BioRad/UMAX GS-800 Scanner and Bio Rad Quality One Software

Darkfield Viewers

Colony Counting SOP and Description

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Colony Counting: Using GS800 Scanner, Quality One Software

1. Turn on Scanner and wait for both lights to show steady green- this is the ready state.
2. Turn on Host computer, logon as Operator/SMET
3. Select Quality One to scan (acquire) and image

Internet Explorer

2100 expert

ND-1000 V3.5.1

Quantity One

nd-1000-v3....

Quantity One Manual

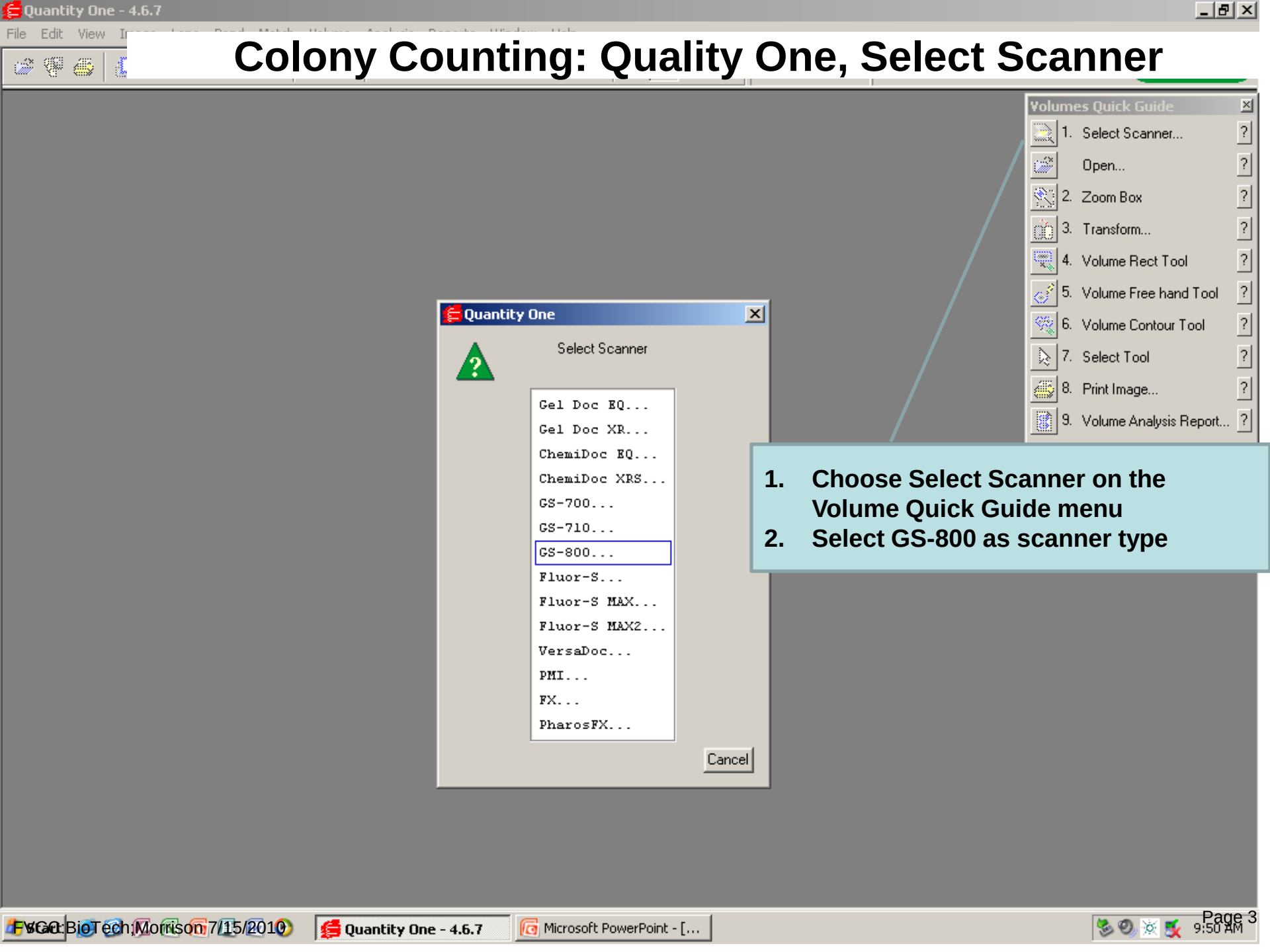
PDQuest

- Students may not use another person's account or lend their account to someone else.
- Students must be aware of and comply with the licensing and copyright restrictions applicable to software and data files they may access. Copying software is strictly forbidden unless specifically authorized by an appropriate College authority.
- Users must respect the privacy of others; they may not access private files or communications of others, even if those files are unprotected.
- Federal law prohibits the transmission of certain software into certain foreign nations. When in doubt, students should not send software.
- Game-playing within College computer laboratories is prohibited unless assigned as part of a course.
- Use of College computer systems to listen to Internet-provided music (MP3, Streaming Audio) or Internet-provided video (Streaming Video) is prohibited unless as assigned as part of a course.

