



**CALIFORNIA STATE SCIENCE FAIR  
2009 PROJECT SUMMARY**

<b>Name(s)</b> <b>Janelle Lew</b>	<b>Project Number</b> <b>J2115</b>
<b>Project Title</b> <b>Bagged Lettuce: Convenience or Killer?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Life today is very fast paced. To keep up with this, our world is full of modern conveniences. One popular time saver is bagged lettuce. The lettuce industry promotes their "triple washed salads" as safe and RTE (ready to eat). This convenience, however, has been linked to many food borne illness outbreaks. In my experiment, I found that bagged lettuce products are not always safe to consume straight out of the bag.</p> <p><b>Methods/Materials</b> Ten different bagged lettuce products were used to gather information. Each sample was tested for the presence of bacteria both before and after washing of the lettuce. Each sample was tested for the growth of general bacteria on LB agar, as well as the growth of specific E. Coli bacteria on MacConkey agar.</p> <p><b>Results</b> All of the lettuce products showed heavy growth of bacteria on both LB and MacConkey agar before any washing was done. The only exception was Ready Pac Santa Barbara which had moderate growth on LB agar. Seventy-five percent of the samples showed a decrease in bacterial growth after washing was done. The MacConkey agar plates showed the specific growth of E. Coli on all ten lettuce samples before washing. Nine out of the ten products showed a decrease in E. Coli after washing. The four spinach products showed a similar result and seventy-five percent of these samples showed no growth of E. Coli after washing.</p> <p><b>Conclusions/Discussion</b> My data showed that lettuce products eaten straight out of the bag may not be safe. The significance of these findings can have a positive effect on reducing any future outbreaks from the RTE industry. It is a fast-growing industry and can make a busy schedule a little easier. It, however, only takes a few extra minutes to wash a bag of lettuce and the benefits can be significant. I hope the results from my experiment will encourage everyone to take an extra step in the consumption of RTE products and thus decrease the chances of any future outbreaks. The simple act of first washing the lettuce can make bagged lettuce truly convenient and safe.</p>	
<b>Summary Statement</b> My project tests the safety of consuming lettuce products straight out of the bag.	
<b>Help Received</b> My mother bought the lettuce products and ordered the agar plates. I also used the incubator at my school.	