

BRITTANY SHEPPARD#, and MARK FLOOD, Forensic Science Program, Fairmont State University, Fairmont, WV, 26554. **Determination of the potential cross-reactivity of commercially available field test drug kits with common over-the-counter medications.**

The analysis of unknown powders found on crime scenes is important in the field of forensic science. Specificity is critical to the process of drug analysis. Several drug-screening tests have been created for use in forensic field investigations involving drug related crimes. It is important to get correct results from the screening tests in order to 1) not waste valuable lab time analyzing materials that are not actually drugs if a “false positive” test is present, or 2) let people get away unpunished if a “false negative” result is present. How specific are the available drug screening kits available for use in the forensic science field? In order to assess this question, two different field test kits (NIK and NARCO) were tested for cross-reactivity with various substances in over-the-counter medications. NIK pouches and NARCO pouches were obtained and the results were compared to color charts such as the IDENTIDRUG CHART. Several common over-the-counter medications were selected and tested against the two commercially available drug-screening kits to determine cross-reactivity with the field test pouches. The preliminary results of this study have shown a higher sensitivity in the NARCO test kits, however the NIK test kits have proven to be easier to read results. Future research to be done in this area may include testing the sensitivity of other field test kits and using other medications, or a mixture of medications. This research was funded by a WV NASA Space grant consortium Fairmont State University’s SURE (Summer Undergraduate Research Experience).