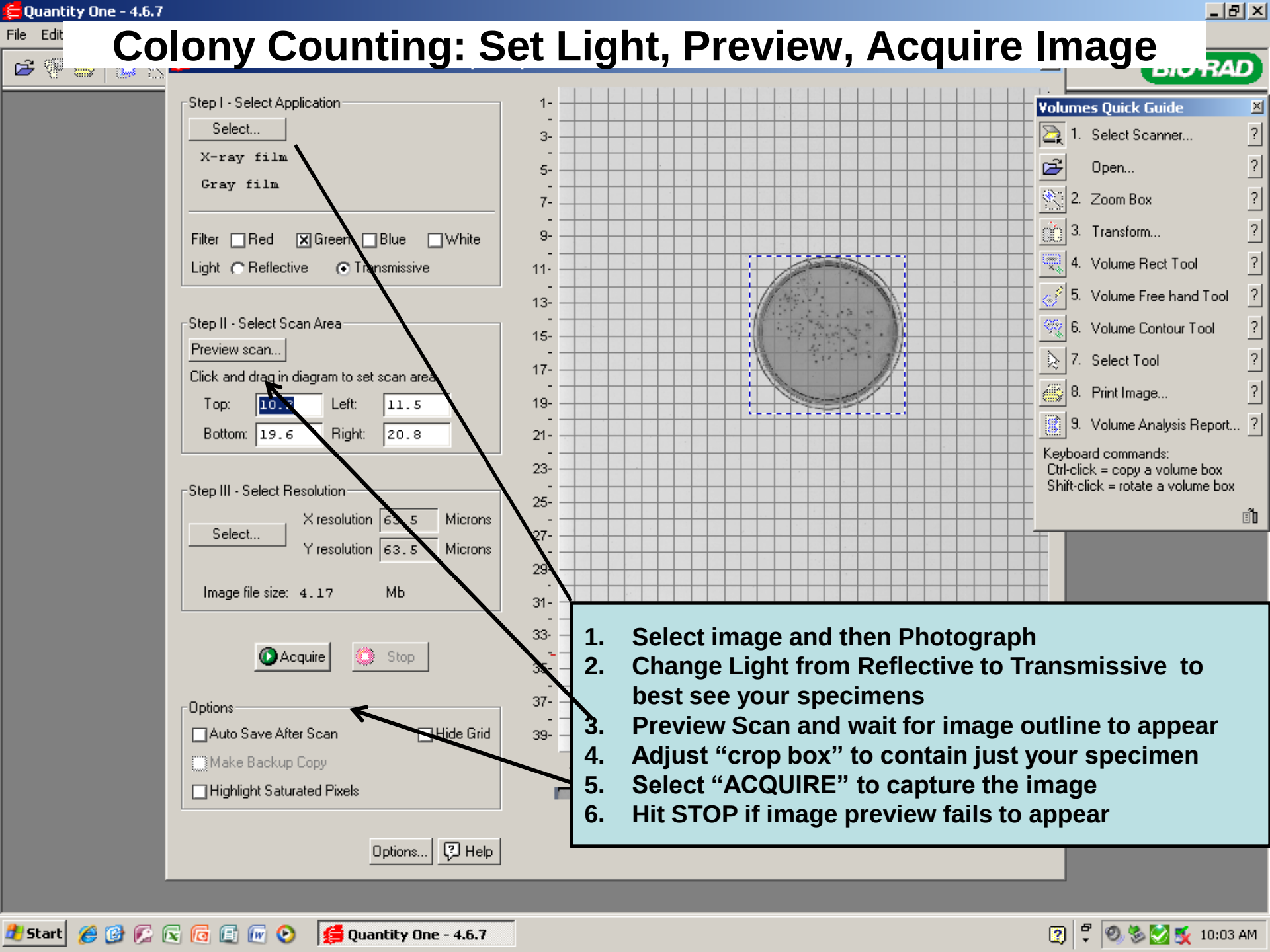
Link to BioRad Quantity One 1-D Analysis Software Users Manual (pdf)

- Under Missouri law, unauthorized access or interference with computer systems, computer data and other computer users is a felony.

