**Change in Color of Jasmine Flowers**

Jasmine flowers are prized for their exotic scent, and their essential oils have a wide range of uses in industries such as perfume, food, pharmaceutical, and medicine. However, these flowers have a short shelf life. They are vulnerable to light, temperature, and humidity, which can cause photo-oxidative stress and lead to the breakdown of pigments and dehydration, resulting in petal browning and reduced visual appeal and overall value. To determine the proper shelf life for packing and storage of jasmine flowers, it is necessary to measure the temporal color variation and quantify the color degradation post-harvest. Manual methods of color measurement and variation over time are cumbersome and not feasible, therefore digital image capture, image processing, and analysis techniques were applied using python software. Jasmine flowers were captured digitally on a black background at fixed interval using a smartphone camera under ambient conditions. Image pre-processing operations such as, image cropping, artifacts removal, thresholding for background extraction, petal color measurement, shape parameters evaluation, color and shape kinetics, visualization, and model fitting were followed in ImageJ software. The results of this analysis provide insights into the color degradation of flower petals and flowering kinetics, which can influence the overall flower quality and customer acceptance. Further research may be needed to investigate the effect of storage environment conditions, especially temperature, and relative humidity, and determine the optimal conditions for extending shelf life.

A diagram of a binary image

Description automatically generated