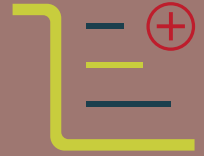


# APPLICATION NOTE LIFE SCIENCE



## INSPECTION OF PETRI DISHES

# AVOIDING REFLECTIONS ON LIQUID SURFACE

## AVOIDING TEMPERATURE INCREASE TO PRESERVE LIVING ORGANISMS



Illuminating objects in petri dishes using objective mounted ring lights, creates reflections on the liquid surface, in particular if the objects breach the surface of the liquid. Applying a L.E.S.S. lighting system helps to minimize or even eliminate the reflections.

### FEATURES OF L.E.S.S. LIGHTING SYSTEMS APPLIED.

- Bright - and Darkfield ring lights simultaneously assembled on the same microscope
- Easy working distance adjustment
- Darkfield illumination in "Brightfield Mode" thanks to variable Darkfield height
- Easy toggling from Bright - to Darkfield illumination without setup changes
- Separate intensity control for each unit
- Uniform and diffuse illumination with neutral white light (5400 °K)
- No heat dissipation from the ring lights
- Free view and easy access to the specimen

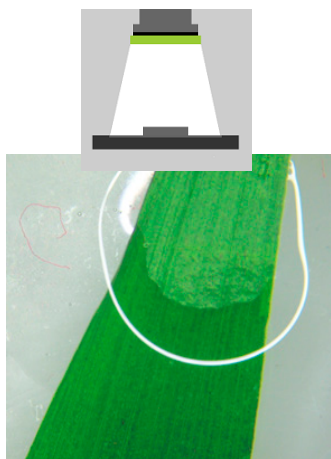


## APPLICATION

**Fig.1** has been taken using the L.E.S.S. Brightfield at a working distance of 100 mm. While the leaf is illuminated in a diffuse and uniform way, the ring light produces disturbing reflections on the surface of the liquid.

**Fig.2** has been taken using the L.E.S.S. Darkfield, working distance set at 10 mm above the fluid. In this configuration, the light is hitting the sample at low angle, from the side: reflections are minimized, and appear on a much smaller surface.

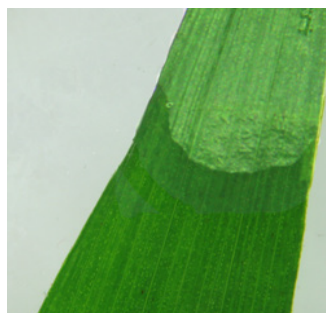
**Fig.3** shows perfectly the leaf sample without any reflections: this image is the result of the digital overlaying of **Fig.1** and **Fig.2**



**Fig.1**  
Leaf in Petri Dish lit by L.E.S.S.  
Brightfield



**Fig.2**  
Leaf in Petri Dish lit by L.E.S.S.  
Darkfield



**Fig.3**  
Overlay of images Fig.1 & Fig.2 with  
an image editing software

**L.E.S.S. SA**

Av. de Longemalle 13  
CH-1020 Renens, Switzerland  
Tel : +41 21 552 07 10

LESS   
 BE BRILLIANT