

## Uses and Possibilities of 40X Digital Microscope Cameras and Associated Software<sup>©</sup>

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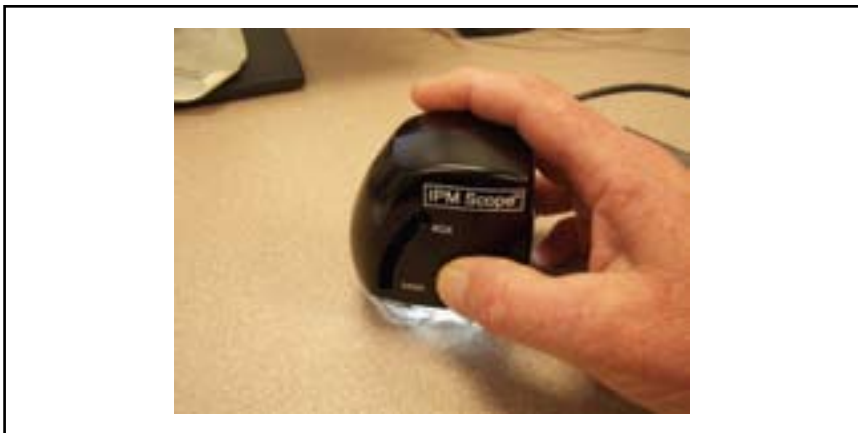
As stated on Spectrum Technologies, Inc. web page; <[http://www.specmeters.com/IPM\\_and\\_Plant\\_Health\\_Tools/IPM\\_Scope.html](http://www.specmeters.com/IPM_and_Plant_Health_Tools/IPM_Scope.html)>; “The IPM Scope (Fig. 1) combines advanced digital optics and LED lighting in an IPM scouting microscope that fits in the palm of your hand. Magnification of 40–140X lets you zoom in on the fine details of insects and plant disease symptoms (Figs. 2, 3, 4). Place the IPM Scope over the sample, and comfortably view the image right on your computer screen, instead of straining to look into a tiny eyepiece. Capture images, easily add labels, take measurements, and even draw right on the live image.”

### ADVANTAGES.

- Portable — able to take into the field/laptop.
- Inexpensive — less than \$400/video upgrade software.
- Able to label, draw, measure, time, and date stamp image.
- Capture still, time lapse, and movie images.
- Friendly, reasonable tech support.
- Stored image files make great reference and educational tools.

### DISADVANTAGES.

- Cannot add, remove, or correct labeling after the image file is saved.
- Low resolution images (640 × 480 pixels).
- Only two labeled magnifications.
- Calibrations not preset at minimum and maximum magnifications, 40 and 140X.



**Figure 1.** Spectrum Technologies 40X digital microscope.



**Figure 2.** *Spiranthes odorata* 'Chadds Ford' seed no magnification.



**Figure 3.** *Spiranthes odorata* 'Chadds Ford' seed 40X.



**Figure 4.** *Spiranthes odorata* 'Chadds Ford' seed 140X.