METHODS OF EVALUATION OF THE SANITATION STAGE IN UNITS WITH AN ALIMENTARY PROFILE

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Abstract

This paper presents a review of the tests currently used in a public food unit to assess the efficiency of surface hygiene.

Laboratory exams can apply classical or modern methods, depending on the equipment available.

Classical methods require more work and longer waiting times to achieve the results than modern ones that apply rapid sanitation tests.

The visual unit and the buffer method are applied to the unit under study. The results of the sanitation samples taken by the buffer method revealed the correct hygiene of the surfaces in the canteen.

Key words: hygiene, surfaces, tests, laboratory, methods

INTRODUCTION

The success of a food business depends on many factors, of wich surface hygiene plays a leading role.

Hygiene actions are mandatory in all these units and differ according to their specificity. As a common point, it is worthwhile to check the hygiene methods. The first check is visual, followed by laboratory tests.

Samples are harvested with the buffer, and the reading of the results can be immediate or after sowing on a medium of culture and thermostats.

The pads may be in the form of a stick, flexible plates or plates.

The aim of this paper is to highlight the methods for verifying the surface hygiene efficiency used in the U.S.A.V. Iasi Cantina and the interpretation of the results issued by DSVSA Iasi after sampling.

MATERIAL AND METHOD

The degree of contamination of the surfaces can be appreciated by two categories of methods: classical and modern.

Classical methods determine the presence or absence of microorganisms and use the coliform bacteria test and the staph test.

Modern methods for assessing the degree of contamination are highlighted by the speed of application and achievement of results. Rapid sanitation tests based on luminometry last for 5-10 seconds, and the results can be read visually or by spectophotometry.

Fast sanitation tests using Luminometry or Liquid Scintillation Method can be included in this category.

In the U.S.A.M.V Cantina, after performing the hygiene, a visual exam is performed daily by the responsible persons who clean up the unit. The unit manager visually checks for cleanliness both during employee activity and at the end of the program.

All surfaces that come into contact with the food and can influence the quality of the food, as well as the layout of dining rooms, kitchen cleanliness and hard-to-reach areas (corners, back of the unit) are checked.

Periodically, from 3 to 3 months a representative from the Sanitary Veterinary Directorate collects sanitation samples. After interpreting the results, documents are released in which these results are recorded.

Based on these documents, the unit can continue to function or not.

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Sampling of sanitation samples is based on the buffer method. The buffer method uses sterile swabs (Fig. 1), templates (Fig. 2) and different culture media for platelet agar, yeast and mildew (Malt Extract Agar) [3], [4].

Testing to verify the effectiveness of the hygiene of surfaces that come in contact with food is carried out before the start of the work program, or after the area has been washed and decontaminated. Never take tests during work. If visible stains are observed, cleanliness is considered unacceptable without further microbiological testing. The greatest importance should be given to areas where there is the highest probability of microbiological contamination, ie the areas that come in contact with the products. Two thirds of the total number of samples are taken from the contact surfaces of the products.

The sampling area shall be at least 1/10000 of the total area undergoing decontamination.

Samples shall be taken by erasing the test surface so as to cover a total area of 100 cm2 (10 cm x 10 cm), marked by a sterile pattern or by appreciation.

The sample is harvested by applying a firm pressure on the surface, passing the buffer three times through the same place in different directions (the second pass perpendicular to the first, and the third, obliquely on the first two).

Where there are damp areas, dry cotton swabs can easily be used. If the areas are dry, these buffers should be moistened with 1 ml sterile physiological peptone solution (8.5 g NaCl + 1 g triptone-casein-peptone, as appropriate, 1 g agar + 1000 ml distilled water).

If samples are taken after disinfection and cleaning, 30 g / l Tween 80 and 3 g / l Lecithin (or other products with a similar effect) are added to the wiping buffer solution, as the case may be.

After sampling, they are labeled and sent to the laboratory, ensuring during transport that they are kept at a temperature of 4 ° C and protected from sunlight. Avoid keeping them in the refrigerator for more than 24 hours.

Sowing on Petri plates is done by the method of incorporating microorganisms into nutrient media.

The thermostat inoculated plates should be placed for incubation.

After thermostation, colonies are grown in Petri dishes and the number of microorganisms is determined per 1 cm2 of the analyzed area.

The results are compared and interpreted in relation to the normative acts.

On a well-washed and decontaminated surface under the conditions of a food unit, no more than 1 micro-organism / cm2 should be present.

Fig. 1 Sampling pad
(image taken from http://www.medicalexpo.fr)

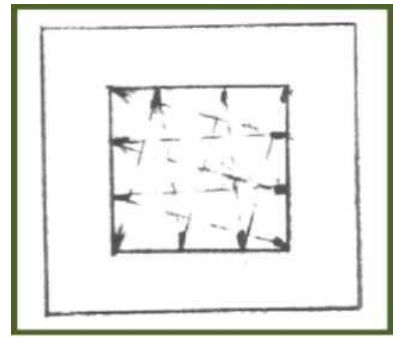

Fig. 2 The delimited area of the template
(the arrows indicate the direction of deletion)
(image taken from http://graduo.ro)

RESULTS AND DISCUSSIONS

Visual inspection is often done by workers and supervisors, being the easiest and simplest way to monitor hygiene.

The disadvantage of this method is that it detects only coarse residuals visible to the

naked eye, not the microbial charge, and the results can be influenced by the subjective perspective of the interpreters.

Laboratory tests provide specific information on the type of microorganisms and the microbial load in the harvested samples.

In the period 23-27.03. 2017, following harvesting of evidence for the identification of Listeria monocytogenes bacteria from prepared food (Schnitzel) and Salmonella spp. on the surfaces, the Analysis Bulletin (Fig. 3) was issued, recording the following:

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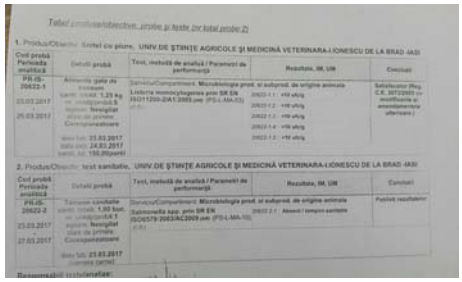

Fig. 3 Results of sanitation test

The test for *Listeria monocytogenes* bacteria showed a load of less than 10 µg / g (colony forming units / g), the result being satisfactory;

Salmonella spp. revealed the absence of this bacterium.

For food, the maximum permitted level for Listeria monocytogenes is 10 ufc / g [1], and in Salmonella spp. must be absent [2].

These results indicate a good hygiene of the working surfaces in the USAMV Iasi canteen, and allow the unit to operate.

CONCLUSIONS

In the U.S.A.M.V Cantina, the verification of the sanitation efficiency is performed daily by visual inspection, and laboratory tests are performed periodically.

Only the buffer method is used for sampling to verify the sanitation efficiency.

Cantina U.S.A.M.V Iasi, following the results of the analysis report issued by DSVSA Iasi, can continue its activity without endangering the health of the consumers, observing all the norms and regulations of food hygiene.

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