Colony Counting: Quality One, Select Scanner

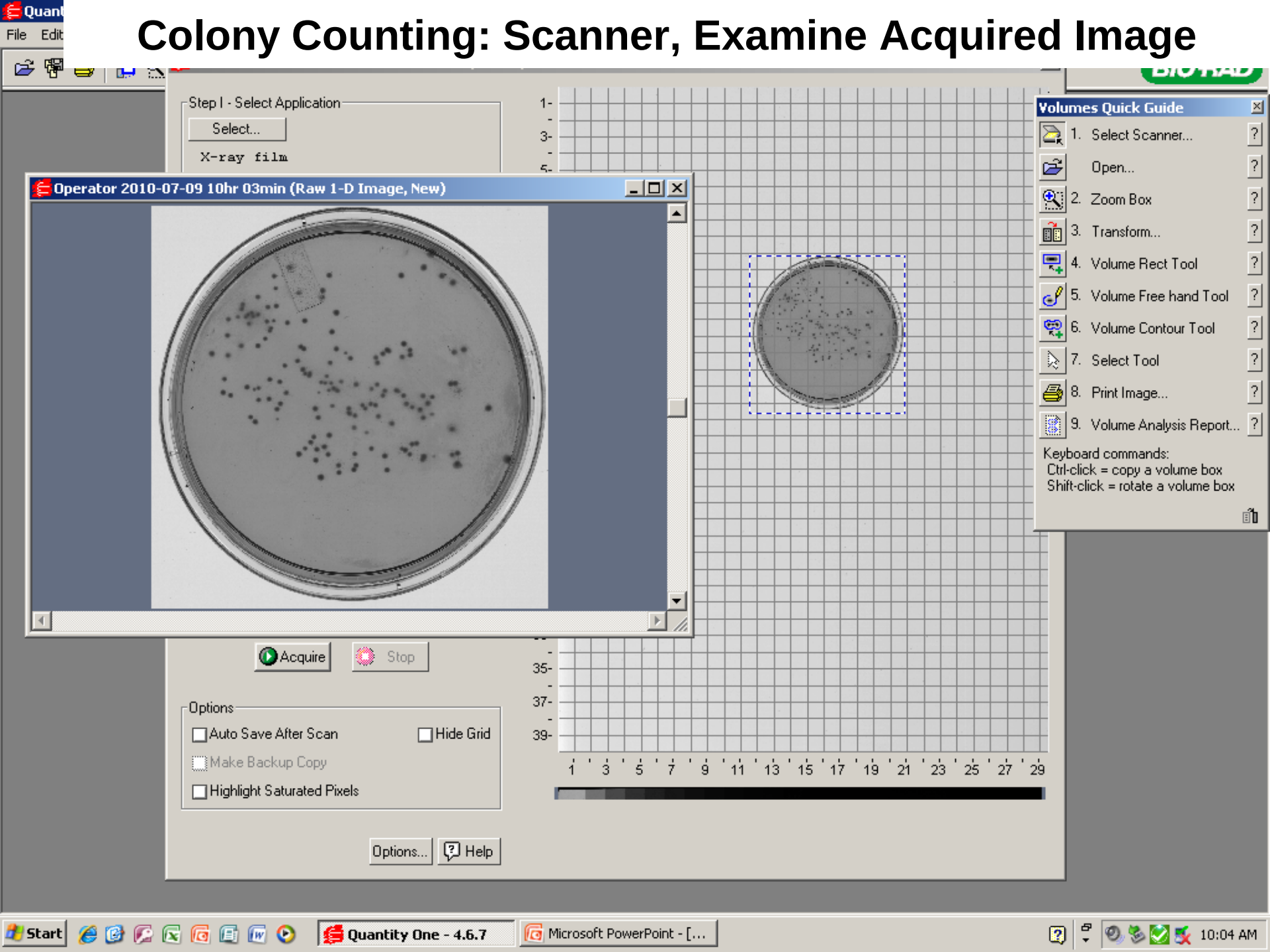


Colony Counting: Set Light, Preview, Acquire Image

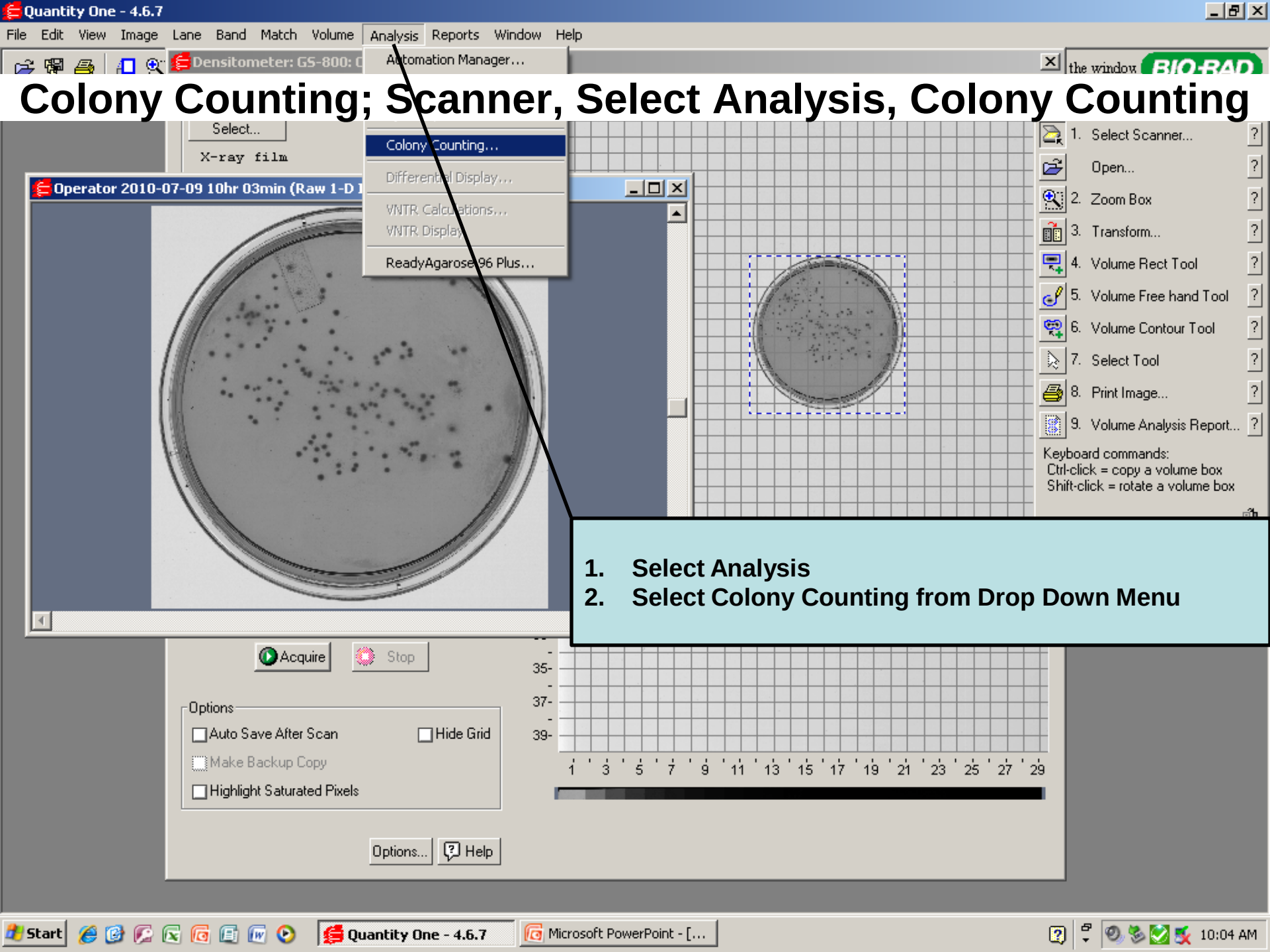


1. Select image and then Photograph
2. Change Light from Reflective to Transmissive to best see your specimens
