



Thermography versus chlorophyll fluorescence imaging for detection and quantification of apple scab

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Titre	Thermography versus chlorophyll fluorescence imaging for detection and quantification of apple scab
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Résumé en anglais	<p>Fluorescence imaging has recently been shown to be useful for the detection of apple scab, and thermal imaging for both detection and quantification of apple scab. We undertake a comparison of these two techniques and demonstrate the advantages of thermal imaging compared to fluorescence imaging to detect and quantify the presence of apple scab at the surface of leaves. We demonstrate, in practical environmental conditions of growth chambers, the advantages of thermal imaging compared to fluorescence imaging in terms of detection in the framework of a Neyman-Pearson strategy with the Bhattacharrya distance and ROC curves and in terms of quantification by establishing a linear relationship between percentage of leaf diseased area estimated visually and percentage of leaf area estimated by imaging segmentation. This opens perspectives for quantitative aspect of pathogenicity in the study of apple scab and constitutes a general framework for the comparison of nonconventional optical imaging applied to plant pathology.</p>
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- [2] [http://okina.univ-angers.fr/publications?f\[author\]=1901](http://okina.univ-angers.fr/publications?f[author]=1901)
- [3] <http://okina.univ-angers.fr/t.boureau/publications>
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