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### Studies on a Rapid Method for Detecting *Salmonella* in Animal Feed Using the QUALIBAX™ System

[Tetsuo CHIHARA](#)<sup>1)</sup>, [Yoshihiro SEKIGUCHI](#)<sup>2)</sup>, [Yoshiyasu HASHIMOTO](#)<sup>3)</sup>, [Shinji OSHIMA](#)<sup>4)</sup>, [Yasutoshi SUGIMOTO](#)<sup>5)</sup>, [Hiroaki MOTO](#)<sup>2)</sup>, [Koichi KIMURA](#)<sup>6)</sup> and [Kenzo UEHASHI](#)<sup>7)</sup>

- 1) Food and Agricultural Materials Inspection Center, Nagoya Regional Center
- 2) Food and Agricultural Materials Inspection Center
- 3) Food and Agricultural Materials Inspection Center, Kobe Regional Center Osaka Office
- 4) Food and Agricultural Materials Inspection Center, Sendai Regional Center
- 5) Food and Agricultural Materials Inspection Center, Fukuoka Regional Center
- 6) GSI Creos Corporation
- 7) Du Pont Kabushiki Kaisha

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#### Abstract

Performance of the QUALIBAX™ System (the BAX Method), a rapid PCR-based qualitative method for detecting pathogens in food, was compared to the Official Method in Japan for detecting low levels of *Salmonella* in feed ingredients and formula feed. A total of 78 samples, which included 17 naturally contaminated lots, was tested. A pre-enrichment step, where 25 g samples were grown in 250 ml of buffered peptone water with 0.6% Tween, allowed for BAX Method results in 32 hours that were consistent with the Official Method. Analysis determined 97.4% agreement between the two methods, with a false positive rate of 1.3% and an indeterminate rate of 1.3% for the BAX Method. The detection limit was determined by MPN to be approximately 2 cfu/100 g sample. Additional samples were taken from an Official Method selective enrichment in either selenite cystine broth or Hajna tetrathionate broth instead of BAX Method secondary enrichment in brain heart infusion broth. When tested with the BAX Method, the time to

result extended beyond 32 hours but all of the BAX Method results agreed with the Official Method, demonstrating advanced precision. These studies showed that the QUALIBAX™ System can be used by feed manufacturers as a fast and accurate method for detecting *Salmonella*.

**Key words:**

[Salmonella](#), [QUALIBAX™ System](#), [PCR](#), [Feed](#)

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