3. Preview Scan and wait for image outline to appear
4. Adjust “crop box” to contain just your specimen
5. Select “ACQUIRE” to capture the image
6. Hit STOP if image preview fails to appear

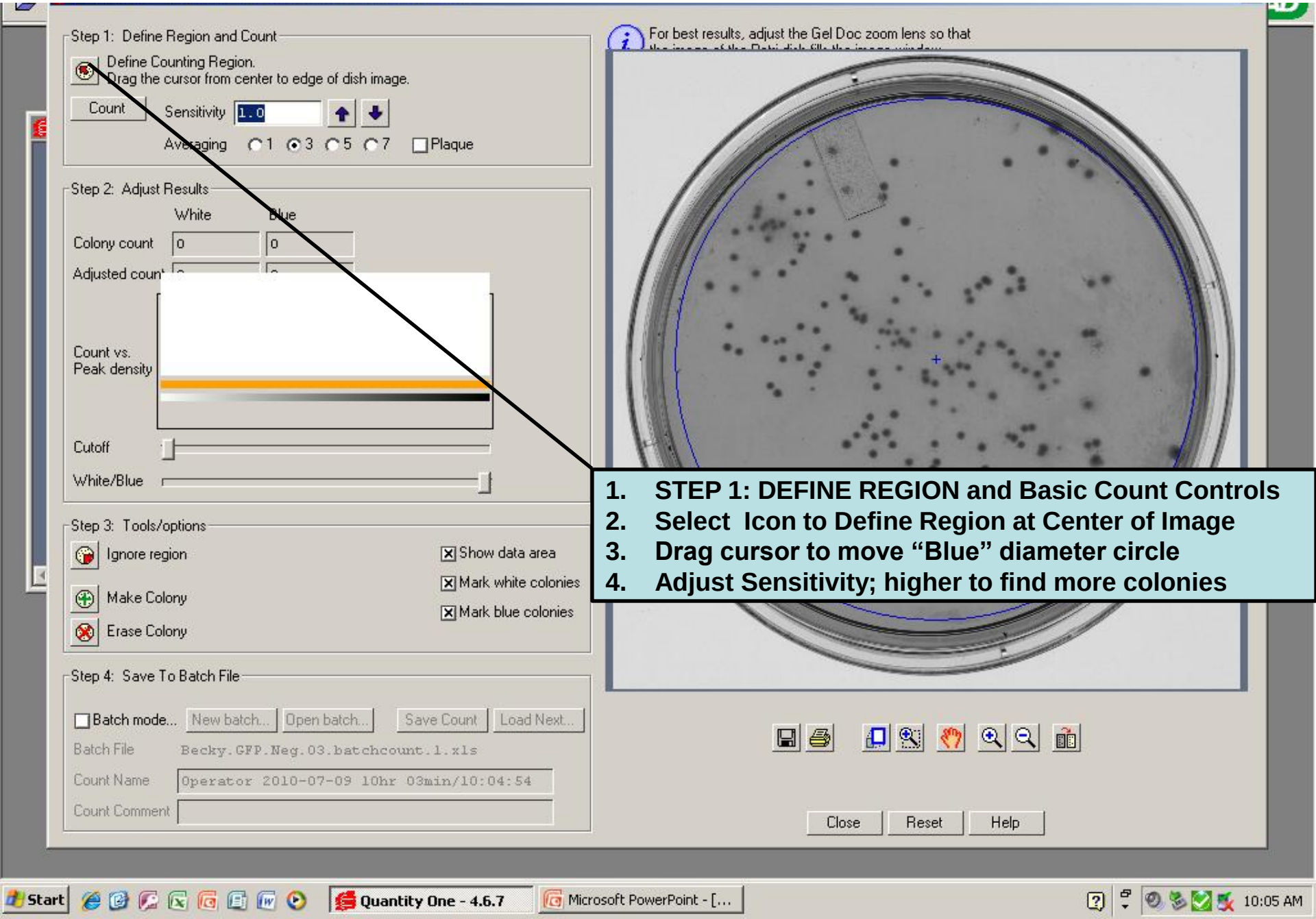
Colony Counting: Scanner, Examine Acquired Image



