Title: Biosecurity education for livestock producers: a data-driven evaluation with Google Analytics

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Abstract:

OBJECTIVE: Educating livestock producers on biosecurity is imperative for ensuring the health, sustainability, and profitability of swine and beef farms. A biosecurity-focused website is an excellent educational tool for livestock producers to emphasize the critical role of biosecurity on their farms. Adding Google Analytics to the website allows educators to evaluate, refine, and update its content to address the evolving educational needs of swine and beef farmers. The study objectives was to track website utilization and traffic data, including website acquisition, user engagement, and demographics, to obtain valuable insights into website use patterns for future enhancements.

METHODS: We designed two biosecurity educational websites, one for swine and one for beef cattle producers. To evaluate the website's outreach and engagement, we established a framework utilizing Google Analytics to collect website use and traffic data. For this study, we evaluated Google Analytics data from the website's launch day (swine website: July 5th, 2022; beef cattle website: February 15th, 2023) until August 31st, 2023.

RESULTS: For the swine biosecurity website, in approximately 14 months, we recorded 1421 users, involving 1053 new users and 368 returning visitors and an aggregated event count of 12938 (754 downloads of resources). The average engagement time of the website was 1min 48s. With a global outreach to 68 countries, the countries with the most users were the US (622), the Philippines (118), and Canada (47). Within the US, most website users were reportedly from the leading pork-producing states, including Illinois, Iowa, and Minnesota. The swine diseases page gained the highest user interest with the most prolonged engagement, while the resources page had the highest website traffic.

For the beef biosecurity website, in 6.5 months, we recorded 364 users, involving 352 new users and 12 returning visitors and an aggregated event count of 3182 (43 downloads of resources). The average engagement time of the website was 1min 31s. With a global outreach to 48 countries, the countries with the most users were the US (209), Canada (32), and Australia (12). Within the US, most website users were reportedly from Illinois, Texas, and California. The highest user interest was drawn to the beef diseases page, where engagement was most prolonged, while the biosecurity practices module acquired the highest website traffic.

CONCLUSION: The study findings support the utility of the biosecurity educational website as an effective tool to reach a broad livestock farmer audience. Leveraging the data from Google Analytics helped us examine the behavioral patterns of the website users and facilitated deeper comprehension of user preferences and engagement tendencies. The outcomes of this study served as a roadmap, guiding us toward potential enhancements for our educational website in the future.