

# Pomegranate Fruit Disease Detection Using Image Processing

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**Abstract:** Pomegranate farming plays a significant role in the agricultural economy, especially in India. However, diseases such as bacterial blight, alternaria, anthracnose, and cercospora negatively impact fruit quality and yield. Manual disease detection is time-consuming and requires expert knowledge. This paper presents an automated pomegranate fruit disease detection system using image processing and machine learning techniques. The system analyzes fruit images and classifies them into healthy or diseased categories with high accuracy. The proposed approach improves early disease detection, reduces crop loss, and supports precision agriculture.

**Keywords:** Pomegranate, Disease Detection, Image Processing, Machine Learning, Agriculture

