

Title: Evaluating strength, sharpness, and detection of swine-use hypodermic needles –
NPB #13-055

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Scientific Abstract: A follow-up study was conducted to determine the strength and detectability of swine-use needles. Strength quantification was conducted in the laboratory using identical testing equipment developed for a study conducted circa 2000. Detectability of needles was investigated at five independent packing plants; three in Iowa, one in Minnesota, and one in Nebraska. Needle strength results were on-par with previous results, with very little new information gained. Detection testing measured from all needle manufacturers, needle orientation through the detector, detector technology, and processing plant indicated an overall average detection of 37.2% (464 detects/1248 passes). For all needles passed through magnetic-based detectors, a 21.4% (164/768) detection rate was measured. One particular needle tested in this study was manufactured to elicit a response through magnetic-based machines, and its detection rate through magnetic-based detectors was 80.2% (77/96). If this particular needle was excluded from the data set, the remaining industry average detection through magnetic-based machines was 12.9% (87/672). For all needles passed through X-Ray based technology, the overall detection rate was 62.5% (300/480).

These research results were submitted in fulfillment of checkoff-funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer-reviewed.

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