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UMASS LOWELL

CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2022
DateRun:	07/15/2022
Experimenters:	Zoe Lawson, Tatyanna Moreland Junior, Alexander Symko
ClientType:	
ProjectNumber:	Project #6
Substrates:	Glass/Quartz, Food
PartType:	Coupon
Contaminants:	Odor
Cleaning Methods:	
Analytical Methods:	Smell

Purpose: To test the effectiveness of PAK-IT 3 in 1 Disinfectant, Cleaner, Deodorizer water soluble pods on spoiled milk malodor.

Experimental Procedure: Six clean 250 ml glass bottles were filled with 6 ml of spoiled whole milk. The supplied cleaning product needed to be dissolved in water in order to become ready to use. A comparative product was chosen as the second cleaning product to test against the one supplied. Three bottles were treated for each supplied cleaner for three treatment cycles, with each treatment cycle consisting of two sprays of the respective cleaner directly into the bottle. Following each treatment cycle the bottles were swirled around so the cleaner can mix with the cleaner. After each treatment cycle the panelists rated the malodor of the milk in the bottles.

The panelists rated the malodor of the milk after each treatment cycle, from a value of 1 defined as no malodor to a value of 5 as high malodor. Subsequently, the nine milk bottles were allowed to ferment at room temperature overnight to see if there are any increase in malodor level after an overnight sit. Thereafter, the same panelists rated the malodor of the milk after the overnight aging of the milk bottles. The nine bottles were then subjected to a final treatment cycle, which consisted of two sprays of their respective supplied cleaners. The panelists then rated the malodor level for each milk bottles.

Results:

Table 1: PAKIT Results

Cleaner	PAKIT XXXX				
Treatment	Untreated			Average	Overall Avg
Bottle 1	5	5	5	5	5
Bottle 2	5	5	5	5	
Bottle 3	5	5	5	5	
Treatment	2 Sprays			Average	Overall Avg
Bottle 1	4	2	3	3.0	3.3
Bottle 2	4	2	3	3.0	
Bottle 3	4	4	4	4.0	
Treatment	4 Sprays			Average	Overall Avg
Bottle 1	4	1.5	2	2.5	2.9
Bottle 2	4	2	3	3.0	
Bottle 3	4	3	3	3.3	
Treatment	6 Sprays			Average	Overall Avg
Bottle 1	3	1	2	2.0	2.1
Bottle 2	3	1.5	2	2.2	
Bottle 3	3	1.5	2	2.2	
Treatment	Overnight			Average	Overall Avg
Bottle 1	3	4	3	3.3	3.7
Bottle 2	3	4	4	3.7	
Bottle 3	4	4	4	4.0	
Treatment	8 Sprays			Average	Overall Avg
Bottle 1	2	3	3	2.7	2.8
Bottle 2	2	3	3	2.7	
Bottle 3	3	3	3	3.0	

Table 2: Febreze Lavender

Cleaner	Febreze Lavender		
Treatment	Untreated	Average	Overall Avg

Bottle 1	5	5	5	5	5
Bottle 2	5	5	5	5	
Bottle 3	5	5	5	5	
Treatment	2 Sprays			Average	Overall Avg
Bottle 1	1	2	3	2	2.2
Bottle 2	3	2.5	3	2.8	
Bottle 3	1	1	3	1.7	
Treatment	4 Sprays			Average	Overall Avg
Bottle 1	2	1.5	2.5	2	2.3
Bottle 2	2.5	2	2.5	2.3	
Bottle 3	2.5	2	3	2.5	
Treatment	6 Sprays			Average	Overall Avg
Bottle 1	4	1.5	2.5	2.7	2.9
Bottle 2	4	2	2.5	2.8	
Bottle 3	4	2.5	3	3.2	
Treatment	Overnight			Average	Overall Avg
Bottle 1	4	3.5	4	3.8	3.8
Bottle 2	4	3.5	4	3.8	
Bottle 3	4	3.5	4	3.8	
Treatment	8 Sprays			Average	Overall Avg
Bottle 1	2	2	2.5	2.2	2.3
Bottle 2	1.5	2	2.5	2	
Bottle 3	2.5	2.5	3	2.7	

Table 3: Summary of Results from Untreated to Six Sprays

Cleaner	Untreated Malodor Rating	Treatment (Cycle)	Avg. Treatment Rating After 3 Cycles
PAKIT XXXX	5	3.3	2.1
Febreze Lavender	5	2.2	2.9

Table 4: Summary of Results Before and After Overnight Treatment

Cleaner	Treated Avg. Malodor Rating Before Overnight Sit	Overnight Sit Untreated Avg.	Overnight Treatment Malodor Avg. 2 Sprays
PAKIT XXXX	2.1	3.7	2.8
Febreze Lavender	2.9	3.8	2.3

Summary:

Conclusion: Overall, PAKIT XXXX was more effective at reducing malodor after 3 cycles of treatment compared to Febreze Lavender. Ratings showed that the two products were similar in how effective they were at maintaining the reduced malodor overnight. Both products had improved ratings after introducing two additional sprays after overnight treatment and were effective at combating the smell of spoiled milk.