Colony Counting; Scanner, Select Analysis, Colony Counting

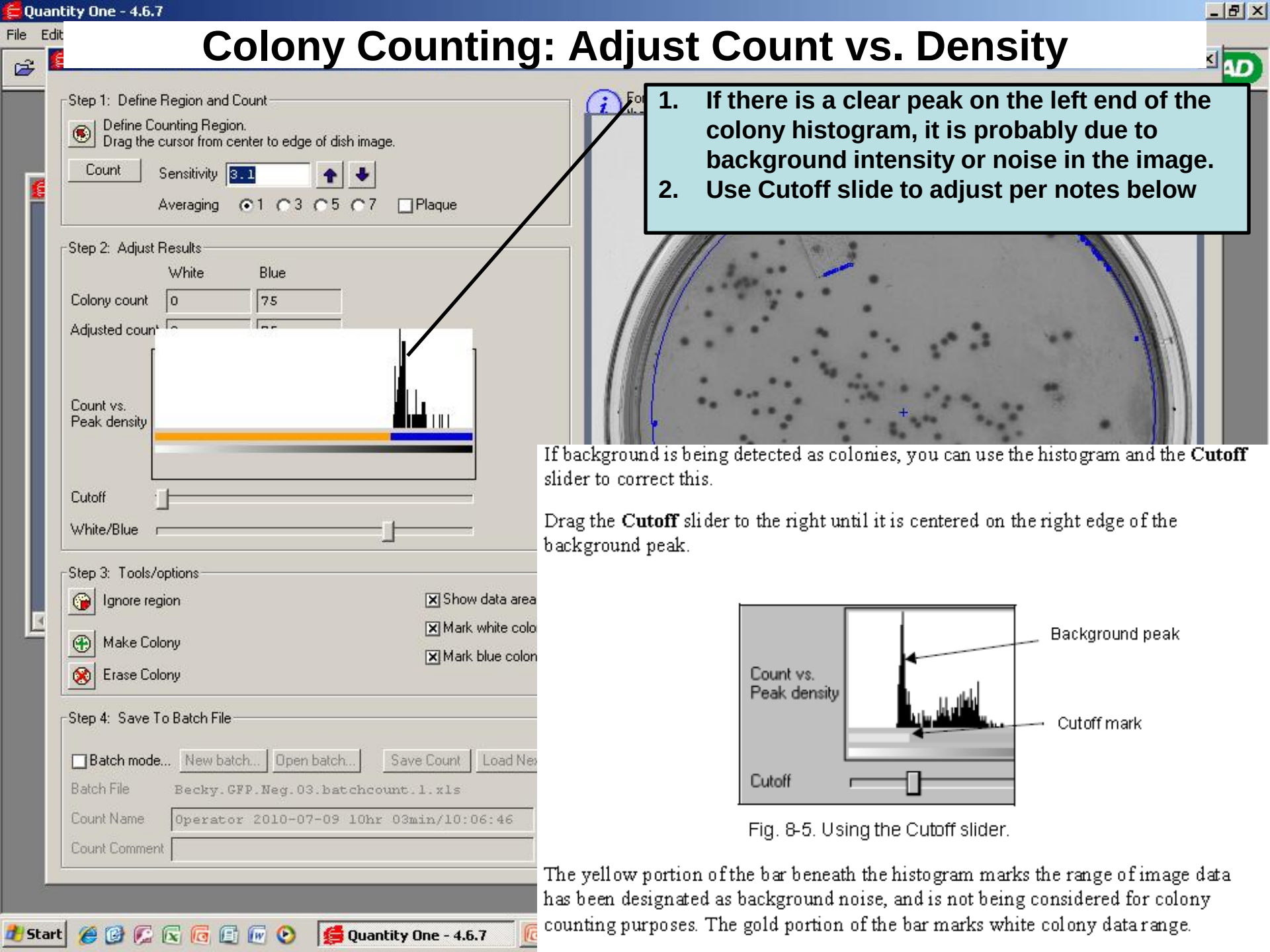


Colony Counting: Adjust Area of Colony



Colony Counting: Adjust Count vs. Density

1. **If there is a clear peak on the left end of the colony histogram, it is probably due to background intensity or noise in the image.**
2. **Use Cutoff slide to adjust per notes below**



