



Proper Manual Sampling of Raw Whole Onions Using a MicroTally® Mitt Sampler



Introduction

The **MicroTally® Mitt Sampler** (Catalog Number: MT-M100) is a manual sampling device (MSD) and specifically designed for direct surface sampling of food matrices, including beef, poultry, and produce. After sample collection, the Mitt Sampler facilitates downstream microbiological analysis for pathogen detection and indicator testing, providing an efficient alternative to direct food product testing. Accurate and reliable sampling results depend on strict adherence to standard manual sampling protocols. This user manual focuses on the proper sampling procedures for raw whole onions, including peeled and unpeeled, using a MicroTally® Mitt Sampler. For additional instructions and applications for the Mitt Sampler, please contact FREMONTA Corp or visit www.MicroTally.com. Training videos can also be found on FREMONTA's YouTube channel.

Important Notices

- The MicroTally® Mitt Sampler is sterile and packaged in plastic overwrap. After sampling, place the used sampler in the separately provided sterile sample bag.
- Use one MicroTally® Mitt Sampler on a single hand for sampling.
- The MicroTally® Mitt Sampler needs to be pre-moistened with a compatible buffer or water before sampling the surface of either peeled or unpeeled onions.
- Apply a vigorous, aggressive scrubbing technique to ensure effective sampling of the onions.
- Perform sampling over the entire surface of the onion or of each onion for aggregated samples.
- A common mistake is insufficient scrubbing pressure during sample collection. Ensure the scrubbing is firm and thorough to effectively transfer organisms from the onion onto the cloth sampler.
- The dry outer layers of unpeeled onions are often partially removed during sampling.

Preparation

Prior to entering the production floor or other location where sampling is needed, prepare the Mitt Sampler as follows:



1. Don gloves and sanitize them appropriately. Also, sanitize the exterior of the sampler overwrap.
2. In a sample preparation area, remove the perforated top from the MicroTally® Mitt sample bag, open it, and place it on a sanitized surface.
3. Tear open the Mitt overwrap and aseptically transfer the Mitt Sampler into the sample bag.
4. Moisten the Mitt Sampler with 25 ml of Neutralizing Buffered Peptone Water (nBPW) or an equivalent solution, gently massage the bag to ensure even distribution.
5. Fold the bag closed and secure it with side tabs.
6. This procedure can be performed in advance for all Mitt Samplers required for the day and then stored refrigerated until needed.

Sampling Procedure



1. Assemble the appropriate sampling supplies.
2. Select 1, 5, 10 or 20 onions for sampling depending on the testing objective. Place them on a sterile surface or into a sterile container or bin.
3. Wear plastic sleeves and gloves. Sanitize gloves appropriately using an alcohol-based sanitizer **without** quaternary ammonium compounds (e.g., Alpet D2 **Quat-**



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- Free;** Best Sanitizers, Penn Valley, CA).
4. Ensure there is no excess sanitizer on the gloves before handling the Mitt Sampler.
 5. Take the Mitt Sampler from the sample bag and place it on the gloved hand. Avoid touching anything with the sampler except for the onion or onions to be sampled.
 6. Sampling details for either peeled or unpeeled onions:
 - **Single onion:** Vigorously scrub the whole onion surface with each side of the mitt sampler for at least 15 seconds per side for a total of at least 30 seconds.
 - **Groups of ten or fewer onions:** Vigorously scrub the entire onion surface of all the onions. Turn the Mitt over to resample all the onions a second time. This sampling should take more than one minute.
 - **Groups of more than ten onions (generally 20):** Vigorously scrub the entire surface of half onions. Turn the sampler over to sample the remaining onions. This sampling should take more than two minutes.
 7. After collecting the sample, fold the MicroTally® Mitt Sampler into quarters, and then fold it in half once more. Return the sampler to the sample bag, ensuring positioning the MicroTally® Mitt Sampler as close to the bottom of the bag as possible. Securely close and fold over the bag using the sealing strip located at the top. Remember to label the bag in accordance with company procedures.
 8. Repeat the aforementioned steps as necessary to collect samples from additional target materials. Please note that each sampling target will require a new MicroTally® Mitt sampler to avoid cross-contamination. It is crucial to change gloves and re-sanitize sleeves after each sampling event to maintain proper hygiene and prevent any potential contamination.
 9. The onions may be returned to the lot or to production after sampling.
 10. Send the samples to the laboratory following standard company procedures.

Sample Testing

1. For presence/absence pathogen testing, enrich the MicroTally® Mitt sampler by adding 200 mL of the appropriate nutrient broth. Stomach (homogenize) the sample for at least 30 seconds, ensuring the Mitt sampler is fully submerged at the bottom of the bag.
2. For indicator enumeration and pathogen testing, remove aliquots as needed. Incubate the remaining sample following the standard procedures of your pathogen detection test platform, including recommended incubation times and temperatures.
3. For microbial enumeration-only testing, you may either extract microorganisms using 100 mL and homogenize thoroughly or follow your laboratory's established standard procedures.

Technical Support

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