Separate the original image to a Green channel, then use it to get the full area of the apple. Separate the original image to it's Red channel **Original Images** component, to get the darker areas of the image. **Red Channel Green Channel** ND - no disease AC - Apple cod FS - Fly speck PM - Powdery mildew • FS AC AC FS ND PM PM **Grey level Grey level** slicing slicing 0 - 90 250 - 255 Full area of Dark spot binary images apple binary image AC FS ND PM FS ND AC PM Dark spot area > 0.008 NO YES Full area Get the ratio between those Dark areas and the full apple area, then determine if it contains more darker areas than usual. **BLACK Disease** WHITE Disease

or

NO Disease