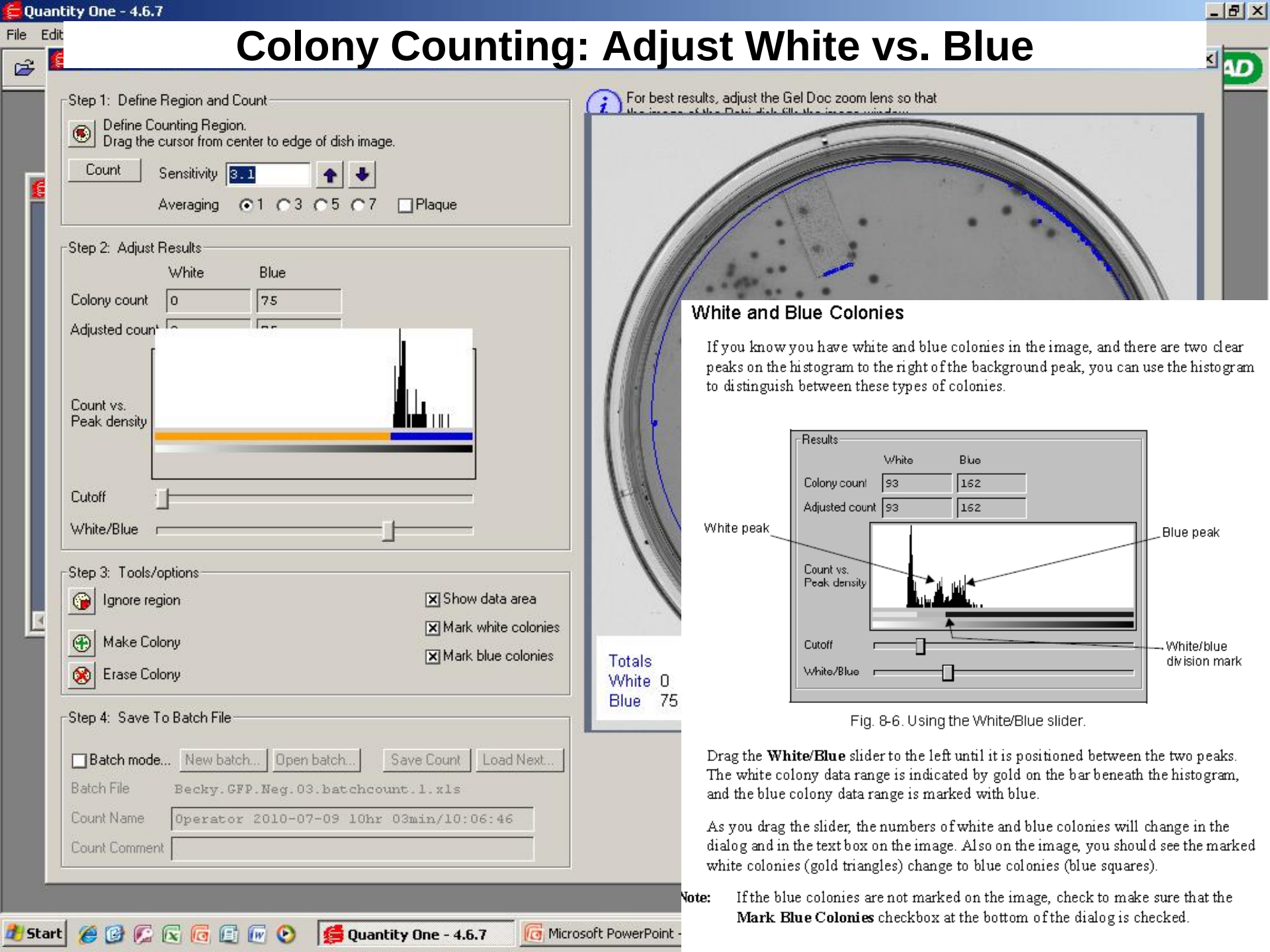
If background is being detected as colonies, you can use the histogram and the **Cutoff** slider to correct this.

Drag the **Cutoff** slider to the right until it is centered on the right edge of the background peak.

Fig. 8-5. Using the Cutoff slider.

The yellow portion of the bar beneath the histogram marks the range of image data has been designated as background noise, and is not being considered for colony counting purposes. The gold portion of the bar marks white colony data range.

Colony Counting: Adjust White vs. Blue



White and Blue Colonies

If you know you have white and blue colonies in the image, and there are two clear peaks on the histogram to the right of the background peak, you can use the histogram to distinguish between these types of colonies.

