.

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