**INTRODUCTION**

Due to their ability to survive heating and desiccation, *Salmonella* and *Cronobacter* contamination is a concern for powdered infant formula (PIF), milk powders and their individual ingredients.

The Thermo Scientific™ SureTect™ Salmonella species PCR Assay (candidate method) and the Thermo Scientific™ Cronobacter species PCR Assay offer a harmonized enrichment protocol for milk powder and ingredients.

Two studies were performed to evaluate performance of the SureTect Salmonella species PCR Assay for the detection of *Salmonella* serovars from 375 g samples of milk powders, in comparison to ISO 6579-1:2017.

**METHOD**

**FIRST STUDY**

Twelve 300 g PIF samples spiked with *Salmonella* species and four unspiked samples were processed according to the candidate method shown in figure 1. An unpaired study was conducted vs. the ISO method.

<table>
<thead>
<tr>
<th>Method</th>
<th>Detected</th>
<th>Confirmed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureTect</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>ISO 6579:2017</td>
<td>-</td>
<td>12</td>
</tr>
</tbody>
</table>

- The candidate and ISO methods demonstrated equivalent performance.
- Testing the same number of samples, the candidate method tested a total of 3.6 kilograms while the ISO method tested 300 grams PIF (Figure 3).

**SECOND STUDY**

Thirty-six PIF, milk powder and ingredient samples of 375 g were spiked with heat-injured *Salmonella* and analyzed via the candidate method. An unpaired study was conducted vs. the ISO method.

<table>
<thead>
<tr>
<th>Method</th>
<th>Detected</th>
<th>Confirmed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureTect</td>
<td>26</td>
<td>28</td>
</tr>
<tr>
<td>ISO 6579:2017</td>
<td>-</td>
<td>27</td>
</tr>
</tbody>
</table>

- Two additional samples were confirmed positive for the SureTect method using the confirmation method (carried out for all samples).
- ISO 6579:2017 demonstrated comparable performance, confirming 27 *Salmonella*-infected samples.

**CONCLUSIONS**

- The SureTect Salmonella method (375 g) demonstrated comparable performance to ISO 6579-1:2017 (25 g).
- Using the same enrichment to test for *Salmonella* and *Cronobacter* in samples of up to 375 g helps to maximize testing throughput and reduce materials costs.
- Compared to the ISO method, the SureTect workflow requires fewer handling steps and provides results sooner, helping to improve laboratory efficiency and reduce product holding/release times.

**TRADEMARKS/LICENSES**

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