A38 The Role of DNA Stained Currency in the 2008 Lancashire Gang Robbery

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After attending this presentation, attendees will better understand the frequency of armed robbery of Cashand-Valuables-In-Transit (CViT) as well as the problems that these types of robberies are posing to the global economy. The history of the case solved by the Lancashire Police Department (United Kingdom) in 2008 dealing with a gang robbery will also be presented. This particular robbery resulted in over 70,000 British Pounds being stolen, and a cash transport guard being shot and wounded. Attendees will also learn about the role that DNA stained currency played in assisting detectives solve this particular case.

This presentation will impact the forensic community and/or humanity in demonstrating that CViT robberies have become a costly problem. Over £19.4million were stolen in 2008 in the United Kingdom alone. The transportation of cash and valuable items between financial institutions has long been a target of robberies in the UK. Regulations in the UK dictate that security guards protecting the cash and valuables are not allowed to carry weapons. Furthermore, vehicles utilized to transport valuable goods are also manufactured to be smaller than their US counterparts in order to fit onto much more narrow streets making them an easy target for thieves.

This has posed a great problem in the CViT field requiring an unconventional approach that can help in linking stolen cash to criminal activities. Conventional staining ink systems could not provide the information necessary for establishing traceability of the recovered evidence to the crime as they did not have an acceptable forensic tagging method. A taskforce was established that involved the Metropolitan Police Service (Scotland Yard), security companies, and experts in the field to utilize forensic level tagging in cash staining dyes for the purpose of apprehending suspects and collecting forensic evidence. In order to face this issue, botanically derived DNA is combined into an exploding ink cartridge (also called a degradation unit) then placed into a cash transportation box. This cash box is then filled with cash or valuables that are to be transported. Should the box be tampered with in any way, the exploding ink cartridge will deploy and spray all of the items within the box with a botanical DNA-marked ink mixture.

In the Lancashire case, police apprehended a suspect as he was trying to use stained currency. The evidence was screened using gel electrophoresis for the presence of specific inks that are utilized in cash-in-transit boxes. After the initial screening process demonstrated that the essential inks were present, any DNA present on the currency was extracted. Primers specific for the botanically derived DNA utilized in cash-in-transit boxes were used to amplify any DNA present on the evidence. Once amplified, DNA was separated using capillary electrophoresis and analyzed using genetic software. Once the specific genetic combination was discovered from the stained notes, the combination was tracked back to the cash transportation box that the DNA was issued to which, in turn, had been reported as being stolen. With the help of cash-staining ink marked with botanically derived DNA, robberies dropped by 50% from 2009-2010, and as a result, the number of convictions from this novel technology is currently on the rise.

Cash-and-Valuables in Transit, Armed Robbery, Botanically Derived DNA

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