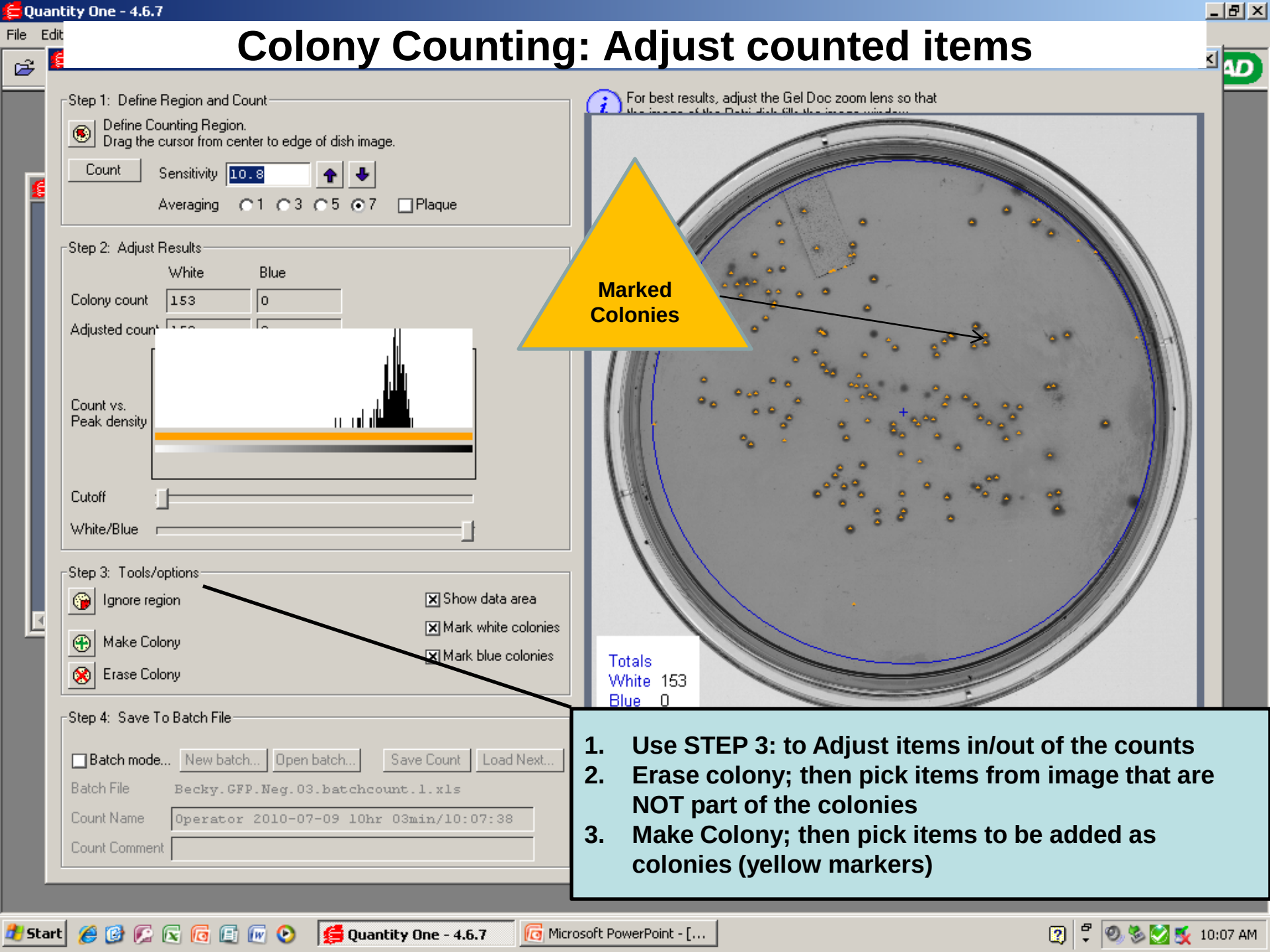
Fig. 8-6. Using the White/Blue slider.

Drag the **White/Blue** slider to the left until it is positioned between the two peaks. The white colony data range is indicated by gold on the bar beneath the histogram, and the blue colony data range is marked with blue.

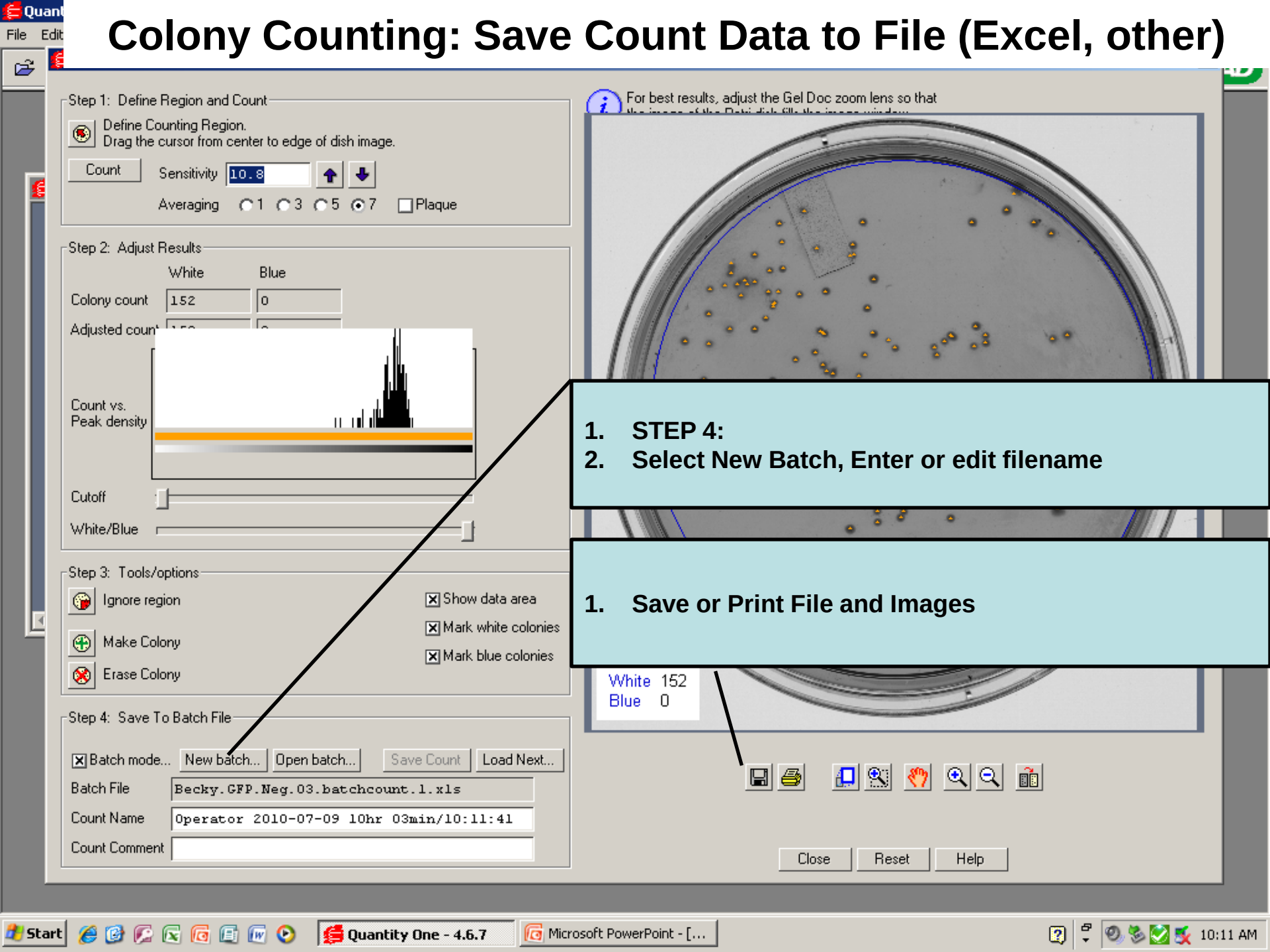
As you drag the slider, the numbers of white and blue colonies will change in the dialog and in the text box on the image. Also on the image, you should see the marked white colonies (gold triangles) change to blue colonies (blue squares).

