

JEH QUIZ

FEATURED ARTICLE QUIZ #3

Retail Risk Assessment and Lethality of *Listeria monocytogenes* and *E. coli* O157 in Naturally Fermented Sauerkraut

Available to those with an active National Environmental Health Association (NEHA) membership, the *JEH* Quiz is offered six times per calendar year and is an easily accessible way to earn continuing education (CE) contact hours toward maintaining a NEHA credential. Each quiz is worth 1.0 CE.

Completing quizzes is now based on the honor system and should be self-reported by the credential holder. Quizzes published only during your current credential cycle are eligible for CE credit. Please keep a copy of each completed quiz for your records. CE credit will post to your account within three business days.

Paper or electronic quiz submissions will no longer be collected by NEHA staff.

INSTRUCTIONS TO SELF-REPORT A *JEH* QUIZ FOR CE CREDIT

1. Read the featured article and select the correct answer to each *JEH* Quiz question.
2. Log in to your MyNEHA account at <https://neha.users.membersuite.com/home>.
3. Click on Credentials located at the top of the page.
4. Select Report CEs from the drop-down menu.
5. Enter the date you finished the quiz in the Date Attended field.
6. Enter 1.0 in the Length of Course in Hours field.
7. In the Description field, enter the activity as "*JEH* Quiz #, Month Year" (e.g., *JEH* Quiz 3, December 2021).
8. Click the Create button.

JEH Quiz #1 Answers July/August 2021

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|------|------|------|-------|
| 1. a | 4. d | 7. c | 10. a |
| 2. c | 5. a | 8. a | 11. b |
| 3. b | 6. c | 9. b | 12. d |

→ Quiz effective date: December 1, 2021 | Quiz deadline: March 1, 2022

1. Foodborne pathogens such as __ have been implicated in foodborne illness in several fermented and acidic foods.
 - a. *E. coli* O157:H7
 - b. *Listeria monocytogenes*
 - c. all the above
 - d. none of the above
2. Fermentation is considered a special process where a food additive is used to make a potentially hazardous food into a nonpotentially hazardous food.
 - a. True.
 - b. False.
3. Foodborne pathogens of concern are present in the farm environment and can contaminate raw cabbage via
 - a. water irrigation.
 - b. unhygienic human handling.
 - c. fertilizers that are made from animal feces.
 - d. all the above.
 - e. none of the above.
4. Historically, __ have been believed to account for the inhibition of spore-forming pathogens.
 - a. salt
 - b. extreme heat
 - c. rapid acidification
 - d. a and c
 - e. all the above
5. *L. monocytogenes* has been found to survive in both the fermentation stage at room temperature as well as in the refrigeration stage in home-fermented refrigerator dill pickles for up to __ days.
 - a. 51
 - b. 71
 - c. 91
 - d. 121
6. The generally accepted bacterial pathogenic hazard control factor(s) in sauerkraut fermentations include:
 - a. salt.
 - b. competitive lactic acid bacteria (LAB) cultures.
 - c. rapid production of lactic acid and other acids.
 - d. b and c.
 - e. all the above.
7. The control and treatment groups in this study both had a steady drop in pH for the first __ days.
 - a. 5
 - b. 7
 - c. 9
 - d. 11
8. For both control group fermentations, total viable count bacteria and LAB __ between Time 0 and Day 2.
 - a. grew rapidly
 - b. grew slowly
 - c. did not grow
9. The inoculum level of *L. monocytogenes* for the treatment group was __ log CFU/g of sauerkraut.
 - a. 4.39
 - b. 5.39
 - c. 6.39
 - d. 7.88
10. At __ days, a 5-log reduction was observed in the *L. monocytogenes* treatment group and no pathogens were detected after Day __.
 - a. 5; 7
 - b. 5; 9
 - c. 7; 9
 - d. 9; 15
11. In the sauerkraut inoculated with *E. coli* O157, there was __ in the *E. coli* O157 count from Day 1 until Day 7.
 - a. no change
 - b. a significant decrease
 - c. a significant increase
12. This study suggests that naturally fermented sauerkraut __ growth or survival of *L. monocytogenes* and *E. coli* O157.
 - a. does not permit
 - b. does permit