ATLANTIS PRESS
Advances in Social Science, Education and Humanities Research, volume 101
4th International Conference on Education, Management and Computing Technology (ICEMCT 2017)

Study on the Control Factors of Improving the Accuracy of Food Inspection

Yuan Zhang[1, a]

[1] Shandong Medical College, Shandong, Jinan, 250000

Keywords: Food Security, Accuracy and Quality, Control Factors

Abstract. The food inspection is an experimental process consisting of multi-step multi-steps. Due to the multi-step multi-step nature, there are many factors influencing the influencing factors in the food inspection operation, and the control of the influencing factors directly determines the accuracy of the food inspection. Therefore, in order to improve the accuracy of food inspection, the theory needs to be combined with the actual, in practice, the accumulation of the characteristics of food testing accuracy of the outstanding factors, specific issues specific analysis, according to the nature of the factors to develop measures to reduce or To prevent the impact of factors on the accuracy of food testing, so that the impact of the impact of factors in the food inspection test acceptable range. Provide the accuracy of food inspection, and contribute to food safety.

Introduction

Food testing before the first need to sample preparation, sample preparation to meet the test requirements, determines the accuracy of food inspection or not. In order to ensure that the sample of the food test is representative, it can represent the quality of food in a batch or a fixed quantity of female parent, and the sample shall be sampled on a random sampling basis. Sampling samples of food samples must be random, can not be specified or deliberately selected, otherwise it can be regarded as invalid samples. It is also important to note that the rigor of the sampling process of food samples. Sampling must be done before sampling the sampling environment. Sampling tools must be clean and free of impurities, the sampling environment to be clean, to avoid the sampling process will be irrelevant substances into the food or samples to the sample caused by the actual biological and physical and chemical indicators of damage, thereby reducing food inspection The accuracy of the degree. Liquid food testing is in particular need to pay attention to the degree of mixing the sample, whether the entire sample is a uniform state. Liquid samples must be homogeneous in order to ensure the representation of the samples, thereby improving the accuracy of food testing. Therefore, in the liquid oil, such as liquid condiments sampling, you must first do the mixing process, and then sampling. In contrast to liquid samples, the solid food is subjected to pulverization before sampling, the food is thoroughly crushed, and shaken to make it uniform, and finally the sample is taken from it as a test sample. For the liquid and solid food samples need to operate in accordance with the above methods to ensure the representative of the sample to enhance the accuracy of food testing.

Analysis of Control Factors of Food Testing Instruments and Reagents

Food testing equipment and inspection reagents are key elements of food testing. In order to ensure the accuracy of the food inspection, it is necessary to ensure the accuracy of food inspection equipment and test reagents, the accuracy can be controlled from the following aspects: First, food inspection equipment precision control. According to the nature of the instrument, the development of instrument verification plan, or a week after the monthly fixed time interval are according to the planned implementation of the test. According to the plan to avoid the missing equipment is not verified, the implementation of the test can ensure the accuracy of the equipment. A regular inspection of the airtightness of the distillation unit is one example. Second, the test reagents used in the food inspection will be directly involved in the reaction of the food inspection, so the effectiveness of the test reagents is critical to the test and it is necessary to ensure that it is used

within the validity period. All in all, whether it is test equipment or a test reagent, is an important component in the food inspection process. Therefore, for a food inspection, the choice of appropriate test reagents, the use of safe and effective test equipment is the basis for successful food testing. Therefore, in the inspection of food, the need to ensure that the control of the above two factors in the positive role, that is, to scientifically correct food inspection equipment, a reasonable matching reagent to avoid the food test to reduce the accuracy or more serious The entire food inspection is invalid.

Analysis of Control Factors of Food Testing Methods

For one of the food inspection items, the food inspection method may be two or more. Choose what kind of test method for food inspection for the accuracy of the test also has a relatively large impact, to take a reasonable food inspection method is the guarantee of food inspection accuracy. A large number of food inspection examples show that if the food inspection work done wrong, may lead to food inspection work fall short, or test the data is not instructive. In this case, the choice of food inspection methods need to be implemented in accordance with the relevant standards, the need to ensure that the selected food inspection methods can effectively show the characteristics of food samples, and according to the actual situation, the data closely analyzed, The accuracy of food inspection work.

It is also one of the important factors in the accuracy of food inspection. The role of people in the whole food inspection process is the core of the soul of the core, is the main test of food and beverage success of the most direct impact factors. Therefore, in order to control the positive impact of food inspectors on food inspection work, the following measures can be taken: regular inspectors are trained and trained to continuously improve their professional skills. Standardize and require personnel to strictly follow the standards of implementation, good supervision and inspection and assessment work to promote the standardization of inspection work. Establish effective communication or means or educational propaganda channels, improve the sense of responsibility of food inspection professionals, so that they agree in their hearts or love their work, in the higher enthusiasm to make better work performance. The above three measures to jointly implement, will promote the food inspection staff to enhance the level of professional skills to improve the accuracy of food testing.

