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# PREREQUISITE PROGRAM FOR PEST CONTROL IN RESTAURANTS ACCORDING TO HACCP

**Introduction.** The implementation of measures to control, prevent and combat pests in restaurants under HACCP allows to reduce the risks associated with the safety of raw materials and finished products [1-3], as well as to protect production from pollution [1].

Development of a prerequisite program [2] for pest control allows restaurants to identify types of pests, prevent their appearance, means of prevention and pest control.

The purpose of this work is to determine a set of measures to combat pests in restaurants when developing a prerequisite program under the HACCP.

Results and discussion. An effective prerequisite program in a restaurant must be documented and implemented for permanent pest control [4]. A prerequisite program should include a registry of pest species and vectors of infection [5], a list of effective and continuous pest control measures to prevent their attraction, penetration, location and/or spread. The restaurant should be subjected to periodic inspections to ensure the absence of contamination. In cases of pests entering the building, measures should be taken to destroy them and the effectiveness of these measures should be checked. The results should be drawn up in the form of records [4].

Buildings must be kept in good condition to prevent vermin from entering them, and all vermin entry points must be sealed [4]. The presence of a fence and arrangement of the territory, sealing of doors, ventilation openings, equipment of windows with protective nets against insects; installation of means of prevention and control of pests on the external perimeter. All pest control measures must be carried out in such a way that there is no threat to the safety of food products due to cross-contamination; if electric insect killers are installed, they should not be placed over an open food product [5].

Pest control measures, which include treatment with mechanical, biological means or chemical reagents, which are approved by the competent authorities for use, must be implemented in the catering establishment by personnel with appropriate qualifications and training [4].

To avoid cross-contamination, it is necessary to avoid the use of poisonous baits in premises where operations are carried out with food products (unprocessed, partially processed or processed), auxiliary materials for processing food products, objects and materials in contact with food products. Electric insect killers are recommended to be placed in places where flying insects are likely to enter. All pest control measures should be aimed at preventing their penetration into premises where technological or auxiliary processes are carried out [5].

Chemical agents should be used in cases where other measures cannot be applied, and these agents should be suitable or approved for use in food preparation areas [4].

It is necessary to keep appropriate records of the applied pesticides. Before applying pesticides, measures should be taken to protect food products, equipment and inventory from contamination. The use of pesticides should be carried out without creating threats to the safety or suitability of food products. After applying pesticides, existing equipment and inventory must be thoroughly cleaned to remove all residues before its further use [4]. Labeling and regular inspection of all pest control products [5] and pesticides must be properly stored in a closed area designated specifically for this purpose [4].

In accordance with the risk assessment, inspection for contamination by pests of incoming batches (auxiliary materials for processing food products, items and materials in contact with food products). Analysis of the results of control measures with the determination of trends and the introduction of effective preventive and corrective measures [5].

The prerequisite program should include: the existence of a contract for deratization and disinsection; determining the layout of traps (containers, sticky tapes, insecticidal lamps); for pests (rodents, flies, mosquitoes and other winged insects); availability of documentation confirming the quality of used baits for rodents and insects; maintaining appropriate documentation that confirms the organization of work in the fight against rodents and insects (graphs, journals, etc.).

To prevent the appearance of rodents and insects in the restaurant, a sanitary regime should be observed on the territory and inside the premises of the catering

establishment (Figure 1).

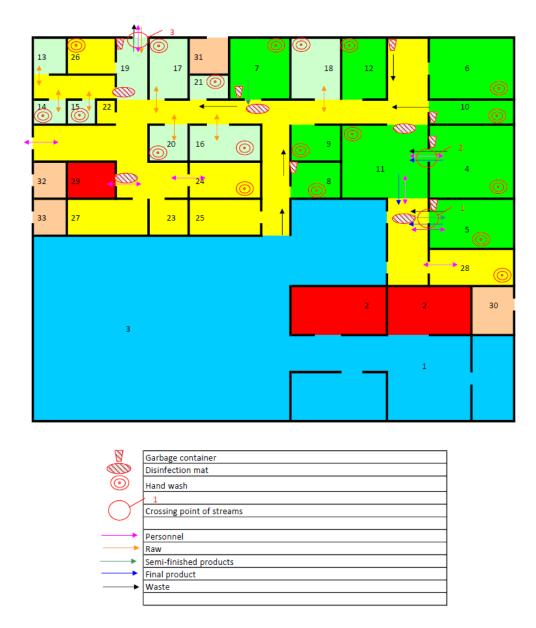


Figure 1. Schematic of the placement of traps for pest control

Pest control procedures should be carried out only by qualified employees of external services. For this purpose, the restaurant concludes an agreement regarding the sanitary and hygienic treatment of the premises, disinsection, and deratization of the premises.

**Conclusions.** The work defines complex measures for pest control, which is carried out by means of disinsection (destroying flies, cockroaches and other insects) and deratization (destroying rodents) in restaurants when developing a prerequisite program in accordance with HACCP.

#### References

- 1. Yurchenko I., Kuzmin O., Zakharov V. Implementation of HACCP system in restaurants. *Modern science : innovations and prospects :* The 10<sup>th</sup> International scientific and practical conference, Stockholm, June 25-27, 2022, Stockholm, Sweden: SSPG Publish, 2022. P. 106–110.
- 2. Moskalchuk O., Kuzmin O., Stukalska N. Programs prerequisite of HACCP system for the cleaning procedure in restaurants. *Eurasian scientific discussions*: The 6<sup>th</sup> International scientific and practical conference, Barcelona, July 3-5, 2022, Barcelona, Spain: Barca Academy Publishing, 2022. P. 75–79.
- 3. Skrynnyk I., Kuzmin O. Requirements for facility premises and equipment in accordance with the HACCP system. *Modern scientific research: achievements, innovations and development prospects*: The 13<sup>th</sup> International scientific and practical conference, Berlin, June 19-21, 2022, Berlin, Germany: MDPC Publishing, 2022. P. 194–199.
- 4. ДСТУ ISO/TS 22002-2:2019. Програми-передумови безпечності харчових продуктів. Частина 2. Громадське харчування. [Чинний від 2019-12-01]. Вид. офіц. Київ, 2019. (ISO/TS 22002-2:2013, IDT).
- 5. Про затвердження Вимог щодо розробки, впровадження та застосування постійно діючих процедур, що ґрунтуються на засадах Системи управління безпечністю харчових продуктів (НАССР) : наказ Мінагрополітики України від 01.10.2012 № 590, із змінами, затвердженими наказом від 17.10.2015 № 429.