Title: A global visual method for measuring the deterioration of strawberries in MAP

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A global visual method for measuring the deterioration of strawberries in MAP

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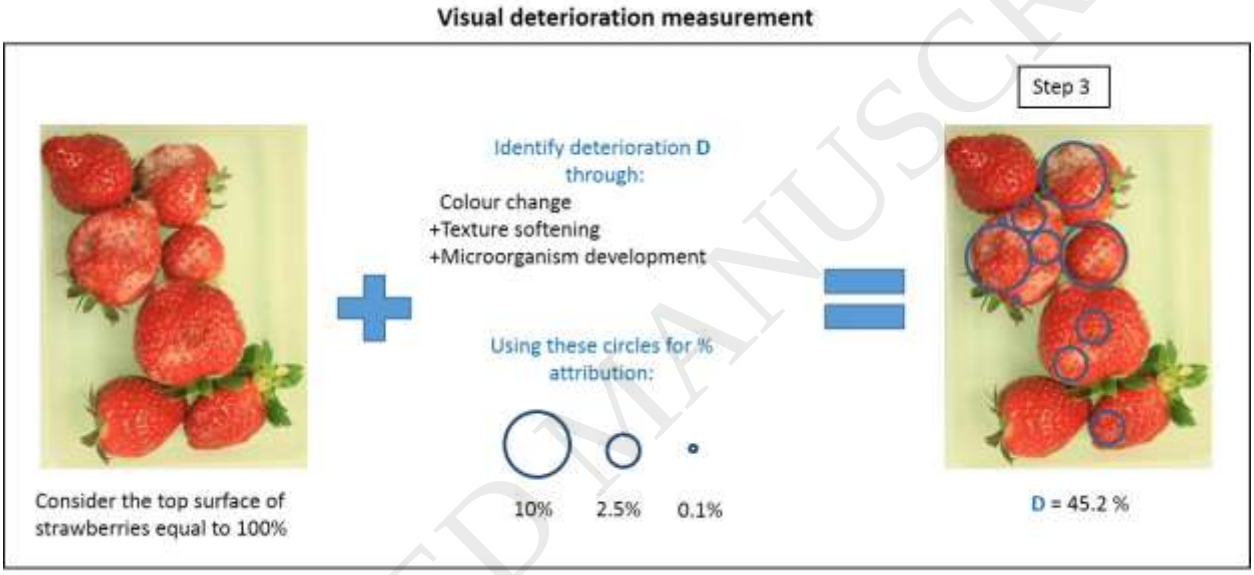
Graphical abstract



Abstract:
Evaluating the quality changes of packed strawberries during storage requires multiple, time consuming and costly measurements such as sensorial, chemical and decay identification. In order to efficiently assess the quality of strawberries in Modified Atmosphere Packaging (MAP) while reducing the number of analysis done, we propose to gather the main visual quality changes under one unique, overall measurement. For this end, a protocol associated to a deterioration grid was built to evaluate surface deterioration as a function of time considering colour change, texture softening and microorganism development. The developed method has permitted to build the deterioration kinetic of strawberries packed in different conditions (MAP or no MAP). It allows to mimic the quality analysis made by the consumer, at a glance, during purchase. To the best of our knowledge, the presented method is a breakthrough unlike most common usual methods mainly relying on the number of spoiled strawberries.

- Global measurement of the deterioration encompassing microorganism development, color change and texture softening