Improve the Quality of Food Inspection Work of the Main Control Links

Whether the instrument has accurate values is an important factor affecting the accuracy of the test results. Therefore, the food inspection agency should develop and implement an effective measurement instrument management system, so as to ensure that the measuring instruments from the purchase to the use of maintenance and maintenance of all links are within the controllable range. To the relevant provisions of the state as a standard, calibration of measuring instruments, this is done in order to maximize the data obtained by a certain degree of accuracy.

The test reagents are directly involved in the chemical reaction during the inspection process and the test results are affected to a certain extent by the quality of the test reagent. The use of different test reagents. The preservation method and the shelf life are not the same. Some reagents for storage time is not strict requirements, but some need to use when configured. Some need to store at low temperatures, and some need to stay away from light. And some will be in the storage of chemical reactions, in order to avoid such things happen, it is necessary to regularly check the necessary reagents, once found to change once again to be prepared, such as the determination of pure water potassium permanganate oxygen consumption Quantity, the need for the use of potassium permanganate standard solution and sodium oxalate standard solution, the solution stored if too long, it will occur chemical reaction, will cause the solution concentration changes. This will pay special attention to the use and storage of reagents, to specific problems specific analysis, from the reagent shelf life and special requirements, in strict accordance with the provisions of the implementation. When it is preparing reagents, ensure the accuracy of the volume and volume.

The choice of food quality inspection method should be based on the relevant standards, if the method is many, the choice should be to test the nature of the equipment conditions and samples measured components based on the content. Arbitration law is a more commonly used method of inspection methods, if the test results are controversial can also use the arbitration law. Chemical analysis is for those laboratory conditions do not allow the use of instrumental analysis of the situation. Different foods containing a certain content of different methods used in different methods are not the same. Here is an example. If the detection of calcium content in food, milk calcium content is about 100 grams of milk per 100 grams of calcium, testing the general choice of atomic absorption spectrophotometer, but the amount of calcium in health care products can reach 20%, then EDTA titration can be selected.

In addition to the above factors will affect the results of food testing, but there is an important aspect is not to be ignored, that is, testing the technical level of personnel, which requires scientific and rational allocation of food inspection departments, staff positions appropriate. The use of precision equipment personnel must be specially trained before the job, after the end of the training according to the results, combined with the ability and experience to the staff assigned to the corresponding positions. The actual work, due to human factors caused by the error is unavoidable, and some are accidental errors, some mistakes. For example, in the determination of the total alcohol in the liquor, due to the different titration speed of the inspectors caused by the different test results, this error can be avoided. But because the inspectors are subject to their own understanding of the problems caused by the difference, the accuracy of the test results will be greatly reduced. This requires inspection personnel to have a skilled mastery of inspection techniques. It needs to emphasize that with the continuous development of science and technology, inspection technology is constantly updated, inspectors to continue to enrich and learn, and actively grasp the new technology to apply to the actual work.

Due to the existence of the characteristics of the sample and the special process of production, making some of the test project relevance is relatively large, so from the relevant items to check the start can also determine the test results are not accurate. Such as soy sauce in the amino acid ammonia and total nitrogen, the total nitrogen value is about twice the amino acid nitrogen, if the gap is too large, it is likely that the results are not accurate, should be re-tested. Bottled drinking water has a clear smell, probably due to the problem of free chlorine in the water. Check the color of candied fruit can determine the level of sulfur dioxide contained.

Conclusion

Food safety issues have become the focus of government and society, and the safety of food has a vital impact on people's physical health and safety. With the continuous development of the economy, the people's material level and living standards continue to improve, people for food safety requirements more stringent, for the health value of food more and more value, food safety and quality, people's health, the harmony and stability of the country's prosperity. Therefore, in the food safety inspection work, to grasp the whole process of food inspection, control the impact of food safety factors affect the safety of food safety testing to improve the accuracy and ensure the quality and safety of food.

References

[1] Zhang Hongxian. Food testing technology application requirements and precautions [J]. Biotechnology World, 2015 (12)

[2] Qiang Kejuan, Ga Yong Zhe. Food inspection problems and countermeasures [J]. Food Safety Guide, 2015 (36)

[3] Zou Jun. China's food inspection technology problems and solutions [J]. Science and Technology Innovation and Application, 2016 (08)

[4] Wang Haipu. Food inspection technology common problems and strategies analysis [J]. Food

Safety Guide, 2016 (06)

[5] Sun Bo. On China's food inspection technology, the main problems [J]. Food Safety Guide,2016 (09)

[6] Zhang Huan. Laboratory information management system in food testing applications [J]. Food Safety Guide, 2016 (27)