

# Blacklight Test

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## Introduction

A blacklight flashlight can be used to identify dried American foulbrood (AFB) scales on brood frames. American foulbrood scales will fluoresce (glow) under a blacklight. Blacklight can be used to distinguish between the two types of foulbrood scales, AFB and European foulbrood (EFB) and it is useful for visualizing dark scales on old, darkened comb, when the scales are difficult to see with the naked eye. Blacklights can be used as a field diagnostic tool as well as a tool to screen used comb before reuse.

## Indications

A blacklight test can be used as a quick screen on used brood comb removed from hives where the colony has died. Blacklight can be used to visualize dried AFB scales, and it can be used if active disease is present or past disease is suspected to have occurred on old or used comb.

### SUPPLIES NEEDED

Handheld blacklight UV flashlight  
A frame suspected to have AFB scales

## Checking for Scale

Handle the suspect frame carefully to avoid contamination of other surfaces with AFB spores. Find a shady location or dark room where you will be able to visualize fluorescence. Position the frame so that you can see the lower wall of the cell (Figure 1), by turning the frame so the top bar is facing towards you. Shine the blacklight at the frame, focusing on the lower walls of the cell. If the scale fluoresces (Figure 2), it is likely from AFB.

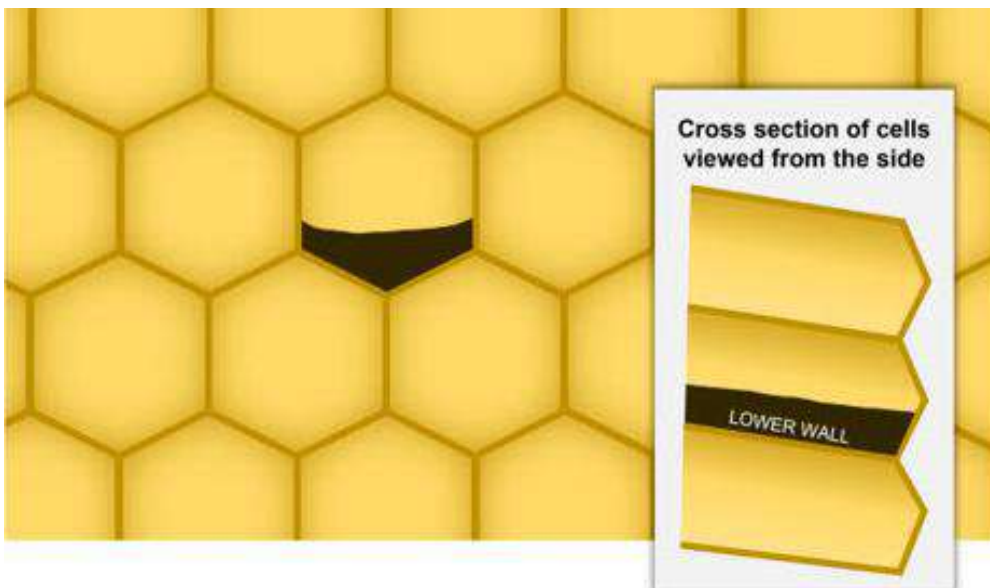


Figure 1: Illustration of where AFB scales are located within a cell. Illustration by Mary Bammer, UF/IFAS Honey Bee Research and Extension Laboratory.

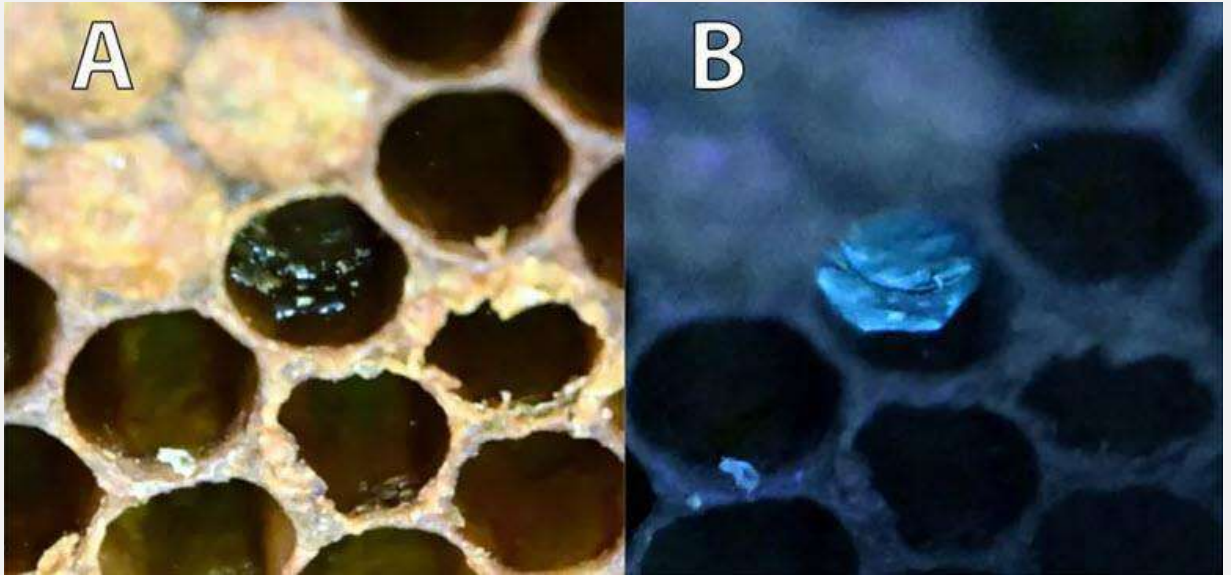


Figure 2: American foulbrood scale visualized using normal light (A) and a blacklight (B). Images by Stephen J Repasky (<https://extension.psu.edu/honey-bee-diseases-american-foulbrood>), used with permission.

## Common Error to Avoid

Other items in the hive like pollen and some molds may also fluoresce, so ensure that the suspect object has a scale shape and is located on the lower wall of the cell.



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