

Dual Spectrum Imaging™ for Non-Geeks

So, what's the big deal about Dual Spectrum Imaging™???

Inspection Masters' new DS series sorters use two light spectrums to image and characterize in-shell pecans.

The Color Spectrum — The first spectrum is visible light...color you can see with the naked eye. The operator runs a sample of good pecans through the DS sorter so that it “learns” what a good pecan looks like. It is now programmed to reject any object of a different color. Our high speed digital camera “sees” the difference in color and our computer identifies which objects are to be ejected.

The trouble is that a lot of darker pecans are quite close in color to sticktights and some sticks and other debris. So, while color can usually do a good job, in some cases — where the good pecans and sticktights/sticks, etc. are close in color — it's just not adequate. The closer in color the good pecans are to the sticktights and sticks, the less efficient the sort.

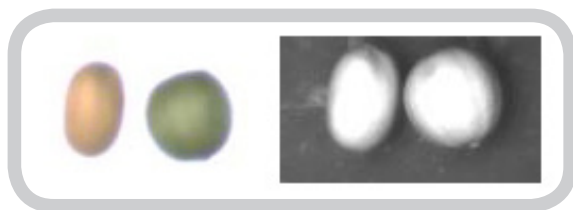
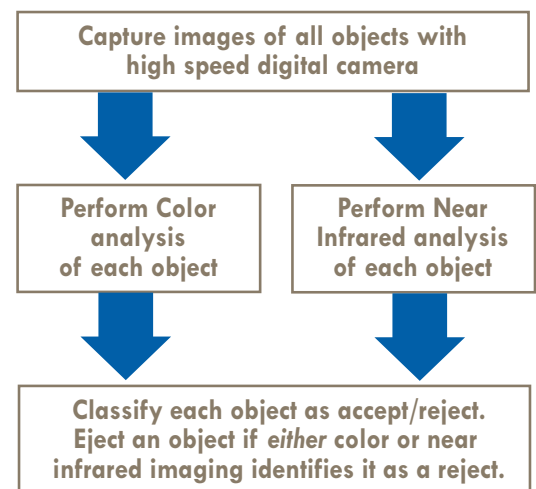
The Near Infrared Spectrum — Thus, the second spectrum, near infrared (NIR) light...the kind used in “night vision” equipment. NIR is particularly good at separating by texture, and can easily distinguish between sticktights or sticks with a “soft” surface and “hard” surfaced pecans, regardless of color.

The Dual Spectrum Imaging™ Difference — Our cameras use NIR imaging to “see” the difference in texture, just as they see the difference in color. If an object fails either test, color or near infrared, our computer identifies it for ejection.

So, if we miss the sticktight or stick with color imaging, we catch it with NIR imaging...all in a single pass through the imaging area of the DS series sorter.

The result is the highest possible sort accuracy, resulting in the lowest possible error rate on your picking belt...and the highest possible efficiency and lowest possible operating cost for the grower.

Dual Spectrum Imaging™ Flow Chart



Green, early harvest sticktight and light, good pecan. They can be separated with color, but not with NIR.



Dark sticktight and dark, good pecan. We can tell them apart with NIR, but not with color.

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