



The Longevity of Plums



Experiment:

Aim: To find the optimal way of storing plums in order to extend their shelf-life.

Hypothesis: I think that the plums in the fridge, will last longer than the plums outside, and I believe packaging will have little-to-no effect, only keeping the rotting odour in.

Background Research: I spoke to a professional chef and food distributor, who told me that within a few days, unrefrigerated, plums would begin to soften and rot.

Risk Assessment:

- When rotten, plums (especially those kept outside), can gather maggots, and so I'm keeping them separated from other foods, and making sure to wash my hands thoroughly after touching them.
- I'm making sure the household is aware of the experiment, so they won't accidentally eat or throw away the rotten plums.

Experimental Variables:

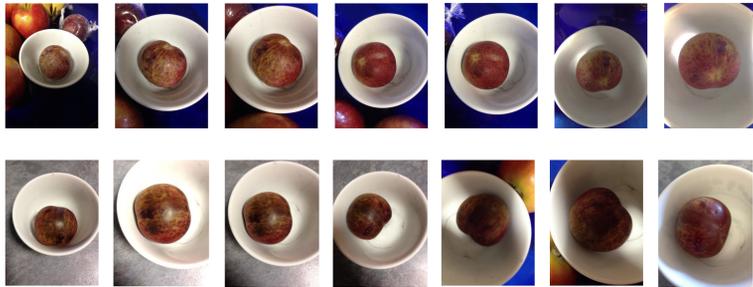
- Dependant variable: desirability rating for consumption (out of 10)
- Independent variable: the area in which the plum is kept, and the state of the plum –wrapped or unwrapped.

Method

- Purchase 6 plums.
- Place one unpackaged plum and one plum wrapped in cling wrap in the fridge.
- Place one unpackaged plum and one plum wrapped in cling wrap outside in the sun.
- Place one unpackaged plum and one plum wrapped in cling wrap in a fruit bowl.
- Document each plum with photos every day, and make observations based on how they have changed. Every 2 days, rate their desirability for consumption out of 10.
- After 14 days, purchase a fresh plum and cut it in half. Cut the 6 experiment plums in half as well and document and compare their insides to the fresh one.
- Collect and analyse results.

Results:

Unwrapped Fruit Bowl Plum



Unwrapped Fruit Bowl Plum after 2 weeks

Unwrapped Fridge Plum



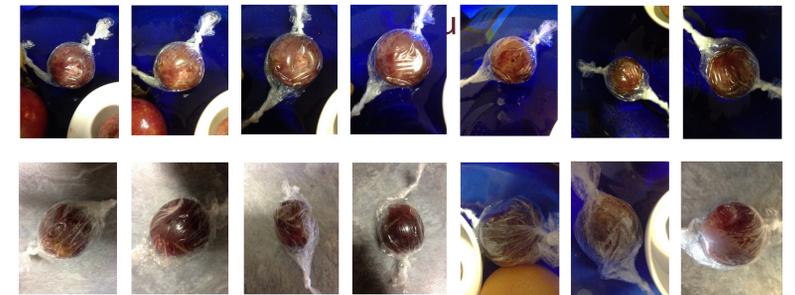
Unwrapped Fridge Plum after 2 weeks

Unwrapped Outside Plum



Unwrapped Outside Plum after 2 weeks

Wrapped Fruit Bowl



Wrapped Fruit Bowl Plum after 2 weeks

Wrapped Fridge Plum



Wrapped Fridge Plum after 2 weeks

Wrapped Outside

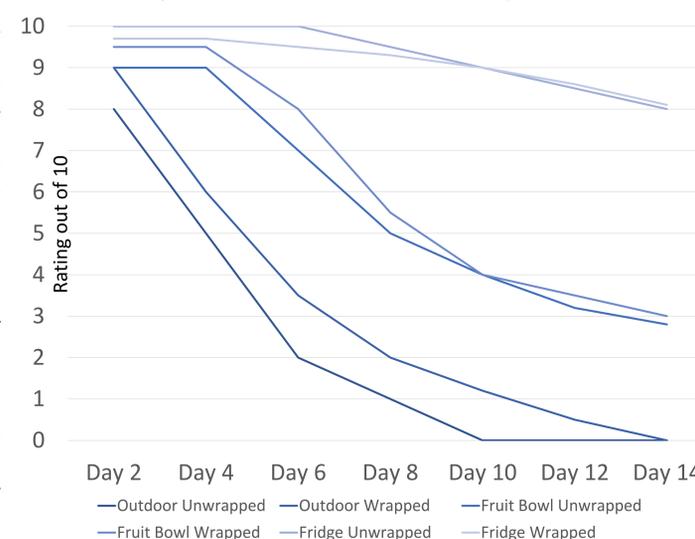


Wrapped Outside Plum after 2 weeks

Observations:

- Day 2: The cling-wrapped outdoor plum has moisture gathered inside, and the plastic is a little foggy.
- Day 3: The un-wrapped outdoor plum has split and juice has begun to spill out. Both outdoor plums have softened.
- Day 4: All plums appear slightly discoloured. The wrapped outdoor plum has split completely and more bubbles have formed beneath the cling wrap. The unwrapped outdoor plum has a large brown bruise-like circle and what appears to be small slits all over it.
- Day 5: The moisture in the unwrapped outdoor plum has evaporated, leaving behind a thick, sugary jelly, and the fruit has grown more dull. The wrapped outdoor plum has become more discoloured and more moisture has gathered beneath the plastic. Both fruit bowl plums have become softer to the touch.
- Day 6: The unwrapped plum outside is beginning to give off a sweet, rotting smell.
- Day 7: The cling-wrapped plums all seem slightly more firm to the touch than their counterparts.
- Day 8: All plums are looking discoloured, but particularly the unwrapped ones.
- Day 9: Both outdoor plums are showing major signs of rot, and the fruit bowl plums have greenish-grey blemishes on them. The plums in the fridge are looking duller, but mostly seem to be unaffected by time.
- Day 10: Both fruit bowl plums are showing signs of rot, the wrapped one has a split down one side.
- Day 11: All plums are looking darker and more full, except the outdoor ones which are looking more pale.
- Day 12: The fruit bowl plums are much more soft and they are looking a more brown-green colour than yesterday.
- Day 13: A large bruise is developing on the unwrapped fruit bowl plum, and the wrapped fruit bowl plum's split is deepening.
- Day 14: The unwrapped fruit bowl has developed a small hole-like blemish.

Desirability of Consumption Rating out of 10



Data Analysis: I found that the plums kept outside, left to the elements, were the first to soften, split and rot. It was clear that the higher temperatures and rain affected them negatively. The plums in the fruit bowl didn't rot nearly as quickly, but still softened within the first few days. After about a week, they too began to split and rot. The plums kept in the fridge clearly lasted the longest, and took over a week before they even began to dull. The cling wrap didn't seem to do much to hinder the rotting process.

Discussion: One error in the experiment was the fact that the fruit bowl plums were situated closely to bananas. Since bananas release a gas that quickens the ripening process of other fruits, that may have skewed the results.

Another error in my experiment was that I don't know how long the plums had been sitting in the store for. It could've been anywhere from a few hours to a few days, so my results may not have been entirely accurate.

Conclusion: I accept my hypothesis, the plums in the fridge, were in much better condition than the plums outside, and packaging did not really have much effect.