BENCH-TOP PLASTIC CONTAMINANT DETECTION IN COTTON USING DEEP LEARNING NEURAL NETWORK TRAINED WITH IMAGES TAKEN UNDER 4 LIGHTING COLORS

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Abstract

The effect of color spectrum from lighting on detecting plastic contaminants in seed cotton using a neural network vision system was studied. The neural network was trained with 252 images of seed cotton with and without plastic contaminant. The study found that color of lighting does not affect detection accuracy in any statistically significant way, but intensity of light played a major role in the precision, recall, and accuracy of the detection.