Note: If the blue colonies are not marked on the image, check to make sure that the **Mark Blue Colonies** checkbox at the bottom of the dialog is checked.

Colony Counting: Adjust counted items



Colony Counting: Save Count Data to File (Excel, other)



Colony Counting: Viewers, Counters at FV

Key Features:

Even, glare-free illumination
Light is spread uniformly over the entire culture plate
Colonies are bright and easily distinguished
Adjustable dish holder for centering both round dishes and square culture plates
Adjustable focusing rod
Lens rotates a full 360º
Built-in tilt leg
Optional 1.5X auxiliary lens fits over standard lens, increasing magnification to 3X
Footprint: 12.5in wide x 14 in high x 12 in depth

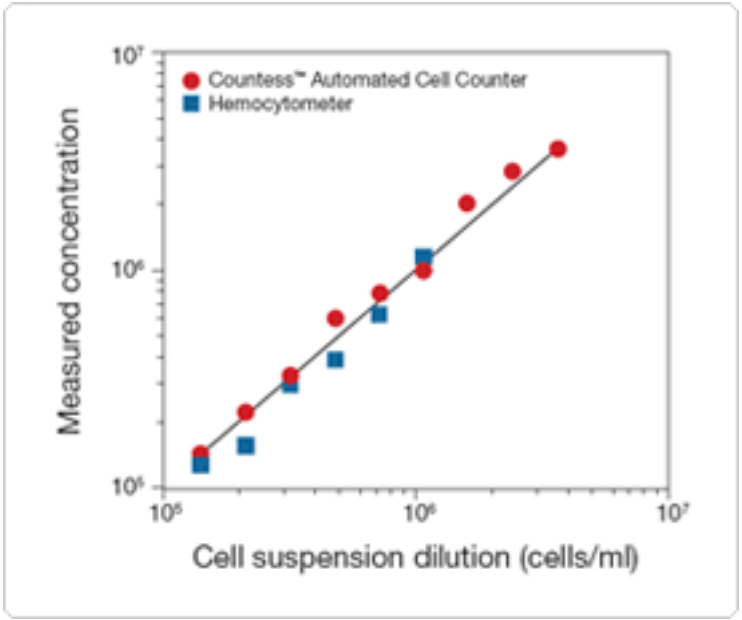
Quebec Darkfield
Model 3330

1. An adjustable dish holder for centering round dishes with diameters up to 100mm and square culture plates up to 100mm x 100mm.
2. An optional 1.5X auxiliary lens fits over the standard lens increasing magnification to 3.0X.
3. The adjustable focusing rod allows the 1.5X standard lens to be raised or lowered. The lens also rotates a full 360º for ready access to culture plates.
4. A built-in tilt leg may be mounted in the front or rear of the instrument allowing a convenient tilt angle, or it may be locked flat to the instrument base.
5. A white-ruled Wolffheugel counting plate is included.
6. Internal standard light bulb, 110V plug connection, On/Off switch.

Quebec Darkfield
Model 3325, 3327

Counter: Automated, Invitrogen “Countess” ; (Example Only , Presently Not at FV)

The Countess™ Automated Cell Counter uses trypan blue staining combined with a sophisticated image analysis algorithm to produce accurate cell and viability counts in just 30 seconds. The algorithm also measures average cell size of live, dead, and total cells to give you all the data you need to proceed with your experiments. The measurement range extends from 1 x 104 to 1 x 107 cells/ml, with an optimal range from 1 x 105 to 4 x 106 cells/ml, broader than that of a hemocytometer (view technical notes for more comparison data). The optimal cell size is between 5 µm to 60 µm (view validated cell lines). A handy dilution calculator even helps you determine how to prepare your sample for your next passage or experiment.



The Countess™ Automated Cell Counter eliminates the tedium and subjectivity of manual cell counting. Automated counting frees up your time, reduces eye strain, and minimizes subjective judgments that can lead to error. It takes 3 simple steps:

1. Mix 10 µl of sample with 10 µl of trypan blue, and pipet into Countess™ chamber slide

2. Insert slide into the instrument

3. Press the "Count cells" button, results are displayed in 30 seconds

: Other Protocols or Notes

- Future home of other or more details protocols….